



Footwear Imprint Evidence Test No. 23-5331/5 Summary Report

Each sample set contained either digitally produced photographs (23-5331) or directly downloadable digital images (23-5335) of six questioned imprints and photographs of two recovered shoe soles and test imprints made with those shoes. Additionally, for the first time, 3D scans of the recovered shoes were available as supplemental material. Participants were requested to compare the imprints from the crime scene with the suspect shoes and report their findings. Data were returned from 145 participants: 82 for 23-5331 and 63 for 23-5335 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 uploaded. 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. Two photographs contain images of the six questioned imprints, Q1-Q3 in the first photograph and Q4-Q6 in the second photograph. Participants were requested 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 and then the shoes were worn to create the imprints.

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. 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 shoe and step down onto paper placed on top of a semi-soft surface (per ASB standards).

QUESTIONED IMPRINTS (Q1-Q6): Questioned imprints Q1-Q6 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: All laboratories that conducted the predistribution examination reported the expected associations and exclusions for all questioned imprints with the suspect shoes. Specifically, all participants associated imprints Q1, Q2 and Q5 with the suspect left shoe and Q3 and Q4 with the suspect right shoe. The participants excluded the suspect shoes as the source of imprint Q6.

Imprints	Shoe Type	Manufacturer	Left/Right	Size (U.S.)
Q1, Q2, Q5	Running Shoe (Suspect shoe K1)	New Balance	Left	6.5
Q3, Q4	Running Shoe (Suspect shoe K1)	New Balance	Right	6.5
Q6	Running Shoe (Shoe not provided)	New Balance	Right	8

Summary Comments

This test was designed to allow participants to assess their proficiency with footwear imprint examination and comparison. Test materials consisted of photographs, digital images (or both), and 3D scans. Participants were requested to determine if any of the questioned imprints were made by the suspect shoes, utilizing a seven-point conclusion scale. Three of the questioned imprints were made by the suspect's left shoe (Q1, Q2 and Q5). Two questioned imprints (Q3 and Q4) were made by the suspect's right shoe. One questioned imprint (Q6) was made by an unknown shoe. (Refer to the Manufacturer's Information for preparation details)

Of the 145 responding participants, 143 (98.6%) reported associations and the exclusion consistent with the consensus results. One of the two remaining participants reported the conclusions in the left/right response fields and vice versa, and the other reported "E" for Item Q6 instead of consensus of exclusion. As it relates to the left/right determinations, all participants that reported a result for an inclusion conclusion, with the exception of two participants, reported the consensus designations.

CTS introduced 3D scans of the suspect shoes as supplemental material for this test mid-way through the testing period. We appreciate the participants who were able to review and provide feedback regarding the scans. The overall response to the scans was positive and CTS intends to use this feedback to make improvements for the future.

Examination Results

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

TABLE 1a (Vinyl Tile)

Questioned Imprints							
WebCode- Test	<u>Q1</u>		<u>Q2</u>		<u>Q3</u>		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
26NWA2-5331	A	L	A	L	A	R	
2B47DJ-5335	A	L	A	L	A	R	
2BMCD9-5335	A	L	A	L	A	R	
2GETCY-5331	A	L	A	L	A	R	
2NXVGG-5335	A	L	A	L	A	R	
36DBR6-5335	A	L	A	L	A	R	
3D9PUJ-5335	A	L	A	L	A	R	
3JTDCE-5331	A	L	A	L	A	R	
44E7R8-5331	A	L	A	L	A	R	
483F4U-5335	B	L	B	L	A	R	
49BDWW-5335	A	L	A	L	A	R	
4CBY7T-5335	A	L	A	L	A	R	
4G43VQ-5335	A	L	A	L	A	R	
4QTQRE-5331	A	L	A	L	A	R	
4YA8H4-5331	A	L	A	L	A	R	
4YCREJ-5331	A	L	A	L	A	R	
64X7CP-5335	A	L	A	L	A	R	

TABLE 1a (Vinyl Tile)

Questioned Imprints							
WebCode- Test	<u>Q1</u>		<u>Q2</u>		<u>Q3</u>		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
66TPFC- 5335	A	L	A	L	A	R	
67P2FK- 5331	A	L	A	L	A	R	
68G2EG- 5335	A	L	A	L	A	R	
69TUC6- 5335	A	L	A	L	A	R	
6AKYNN- 5335	A	L	A	L	A	R	
6JUG2F- 5331	A	L	A	L	A	R	
7AFWBP- 5331	A	L	A	L	A	R	
7DEWAF- 5335	A	L	B	L	B	R	
7TU7HH- 5335	A	L	A	L	A	R	
7X8A8Y- 5331	A	L	A	L	A	R	
8ACWNU- 5331	B	L	B	L	B	R	
8NB32T- 5335	A	L	A	L	A	R	
8P97F8- 5331	A	L	A	L	A	R	
8Q3UWG- 5335	A	L	A	L	A	R	
9MTNTA- 5335	A	L	B	L	A	R	
9P2PV9- 5331	A	L	A	L	A	R	
9P9926- 5335	A	L	A	L	A	R	
9YRMZ2- 5331	A	L	A	L	A	R	
A8FC32- 5335	A	L	B	L	B	R	

TABLE 1a (Vinyl Tile)

Questioned Imprints							
WebCode- Test	<u>Q1</u>		<u>Q2</u>		<u>Q3</u>		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
AHHHPU- 5331	A	L	A	L	A	R	
AKHAK8- 5331	A	L	A	L	A	R	
ALFF68- 5331	A	L	A	L	A	R	
BCCY9F- 5331	A	L	A	L	A	R	
BKZWTU- 5335	A	L	A	L	A	R	
BTWW72- 5331	A	L	A	L	A	R	
BVQETW- 5331	A	L	A	L	A	R	
C99MPL- 5331	A	L	A	L	A	R	
CBTFY3- 5331	A	L	A	L	A	R	
CDM2UE- 5331	A	L	A	L	A	R	
CERCBA- 5335	A	L	A	L	A	R	
CKXP7R- 5331	A	L	A	L	A	R	
D7YX6N- 5331	A	L	A	L	A	R	
D9XXY9- 5335	A	L	A	L	A	R	
DBQCJW- 5335	A	L	A	L	A	R	
DVBMC3- 5335	A	L	A	L	A	R	
EMETTF- 5331	A	L	A	L	A	R	
EQWEFQ- 5335	A	L	A	L	A	R	
EUYVUQ- 5331	A	L	A	L	A	R	

TABLE 1a (Vinyl Tile)

Questioned Imprints							
WebCode- Test	<u>Q1</u>		<u>Q2</u>		<u>Q3</u>		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
F69ADX- 5331	A	L	B	L	A	R	
F77FX- 5335	A	L	A	L	A	R	
F9QCFX- 5335	A	L	A	L	A	R	
FA2E3W- 5335	A	L	A	L	A	R	
FK7JZ4- 5331	A	L	A	L	A	R	
G8RNGY- 5331	A	L	A	L	A	R	
GBWWW9- 5335	A	L	A	L	A	R	
GDMWYT- 5331	A	L	A	L	A	R	
GKFTKN- 5335	A		A		A		
GQ4B37- 5335	A	L	B	L	B	R	
H99G92- 5335	A	L	A	L	A	R	
HC8XJ8- 5335	B	L	B	L	B	R	
HPVR2V- 5331	A	L	A	L	A	R	
HVZ3B- 5331	A	L	A	L	A	R	
HYHZFQ- 5335	A	L	A	L	A	R	
J62KZH- 5331	A	L	A	L	A	R	
JAEEYM- 5331	A	L	A	L	A	R	
JGYEGL- 5335	A	L	A	L	A	R	
JMKETR- 5335	A	L	A	L	A	R	

TABLE 1a (Vinyl Tile)

Questioned Imprints							
WebCode- Test	<u>Q1</u>		<u>Q2</u>		<u>Q3</u>		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
JRP2ZG- 5331	B	L	B	L	B	R	
JVE4CW- 5331	A	L	A	L	A	R	
JXEDZJ- 5331	A	L	A	L	A	R	
K8Q6M2- 5331	A	L	A	L	A	R	
K9VHNU- 5335	A	L	B	L	B	R	
KFKC9R- 5331	A	L	A	L	A	R	
KRADKT- 5335	A	L	A	L	A	R	
KVW3QQ- 5335	A	L	A	L	A	R	
LEGARL- 5335	A	L	A	L	A	R	
LQUZAJ- 5331	A	L	A	L	A	R	
LTCA63- 5331	A	L	A	L	A	R	
LTXT4G- 5331	A	L	A	L	A	R	
M4C3DT- 5331	A	L	A	L	A	R	
MBGHYF- 5331	A	L	A	L	A	R	
NDY449- 5331	L	A	L	A	R	A	
NR362J- 5331	A	L	A	L	A	R	
NVHTKU- 5331	A	L	A	L	A	R	
NX9UPH- 5331	A	L	A	L	A	R	
P9XFZ7- 5335	A	L	A	L	A	R	

TABLE 1a (Vinyl Tile)

Questioned Imprints							
WebCode- Test	<u>Q1</u>		<u>Q2</u>		<u>Q3</u>		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
PDUKKW-5335	A	L	B	L	B	R	
PJ2WTQ-5331	A	L	A	L	A	R	
PJNYMR-5331	A	L	A	L	A	R	
PVXJ3D-5335	A	L	A	L	A	R	
PVZ274-5335	A	L	A	L	A	R	
Q2XUEJ-5331	A	L	A	L	A	R	
Q8FCNK-5335	A	L	A	L	A	R	
QAQL3H-5331	A	L	A	L	A	R	
QB6EZZ-5335	A	L	A	L	A	R	
QC2BLU-5331	A	L	A	L	A	R	
QFJQVL-5331	A	L	A	L	A	R	
QW8ZHN-5331	A	L	A	L	A	R	
R9CN36-5335	A	L	A	L	A	R	
RAANAH-5331	A	L	A	L	A	R	
RC6BFK-5331	A	L	A	L	A	R	
RFVM2Q-5335	A	L	A	L	A	R	
RLGJK8-5335	A	L	A	L	A	R	
RN4ZGF-5335	A	L	A	L	A	R	
TPZXN8-5331	A	L	A	L	A	R	

TABLE 1a (Vinyl Tile)

Questioned Imprints							
WebCode- Test	<u>Q1</u>		<u>Q2</u>		<u>Q3</u>		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
TX7ZPY- 5331	A	L	A	L	A	R	
TYHC9J- 5335	A	L	A	L	A	R	
TZXWFE- 5331	A	L	A	L	A	R	
U26QDP- 5331	A	L	A	L	A	R	
U6RD7D- 5331	A	L	B	L	A	R	
U8UAV8- 5331	A	L	A	L	A	R	
UPBF3X- 5335	A	L	A	L	A	R	
UPT7CH- 5331	A	L	A	L	A	R	
UYWZ8P- 5331	A	L	A	L	A	R	
V3FTYN- 5331	A	L	A	L	A	R	
V3GVKM- 5335	A	L	A	L	A	R	
VAX49J- 5331	A	L	A	L	A	R	
VDY6E8- 5335	A	L	A	L	A	R	
VLTB99- 5331	A	L	A	L	A	R	
VY26GD- 5335	A	L	A	L	A	R	
W622HN- 5331	A	L	A	L	A	R	
WDV8BP- 5331	A	L	A	L	A	R	
WP4RW4- 5331	A	L	A	L	A	R	
WT4MGL- 5335	A	L	A	L	A	R	

TABLE 1a (Vinyl Tile)

Questioned Imprints							
WebCode- Test	<u>Q1</u>		<u>Q2</u>		<u>Q3</u>		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
WUDTDL- 5331	A	L	A	L	A	R	
WV7KM8- 5331	A	L	A	L	A	R	
X3MKHB- 5331	A	L	A	L	A	R	
XAMZ8H- 5331	A	L	A	L	A	R	
XV4CXK- 5331	A	L	A	L	A	R	
XYPDJD- 5331	A	L	A	L	A	R	
Y4G2B4- 5331	A	L	A	L	A	R	
YF9QBA- 5331	A	L	A	L	A	R	
YJAU3W- 5331	A	L	A	L	A	R	
YMUNWC- 5335	A	L	A	L	A	R	
YN7JJ4- 5335	A	L	A	L	A	R	
Z3AZKH- 5335	A	L	A	L	A	R	
ZRGA9Q- 5335	A	L	A	L	A	R	
ZVJRK7- 5335	A	L	A	L	A	R	

Response Summary - Table 1a (Vinyl Tile)						Participants: 145	
	Q1 Conc.		Q2 Conc.		Q3 Conc.		
		L/R		L/R		L/R	
Identification (A)	140 (96.6%)	L 143 (98.6%)	132 (91.0%)	L 143 (98.6%)	136 (93.8%)	L 0 (0.0%)	
High Degree of Ass'n. (B)	4 (2.8%)	R 0 (0.0%)	12 (8.3%)	R 0 (0.0%)	8 (5.5%)	R 143 (98.6%)	
Association (C)	0 (0.0%)		0 (0.0%)		0 (0.0%)		
Limited Ass'n. (D)	0 (0.0%)		0 (0.0%)		0 (0.0%)		
Inconclusive (E)	0 (0.0%)		0 (0.0%)		0 (0.0%)		
Non-Ass'n. (F)	0 (0.0%)		0 (0.0%)		0 (0.0%)		
Exclusion (G)	0 (0.0%)		0 (0.0%)		0 (0.0%)		

Examination Results

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

TABLE 1b (Porcelain Tile)

Questioned Imprints							
WebCode- Test	<u>Q4</u>		<u>Q5</u>			<u>Q6</u>	
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
26NWA2-5331	A	R	A	L	G		
2B47DJ-5335	A	R	A	L	G		
2BMCD9-5335	A	R	A	L	G		
2GETCY-5331	A	R	A	L	G		
2NXVGG-5335	A	R	A	L	G		
36DBR6-5335	A	R	A	L	G		
3D9PUJ-5335	A	R	A	L	G		
3JTDCE-5331	A	R	A	L	G		
44E7R8-5331	A	R	A	L	G		
483F4U-5335	A	R	A	L	G		
49BDWW-5335	A	R	A	L	G		
4CBY7T-5335	A	R	A	L	G		
4G43VQ-5335	A	R	A	L	G		
4QTQRE-5331	A	R	A	L	G		
4YA8H4-5331	A	R	A	L	G		
4YCREJ-5331	A	R	A	L	G		
64X7CP-5335	A	R	A	L	G		
66TPFC-5335	A	R	A	L	G		

TABLE 1b (Porcelain Tile)

Questioned Imprints								
WebCode- Test	<u>Q4</u>		<u>Q5</u>		<u>Q6</u>			
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R		
67P2FK- 5331	A	R	A	L	G			
68G2EG- 5335	A	R	A	L	G			
69TUC6- 5335	A	R	A	L	G			
6AKYNN- 5335	A	R	A	L	G			
6JUG2F- 5331	A	R	A	L	G			
7AFWBP- 5331	A	R	A	L	G			
7DEWAF- 5335	A	R	A	L	G			R
7TU7HH- 5335	A	R	A	L	G			R
7X8A8Y- 5331	A	R	A	L	G			
8ACWNU- 5331	B	R	B	L	G			
8NB32T- 5335	A	R	A	L	G			
8P97F8- 5331	A	R	A	L	G			
8Q3UWG- 5335	A	R	A	L	G			
9MTNTA- 5335	A	R	A	L	G			R
9P2PV9- 5331	A	R	A	L	G			R
9P9926- 5335	A	R	A	L	G			
9YRMZ2- 5331	A	R	A	L	G			R
A8FC32- 5335	B	R	A	L	G			R
AHHHPU- 5331	A	R	A	L	G			
AKHAK8- 5331	A	R	A	L	G			R

TABLE 1b (Porcelain Tile)

Questioned Imprints								
WebCode- Test	<u>Q4</u>		<u>Q5</u>		<u>Q6</u>			
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R		
ALFF68-5331	A	R	A	L	G			
BCCY9F-5331	A	R	A	L	G			
BKZWTU-5335	A	R	A	L	G		R	
BTWW72-5331	A	R	A	L	G			
BVQETW-5331	A	R	A	L	G			
C99MPL-5331	A	R	A	L	G			
CBTFY3-5331	A	R	A	L	G			
CDM2UE-5331	A	R	A	L	G			
CERCBA-5335	A	R	A	L	G		R	
CKXP7R-5331	A	R	A	L	G			
D7YX6N-5331	A	R	A	L	G			
D9XXY9-5335	A	R	A	L	G			
DBQCJW-5335	A	R	A	L	G		R	
DVBMC3-5335	A	R	A	L	F			
EMETTF-5331	A	R	A	L	G		R	
EQWEFQ-5335	A	R	A	L	G		R	
EUYVUQ-5331	A	R	A	L	G			
F69ADX-5331	A	R	B	L	G		R	
F77FX-5335	A	R	A	L	G			
F9QCFX-5335	A	R	A	L	G			

TABLE 1b (Porcelain Tile)

Questioned Imprints								
WebCode- Test	Q4		Q5		Q6		L/R	L/R
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R		
FA2E3W- 5335	A	R	A	L	G			
FK7JZ4- 5331	A	R	A	L	G			
G8RNGY- 5331	A	R	A	R	G			
GBWVW9- 5335	A	R	A	L	G			
GDMWYT- 5331	A	R	A	L	G			R
GKFTKN- 5335	A		A		G			R
GQ4B37- 5335	A	R	A	L	G			
H99G92- 5335	A	R	A	L	G			
HC8XJ8- 5335	B	R	B	L	G			
HPVR2V- 5331	A	R	A	L	G			
HVVZ3B- 5331	A	R	A	L	G			R
HYHZFQ- 5335	A	R	A	L	G			
J62KZH- 5331	A	R	A	L	G			
JAE EYM- 5331	A	R	A	L	G			
JGYEGL- 5335	A	R	A	L	G			
JMKETR- 5335	A	R	A	L	G			
JRP2ZG- 5331	B	R	A	L	F			
JVE4CW- 5331	A	R	A	L	G			R
JXEDZJ- 5331	A	R	A	L	G			
K8Q6M2- 5331	A	R	A	L	G			

TABLE 1b (Porcelain Tile)

Questioned Imprints								
WebCode- Test	<u>Q4</u>		<u>Q5</u>		<u>Q6</u>		Conclusion	L/R
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R		
K9VHNU- 5335	A	R	A	L	G			R
KFKC9R- 5331	A	R	A	L	G			
KRADKT- 5335	A	R	A	L	G			R
KVW3QQ- 5335	A	R	A	L	G			
LEGARL- 5335	A	R	A	L	G			R
LQUZAJ- 5331	A	R	A	L	G			R
LTCA63- 5331	A	R	A	L	G			
LTXT4G- 5331	A	R	A	L	G			
M4C3DT- 5331	A	R	A	L	G			
MBGHYF- 5331	A	R	A	L	G			
NDY449- 5331	R	A	L	A				G
NR362J- 5331	A	R	A	L	G			R
NVHTKU- 5331	A	R	A	L	G			
NX9UPH- 5331	A	R	A	L	G			
P9XFZ7- 5335	A	R	A	L	G			
PDUKKW- 5335	A	R	B	L	G			
PJ2WTQ- 5331	A	R	A	L	G			
PJNYMR- 5331	A	R	A	L	G			
PVXJ3D- 5335	A	R	A	L	G			
PVZ274- 5335	A	R	A	L	G			

TABLE 1b (Porcelain Tile)

Questioned Imprints								
WebCode- Test	<u>Q4</u>		<u>Q5</u>		<u>Q6</u>		L/R	L/R
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R		
Q2XUEJ-5331	A	R	A	L	G			
Q8FCNK-5335	A	R	A	L	G			
QAQL3H-5331	A	R	A	L	G			
QB6EZZ-5335	A	R	A	L	G			
QC2BLU-5331	A	R	A	L	G			
QFJQVL-5331	A	R	A	L	G			
QW8ZHN-5331	A	R	A	L	G			
R9CN36-5335	A	R	A	L	G			
RAANAH-5331	A	R	A	L	G			
RC6BFK-5331	A	R	A	L	G			
RFVM2Q-5335	A	R	A	L	G			
RLGJK8-5335	A	R	A	L	G			
RN4ZGF-5335	A	R	A	L	G			R
TPZXN8-5331	A	R	A	L	G			R
TX7ZPY-5331	A	R	A	L	G			
TYHC9J-5335	A	R	A	L	G			R
TZXWFE-5331	A	R	A	L	G			
U26QDP-5331	A	R	A	L	G			
U6RD7D-5331	A	R	A	L	G			R
U8UAV8-5331	A	R	A	L	G			

TABLE 1b (Porcelain Tile)

Questioned Imprints								
WebCode- Test	<u>Q4</u>		<u>Q5</u>		<u>Q6</u>		L/R	L/R
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R		
UPBF3X-5335	A	R	A	L	G			
UPT7CH-5331	B	R	A	L	G			
UYWZ8P-5331	A	R	A	L	G			
V3FTYN-5331	A	R	A	L	G			
V3GVKM-5335	A	R	A	L	E			
VAX49J-5331	A	R	A	L	G			
VDY6E8-5335	A	R	A	L	G			
VLTB99-5331	A	R	A	L	G			
VY26GD-5335	A	R	A	L	G			
W622HN-5331	A	R	A	L	G			
WDV8BP-5331	A	R	A	L	G			
WP4RW4-5331	A	R	A	L	G			
WT4MGL-5335	A	R	A	L	G			
WUDTDL-5331	A	R	A	L	G			
WV7KM8-5331	A	R	A	R	G			
X3MKHB-5331	A	R	A	L	G			
XAMZ8H-5331	A	R	A	L	G			R
XV4CXK-5331	A	R	A	L	G			R
XYPDJD-5331	A	R	A	L	G			
Y4G2B4-5331	A	R	A	L	G			

TABLE 1b (Porcelain Tile)

Questioned Imprints								
WebCode- Test	Q4		Q5		Q6			
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R		
YF9QBA- 5331	A	R	A	L	G			
YJAU3W- 5331	A	R	A	L	G			
YMUNWC- 5335	A	R	A	L	G			
YN7JJ4- 5335	A	R	A	L	G			R
Z3AZKH- 5335	A	R	A	L	G			
ZRGA9Q- 5335	A	R	A	L	G			
ZVJRK7- 5335	A	R	A	L	G			

Response Summary - Table 1b (Porcelain Tile)						Participants: 145	
	Q4 Conc.		Q5 Conc.		Q6 Conc.		L/R
		L/R		L/R			
Identification (A)	139 (95.9%)	L 0 (0.0%)	140 (96.6%)	L 141 (97.2%)	0 (0.0%)		N/A for non-assoc.
High Degree of Ass'n. (B)	5 (3.4%)	R 143 (98.6%)	4 (2.8%)	R 2 (1.4%)	0 (0.0%)		
Association (C)	0 (0.0%)		0 (0.0%)		0 (0.0%)		
Limited Ass'n. (D)	0 (0.0%)		0 (0.0%)		0 (0.0%)		
Inconclusive (E)	0 (0.0%)		0 (0.0%)		1 (0.7%)		
Non-Ass'n. (F)	0 (0.0%)		0 (0.0%)		2 (1.4%)		
Exclusion (G)	0 (0.0%)		0 (0.0%)		141 (97.2%)		

Conclusions

TABLE 2

WebCode-Test	Conclusions
26NWA2-5331	Visual comparisons were conducted and the findings of this examiner are as follows: 1. Items 4.1 (Q1), 4.2 (Q2) and 5.2 (Q5) were identified as having been made by the submitted left shoe (K1). 2. Items 4.3 (Q3) and 5.1 (Q4) were identified as having been made by the submitted right shoe (K1). 3. Item 5.3 (Q6) was made by a second right shoe, similar to the outsole design as the recovered right New Balance shoe, (K1).
2B47DJ-5335	The right outsole portrayed in image K1a made impressions Q3 and Q4. The left outsole portrayed in image K1a made impressions Q1, Q2, and Q5. Neither the right nor left outsoles portrayed in image K1a made impression Q6.
2BMCD9-5335	Three of the six impressions (Q1, Q2, and Q5) were made by the left New Balance shoe (K1a left). Two of the six impressions (Q3 and Q4) were made by the right New Balance shoe (K1a right). The remaining impression (Q6) was not made by either shoe.
2GETCY-5331	Six footwear imprints, identified as Q1 through Q6, were reportedly recovered from a crime scene. Q1, Q2 and Q5, the partial left footwear imprints were made by the K1 left shoe. This identification is based on shared class characteristics and corresponding random accidental characteristics that are visible in both the imprints and the shoe. Q3 and Q4, the partial right footwear imprints were made by the K1 right shoe. This identification is based on shared class characteristics and corresponding random accidental characteristics that are visible in both the imprints and the shoe. Q6, the partial right footwear imprint, could not have been made by the K1 right shoe. This exclusion is based on differences in the class characteristic of size. The imprint was made by a larger right shoe than the K1 right shoe.
2NXVGG-5335	Item 8 Examined visually and with 1 to 1 transparency overlays. Comparison of the partial left shoe impression labeled found on textured gray and white patterned vinyl tile, Q1, (item 8), to the recovered left "New Balance" shoe revealed an identification. Item 9 Examined visually and with 1 to 1 transparency overlays. Comparison of the partial left shoe impression labeled found on textured gray and white patterned vinyl tile, Q2, (item 9), to the recovered left "New Balance" shoe revealed an identification. Item 10 Examined visually and with 1 to 1 transparency overlays. Comparison of the partial right shoe impression labeled found on textured gray and white patterned vinyl tile, Q3, (item 10), to the recovered right "New Balance" shoe revealed an identification. Item 11 Examined visually and with 1 to 1 transparency overlays. Comparison of the right shoe impression labeled found on gray hexagonal porcelain tile, Q4, (item 11), to the recovered right "New Balance" shoe revealed an identification. Item 12 Examined visually and with 1 to 1 transparency overlays. Comparison of the partial left shoe impression labeled found on gray hexagonal porcelain tile, Q5, (item 12), to the recovered left "New Balance" shoe revealed an identification. Item 13 Examined visually and with 1 to 1 transparency overlays. Comparison of the partial right shoe impression labeled found on gray hexagonal porcelain tile, Q6, (item 13), to the recovered right "New Balance" shoe revealed an elimination.
36DBR6-5335	When addressing the issue of whether the questioned marks could have been made by the known footwear, given my findings, in my opinion there is conclusive support for the view that the questioned marks Q1 to Q5 were made by the known shoes. The known shoes can be excluded from mark Q6.
3D9PUU-5335	There is extremely strong support for the proposition that the known left shoe made Q1, Q2, and Q5 and that the known right shoe made Q3 and Q4. Strong Support for Known Source is an examiner's opinion that the observed characteristics provide overwhelmingly more support for the proposition that the questioned impression was made by the known footwear or tire than for the proposition that the questioned impression was made by a different footwear/tire. There is extremely weak support for the proposition that the questioned impression was made by a different footwear/tire. Q6 (a right footwear impression) was excluded as having been made by the right known shoe. The shoe that made Q6 has the same outsole design but was made by a bigger shoe than the known right shoe. Source exclusion is an examiner's opinion that the observed characteristics provide extremely strong support for the

TABLE 2

WebCode-Test	Conclusions
	<p>proposition that a different footwear or tire made the questioned impression and no support for the proposition that the known footwear or tire made the questioned impression. Source exclusion is only justified if the examiner's opinion is that the prospect of finding the observed characteristics, if the two items came from the same source, is negligible.</p>
3JTDCE-5331	<p>Impressions Q1, Q2, and Q5 orient with a left shoe and correspond with the K1 left shoe in outsole design, physical size, wear, and randomly acquired characteristics. Therefore, this shoe was identified as the source of these impressions. Impressions Q3 and Q4 orient with a right shoe and correspond with the K1 right shoe in outsole design, physical size, wear, and randomly acquired characteristics. Therefore, this shoe was identified as the source of these impressions. Impression Q6 orients with a right shoe and corresponds with the K1 right shoe in outsole design; however, this impression does not correspond with this shoe in physical size and wear. Therefore, this shoe was excluded as the source of this impression.</p>
44E7R8-5331	<p>The submitted images and known impressions of the suspect shoes (K1a-K1g) were examined and compared to the questioned impressions visible in Q1-Q6. Q1, Q2, and Q5 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, Q2, and Q5 were made by the known left shoe. Q3 and Q4 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 and Q4 were made by the known right shoe. Q6 corresponds to the known right shoe in tread pattern, however, Q6 is different than the known right shoe in tread size and individual characteristics. Thus, Q6 could not have been made by the known right shoe.</p>
483F4U-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. Conclusion A would be expressed as 'extremely more support', conclusion B as 'very much more support'</p>
49BDWW-5335	<p>[No Conclusions Reported.]</p>
4CBY7T-5335	<p>Manufactured pattern impressions, that appear to be of footwear origin, suitable for comparative examination were noted in Items Q1-Q3 and Q4-Q6. Three (3) manufactured pattern impressions noted in Items Q1-Q3 (photograph markers Q1 and Q2) and Q4-Q6 (photograph marker Q5) were made by the left shoe depicted in Items K1a through K1c based on design, physical size, shape, texture 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 Items Q1-Q3 (photograph marker Q3) and Q4-Q6 (photograph marker Q4) were made by the right shoe depicted in Items K1a through K1c based on design, physical size, shape, texture 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 impression noted in Item Q4-Q6 (photograph marker Q6) was not made by the right shoe depicted in Items K1a through K1c based on differences in physical size or by the left shoe depicted in Items K1a through K1c based on difference in shape. 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>
4G43VQ-5335	<p>In the opinion of this examiner, the known Left footwear, is the source of, and made, the questioned impressions Q1, Q2, & Q5. Another item of footwear being the source of these impressions 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 & Q4. Another item of footwear being the source of these impressions is considered a practical impossibility. In the opinion of this examiner, the known</p>

TABLE 2

WebCode-Test	Conclusions
4QTQRE-5331	<p>Right & Left footwear are not the source of, and did not make the questioned impression Q6</p> <p>Each of the marks Q1, Q2 and Q5 was found to show agreement in pattern, size and fine detail with the sole of the left shoe Q1, Q2 and Q5 such that, in our opinion, the left shoe is responsible for the marks Q1, Q2 and Q5. Both of the marks Q3 and Q4 were found to show agreement in pattern, size and fine detail with the sole of the right shoe such that, in our opinion, the right shoe is responsible for the marks Q3 and Q4. While the pattern in Q6 is similar to the pattern of the right shoe there are differences in size such that, in our opinion, neither shoe is responsible for the mark Q6.</p>
4YA8H4-5331	<p>It is my opinion that Q1, Q2, and Q5 were made by the left shoe of K1 due to multiple randomly acquired characteristics. Q3 and Q4 were made by the right shoe of K1 due to multiple randomly acquired characteristics. Q6 was not made by either the left or right shoes of K1.</p>
4YCREJ-5331	<p>The scene print labelled Q6 was a larger print than the test prints made with the left shoe. Therefore, in my opinion the left shoe did not make print Q6. There was an excellent correspondence of sole pattern, dimensions, and areas of damage between three scene prints labelled Q1, Q2 and Q5 and test prints made with the left shoe. There was an excellent correspondence of sole pattern, dimensions, and areas of damage between two scene prints labelled Q3 and Q4 and test prints made with the right shoe. Therefore, the submitted pair of shoes could have made these five scene prints. However, I cannot exclude the possibility that another pair of shoes with the same sole pattern, dimensions, and areas of damage made these five scene prints. In my opinion, the combination of sole pattern, dimensions, and damage is rare, and therefore the observed correspondence provides extremely strong support for the proposition that the pair of shoes made the scene prints Q1 to Q5. I have chosen the term 'extremely strong support' 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.</p>
64X7CP-5335	<p>In the opinion of the examiner, the left known footwear was the source of, and made, the questioned impressions at Q1, Q2, and Q5. Another item of footwear being the source of the impression is considered a practical impossibility. In the opinion of the examiner, the right known footwear was the source of, and made, the questioned impressions at Q3 and Q4. Another item of footwear being the source of the impression is considered a practical impossibility. In the opinion of the examiner, the known footwear was not the source of, and did not make, the questioned impression at Q6.</p>
66TPFC-5335	<p>Comparison of the left partial shoe imprint labeled Q1, to the recovered left shoe revealed an identification. Comparison of the left partial shoe imprint labeled Q2, to the recovered left shoe revealed an identification. Comparison of the right partial shoe imprint labeled Q3, to the recovered right shoe revealed an identification. Comparison of the right partial shoe imprint labeled Q4, to the recovered right shoe revealed an identification. Comparison of the left partial shoe imprint labeled Q5, to the recovered left shoe revealed an identification. Comparison of the right partial shoe imprint labeled Q6, to the recovered right shoe revealed an elimination.</p>
67P2FK-5331	<p>On 12 May 2023 the following items were received in the laboratory. Photographs K1a Photograph of the recovered shoes, lighted from above Photographs K1b – K1c Oblique lighted images of the recovered shoes Photographs K1d - K1g Known imprints prepared from the recovered shoes Photograph Q1 - Q3 Questioned imprints found on textured grey and white patterned vinyl tile Photograph Q4 – Q6 Questioned imprints found on grey hexagon porcelain tile I have examined the items to determine whether or not either of the recovered shoes could have made any of the footwear imprints photographed at the scene. The recovered shoes were New Balance casual style shoes, size US W 6.5, US M 5, UK 4.5. The wear detail of these shoes was indistinct. By comparing the sole pattern of a shoe or boot to a shoeprint impression, it is often possible to determine whether or not that particular shoe made that impression. 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, size and shape of any randomly acquired characteristics. I have subjectively considered the probability of finding the impression evidence if either of the recovered New Balance</p>

TABLE 2

WebCode-Test	Conclusions
	<p>shoes made the scene imprints. Conversely, I have also subjectively considered the probability of finding the impression evidence if another shoe or boot made the scene imprints. The statement of opinion as to the scientific significance of any correspondences 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 and randomly acquired characteristics between the left New Balance shoe and the partial shoe impressions present in scene imprints Q1, Q2 and Q5. There was also a correspondence of sole pattern, dimensions and randomly acquired characteristics between the right New Balance shoe and the partial shoe impressions present in scene imprints Q3 and Q4. In my opinion the observed correspondences of sole pattern, dimensions and randomly acquired characteristics is rare and therefore provide extremely strong scientific support for the proposition that the left New Balance shoe has made the scene imprints Q1, Q2 and Q5 and that the right New Balance shoe has made the scene imprints Q3 and Q4. The impression in imprint Q6 is an almost complete footwear impression and has been made by a right shoe with a similar sole pattern to the recovered New Balance shoes. The scene imprint has however been made by a shoe of larger size to the recovered right shoe and therefore, in my opinion, the recovered right shoe could not have made scene impression Q6. I confirm the truth and accuracy of this statement. I make this statement with the knowledge that it is to be used in court proceedings. I am aware that it is an offence to make a statement that is known by me to be false or intended by me to mislead.</p>
68G2EG-5335	<p>In the opinion of the scientist, comparison of the six questioned footwear impression from Lab Items #4 and #5 resulted in the following conclusions. The left shoe of Lab Items #1-#3 was the source of the impressions labeled Q1, Q2, and Q5. The right shoe of Lab Items #1-#3 was not the source of the impressions labeled Q1, Q2, and Q5. The right shoe of Lab Items #1-#3 was the source of the impressions labeled Q3 and Q4. The left shoe of Lab Items #1 - #3 was not the source of the impressions labeled Q3 and Q4. The shoes of Lab Items #1-#3 were not the source of the impression labeled as Q6.</p>
69TUC6-5335	<p>Q1, Q2, and Q5 were identified as being made by K1, left shoe. Corresponded in physical shape, physical size, outsole tread design, wear characteristics, mold characteristics and randomly acquired characteristics. Right shoe was excluded due to physical shape. Q3 and Q4 were identified as being made by K1, right shoe. Corresponded in physical shape, physical size, outsole tread design, wear characteristics, mold characteristics and randomly acquired characteristics. Left shoe was excluded due to physical shape. Q6 was excluded to K1, both left and right shoes. Corresponded in physical shape and outsole tread design with right shoe of K1, but did not correspond in physical size or randomly acquired characteristics. Left shoe was excluded due to physical shape.</p>
6AKYNN-5335	<p>In the opinion of this examiner, the known Left footwear, is the source of, and made, the following questioned impressions: Q1, Q2, and Q5. Another item of footwear being the source of these impressions is considered a practical impossibility. In the opinion of this examiner, the known Right footwear, is the source of, and made, the following questioned impressions: Q3 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 Right and Left footwear, are not the source of, and did not make the questioned impression Q6.</p>
6JUG2F-5331	<p>Comparative analysis between the Item Q1, Q2, and Q5 left questioned footwear impressions and the Item K1a left shoe revealed correspondence of class characteristics (pattern, physical size, and general condition of wear), and multiple distinguishing damage characteristics. It was concluded that the Item K1a left shoe was the source of, and made, the Item Q1, Q2, and Q5 impressions. Another shoe being the source of the impressions is considered a practical impossibility. Comparative analysis revealed significant differences (left vs. right orientation) between the Item Q1, Q2, and Q5 left questioned footwear impressions and the Item K1a right shoe. It was concluded that the Item K1a right shoe did not make the Item Q1, Q2, and Q5 left impressions. Comparative analysis between the Item Q3 and Q4 right questioned footwear impressions and the Item K1a right shoe revealed correspondence of class characteristics (pattern, physical size, and general condition of wear), and multiple distinguishing</p>

TABLE 2

WebCode-Test	Conclusions
	<p>damage characteristics. It was concluded that the Item K1a right shoe was the source of, and made, the Item Q3 and Q4 impressions. Another shoe being the source of the impression is considered a practical impossibility. Comparative analysis revealed significant differences (physical size, general condition of wear, and distinguishing damage characteristic differences) between the Item Q6 right questioned footwear impression and the Item K1a right shoe. It was concluded that the Item K1a right shoe did not make the Item Q6 impression. Comparative analysis revealed significant differences (left vs. right orientation) between the Item Q3, Q4, and Q6 right questioned impressions and the Item K1a left shoe. It was concluded that the Item K1a left shoe did not make the Item Q3, Q4, and Q6 right impressions.</p>
7AFWBP-5331	<p>The left outsole of K1a is identified as the source of questioned impressions Q1, Q2, and Q5. The right outsole is excluded as a source for these impressions. The right outsole of K1a is identified as the source of questioned impressions Q3 and Q4. The left outsole is excluded as a source for these impressions. Both outsoles of K1a are excluded as a possible source for questioned impression Q6.</p>
7DEWAF-5335	<p>The results extremely strongly support that the shoeprints Q1 and Q5 has been deposited by the left shoe. The results extremely strongly support that the shoeprint Q4 has been deposited by the right shoe. The results strongly support that the shoeprints Q2 has been deposited by the left shoe. The results strongly support that the shoeprints Q3 has been deposited by the right shoe. The results extremely strongly support that the shoeprint Q6 has not been deposited by the right shoe.</p>
7TU7HH-5335	<p>Conclusions for Questions- Q1/Q2/Q5 It is the opinion of the examiner, the particular known (left) shoe was the source of, and made, the (left) questioned impressions Q1/ Q2/ Q5. The chance of another shoe being the source of the impression is considered negligible. Conclusions for Questions - Q3/Q4 It is the opinion of the examiner, the particular known (right) shoe was the source of, and made, the (right) questioned impressions Q3/Q4. The chance of another shoe being the source of the impression is considered negligible. A. Identification- These questioned and known items share agreement of class and randomly acquired characterise of sufficient quality and quantity. Highest degree of association. Conclusion for Question- Q6 In the opinion of the examiner, due to differences observed; whilst the visible pattern elements were all comparable, there was sufficient visible pattern within the scene impression to determine the dimensions were not the same as the known impression. The scene impression was a larger shoe size. Also, the four randomly acquired characteristics identified in the scene impression were not replicated in location, shape and dimension in the known impression. The particular known shoe was not the source of and did not make the impression. G. Exclusion- Questioned and known items exhibited sufficient differences of class and randomly acquired characteristics. Highest degree of non-association.</p>
7X8A8Y-5331	<p>Exhibits 4.1 (Q1), 4.2 (Q2) and 5.2 (Q5) were identified as having been made by the known left shoe, K1 left. Exhibits 4.3 (Q3) and 5.1 (Q4) were identified as having been made by the known right shoe, K1 right. Exhibit 5.3 (Q6) was made by a second right shoe with a similar outsole design as the recovered right New Balance shoe, K1.</p>
8ACWNU-5331	<p>The above findings provide extremely strong support for the view that the runners made the impressions (Q1-5) rather than other footwear did. They also show that the runners did not make the impression Q6. (Footwear of a similar pattern and different size did)</p>
8NB32T-5335	<p>Q1 was identified as having been made by K1 - left shoe. Q2 was identified as having been made by K1 - left shoe. Q3 was identified as having been made by K1 - right shoe. Q4 was identified as having been made by K1 - right shoe. Q5 was identified as having been made by K1 - left shoe. Q6 was not made by K1.</p>
8P97F8-5331	<p>[No Conclusions Reported.]</p>
8Q3UWG-5335	<p>In my opinion: The right known shoe K1 was the source of, and made, the question impressions Q3 and Q4; The left known shoe K1 was the source of, and made the questioned impressions Q1, Q2 and</p>

TABLE 2

WebCode-Test	Conclusions
	Q5; The chance of another right and left shoe being the source of the above named impressions is considered negligible. The right (and left) known shoe K1 was not the source of and did not make the questioned impression Q6.
9MTNTA-5335	the questioned sneakers q1, q3, q4 and q5 have been made by the suspect's sneakers. the questioned q6 shoe bears enough characteristic markings to exclude it
9P2PV9-5331	Q1. CONCLUSIVE evidence. Q2. CONCLUSIVE evidence. Q3. CONCLUSIVE evidence. Q4. CONCLUSIVE evidence. Q5. CONCLUSIVE evidence. Q6. EXCLUDED evidence
9P9926-5335	Questioned impressions #1, #2, and #5 were compared and identified as having been produced by the known left shoe. They are consistent in size and outsole design and have multiple random individual/accidental characteristics in common. Questioned impressions #3 and #4 were compared and identified as having been produced by the known right shoe. They are consistent in size and outsole design and have multiple random individual/accidental characteristics in common. Questioned impression #6 was compared and has been excluded as having been produced by either of the known shoes due to inconsistent random individual/accidental characteristics.
9YRMZ2-5331	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-Q6 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, Q2, Q3, Q4 and Q5. Thus, it was concluded that an item Q6 is different from the comparative material. Items Q3, Q4 and Q6 came from the right sole, and Q1, Q2 and Q5 came from the left sole.
A8FC32-5335	[No Conclusions Reported.]
AHHHPU-5331	Q1, Q2 and Q5 were made by K1 left. Q3 and Q4 were made by K1 right. Q1, Q2, Q5 and Q6 could not have been made by K1 right. Q3, Q4 and Q6 could not have been made by K1 left.
AKHAK8-5331	The impressions recorded on the exhibits Q1, Q2, Q3, Q4 and Q5 show pattern elements that are of a generally similar pattern and pattern configuration to that present on the footwear exhibit K1a relating to CTS. A more detailed comparison of these items could potentially yield at least 'very strong' support for the findings as described above. A more detailed comparison can be carried out, if required, by submitting the above items to a forensic service provider. These results would supersede this report.
ALFF68-5331	[No Conclusions Reported.]
BCCY9F-5331	By comparing a shoe with a questioned impression, it is often possible to determine whether or not that particular shoe made that impression. This comparison process examines a shoe and an impression to investigate any correspondence or difference in sole pattern and dimensions, the presence of any wear features and the location, size and shape of any randomly acquired characteristics. I compared the test impressions of the left and right New Balance shoes with the scene impressions labelled Q1 to Q6. There was a correspondence of sole pattern, dimensions, degree of wear and randomly acquired characteristics between the left New Balance shoe and impressions Q1, Q2 and Q5. There was a correspondence of sole pattern, dimensions, degree of wear and randomly acquired characteristics between the right New Balance shoe and impressions Q3 and Q4. Therefore the submitted shoes, or other shoes with the same sole pattern, dimensions, degree of wear and randomly acquired characteristics, could have made the scene impressions. In subjectively assessing the strength of this correspondence, I have considered the probability of finding the shoe impression evidence if the respective New Balance shoes made the impressions, and the probability of finding the shoe impression evidence if another shoe made the impressions. The statement of opinion as to the scientific significance

TABLE 2

WebCode-Test	Conclusions
	<p>of the correspondence between a shoe and a shoe impression is selected from the following scale: is neutral, provides slight support, provides moderate support, provides strong support, provides very strong support, provides extremely strong support. In my opinion the observed combination of sole pattern, dimensions, degree of wear and randomly acquired characteristics is rare and therefore the observed correspondences provide extremely strong support for the proposition that the left New Balance shoe made impressions Q1, Q2 and Q5, and the proposition that the right New Balance shoe made impressions Q3 and Q4. Impression Q6 was a right shoe impression and had the same general sole pattern design as the right New Balance shoe, however, there was a difference in dimensions between impression Q6 and the right shoe, therefore this shoe could not have made this impression.</p>
BKZWTU-5335	<p>All the questioned impressions have an outsole design including a series of parallel bars and open squares/rectangles on the lateral side forefoot. The impression images from the scene were compared to the submitted footwear. Q1, Q2, and Q5 impressions correspond in physical size, outsole design, wear pattern, and multiple randomly acquired characteristics to the known left sneaker shoe and therefore, were made by that sneaker. Q3 and Q4 impressions correspond in physical size, outsole design, wear pattern, and multiple randomly acquired characteristics to the known right sneaker and therefore, were made by that sneaker. Q6 impression is similar in general design to the known right sneaker; however there are differences in size, wear and randomly acquired characteristics. Therefore this impression was not made by the known sneaker.</p>
BTWW72-5331	<p>The submitted footwear images were examined and compared to the footwear impressions visible in Q1-Q6. Q1, Q2 and Q5 correspond to the known left shoe in tread design, tread size, tread wear and individual characteristics to include a gouge and nicks in the surface. Q1, Q2 and Q5 were made by the known left shoe as represented by the submitted images. Q3 and Q4 correspond to the known right shoe in tread design, tread size, tread wear and individual characteristics to include a scratch and nicks in the surface. Q3 and Q4 were made by the known right shoe as represented by the submitted images. Q6 corresponds to the known right shoe in tread design; however, Q6 is different from the known shoe is tread size. Thus, Q6 could not have been made by the known right shoe as represented by the submitted images.</p>
BVQETW-5331	<p>Items Q1, Q2, and Q5 correspond in outsole design, physical size, and general wear with the known left shoe submitted in Item K. 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 K. These questioned footwear impressions were those of a left shoe; therefore, the questioned impressions were not made by the known right shoe in Item K. Items 3 and 4 correspond in outsole design, physical size, and general wear with the known right shoe submitted as Item K. 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 K. These questioned footwear impressions were those of a right shoe; therefore, the questioned impressions were not made by the known left shoe in Item K. Item 6 does not correspond in physical size with the known right shoe submitted in Item K; therefore, the questioned impression was not made by the known right shoe submitted as Item K. The questioned impression was that of a right shoe; therefore, the questioned impression was not made by the known left shoe in Item K.</p>
C99MPL-5331	<p>The known right shoe made impressions Q3 and Q4. The known left shoe made Q1, Q2 and Q5. The known shoes are eliminated from making Q6.</p>
CBTFY3-5331	<p>1. It is in the opinion of the undersigned that questioned footwear impressions Q1, Q2 and Q5 were made by the known shoe K1aL. 2. It is in the opinion of the undersigned that questioned footwear impressions Q3 and Q4 were made by the known shoe K1aR. 3. It is in the opinion of the undersigned that questioned footwear impressions Q1, Q2 and Q5 could not have been made by the known shoe K1aR. 4. It is in the opinion of the undersigned that questioned footwear impressions Q3 and Q4 could not have been made by the known shoe K1aL. 5. It is in the opinion of the undersigned that questioned</p>

TABLE 2

WebCode-Test	Conclusions
CDM2UE-5331	<p>footwear impression Q6 could not have been made by the known shoe K1aL/R.</p> <p>The results and conclusions provided in this statement form my expert opinion, which is based on my scientific knowledge, experience and training. The results apply to the items as received and relate only to the items tested. On 10 May 2023 a sample pack of photographic images was received at [Lab Name]. The images were described as relating to an assault and theft from a private residence. There were two images from the scene which contain footwear impressions labelled Q1 through to Q6. There was a second series of images labelled K1 which were described as from a pair of New Balance shoes and of test impressions made with these shoes. I was asked to compare the images of the shoes to the images from the scene to determine whether or not the shoes from K1 could have made any of the footwear impressions Q1 through 6. 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. 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, size and shape of any randomly acquired characteristics. In determining 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, general wear features and multiple areas of randomly acquired characteristics between the left shoe, item K1, and the shoeprint impressions Q1, Q2 and Q5. Therefore, in my opinion, this provides extremely strong support for the proposition that this left shoe, K1, made each of these footwear impressions. There was a correspondence of sole pattern, dimensions, general wear features and multiple areas of randomly acquired characteristics between the right shoe, item K1, and the shoeprint impressions Q3 and Q4. Therefore, in my opinion, this provides extremely strong support for the proposition the right shoe, K1, and made both of these footwear impressions. The shoeprint impression Q6 was of a right shoe which had a general correspondence of sole pattern to the shoes K1. However, this shoeprint impression also displayed differences in dimensions and randomly acquired characteristics. Therefore, in my opinion, the shoes, item K1, can be excluded as having made this impression.</p>
CERCBA-5335	[No Conclusions Reported.]
CKXP7R-5331	<p>In the opinion of this examiner, the recovered left shoe (sole) depicted in Laboratory Item #001.A (K1a) photograph was the source of, and made, Laboratory Item #001.H (Q1) left partial questioned impression on textured grey and white patterned vinyl tile. In the opinion of this examiner, the recovered left shoe (sole) depicted in Laboratory Item #001.A (K1a) photograph was the source of, and made, Laboratory Item #001.I (Q2) left partial questioned impression on textured grey and white patterned vinyl tile. In the opinion of this examiner, the recovered right shoe (sole) depicted in Laboratory Item #001.A (K1a) photograph was the source of, and made, Laboratory Item #001.J (Q3) right partial questioned impression on textured grey and white patterned vinyl tile. In the opinion of this examiner, the recovered right shoe (sole) depicted in Laboratory Item #001.A (K1a) photograph was the source of, and made, Laboratory Item #001.K (Q4) right questioned impression on grey hexagon porcelain tile. In the opinion of this examiner, the recovered left shoe (sole) depicted in Laboratory Item #001.A (K1a) photograph was the source of, and made, Laboratory Item #001.L (Q5) left partial questioned impression on grey hexagon porcelain tile. In the opinion of this examiner, the recovered right shoe (sole) depicted in Laboratory Item #001.A (K1a) photograph was not the source of, and did not make, Laboratory Item #001.M (Q6) right questioned impression on grey hexagon porcelain tile.</p>
D7YX6N-5331	<p>The questioned impressions, Exhibits 1 through 6, were visually examined and compared to the outsole tread design elements, physical size, and randomly acquired characteristics present on Exhibits 7 and 8, the recovered shoes. Exhibits 1, 2, and 5 have been identified as coming from the same source as the recovered left shoe represented in Exhibits 7 and 8. Exhibits 3 and 4 have been identified as coming</p>

TABLE 2

WebCode-Test	Conclusions
	from the same source as the recovered right shoe represented in Exhibits 7 and 8. The shoes represented in Exhibits 7 and 8 can be excluded as the source of questioned impressions Exhibit 6.
D9XXY9-5335	[No Conclusions Reported.]
DBQCJW-5335	The questioned imprints Q1, Q2 and Q5 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, Q2 and Q5. Another item of footwear being the source of the imprints is considered a practical impossibility. The questioned imprints Q3 and Q4 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 and Q4. 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 Q6 and the known imprints of the recovered shoes. The recovered shoes were not the source of, and did not make the questioned imprint Q6.
DVBMC3-5335	The shoe print identified Q-1 has similarities in pattern, design, size, general characteristic and individual characteristics when compared to the shoe prints identified K-1 A through K-1 G (left side). The shoe print identified Q-2 has similarities in pattern, design, size, general characteristic and individual characteristics when compared to the shoe prints identified K-1 A through K-1 G (left side). The shoe print identified Q-3 has similarities in pattern, design, size, general characteristic and individual characteristics when compared to the shoe prints identified K-1 A through K-1 G (right side). The shoe print identified Q-4 has similarities in pattern, design, size, general characteristic and individual characteristics when compared to the shoe prints identified K-1 A through K-1 G (right side). The shoe print identified Q-5 has similarities in pattern, design, size, general characteristic and individual characteristics when compared to the shoe prints identified K-1 A through K-1 G (left side). The shoe print identified Q-6 has similarities in pattern, design, and size; however, it has differences in general characteristic and individual characteristics when compared to prints identified K-1 A through K-1 G (right side). In summary: The pieces of evidence identified Q-1, Q-2 and Q-5 were produced by the piece of evidence identified K-1 (left side). The pieces of evidence identified Q-3 and Q-4 were produced by the piece of evidence identified K-1 (right side). The piece of evidence identified Q-6 was not produced by the piece of evidence identified K-1 (Right and Left Side).
EMETTF-5331	[No Conclusions Reported.]
EQWEFQ-5335	in my opinion: Five of the footwear marks recovered from the scene were made by the recovered shoes (conclusive association). One of the footwear marks recovered from the scene was NOT made by the either of the recovered shoes (conclusive elimination).
EUYVUQ-5331	Q1, Q2 and Q5 were all made by the left shoe. Q3 and Q4 were made by the right shoe. Q6 could not have been made by the known shoes.
F69ADX-5331	On the crime scene we have shopprints with one kind of pattern but with two different sizes. Some of them have the highest degree of association with the shoe. One of the shoeprint has the highest degree of non-association.
F77FX-5335	Recovered imprints Q1, Q2, Q5 are left by left shoe of recovered pair K1. Recovered imprints Q3, Q4 are left by right shoe of recovered pair K1. Recovered imprint Q6 is not left by any shoe of recovered shoe pair K1.

TABLE 2

WebCode-Test	Conclusions
F9QCFX-5335	Q1, Q2, and Q5 are impressions of a left shoe with a series of bars in the sole and lugs around the side. These impressions were analyzed and compared to K1. It was determined that these impressions are identified to K1. Q3 and Q4 are impressions of a right shoe with a series of bars in the sole and lugs around the side. These impressions were analyzed and compared to K1. It was determined that these impressions are identified to K1. Q6 is an impression of a right shoe with a series of bars in the sole and lugs around the side. This impression was analyzed and compared to K1. It was determined that this impression is excluded to K1 based on size difference.
FA2E3W-5335	Based upon my experience of undertaking and interpreting the results of footwear comparisons, and the level of correspondence noted in pattern (uncommon), pattern size (UK 4.5), general degree of light wear, stippling and a number of gross, repeating damage features, in my opinion, the findings show conclusively that the training shoes K1 (left and right) made the footwear marks Q1 – Q5 recorded in the photographs.
FK7JZ4-5331	Items K1a, K1b, K1c, K1d, K1e, K1f, and K1g, the digital images of the soles of the suspect shoes and test impressions, were visually examined and compared to the photographs of questioned impressions Q1 through Q6 using transparent overlays and printed copies of the digital images. Based on the correspondence of physical size, design, wear characteristics, and random individual characteristics of the known shoes and the questioned impressions, it was determined that questioned impressions Q1, Q2, and Q5 were made by the suspect left shoe and questioned impressions Q3 and Q4 were made by the suspect right shoe. Although Q6 had an overall similar tread pattern as the suspect right shoe, the overall size and spatial relationship of the design elements in the pattern were different; therefore, it was Q6 could not have been made by the suspect shoes.
G8RNGY-5331	The impression Q1, Q2 and Q5 has been identified as having been made with the left of the secured shoes, as the comparison has established agreement with regard to sole pattern, size, degree of wear, and specific details resulting from damage to the outer sole. These details are transferred from the outsole to the print by contact between sole and surface. The impression Q3 and Q4 has been identified as having been made with the right of the secured shoes, as the comparison has established agreement with regard to sole pattern, size, degree of wear and specific details resulting from damage to the outer sole. These details are transferred from the outsole to the print by contact between sole and surface. The impression Q6 is excluded from being deposited with the secured footwear, as a discrepancy between the footwear and the impression has been established during the comparison.
GBWVW9-5335	a. Based on the highest degree of association in wear size ,pattern ,and randomly acquired characteristics,the Q1,Q2,Q5 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,Q4 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 Q6 footprint may come from shoes different to the recoverd right shoe .
GDMWYT-5331	Images of the known New Balance shoes (K1a-K1c) and the submitted impressions made of the known shoes (K1d - K1g) were visually compared to the six questioned impressions (Q1 – Q6) submitted. All questioned impressions exhibit the same overall outsole design, which is consistent with the outsole design of the known shoes. Q1 is a partial impression of a left shoe outsole. The known impression from the outsole of the shoe (K1) is consistent in physical shape, size, and location and position of wear. There are several areas of randomly acquired characteristics on Q1 also seen reproducing on the known impression. Q1 is IDENTIFIED as having been made by the left outsole of the known shoes (K1). Q2 is a partial impression of a left shoe outsole. The known impression from the outsole of the shoe (K1) is consistent in physical shape, size, and location and position of wear. There are several areas of randomly acquired characteristics on Q2 also seen reproducing on the known impression. Q2 is IDENTIFIED as having been made by the left outsole of the known shoes (K1). Q3 is a partial impression of a right shoe outsole. The known impression from the outsole of the shoe (K1) is consistent in physical shape, size, and location and position of wear. There are several areas of randomly acquired characteristics on Q3 also seen reproducing on the known impression. Q3 is IDENTIFIED as

TABLE 2

WebCode-Test	Conclusions
	<p>having been made by the right outsole of the known shoes (K1). Q4 is a partial impression of a right shoe outsole. The known impression from the outsole of the shoe (K1) is consistent in physical shape, size, and location and position of wear. There are several areas of randomly acquired characteristics on Q4 also seen reproducing on the known impression. Q4 is IDENTIFIED as having been made by the right outsole of the known shoes (K1). Q5 is a partial impression of a left shoe outsole. The known impression from the outsole of the shoe (K1) is consistent in physical shape, size, and location and position of wear. There are several areas of randomly acquired characteristics on Q5 also seen reproducing on the known impression. Q5 is IDENTIFIED as having been made by the left outsole of the known shoes (K1). Q6 is a partial impression of a right shoe outsole. This Questioned impression is larger than the known shoe (K1) and has defects that are not present on the known impression. Further, the known impression shows defects that are not present on impression Q6. Q6 is ELIMINATED as having been made by the right outsole of the known shoes (K1).</p>
GKFTKN-5335	<p>Questioned imprints Q1, Q2 and Q5, 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 left sole. Questioned imprints Q3 and Q4 are part of a single straight sole; they present the same group and individual characteristics between them. Also, they are identical to the known imprint of the right sole. The Questioned imprint Q6 has the same shape as the sole questioned, however they are different in terms of size and individual characteristics.</p>
GQ4B37-5335	<p>The results of the examination extremely strongly support that the imprint Q1 was made with the left shoe K1 (Level +4). The results of the examination strongly support that the imprint Q2 was made with the left shoe K1 (Level +3). The results of the examination strongly support that the imprint Q3 was made with the right shoe K1 (Level +3). The results of the examination extremely strongly support that the imprint Q4 was made with the right shoe K1 (Level +4). The results of the examination extremely strongly support that the imprint Q5 was made with the left shoe K1 (Level +4). The results of the examination extremely strongly support that the imprint Q6 was not made with the shoes K1 (Level -4).</p>
H99G92-5335	<p>Questioned imprints of Q1-Q6 were compared with known imprint made with the recovered shoes. Questioned imprints of Q1, Q2, Q5 were found to be consistent in shape, physical size, and individual characteristics with the imprint of the recovered left shoe. Questioned imprints of Q3, Q4 were found to be consistent in shape, physical size, and individual characteristics with the imprint of the recovered right shoe. Questioned imprints of Q6 were eliminated as having been made by the recovered shoe.</p>
HC8XJ8-5335	<p>[No Conclusions Reported.]</p>
HPVR2V-5331	<p>The methodologies utilized 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. Questioned footwear impressions 1A-1, 2A-1, 3A-1, 4A-1, 5A-1 and 6A-1 were compared to the known standards submitted in Item 7 (Item 7-1) 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 7. 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 7. Questioned footwear impression 1A-1 is of a left shoe; therefore, it was not made by the known right shoe submitted in Item 7. Questioned footwear impression 2A-1 corresponds in outsole design, physical size, and general wear with the known left shoe submitted in Item 7. 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 7. Questioned footwear impression 2A-1 is of a left shoe; therefore, it was not made by the known right</p>

TABLE 2

WebCode-Test	Conclusions
	<p>shoe submitted in Item 7. Questioned footwear impression 3A-1 corresponds in outsole design, physical size, and general wear with the known right shoe submitted in Item 7. 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 7. Questioned footwear impression 3A-1 is of a right shoe; therefore, it was not made by the known left shoe submitted in Item 7. Questioned footwear impression 4A-1 corresponds in outsole design, physical size, and general wear with the known right shoe submitted in Item 7. 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 7. Questioned footwear impression 4A-1 is of a right shoe; therefore, it was not made by the known left shoe submitted in Item 7. Questioned footwear impression 5A-1 corresponds in outsole design, physical size, and general wear with the known left shoe submitted in Item 7. Additionally, the questioned footwear impression exhibits seven (7) 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 7. Questioned footwear impression 5A-1 is of a left shoe; therefore, it was not made by the known right shoe submitted in Item 7. Questioned footwear impression 6A-1 is of similar outsole design to the known right shoe submitted in Item 7; 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 7. Questioned footwear impression 6A-1 is of a right shoe; therefore, it was not made by the known left shoe submitted in Item 7.</p>
HVZ3B-5331	<p>The degree of correspondence observed, namely corresponding pattern, size/configuration, degree of wear and features in marks (Q1 - Q5) provide conclusive evidence that the training shoes made those left and right marks. Differences in size/configuration and the absence of features in the mark Q6 are sufficient to eliminate the training shoes from having made this mark.</p>
HYHZFQ-5335	<p>The questioned impressions marked "Q1" to "Q6" were examined. "Q1", "Q2" and "Q5" were found to have been made by the left shoe marked "K1". "Q3" and "Q4" were found to have been made by the right shoe marked "K1". The pair of shoes marked "K1" was excluded as a source of the impression "Q6".</p>
J62KZH-5331	<p>The partial, questioned footwear impressions Q1, Q2 and Q5, were made by the known left shoe in Item K. The partial, questioned footwear impressions, Q3 and Q4, were made by the known right shoe in Item K. The partial, questioned footwear impression, Q6, was not made by the known shoes in Item K. Physical size is not the same.</p>
JAEYM-5331	<p>The methodology utilized includes: visual examination, physical processing, digital retention, and ACE-V. Six (6) questioned footwear impressions were noted on Item 1A, 2A, 3A, 4A, 5A, and 6A. Designated as 1A-1, 2A-1, 3A-1, 4A-1, 5A-1, and 6A-1. The six (6) questioned footwear impressions were compared to the known shoes submitted as Item 7 (Item 7-1). The questioned footwear impressions 1A-1, 2A-1, and 5A-1 correspond in outsole design, physical size, and general wear with the known left shoe submitted as Item 7 (Item 7-1). 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 7 (Item 7-1). 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 3A-1 and 4A-1 correspond in outsole design, physical size, and general wear with the known right shoe submitted as Item 7 (Item 7-1). 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 7 (Item 7-1). 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 impression noted on Item 6A-1 was compared to the known shoes submitted as Item 7 (Item 7-1). The questioned</p>

TABLE 2

WebCode-Test	Conclusions
	<p>footwear impression is of a similar outsole design, however, does not correspond in physical size with the known shoes; therefore, the questioned impression was not made by the known shoes submitted as Item 7 (Item 7-1).</p>
JGYEGL-5335	<p>Items Q1-Q3 and Q4-Q6 were examined for the presence of footwear impressions. Six (6) footwear impressions, Impressions Q1, Q2, Q3, Q4, Q5, and Q6 were observed on the two items. The images were preserved through digital imaging. The footwear impressions found (Impression Q1, Q2, Q3, Q4, Q5, and Q6) were compared to the photographs of the known footwear in Item K1a-K1c and to the footwear exemplars Items K1d-K1g. Items Q1-Q3, Q4-Q6, and Items K1a-K1g were examined visually and all comparisons were performed using ACE-V methodology. Footwear Impression Results: Impression Q1: Impression Q2: Impression Q5: The impressions listed above are similar in size, shape, tread design, and individualizing characteristics to the left shoe in Items K1a-K1c and the exemplars created from the left shoe in Items K1d-K1g. Comparison results: The impressions are identified as being created by the left shoe in Items K1a-K1g. Impression Q3: Impression Q4: The impressions listed above are similar in size, shape, tread design, and individualizing characteristics to the right shoe in Items K1a-K1c and the exemplars created from the right shoe in Items K1d-K1g. Comparison results: The impressions are identified as being created by the right shoe in Items K1a-K1g. Impression Q6: The impression listed above is not similar in size to the right shoe and opposite in tread design in the left shoe in K1a-K1c and the respective exemplars created from the shoes, Items K1d-K1g. Comparison results: The impression is excluded as being created by the shoes in Items K1a-K1g. Items Q1-Q3, Q4-Q6, K1a-K1c, and K1d-K1g were examined visually and all comparisons were performed using ACE-V methodology.</p>
JMKETR-5335	<p>After comparison and taking into account the matches observed in the class and acquired characteristics, we can say that the sole marks Q1, Q2, Q3, Q4 and Q5 come from the suspect's shoes. Tracks Q1, Q2 and Q5 originate from the left sole. Traces Q3 and Q4 originate from the right sole. Given the discrepancies in size, class and acquired characteristics, it is excluded that trace Q6 could have come from the suspect's shoes.</p>
JRP2ZG-5331	<p>(1) The recovered left shoe made the questioned imprint in Item Q5. While this opinion cannot specifically exclude all other sources, the quality and extent of corresponding features would not be expected in other footwear (Identification). (2) The questioned imprints in Items Q1 and Q2 was made either by the recovered left shoe or by another footwear with corresponding class characteristics, wear and/ or randomly acquired characteristic (s) as observed in the questioned imprints in Items Q1 and Q2. The corresponding wear and/or randomly acquired characteristic(s) indicate a strong association, however, the quality and/or quantity were insufficient for an identification (High degree of association). (3) The questioned imprints in Items Q3 and Q4 was made either by the recovered right shoe or by another footwear with corresponding class characteristics, wear and/ or randomly acquired characteristic (s) as observed in the questioned imprints in Items Q3 and Q4. The corresponding wear and/or randomly acquired characteristic(s) indicate a strong association, however, the quality and/or quantity were insufficient for an identification (High degree of association). (4) The questioned imprint in Item Q6 was indicated as a right footwear imprint. There are dissimilarities between the questioned imprint in Item Q6 and the known footwear imprints in Items K1d, K1e, K1f and K1g, indicating non-association; however, the details or features were not sufficient to permit an exclusion. (Indications of non-association).</p>
JVE4CW-5331	<p>In my opinion, the findings show conclusively that some of the impressions recovered from the crime scene were made by the recovered footwear. Furthermore, in my opinion, the findings show that one of the impressions recovered from the scene was not made by the recovered footwear.</p>
JXEDZJ-5331	<p>Q1, Q2 and Q5 come from left shoe K1 Q3 and Q4 come from right shoe K1 Q6 do not come from shoes K1</p>
K8Q6M2-5331	<p>The photographs submitted as Items K1a-K1g and Items Q1-Q6 were examined. The K1 photographs were visually compared to the Item Q1-Q6 impressions. The Item Q1, Q2, and Q5 impressions were</p>

TABLE 2

WebCode- Test	Conclusions
K9VHNU- 5335	made by the K1 left shoe. The Item Q3 and Q4 impressions were made by the K1 right shoe. The Item Q6 impression was not made by the K1 right or K1 left shoe.
KFKC9R- 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 7 with the following results: Item 1A-1 is of a left shoe; therefore, it was not made by the right shoe submitted in Item 7. Item 1A-1 corresponds in outsole design, physical size, and general wear with the known left shoe submitted in Item 7. 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 7. Item 2: One (1) questioned footwear impression was noted on Item 2A (designated Item 2A-1). Item 2A-1 was compared to Item 7 with the following results: Item 2A-1 is of a left shoe; therefore, it was not made by the right shoe submitted in Item 7. Item 2A-1 corresponds in outsole design, physical size, and general wear with the known left shoe submitted in Item 7. Additionally, Item 2A-1 exhibits unique identifying characteristics that are also present in the known left shoe; therefore, it was determined that Item 2A-1 was made by the known left shoe submitted in Item 7. Item 3: One (1) questioned footwear impression was noted on Item 3A (designated Item 3A-1). Item 3A-1 was compared to Item 7 with the following results: Item 3A-1 corresponds in outsole design, physical size, and general wear with the known right shoe submitted in Item 7. 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 7. Item 3A-1 is of a right shoe; therefore, it was not made by the left shoe submitted in Item 7. Item 4: One (1) questioned footwear impression was noted on Item 4A (designated Item 4A-1). Item 4A-1 was compared to Item 7 with the following results: Item 4A-1 corresponds in outsole design, physical size, and general wear with the known right shoe submitted in Item 7. Additionally, Item 4A-1 exhibits unique identifying characteristics that are also present in the known right shoe; therefore, it was determined that Item 4A-1 was made by the known right shoe submitted in Item 7. Item 4A-1 is of a right shoe; therefore, it was not made by the left shoe submitted in Item 7. Item 5: One (1) questioned footwear impression was noted on Item 5A (designated Item 5A-1). Item 5A-1 was compared to Item 7 with the following results: Item 5A-1 is of a left shoe; therefore, it was not made by the right shoe submitted in Item 7. Item 5A-1 corresponds in outsole design, physical size, and general wear with the known left shoe submitted in Item 7. Additionally, Item 5A-1 exhibits unique identifying characteristics that are also present in the known left shoe; therefore, it was determined that Item 5A-1 was made by the known left shoe submitted in Item 7. Item 6: One (1) questioned footwear impression was noted on Item 6A (designated Item 6A-1). Item 6A-1 was compared to Item 7 with the following results: Item 6A-1 is similar in outsole design to the known right shoe submitted in Item 7. However, Item 6A-1 does not correspond in physical size and individual characteristics with the known right shoe; therefore, Item 6A-1 was not made by the known right shoe submitted in Item 7. Item 6A-1 is of a right shoe; therefore, it was not made by the left shoe submitted in Item 7.</p>
KRADKT- 5335	<p>The left impressions (Q1, Q2 and Q5) appear similar in physical size and design, and wear and/or randomly acquired characteristics to the known 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 impressions is considered a practical impossibility. Refer to "IDENTIFICATION" in Appendix C. The right impressions (Q3 and Q4) appear similar in physical size and design, and wear and/or randomly acquired characteristics to the known 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 impressions is considered a practical impossibility. Refer to "IDENTIFICATION" in Appendix C. The right impression (Q6) was dissimilar in physical size to the known right shoe (K1). In the opinion of the examiner, the particular known footwear (K1) was not the source of, and did not make, the impression. Refer to "EXCLUSION" in Appendix C.</p>

TABLE 2

WebCode-Test	Conclusions
KVV3QQ-5335	Based on the quality and quantity of corresponding randomly acquired characteristics observed in the shoe marks labelled Q1, Q2, Q3, Q4 and Q5 and the shoe submitted as Item K1, it is my opinion that this shoe was the source of, and made, the shoe marks. The chance of another shoe being the source of the mark is considered negligible. (Identification) The shoe mark labelled Q6 displayed a different sole pattern to the shoes submitted as Item K1. As such, it is my opinion that due to the difference in sole pattern, the shoe submitted as Item K1 did not make the shoe mark labelled Q6. (Exclusion)
LEGARL-5335	Shoe Print Q1, Q2 and Q5, have been deposited by the sole of the left foot of the NEW BALANCE shoe, they have been studied. Shoe Print Q3 and Q4, have been deposited by the sole of the right foot of the NEW BALANCE shoe, they have been studied. Shoe Print Q6, is not related to the NEW BALANCE it has been studied.
LQUZAJ-5331	- Footprints Q-1, Q-2 and Q-5 has been produced by the sole of the shoe of the left foot K1-L. - Footprints Q-3 and Q-4 has been produced by the sole of the shoe of the right foot K1-R.
LTCA63-5331	[No Conclusions Reported.]
LTX4G-5331	[No Conclusions Reported.]
M4C3DT-5331	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: Evidence: K1A-C: Photographs of the soles of the recovered shoes lighted from different angles. K1D-G: Photographs of known imprints made with the recovered shoes. K1: (1) pair of New Balance shoes, US size W6.5 / M 5. Item #Q1: One partial footwear imprint found on textured grey/white patterned vinyl tile. Item #Q2: One partial footwear imprint found on textured grey/white patterned vinyl tile. Item #Q3: One partial footwear imprint found on textured grey/white patterned vinyl tile. Item #Q4: One partial footwear imprint found on grey hexagon porcelain tile. Item #Q5: One partial footwear imprint found on grey hexagon porcelain tile. Item #Q6: One partial footwear imprint found on grey hexagon porcelain tile. Comparison: The footwear imprints labeled Item #Q1, #Q2 and #Q5 corresponds in design, physical size, and wear, and shares multiple random accidental characteristics or defects with the left known shoe labeled K1. It was determined that the K1 left known shoe made the questioned imprints labeled #Q, #Q2 1 and #Q5. The footwear imprints labeled Item #Q3 and #Q4 corresponds in design, physical size, and wear, and shares multiple random accidental characteristics or defects with the right known shoe labeled K1. It was determined that the K1 right known shoe made the questioned imprints labeled #Q3 and #Q4. The footwear imprints labeled Item Q6 was eliminated as having been made by the submitted K1 shoes. The questioned imprint corresponded in design, however, was of a different size.
MBGHYF-5331	Exhibits 4.1, 4.2, and 5.2 (Impressions Q1, Q2, and Q5) were identified as having been made by the suspect left shoe, K1 Left. Exhibits 4.3 and 5.1 (Impressions Q3 and Q4) were identified as having been made by the suspect right shoe, K1 Right Exhibit 5.3 (Impression Q6) was made by a second right shoe of similar outsole design to K1 Right.
NDY449-5331	The left outsole is identified as the source of Q1, Q2, and Q5. The right outsole is excluded for these impressions. The right outsole is identified as the source of Q3 and Q4. The left outsole is excluded for these impressions. Both outsoles are excluded as a source for Q6.
NR362J-5331	EXAMINATIONS: Determine whether any footwear marks present in Exhibits Q1 through Q6 can be associated with the known pair of outsoles. FINDINGS AND OPINIONS: The questioned footwear marks, Q3 and Q4 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

TABLE 2

WebCode-Test	Conclusions
	<p>footwear marks, Q1, Q2 and Q5 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 mark Q6 was 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>
NVHTKU-5331	<p>Items K1a-K1g: Photographs of known shoes and imprints of known shoes: This item was used as a comparison standard. Items Q1-Q3: Photograph of questioned imprints found on textured grey and white patterned vinyl tile: This photograph depicts questioned imprints labeled Q1 through Q3. Q1 and Q2 were determined to be partial left shoe impressions which are similar in class characteristics (tread design and size), wear, and share randomly acquired characteristics to the left known shoe (Items K1a-K1g). It is our opinion that Q1 and Q2 were made by the left known shoe. Q3 was determined to be a partial right shoe impression which is similar in class characteristics (tread design and size), wear, and share randomly acquired characteristics to the right known shoe (Items K1a-K1g). It is our opinion that Q3 was made by the right known shoe. Items Q4-Q6: Photograph of questioned imprints found on grey hexagon porcelain tile: This photograph depicts questioned imprints labeled Q4 through Q6. Q4 was determined to be a right shoe impression which is similar in class characteristics (tread design and size), wear, and share randomly acquired characteristics to the right known shoe (Items K1a-K1g). It is our opinion that Q4 was made by the right known shoe. Q5 was determined to be a partial left shoe impression which is similar in class characteristics (tread design and size), wear, and share randomly acquired characteristics to the left known shoe (Items K1a-K1g). It is our opinion that Q5 was made by the left known shoe. Q6 was determined to be a right shoe impression which is dissimilar in class characteristic (size) to the right known shoe (Items K1a-K1g). It is our opinion that Q6 was not made by the right known shoe.</p>
NX9UPH-5331	<p>Exhibits 4.1 (Q1), 4.2 (Q2) and 5.2 (Q5) were identified as having been made by the known left shoe, K1G. Exhibits 4.3 (Q3) and 5.1 (Q4) were identified as having been made by the know right shoe, K1G. Exhibit 5.3 (Q6) was made by a second right shoe and was not made by the known right shoe, K1G. Possible suspect footwear include New Balance athletic shoes of similar design; however, any suspect shoe should be submitted for examination.</p>
P9XFZ7-5335	<p>The Q1FW1 impression was made by the Item K1A-K1G 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-K1G right shoe to conclude that the impression was not made by the Item K1A-K1G right shoe. The Q2FW1 impression was made by the Item K1A-K1G left shoe based on sufficient agreement of observable class and randomly acquired characteristics. Sufficient differences were noted between the characteristics present in Q2FW1 and those present on the Item K1A-K1G right shoe to conclude that the impression was not made by the Item K1A-K1G right shoe. The Q3FW1 impression was made by the Item K1A-K1G 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-K1G left shoe to conclude that the impression was not made by the Item K1A-K1G left shoe. The Q4FW1 impression was made by the Item K1A-K1G right 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-K1G left shoe to conclude that the impression was not made by the Item K1A-K1G left shoe. The Q5FW1 impression was made by the Item K1A-K1G left shoe based on sufficient agreement of observable class and randomly acquired characteristics. Sufficient differences were noted between the characteristics present in Q5FW1 and those present on the Item K1A-K1G right shoe to conclude that the impression was not made by the Item K1A-K1G right shoe. Sufficient differences were noted between the characteristics present in Q6FW1 and those present on the Item K1A-K1G right and left shoes to conclude that the impression was not made by the Item K1A-K1G right and left shoes.</p>

TABLE 2

WebCode-Test	Conclusions
PDUKKW-5335	<p>'A' results - In my opinion, there is no doubt that the submitted *Left/Right shoe (item) made the impression in question. 'B' results - In my opinion, the findings provide extremely strong support for the proposition that the submitted *Left/Right shoe made the impression in question. 'G' result - In my opinion, the submitted left shoe could not have made the impression in question (Q6) delete as appropriate</p>
PJ2WTQ-5331	<p>The Q1 footwear impression corresponds to the K1 left shoe in outsole design, physical size, wear and 4 randomly acquired characteristics. Therefore, the K1 left shoe was identified as the source of this impression. The Q2 footwear impression corresponds to the K1 left shoe in outsole design, physical size, wear and 2 randomly acquired characteristics. Therefore, the K1 left shoe was identified 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 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 Q5 footwear impression corresponds to the K1 left shoe in outsole design, physical size, wear and 4 randomly acquired characteristics. Therefore, the K1 left shoe was identified as the source of this impression. Impression Q6 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.</p>
PJNYMR-5331	<p>The questioned impressions found on the textured grey and white patterned vinyl tile (Item2) were marked as Q1 to Q3. The questioned impression Q1 is similar in size, shape, tread design, wear and shares at least four randomly acquired characteristics with the known left shoe (Item 1). The questioned impression Q2 is similar in size, shape, tread design, wear, and shares at least two randomly acquired characteristics with the known left shoe. It is my opinion that the questioned impression Q1 and Q2 were made by the known left shoe. The questioned impression Q3 is similar in size, shape, tread design, wear, and shares at least four randomly acquired characteristics with the known right shoe. It is my opinion that the questioned impression Q3 was made by the known right shoe. The questioned impressions found on the gray hexagon tile (Item 3) were marked as Q4 to Q6. The questioned impression Q4 is similar in size, shape, tread design, wear, and shares at least four randomly acquired characteristics with the known right shoe (Item 1). It is my opinion that the questioned impression Q4 was made by the known right shoe. The questioned impression Q5 is similar in size, shape, tread design, wear, and shares at least four randomly acquired characteristics with the known left shoe. It is my opinion that the questioned impression Q5 was made by the known left shoe. The questioned impression Q6 is similar in tread design, but dissimilar in size and wear to the known right shoe. It is my opinion that this impression was not made by the known shoes.</p>
PVXJ3D-5335	<p>Visual examination of the submitted material, photographs, disclosed one (1) pair of known 'New Balance' shoes and known 'New Balance' inked test impressions. The submitted material, photographs, also revealed the presence of six (6) questioned footwear impressions, designated as Q1 through Q6. Visual examination and comparison (superimposition/overlay and side by side) of the submitted material yielded the following results and conclusions: Q1 through Q6 share the same tread design to one another. Q1, Q2, Q5 and the known left 'New Balance' shoe are consistent with respect to tread design, size and individualizing characteristics. Therefore, Q1, Q2 and Q5 were made by the known left 'New Balance' shoe. Q3, Q4 and the known right 'New Balance' shoe are consistent with respect to tread design, size and individualizing characteristics. Therefore, Q3 and Q4, were made by the known right 'New Balance' shoe. Q6 and the known right 'New Balance' shoe are consistent with respect to tread design, however, dissimilar with respect to size. Therefore, Q6 was NOT made by the known right 'New Balance' shoe.</p>
PVZ274-5335	<p>Upon comparison, the questioned imprints Q1, Q2, and Q5 were found to agree in sole pattern design, size, and individual and/or wear characteristics with the known imprints made with the recovered left shoe. The result indicates that the questioned imprints Q1, Q2, and Q5 were made by the recovered left shoe, but not the recovered right shoe. The questioned imprints Q3 and Q4 were</p>

TABLE 2

WebCode-Test	Conclusions
	found to agree in sole pattern design, size, and individual and/or wear characteristics with the known imprints made with the recovered right shoe. The result indicates that the questioned imprints Q3 and Q4 were made by the recovered right shoe, but not the recovered left shoe. The questioned imprint Q6 was not made by any of the recovered shoes.
Q2XUEJ-5331	[No Conclusions Reported.]
Q8FCNK-5335	The images of the recovered shoes (soles and test impressions depicted in K1a through K1g) were compared to the impressions from the scene (depicted in Q1 through Q6) with the following conclusions: Impression Q1 was made by the left shoe. IDENTIFICATION. The right shoe did not make Impression Q1. Impression Q2 was made by the left shoe. IDENTIFICATION. The right shoe did not make Impression Q2. Impression Q3 was made by the right shoe. IDENTIFICATION. The left shoe did not make Impression Q3. Impression Q4 was made by the right shoe. IDENTIFICATION. The left shoe did not make Impression Q4. Impression Q5 was made by the left shoe. IDENTIFICATION. The right shoe did not make Impression Q5. The recovered shoes did not make Impression Q6. EXCLUSION.
QAQL3H-5331	The methodology utilized includes: visual examination, digital retention, and ACE-V. Six (6) questioned footwear impressions were noted on Items 1 through 6 (designated as 1A-1, 2A-1, 3A-1, 4A-1, 5A-1, and 6A-1). The six (6) questioned footwear impressions were compared to the known shoes submitted as Item 7 (7-1). Three (3) questioned footwear impressions (1A-1, 2A-1, 5A-1) correspond in outsole design, physical size, and general wear with the known left shoe submitted as Item 7 (7-1). 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 7 (7-1). The questioned footwear impressions are of a left shoe; therefore, they could not have been made by the known right shoe submitted in Item 7 (7-1). Two (2) questioned footwear impressions (3A-1, 4A-1) correspond in outsole design, physical size, and general wear with the known right shoe submitted as Item 7 (7-1). 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 7 (7-1). The questioned footwear impressions are of a right shoe; therefore, they could not have been made by the known left shoe submitted in Item 7 (7-1). The questioned footwear impression noted in 6A-1 was compared to the known shoes submitted as Item 7 (7-1). The questioned footwear impression does not correspond in physical size with the known shoes; therefore, the questioned impression was not made by the known shoes submitted as Item 7 (7-1).
QB6EZZ-5335	The results extremely strongly support that the shoeprint Q1-Q5 has been deposited by the left/right shoe (Level +4). The shoeprint Q6 has not been deposited by the left/right shoe.
QC2BLU-5331	Item Q1 was made by the Left shoe of Item K1. Item Q2 was made by the Left shoe of Item K1. Item Q3 was made by the Right shoe of Item K1. Item Q4 was made by the Right shoe of Item K1. Item Q5 was made by the Left shoe of Item K1. Item Q6 was not made by the Right or Left shoe of Item K1.
QFJQVL-5331	Identification: Q1 corresponds in outsole design, physical size, and general wear with the known left shoe submitted as K1. Additionally, the questioned footwear impression exhibits 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 K1. Exclusion: Item Q6 corresponds in outsole design and general wear with the known right shoe submitted as K1. However, Q6 does not correspond in 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 K1.
QW8ZHN-5331	The six (6) questioned footwear impressions were compared to the known shoes submitted as Item 7 (Item 7-1) with the following results: The one (1) questioned footwear impression noted in Item 1A-1 (Q1) corresponds in outsole design, physical size, and general wear with the known left shoe submitted as Item 7 (Item 7-1). Additionally, the questioned footwear impression exhibits nine (9) unique

TABLE 2

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Conclusions

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 7 (Item 7-1). The questioned footwear impression is of a left shoe; therefore, it was not made by the known right shoe submitted in Item 7 (Item 7-1). The one (1) questioned footwear impression noted in Item 2A-1 (Q2) corresponds in outsole design, physical size, and general wear with the known left shoe submitted as Item 7 (Item 7-1). 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 7 (Item 7-1). The questioned footwear impression is of a left shoe; therefore, it was not made by the known right shoe submitted in Item 7 (Item 7-1). The one (1) questioned footwear impression noted in Item 3A-1 (Q3) corresponds in outsole design, physical size, and general wear with the known right shoe submitted as Item 7 (Item 7-1). Additionally, the questioned footwear impression exhibits seven (7) 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 7 (Item 7-1). The questioned footwear impression is of a right shoe; therefore, it was not made by the known left shoe submitted in Item 7 (Item 7-1). The one (1) questioned footwear impression noted in Item 4A-1 (Q4) corresponds in outsole design, physical size, and general wear with the known right shoe submitted as Item 7 (Item 7-1). Additionally, the questioned footwear impression exhibits seven (7) 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 7 (Item 7-1). The questioned footwear impression is of a right shoe; therefore, it was not made by the known left shoe submitted in Item 7 (Item 7-1). The one (1) questioned footwear impression noted in Item 5A-1 (Q5) corresponds in outsole design, physical size, and general wear with the known left shoe submitted as Item 7 (Item 7-1). Additionally, the questioned footwear impression exhibits six (6) 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 7 (Item 7-1). The questioned footwear impression is of a left shoe; therefore, it was not made by the known right shoe submitted in Item 7 (Item 7-1). The questioned footwear impression noted on Item 6A-1 (Q6) was compared to the known right shoe submitted as Item 7 (Item 7-1). The questioned footwear impression is similar in outsole design as the known right shoe, however, it does not correspond in physical size with the known right shoe (questioned impression is smaller); therefore, the questioned footwear impression was not made by the known right shoe submitted as Item 7 (Item 7-1). The questioned footwear impression is of a right shoe; therefore, it was not made by the known left shoe submitted in Item 7 (Item 7-1). One (1) questioned footwear impression remains unidentified.

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5335

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 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 Q2 ("Identification"). 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 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 Q4 ("Identification"). 5. Imprint Q5 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 Q5 ("Identification"). 6. Imprint Q6 is a partial 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 Q6 ("Exclusion").

TABLE 2

WebCode-Test	Conclusions
RAANAH-5331	<p>The methodology utilized includes: visual examination, digital retention, and ACE-V. Six (6) questioned footwear impressions were noted on Items 1 through 6 (designated as 1A-1 through 6A-1) and were compared to the known shoes submitted as Item 7 (7-1). The three (3) of the questioned footwear impressions (1A-1, 2A-1, 5A-1) correspond in outsole design, physical size, and general wear with the known left shoe submitted as Item 7 (7-1). 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 impression was made by the known left shoe submitted in Item 7 (7-1). The questioned impressions and the known standard share the same class characteristics, to include outsole design, physical size, general wear, and correspond in the presence and location of 4 or more Randomly Acquired Characteristics (RACs) of sufficient quality and quantity. The right shoe submitted as Item 7 (7-1) was eliminated/excluded as having made these question impressions. The two (2) of the questioned footwear impressions (3A-1, 4A-1) correspond in outsole design, physical size, and general wear with the known right shoe submitted as Item 7 (7-1). 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 impression was made by the known right shoe submitted in Item 7 (7-1). The questioned impressions and the known standard share the same class characteristics, to include outsole design, physical size, general wear, and correspond in the presence and location of 4 or more Randomly Acquired Characteristics (RACs) of sufficient quality and quantity. The left shoe submitted as Item 7 (7-1) was eliminated/excluded as having made these question impressions. The one (1) remaining questioned footwear impression (6A-1) was compared to the known shoes submitted as Item 7 (7-1). The questioned footwear impression does correspond in outsole design; however, the impression does not correspond in physical size with the known shoes submitted; therefore, the questioned impression was not made by the known shoes submitted in Item 7 (7-1). The one (1) questioned footwear impression noted on 6A-1 was searched on the Solemate footwear database. A possible source of the questioned footwear impression was not located.</p>
RC6BFK-5331	[No Conclusions Reported.]
RFVM2Q-5335	<p>Item: 1 Item K1a: Photograph of the soles of the recovered shoes, lighted from above. Item: 2 Items K1b-K1c: Two oblique lighted images of the soles of the recovered shoes, light direction indicated by arrows. Item: 3 Items K1d-K1g: Known imprints made with the recovered shoes. Item: 3.1 Transparency overlays of Item 3. Item: 4 Items Q1-Q3: Questioned imprints found on textured grey and white patterned vinyl tile (23-5335_Q1-Q3). Item: 4.1 Impression labeled Q1 represented on Item 4. RESULTS: The Item 4.1 impression was made by the Item 1 left shoe. Item: 4.2 Impression labeled Q2 represented on Item 4. RESULTS: The Item 4.2 impression was made by the Item 1 left shoe. Item: 4.3 Impression labeled Q3 represented on Item 4. RESULTS: The Item 4.3 impression was made by the Item 1 right shoe. Item: 5 Items Q4-Q6: Questioned imprints found on grey hexagon porcelain tile (23-5335_Q4-Q6). Item: 5.1 Impression labeled Q4 represented on Item 5. RESULTS: The Item 5.1 impression was made by the Item 1 right shoe. Item: 5.2 Impression labeled Q5 represented on Item 5. RESULTS: The Item 5.2 impression was made by the Item 1 left shoe. Item: 5.3 Impression labeled Q6 represented on Item 5. RESULTS: The Item 5.3 impression was not made by the Item 1 shoe(s). Impression evidence in this case was examined utilizing the ACE-V methodology.</p>
RLGJK8-5335	<p>Identification: This is the highest degree of association expressed by a footwear impression examiner. The questioned impression and the known footwear share agreement of class and randomly acquired characteristics of sufficient quality and quantity. In the opinion of the examiner, the particular known footwear was the source of, and made, the questioned impression. The examiner would not expect to find the same combination of features repeated in another source. This opinion acknowledges that an identification to the exclusion of all others can never be empirically proven. Exclusion: This is the highest degree of non-association expressed in footwear impression examinations. Sufficient differences were noted in the comparison of class and/or randomly acquired characteristics between the questioned impression and the known footwear. In the opinion of the examiner, the particular known footwear was not the source of, and did not make, the impression</p>

TABLE 2

WebCode-Test	Conclusions
RN4ZGF-5335	Impressions Q1, Q2, Q5 and left known shoe share agreement of class, wear features and randomly acquired characteristics. Impressions Q3, Q4 and right known shoe share agreement of class, wear features and randomly acquired characteristics. Impression Q6 and known shoes exhibit sufficient differences of class and/or randomly acquired characteristics. Highest degree of non-association.
TPZXN8-5331	On the Items Q1, Q2 and Q5 there are shoeprints which corresponds in pattern, wear, metrizable size and several individual characteristics with the left shoe of the Item K1. The shoeprints on the Item Q1, Q2 and Q5 are left by the left shoe of the Item K1. On the Items Q3 and Q4 there are shoeprints which corresponds in pattern, wear, size and several individual characteristics with the right shoe of the Item K1. The shoeprints on the items Q3 and Q4 are left by the right shoe of the item K1. On the item Q6 there is a shoeprint which do not correspond in size with the right shoe of the item Q6. The shoeprint on the item Q6 is not left by the right shoe of the item K1.
TX7ZPY-5331	The Q1, Q2, and Q5 questioned impressions were made by the Item K1 known left shoe. These identifications are based on sufficient agreement of the combination of individual characteristics and all discernible class characteristics. The Q3 and Q4 questioned impressions were made by the Item K1 known right shoe. These identifications are based on sufficient agreement of the combination of individual characteristics and all discernible class characteristics. The Q6 questioned impression was not made by the Item K1 known left shoe. This elimination is based on differences in class characteristics (Q6 is consistent with being a right shoe impression). The Q6 questioned impression was not made by the Item K1 known right shoe. This elimination is based on differences in class characteristics (different size and spacing of tread elements) and differences in individual characteristics.
TYHC9J-5335	1. In my opinion, the findings provide conclusive support for the proposition that the submitted footwear made five of the footwear marks (labelled Q1 - Q5) at the scene. 2. In my opinion, the findings provide conclusive support for the proposition that the submitted footwear has not made the remaining footwear mark (labelled Q6) at the scene. In my opinion, this mark has been made by a larger pattern sized sole albeit with the same tread pattern.
TZXWFE-5331	In the opinion of this examiner, the left shoe depicted in Laboratory Item 001.A (K1a) photograph of the soles of the recovered shoes was the source of, and made, Laboratory Item 001.H.01 (Q1) questioned left shoe impression on textured grey and white patterned vinyl tile. In the opinion of this examiner, the left shoe depicted in Laboratory Item 001.A (K1a) photograph of the soles of the recovered shoes was the source of, and made, Laboratory Item 001.H.02 (Q2) questioned left shoe impression on textured grey and white patterned vinyl tile. In the opinion of this examiner, the right shoe depicted in Laboratory Item 001.A (K1a) photograph of the soles of the recovered shoes was the source of, and made, Laboratory Item 001.H.03 (Q3) questioned right shoe impression on textured grey and white patterned vinyl tile. In the opinion of this examiner, the right shoe depicted in Laboratory Item 001.A (K1a) photograph of the soles of the recovered shoes was the source of, and made, Laboratory Item 001.I.01 (Q4) questioned right shoe impression on grey hexagon porcelain tile. In the opinion of this examiner, the left shoe depicted in Laboratory Item 001.A (K1a) photograph of the soles of the recovered shoes was the source of, and made, Laboratory Item 001.I.02 (Q5) questioned left shoe impression on grey hexagon porcelain tile. In the opinion of this examiner, the right shoe depicted in Laboratory Item 001.A (K1a) photograph of the soles of the recovered shoes was not the source of, and did not make, Laboratory Item 001.I.03 (Q6) questioned right shoe impression on grey hexagon porcelain tile.
U26QDP-5331	The Item Q1 through Q6 questioned footwear impressions were analyzed, compared, and evaluated with the K1 known footwear. The Item Q1, Q2 and Q5 questioned footwear impressions correspond in tread design, physical size, general wear and randomly acquired accidental characteristics with the Item K1 left shoe. The Item Q3 and Q4 questioned footwear impressions correspond in tread design, physical size, general wear and randomly acquired accidental characteristics with the Item K1 right shoe. The Item Q6 questioned footwear impression does not correspond in physical size with the Item K1 left and right known shoes. Based upon the above factors, it is the opinion of this examiner that: The Item Q1, Q2 and Q5 questioned footwear impressions were made by the K1 left shoe. Another footwear being the source of the impression is considered a practical impossibility. The Item Q3 and

TABLE 2

WebCode-Test	Conclusions
U6RD7D-5331	<p>Q4 questioned footwear impressions were made by the K1 right shoe. Another footwear being the source of the impression is considered a practical impossibility. The Item Q6 questioned footwear impression was excluded as being made by the K1 left and right known shoes. All conclusions listed herein have been verified by a second qualified latent print examiner.</p>
U6RD7D-5331	<p>Item #4 and Item #5 are printed photographs from the scene, each photograph contains three (3) questioned footwear impressions. The two (2) left footwear impressions Q1 (Item #4) and Q5 (Item #5) share class and randomly acquired characteristics of sufficient quality and quantity with the known left sneaker photographs (Item #1 and Item #2) and known left sneaker test impressions (Item #3) indicating that the footwear impressions were made by the left sneaker. The two (2) right footwear impressions Q3 (Item #4) and Q4 (Item #5) share class and randomly acquired characteristics of sufficient quality and quantity with the known right sneaker photographs (Item #1 and Item #2) and known right sneaker test impressions (Item #3) indicating that the footwear impressions were made by the right sneaker. The one (1) left footwear impression Q2 (Item #4) corresponds in physical size, design, condition, and a few randomly acquired characteristics with the known left sneaker photographs (Item #1 and Item #2) and known left sneaker test impressions (Item #3) indicating that the impression was made by the left sneaker or another sneaker of the same size, condition, and randomly acquired characteristics. The one (1) right footwear impression Q6 (Item #5) exhibits significant differences of size and randomly acquired characteristics when compared to the known right sneaker photographs (Item #1 and Item #2) and known right sneaker test impressions (Item #3), indicating that the impression could not have been made by the right sneaker.</p>
U8UAV8-5331	<p>Analysis disclosed six (6) bars/polygons patterned shoe prints exhibiting sufficient characteristics to be of value for comparison and evaluation purposes. Shoe Print Impressions Recovered From: "Textured grey and white patterned vinyl tile" and "Grey hexagon porcelain tile". The submitted test impressions of one (1) pair of New Balance athletic shoes, size #6.5 (women's size) were compared and evaluated to the six (6) bars/polygons patterned shoe prints of value. The test impressions of the left New Balance athletic shoe, size 6.5 have been identified as a source of the shoe prints labeled as Q1, Q2 and Q5. The test impressions of the right New Balance athletic shoe, size 6.5 have been identified as a source of the shoe prints labeled as Q3 and Q4. The test impressions of the New Balance athletic shoes, size 6.5 have been excluded as a source of the shoe print labeled as Q6.</p>
UPBF3X-5335	<p>Identification: Item K1 (left shoe) has been identified as the source of impressions Q1, Q2 and Q5. Item K1 (right shoe) has been identified as the source of impressions Q3 and Q4. Exclusion: Item K1 (right shoe) has been excluded as the source of impression Q6.</p>
UPT7CH-5331	<p>On examination, I found: i) The individual characteristic marks on questioned imprints Q1, Q2 and Q5 to be similar to the individual characteristic mark on the left suspect shoe. ii) The individual characteristic marks on questioned imprints Q3 and Q4 to be similar to the individual characteristics marks on the right suspect shoe. iii) The individual characteristics marks on the question imprint Q6 to be different to the individual characteristics marks on the left and right suspect shoe. Therefore, I am of the opinion that: i) The questioned imprints Q1, Q2 and Q5 were made by the left suspect shoe. ii) The questioned imprints Q3 and Q4 were made by the right suspect shoe. iii) The question imprint Q6 was not made by the left or right suspect shoe.</p>
UYWZ8P-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 Q6, and the result as below : 1. Questioned impression labelled Q1, Q2, and Q5 were found to be consistent in shape, physical size and individual characteristics with the suspect's left shoe; questioned impression labelled Q3 and Q4 were found to be consistent in shape, physical size and individual characteristics with the suspect's right shoe. 2. Questioned impressions labelled Q6 was found to have similar shape with the suspect's shoes, however it was dissimilar in physical size and individual characteristics from the suspect's shoes. Therefore, questioned impressions labelled Q6 can be eliminated.</p>

TABLE 2

WebCode-Test	Conclusions
V3FTYN-5331	<p>The images in exhibit FIEP were visually examined for questioned footwear impressions. Six suitable questioned footwear impressions were documented and designated Q1 through Q6. The known left footwear in exhibit FIEP was the source of, and made, questioned impressions Q1, Q2 and Q5. These identifications are based on correspondence of class and randomly acquired characteristics. Another item of footwear being the source of the questioned impression is considered a practical impossibility. The known right footwear in exhibit FIEP was the source of, and made, questioned impressions Q3 and Q4. These identifications are based on correspondence of class and randomly acquired characteristics. Another item of footwear being the source of the questioned impression is considered a practical impossibility. The known left and right footwear in exhibit FIEP was not the source of, and did not make, questioned impression Q6. These exclusions are based on a difference in class characteristics. Criminalists other than the undersigned have performed one or more steps in the described analysis.</p>
V3GVKM-5335	<p>The exemplar left shoe is the source of the unknown footwear impressions Q1, Q2, and Q5. The exemplar right shoe is the source of the unknown footwear impressions Q3 and Q4. The exemplar right and left shoes are excluded as possible sources of the unknown footwear impression Q6.</p>
VAX49J-5331	<p>Questioned impressions Q1 through Q6 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: 1. 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. 2. Q2 and K1L are consistent and exhibit no exclusionary differences with respect to class characteristics: size, shape, tread design, and wear pattern. In addition, Q2 and K1L exhibit 3 corresponding individual characteristics. 3. 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 4 corresponding individual characteristics. 4. Q4 and K1R are consistent and exhibit no exclusionary differences with respect to class characteristics: size, shape, tread design, and wear pattern. In addition, Q4 and K1R exhibit 5 corresponding individual characteristics. 5. Q5 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. 6. Q6 and K1L, K1R are different with respect to their class characteristics: size, shape, tread, and wear pattern.</p>
VDY6E8-5335	<p>EXHIBITS Lab # – Agency # 1 (Q1) Digital image of a shoe impression marked Q1 2 (Q2). Digital image of a shoe impression marked Q2 3 (Q3). Digital image of a shoe impression marked Q3 4 (Q4). Digital image of a shoe impression marked Q4 5 (Q5). Digital image of a shoe impression marked Q5 6 (Q6). Digital image of a shoe impression marked Q6 7 (K1). Digital images of shoe and shoe impressions from shoes labeled K1 RESULTS OF EXAMINATION. This report refers to exhibits by Lab Number. The following results only apply to the items tested. Exhibits 1 through 6 were compared to Exhibit 7 with the following results: Exhibits 1, 2, and 5 were determined to be source identifications to the left shoe of Exhibit 7 and source exclusions to the right shoe of Exhibit 7. Exhibits 3 and 4 were determined to be source identifications to the right shoe of Exhibit 7 and source exclusions to the left shoe of Exhibit 7. Exhibit 6 is a source exclusion to both shoes of Exhibit 7. See the Appendix of this report for further context regarding the conclusions listed above. [Appendix was not included.]</p>
VLTB99-5331	<p>The photographs depicting a left and right “new balance” shoe outsole, submitted in Items 1 and 2, and the photographs depicting footwear exemplars made with a left and right shoe, submitted in Item 3, were compared with footwear impressions Q1, Q2, Q3, Q4, Q5, and Q6. The footwear impressions, marked Q1, Q2, Q3, Q4, and Q5, were made by the shoes depicted in Items 1 and 2. The shoes depicted in Items 1 and 2 were also the same source as, and made, the footwear exemplars submitted in Item 3. See below for results of comparisons: Impression Result Source Q1 Identification LEFT SHOE depicted in Items 1, 2, & 3 Q2 Identification LEFT SHOE depicted in Items 1, 2, & 3 Q3 Identification RIGHT SHOE depicted in Items 1, 2, & 3 Q4 Identification RIGHT SHOE depicted in Items 1, 2, & 3 Q5 Identification LEFT SHOE depicted in Items 1, 2, & 3 The footwear impression, marked Q6, was not made by the shoes depicted in Items 1 and 2, or by the same source as the footwear exemplars submitted in Item 3. [Participant submitted data in a tabular format that could not be reproduced in this</p>

TABLE 2

WebCode-Test	Conclusions
	report]
VY26GD-5335	There is sufficient correspondence in pattern, size, wear and randomly acquired characteristics between the questioned prints Q1, Q2, Q3, Q4, Q5 and the suspects shoes K1. Q6 was not made by the shoe K1.
W622HN-5331	Impression Q1 was made by the Left Shoe of item K1. Impression Q2 was made by the Left Shoe of item K1. Impression Q3 was made by the Right Shoe of item K1. Impression Q4 was made by the Right Shoe of item K1. Impression Q5 was made by the Left Shoe of item K1. Impression Q6 was not made by item K1.
WDV8BP-5331	Q1 - was made by the Item K1 left shoe. Q2 - was made by the Item K1 left shoe. Q3 - was made by the Item K1 right shoe. Q4 - was made by the Item K1 right shoe. Q5 - was made by the Item K1 left shoe. Q6 - was not made by the Item K1 right or left shoe.
WP4RW4-5331	Impressions Q1, Q2, and Q5 and the K1 known left shoe are similar in outsole design, manufacturing characteristics, physical size and shape, and randomly acquired characteristics. Consequently, impressions Q1, Q2, and Q5 were made by the K1 known left shoe. Impressions Q3 and Q4 and the K1 known right shoe are similar in outsole design, manufacturing characteristics, physical size and shape, and randomly acquired characteristics. Consequently, impressions Q3 and Q4 were made by the K1 known right shoe. Impression Q6 and the K1 known right shoe are similar in outsole design; however, the impression was made by a larger shoe. Consequently, the K1 known right shoe did not make impression Q6.
WT4MGL-5335	[No Conclusions Reported.]
WUDTDL-5331	ALL OF THE MARKS ARE CONSISTENT WITH THE SUBMITTED FOOTWEAR: WEAR, FEATHERING AND DAMAGE FEATURES EXCEPT FOR MARK Q6
WV7KM8-5331	[No Conclusions Reported.]
X3MKHB-5331	In my opinion, the findings provide conclusive evidence that certain of the footwear marks recovered from SCENE, were made by the left and right shoes recovered from SUSPECT (item K1).
XAMZ8H-5331	In my opinion, there are two pairs of shoes with the same tread pattern that have made the marks at the scene. There is significant correspondence in agreement of class and randomly acquired characteristics of sufficient quality and quantity to provide conclusive support that the submitted shoes have made the marks Q1, Q2, Q3, Q4 and Q5. However, Q6 contains significant differences between the mark and the submitted shoes. Therefore, my conclusion is that the submitted shoes are excluded from making this mark.
XV4CXK-5331	(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. (Identification) Impression Q2 orients with a left shoe and corresponds in outsole design, physical size, wear and two randomly acquired characteristics (RACs) with the Item K1 left shoe. Therefore, this shoe was identified as the source of this impression. (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. (Identification) Impression Q4 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. (Identification) Impression Q5 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. (Exclusion) Impression Q6 orients with right shoe and

TABLE 2

WebCode-Test	Conclusions
XYPDJD-5331	<p>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</p>
Y4G2B4-5331	<p>I have considered the proposition that the left shoe attributed to X XXXX item 1 (CPE 1) made the detail noted in item 1 (CPE 1) mark 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 X XXXX item 1 (CPE 1) made the detail noted in item 1 (CPE 1) mark Q2. 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 X XXXX item 1 (CPE 1) made the detail noted in item 1 (CPE 1) mark Q3. 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 X XXXX item 1 (CPE 1) made the detail noted in item 1 (CPE 1) mark Q4. 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 X XXXX item 1 (CPE 1) made the detail noted in item 1 (CPE 1) mark Q5. In my opinion the result of this examination provides conclusive support for this proposition. I have considered the proposition that the shoes attributed to X XXXX item 1 (CPE 1) made the detail noted in item 1 (CPE 1) mark Q6. In my opinion both shoes can be excluded as being the source of the recovered detail.</p>
Y4G2B4-5331	<p>Q1- The submitted images and known impressions of the suspects shoes (K1a-K1g) were examined and compared to the impression visible in Q1. Q1 and the known left shoe correspond in tread pattern, tread wear and tread size as well as individual characteristics including gouges on the tread along the outer edge of the tread. Thus, Q1 was made by the known left shoe. Q2- The submitted images and known impressions of the suspects shoes (K1a-K1g) were examined and compared to the impression visible in Q2. The questioned impression corresponds to the known left shoe in tread pattern, tread wear and tread size as well as individual characteristics including gouges on the tread along the outer edge of the tread. Thus, Q2 was made by the known left shoe. Q3- The submitted images and known impressions of the suspects shoes (K1a-K1g) were examined and compared to the impression visible in Q3. Q3 and the known right shoe correspond in tread pattern, tread wear and tread size. Q3 also corresponds to the known with individual characteristics including a slash mark in the tread of the upper foot region. Thus, Q3 was made by the known right shoe. Q4- The submitted images and known impressions of the suspects shoes (K1a-K1g) were examined and compared to the impression visible in Q4. Q4 and the known right shoe correspond in tread pattern, tread wear and tread size. Q4 also corresponds to the known with individual characteristics including a slash mark in the tread of the upper foot region. Thus, Q4 was made by the known right shoe. Q5- The submitted images and known impressions of the suspects shoes (K1a-K1g) were examined and compared to the impression visible in Q5. The questioned impression corresponds to the known left shoe in tread pattern, tread wear and tread size as well as individual characteristics including gouges on the tread along the outer edge of the tread. Thus, Q5 was made by the known left shoe. Q6- The submitted images and known impressions of the suspects shoes (K1a-K1g) were examined and compared to the impression visible Q6. The questioned impression corresponds to the known right shoe in tread pattern but is different in tread size. The width of Q6 is larger than the known impression. Thus, Q6 could not have been made by the known right shoe.</p>
YF9QBA-5331	<p>The left shoe from which the images (Items K1a-K1c) and the inked imprints (Items K1d-K1g) were obtained is identified as having made the impressions depicted in Items Q1, Q2, and Q5 based on an agreement of class characteristics (tread design and size), wear, and randomly acquired characteristics of sufficient quality and quantity. This shoe was the source of the questioned impressions. Another shoe being the source of these impressions is considered a practical impossibility. The right shoe from which the images (Items K1a-K1c) and the inked imprints (Items K1d-K1g) were obtained is identified as having made the impressions depicted in Items Q3 and Q4 based on an agreement of class characteristics (tread design and size), wear, and randomly acquired characteristics of sufficient quality and quantity. This shoe was the source of the questioned impressions. Another shoe being the source of these impressions is considered a practical impossibility. The shoes from which the images (Items K1a-K1c) and the inked imprints (Item K1d-K1g) were obtained is excluded as having made the</p>

TABLE 2

WebCode-Test	Conclusions
YJAU3W-5331	impression depicted in Item Q6 based on differences in a class characteristic (size), therefore this impression could not have been made by these shoes.
YJAU3W-5331	Having conducted a comparison between the questions marks, Q1-Q6 and the Shoe K1, I formed the opinion, that the left shoe of K1 was the source of, and made, the questioned impressions Q1, Q2 and Q5. The chance of another shoe being the source of the impression is considered negligible. Having conducted a comparison between the questions marks, Q1-Q6 and the Shoe K1, I formed the opinion, due to differences observed namely pattern the right shoe K1 was not the source of and did not make the impression Q1, Q2 and Q5. Having conducted a comparison between the questions marks, Q1-Q6 and the Shoe K1, I formed the opinion, that the right shoe of K1 was the source of, and made, the questioned impressions Q3 and Q4. The chance of another shoe being the source of the impression is considered negligible. Having conducted a comparison between the questions marks, Q1-Q6 and the Shoe K1, I formed the opinion, due to differences observed namely pattern the left shoe K1 was not the source of and did not make the impression Q3 and Q4. Having conducted a comparison between the questions marks, Q1-Q6 and the Shoe K1, I formed the opinion, due to differences observed namely size, the right shoe K1 was not the source of and did not make the impression Q6 and that the left shoe K1 also was not the source and did not make the impression Q6 based on pattern.
YMUNWC-5335	Traces Q1-Q5 reflect the greatest possible certainty or the least possible uncertainty of the assessor. The findings are compatible with the hypothesis and at the same time cannot be plausibly explained under the alternative hypothesis. The evidence is extremely strong. Track Q6 is excluded and has no probative value.
YN7JJ4-5335	The impressions marked Q1, Q2, and Q5 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 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 right shoe was the source of the impressions. The impression marked Q6 correspond in general design, however, significant differences are noted in size and accidental damage characteristics, therefore it can be stated that the Suspect's shoes were not the source of the impression.
Z3AZKH-5335	The result of the investigation is that the items Q1, Q2 and Q5 were caused by the left shoe of K1 (K1 L). This corresponds to conclusion A (identification). The investigation also revealed that items Q3 and Q4 were caused by K1's right shoe (K1 R). This also corresponds to conclusion A (identification). Shoes K1 can be ruled out as the cause of item Q6 due to dimensional deviations and deviating features in the item. This corresponds to conclusion G (exclusion).
ZRG9Q-5335	Q1 - Identified to the left shoe from K1. Q2 - Identified to the left shoe from K1. Q3 - Identified to the right shoe from K1. Q4 - Identified to the right shoe from K1. Q5 - Identified to the left shoe from K1. Q6 - Can exclude K1 (left and right shoes).
ZVJRK7-5335	All of the impressions, Q1 through Q6, had similar general outsole design. Image 23-5335_Q1-Q3 was an image of three questioned imprints found on textured grey and white patterned vinyl tile. The Q1 and Q2 impressions overlapped each other. Q1 Impression: The Q1 impression was a partial footwear impression made by a left shoe. The recovered left shoe was identified as having made the Q1 impression based on the agreement of multiple randomly acquired characteristics. Q2 Impression: The Q2 impression was a partial footwear impression made by a left shoe. The recovered left shoe was identified as having made the Q2 impression based on the agreement of multiple randomly acquired

TABLE 2

WebCode-Test	Conclusions
	<p>characteristics. Q3 Impression: The Q3 impression was a nearly full-length footwear impression made by a right shoe. The recovered right shoe was identified as having made the Q3 impression based on the agreement of multiple randomly acquired characteristics. Image 23-5335_Q4-Q6 was an image of three questioned imprints found on grey hexagon porcelain tile. The Q4 and Q5 impressions overlapped each other. Q4 Impression: The Q4 impression was a nearly full-length footwear impression made by a right shoe. The recovered right shoe was identified as having made the Q4 impression based on the agreement of multiple randomly acquired characteristics. Q5 Impression: The Q5 impression was a partial footwear impression made by a left shoe. The recovered left shoe was identified as having made the Q5 impression based on the agreement of multiple randomly acquired characteristics. Q6 Impression: The Q6 impression was a nearly full-length footwear impression made by a right shoe. The recovered right shoe was eliminated as having made the Q6 impression due to a difference in size. The Q6 impression was larger than the submitted right shoe.</p>

Additional Comments

TABLE 3

WebCode-Test	Additional Comments
36DBR6-5335	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 related to the items of footwear.
3D9PUU-5335	I wish the system automatically saved the data. I lost my work and had to start again.
4CBY7T-5335	Items K1a through K1c, Q1-Q3 and Q4-Q6 were physically compared. Items K1d through K1g were photographically enhanced and physically compared.
8ACWNU-5331	I have chosen the above phrase [Table 2: Conclusions] from the following scale: weak support, moderate support, moderately strong support, strong support, very strong support, extremely strong support. Note: The scale we use does not include a conclusive/identification conclusion.
8Q3UWG-5335	The questioned impressions Q3 and Q4 and the known R shoe K1 share agreement of class and RACs of sufficient quality and quantity. The questioned impressions Q1, Q2 and Q3 and the known L shoe K1 share agreement of class and RACs of sufficient quality and quantity. Despite sharing similarities in some class characteristics, sufficient differences (namely size) were noted in the comparison between characteristics in the questioned impression Q6 and the known shoes.
9P2PV9-5331	Q1. Same pattern (NEW BALANCE 270)- left; consistent size/configuration; solidification of manufacturing etching/texturing to ball; 7 x randomly acquired characteristics & etching pattern in agreement Q2. Same pattern (NEW BALANCE 270)- left; consistent size/configuration; solidification of manufacturing etching/texturing to ball (taking into consideration the effects of movement); 3 x randomly acquired characteristics & etching pattern in agreement Q3. Same pattern (NEW BALANCE 270)- right; consistent size/configuration; solidification of manufacturing etching/texturing to ball; 6 x randomly acquired characteristics & etching pattern in agreement Q4. Same pattern (NEW BALANCE 270)- right; consistent size/configuration; solidification of manufacturing etching/texturing to ball; 7 x randomly acquired characteristics & etching pattern in agreement Q5. Same pattern (NEW BALANCE 270)- left; consistent size/configuration; solidification of manufacturing etching/texturing to ball; 8 x randomly acquired characteristics & etching pattern in agreement Q6. Same pattern (NEW BALANCE 270); different size/configuration (scene mark substantially larger in size); randomly acquired characteristics in disagreement
BKZWTU-5335	Methods of Analysis: Items analyzed using a combination of visual examination, test impression preparation, side-by-side and digital overlay comparisons.
BTWW72-5331	The conclusions reported are based on [Lab Name] laboratory policy.
EQWEFQ-5335	As usual, in the absence of the actual shoes, assumption have 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 marks and the test impressions. the test impressions were copied onto acetate sheets and overlaid on the scene marks.
F69ADX-5331	We dont have the same scale of conclusion. Q1, Q3 och Q4: +4, extremely strong support. Q2 och Q5: +3, strong support. Q6: Is the same, exclusion
FA2E3W-5335	Q6 - This mark corresponds in pattern with the submitted footwear, but is larger in pattern size. Therefore, the submitted footwear K1 (right) can be excluded from having made this mark.
GQ4B37-5335	The appearance of the shoe soles K1 was specific and highly detailed. Though the submitted pictures of the shoe soles (K1a-K1c) were of good quality, having access to the actual shoes would have been

TABLE 3

WebCode-Test	Additional Comments
	valuable and helpful in confirming the observed details.
JVE4CW-5331	Very straightforward trial to examine.
K8Q6M2-5331	The elimination of Q6 from the K1 shoes was based on class differences - K1 right: physical size, K1 left: right vs. left.
KRADKT-5335	<p>Appendix C: Significance of Associations IDENTIFICATION is the highest degree of association expressed by a footwear examiner. The questioned impression and the known footwear share agreement of class (i.e. design, physical size, and general wear) and randomly acquired characteristics with no meaningful differences, and the observed corresponding characteristics are sufficient in quality and quantity such that the examiner would not expect to see the same combination of characteristics repeated in a different footwear item. This 'identification' conclusion is the statement of the examiner's opinion that the known footwear was the source of, and made, the questioned impression(s). Another item of footwear being the source of the impression is considered a practical impossibility. HIGH DEGREE OF ASSOCIATION is the examiner's conclusion that the known footwear item probably made the questioned impression. The questioned impression and known footwear items must correspond in class characteristics (i.e. 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. This 'high degree of association' conclusion is the statement of the examiner's opinion that the characteristics exhibit strong associations between the questioned impression and the known footwear; however, the quality and/or quantity were insufficient for identification. Other footwear with the same class characteristics observed in the impression are included in the population of possible sources only if they display the same wear and/or randomly acquired characteristics observed in the questioned impression. ASSOCIATION OF CLASS CHARACTERISTICS is the examiner's conclusion that the known footwear item could have made the questioned impression. The class characteristics of both design and physical size must correspond between the questioned impression and the known footwear. Correspondence of general wear may also be present. This 'association of class characteristics' conclusion is the statement of the examiner's opinion that the known footwear is a possible source of the questioned impression. Other footwear items with the same class characteristics observed in the impression are included in the population of possible sources. LIMITED ASSOCIATION OF CLASS CHARACTERISTICS is the examiner's conclusion that the questioned impression and the known footwear have some similar class characteristics; however, there were significant limiting factors in the questioned impression that did not permit a stronger association. 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 was recovered that could account for a different degree of general wear. No confirmable differences were observed that could exclude the known footwear. This 'limited association of class characteristics' conclusion is the statement of the examiner's opinion that factors (such as those listed above) have limited the conclusion to a general association of some class characteristics. Other footwear with the same class characteristics observed in the impression are included in the population of possible sources. INDICATIONS OF NON-ASSOCIATION is the examiner's conclusion that the known footwear probably did not make the questioned impression. The known item and the questioned impression have different class characteristics and/or randomly acquired characteristics; however, there are limitations associated with the evidence that prevent the examiner from reaching an 'exclusion' conclusion. The 'indications of non-association' conclusion is the statement of the examiner's opinion that dissimilarities between the questioned impression and the known footwear indicated non-association; however, the details or features were not sufficient to permit an exclusion. EXCLUSION is the highest degree of non-association expressed by a footwear examiner. The known item and the questioned impression have different class characteristics (i.e. design, physical size, and general wear) and/or randomly acquired characteristics. This 'exclusion' conclusion is the statement of the examiner's opinion that the known footwear was not the source of, and did not make, the questioned impression(s). LACKS SUFFICIENT DETAIL is the examiner's conclusion that no determination can be reached as to whether</p>

TABLE 3

WebCode-Test	Additional Comments
	the known item could or could not have been made the questioned impression. This conclusion can be reached either with no comparison being conducted or with a comparison being conducted. If no comparison was conducted, the examiner determined there was no discernible questioned footwear present. This 'lacks sufficient detail' conclusion is the statement of the examiner's opinion that an impression was either not present or the impression lacked sufficient detail for any comparison. If a comparison was conducted, the examiner determined there was insufficient detail in the questioned impression for a meaningful conclusion. This opinion applies only to the known footwear examined and does not necessarily preclude future examinations with other known footwear. This 'lacks sufficient detail' conclusion is the statement of the examiner's opinion that the impression lacked sufficient detail for a meaningful conclusion regarding the particular known footwear outsole.
LEGARL-5335	The Q6 shoe print has larger dimensions than the sole of the right shoe of the NEW BALANCE shoe, have been studied.
LQUZAJ-5331	-Footprint Q-6 has been produced by a right shoe being different to K-1 R (bigger size than K-1 R)
PDUKKW-5335	As & Bs - This finding is based on correspondence observed between the submitted shoe & questioned impression in terms of patterns, configuration, pattern element spacing, wear characteristics and damage features. G - this finding is based on observed difference in pattern element spacing between the questioned impression and the suspect left shoe. If considered together, in my opinion these findings provide conclusive support for the proposition that the submitted shoes made some of the recovered impressions. Note: Difficult to tell from the photos but fine detail on surface blocks has been assumed to be mould detail/stippling rather than feathering in the interpretations.
RAANAH-5331	The lettering for the conclusions is very confusing. "E" means exclusion in case work. This will be confusing to someone vs uses "G." Keep it simple... Thanks
RFVM2Q-5335	For actual casework, the actual shoes would be preferred to confirm random characteristics observed during the examination.
TYHC9J-5335	Evidence Type Supporting / Technical Information: I have drawn my opinion in accordance with the [lab-location identifying information]. The evaluation of the evidence on a verbal scale of: No support for either proposition, no evaluation possible, limited, moderate, moderately strong, strong, very strong, extremely strong and conclusive support. This scale can be used to express both positive and negative findings. Accreditation Declaration: [Lab Name] accredited testing laboratory, number [Lab Number].
VLTB99-5331	Footwear examinations are performed by conducting side by side and overlay visual comparisons. The following methods were utilized in this examination: visual. A determination that an unknown footwear impression was made by a specific item of footwear means that there exists agreement of sufficient discernible randomly acquired and class characteristics to reach a conclusion that it was the source of, and made, the impression. The evidence will be retained in the Impression Section of the Laboratory. This report contains opinions, conclusions or interpretations of the examiner whose signature appears below.
WP4RW4-5331	Photographs of the known shoes and exemplar impressions, K1a - K1g, were compared to photographs of the questioned impressions, Q1 - Q6, side-by-side and with clear overlays of the exemplar impressions. 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.
X3MKHB-5331	Mark Q6, although also of the same pattern type as the submitted shoes, item K1, displayed differences in size alignment. Therefore, this particular mark could not have been made by either of the

TABLE 3

WebCode- Test	Additional Comments
XYPDJD- 5331	shoes. (Indications suggested this mark was made by a right shoe of a larger size.) Conclusions [Table 2] above are based on features being confirmed as damage on the shoe. It was not possible to be definitive based on the provided photos. The level of support for Q6 may change if the shoe was provided for further test impressions.

-End of Report-
(Appendix may follow)

Test No. 23-5331: Footwear Imprint Evidence

DATA MUST BE SUBMITTED BY **June 05, 2023, 11:59 p.m. EDT** TO BE INCLUDED IN THE REPORT

Participant Code: U1234A

WebCode: 9JNYZM

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 and known imprints made with these shoes. The recovered shoes are manufactured by New Balance, and the shoe tag reads: US W 6.5, US M 5, UK 4.5, EU 37, CM 23.5, B, CW997HWG, 196307607148, 7336465, PSXWP8910 JMV, MFG: 07/2022, 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 step down onto paper placed on top of a semi-soft surface (per ASB best practices).

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 textured grey and white patterned vinyl tile.

Items Q4-Q6: Questioned imprints found on grey hexagon porcelain tile.

To verify a complete and accurate download, the hash value for the downloaded .ZIP file is as follows:

23-5331.5_Supplemental 3D Scans.zip MD5 hash value: 48514c713229e136958e5e6123a34326

23-5331.5_Supplemental 3D Scans.zip SHA1 hash value: e1a1a9a4c6c90bb138eeaba625502f753f4c44d6

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.

Textured Grey and White Patterned Vinyl Tile	
<u>Imprint</u>	<u>L/R</u>
Q1:	<input type="text"/>
Q2:	<input type="text"/>
Q3:	<input type="text"/>

Grey Hexagon Porcelain Tile	
<u>Imprint</u>	<u>L/R</u>
Q4:	<input type="text"/>
Q5:	<input type="text"/>
Q6:	<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

3D Scans Questionnaire

1: Did you utilize or view the 3D scans for this proficiency test?

2: If you used the 3D scans, did you find them beneficial?

3: Did you have any issues downloading or viewing the scans?

4: On a scale of 1-5 (1 being poor and 5 being great), how would you rate the quality of the scans?

5: Would you like to see 3D scans on future footwear proficiency tests?

6: Any other comments about the 3D scans?

RELEASE OF DATA TO ACCREDITATION BODIES

The Accreditation Release is accessed by pressing the "Continue to Final Submission" button online and can be completed at any time prior to submission to CTS.

CTS submits external proficiency test data directly to ASCLD/LAB, ANAB, and/or A2LA. Please select one of the following statements to ensure your data is handled appropriately.

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

Have the laboratory's designated individual complete the following steps **only if your laboratory is accredited in this testing/calibration discipline** by one or more of the following Accreditation Bodies.

Step 1: Provide the applicable Accreditation Certificate Number(s) for your laboratory.

ANAB Certificate No.
(Include ASCLD/LAB Certificate here)

A2LA Certificate No.

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

Authorized Contact Person and Title

Laboratory Name

Location (City/State)