



Footwear Imprint Evidence Test No. 19-5331/2/5 Summary Report

Each sample pack contained either digitally produced photographs (19-5331), a DVD with digital images (19-5332), or directly downloadable digital images (19-5335) of six questioned imprints and photographs of two suspect shoe soles and test imprints made with those shoes. Participants were requested to compare the imprints from the crime scene with the suspect shoes and report their findings. Data were returned by 179 participants: 122 for 19-5331, 21 for 19-5332, and 36 for 19-5335 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 pack consists of nine photographs. One photograph (K1a) shows the soles of the two suspect shoes lit from above. Two photographs (K1b and K1c) show the suspect soles lit with oblique lighting on the heels and toes, respectively. Four photographs (K1d, K1e, K1f and K1g) show known imprints made with the suspect 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 asked to compare the suspect shoe soles and their known imprints with the questioned imprints to determine if any associations or identifications could be established.

SAMPLE PREPARATION -

The shoes used in this test had been worn frequently over the course of more than three months. Once the shoes were no longer worn, the soles were cleaned of any debris with water and paper towels.

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 walk across paper targets.

QUESTIONED IMPRINTS (Q1-Q6): Questioned imprint Q1 was created by coating the sole of the shoe with artist's paint and having the wearer of the shoe walk across the substrate. Questioned imprints Q2-Q6 were created by coating the sole of each shoe with fingerprint ink and having the wearer walk across the substrates (see table below).

SAMPLE PACK ASSEMBLY -

Once verification was complete and sample preparation was done, each photo set was placed into a pre-labeled sample pack envelope, sealed with evidence tape, and initialed with "CTS." Each DVD was checked to ensure all images were accessible. Digital download media were provided in a zipped file uploaded to the CTS portal.

VERIFICATION -

A majority of laboratories that conducted the predistribution examination of the images associated all questioned imprints with the suspect shoes. Specifically, all labs associated imprints Q1 and Q3-Q6 with the suspect shoes. Three of four labs associated imprint Q2 with the suspect left shoe, with one lab excluding both shoes as the source; this result still met a consensus sufficient for inclusion in the final test.

Imprints	Shoe Type	Manufacturer	Left/Right	Size (U.S.)
Q1, Q5, Q6	Athletic shoe (Suspect shoe K1)	Nike	Right	8
Q2, Q3, Q4	Athletic shoe (Suspect shoe K1)	Nike	Left	8

Summary Comments

This test was designed to allow participants to assess their proficiency with footwear imprint examination and comparison. Test materials consisted of two photographs containing six questioned footwear imprints (Q1-Q6), a photograph of the two suspect shoe soles (K1a), two photographs of oblique lighted images of the same soles (K1b-K1c), and four photographs of inked exemplar imprints made with the shoes (K1d-K1g). Participants were requested to determine if any of the questioned imprints were made by the suspect shoes, utilizing a seven-point conclusion scale. All six of the imprints were produced by the suspect shoes; three were made by the suspect right shoe (Q1, Q5, Q6), and three were made by the suspect left shoe (Q2, Q3, Q4) (Refer to the Manufacturer's Information for preparation details).

Of the 179 responding participants, 173 (96.6%) reported associations consistent with the consensus and expected results. For those imprints that were associated with the known shoes (K1), all responses of association (A-D) were tallied together to determine the consensus. Overall, most participants were confident to report an Identification (A) or High Degree of Association (B) for all questioned items. Item Q1 had the lowest reported percentage of Identifications (68.7%), with 25.7% reporting a High Degree of Association (B) and another 4.5% reporting either Association (C) or Limited Association (D). This may be attributable to the medium of paint being used to create the questioned imprint.

Six participants were outliers in their conclusions. Four participants reported an Exclusion (G) or Indications of Non-Association (F) for one or more prints that were associated with the known shoes. One participant gave a response of Inconclusive (E) for questioned print Q3. Finally, one participant did not observe the appropriate reporting conventions and switched the answers for the conclusions scale and the Left/Right designation.

Regarding the Left/Right designations, 175 of 179 participants (97.8%) reported the expected L/R shoe. Of the four outliers, one participant reported the opposite shoe for Item Q6, one participant reported the opposite shoe for all questioned items, one participant who associated the prints to the suspect shoes left the designations blank for Items Q1 and Q4, and one participant was the aforementioned individual who switched their conclusions and L/R designations.

Several participants observed the inclusion of a non-numbered imprint in the second set of questioned items (Q4-Q6), and some found it to be of value and conducted a comparison. Following the review of predistribution results, it was decided that this print would not be included for analysis in the final test. Due to its presence on a target with prints that were intended for analysis, this item was not numbered. Based on feedback and questions received, future tests that may include non-numbered prints will include instructions to omit this item from analysis.

Examination Results

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

TABLE 1a (Art Studio)

WebCode- Test	Questioned Imprints					
	<u>Q1</u>		<u>Q2</u>		<u>Q3</u>	
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R
2CRHEV-5331	A	R	A	L	A	L
2DQZN7-5331	B	R	B	L	B	L
2K78D4-5331	B	R	A	L	A	L
2L388G-5335	B	R	B	L	B	L
34KPAQ-5331	A	R	A	L	A	L
372XZ2-5331	A	R	A	L	A	L
3BFFDC-5331	A	R	A	L	B	L
3D6CUV-5331	A	R	A	L	A	L
3FAAG6-5332	A	R	A	L	A	L
3K8UJ3-5331	A	R	A	L	A	L
3KG369-5335	A	R	A	L	A	L
3N76E3-5331	A	R	A	L	A	L
3TE26B-5331	B	R	B	L	B	L
3THDHT-5335	A	R	A	L	A	L
3TW87L-5331	A	R	A	L	A	L
3WEYBG-5332	B	R	A	L	B	L

TABLE 1a (Art Studio)

Questioned Imprints							
WebCode- Test	<u>Q1</u>		<u>Q2</u>		<u>Q3</u>		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
44NP78- 5331	C	R	B	L	C	L	
44R8AW- 5331	A	R	A	L	A	L	
47J4YQ- 5335	C	R	A	L	B	L	
4G2VG9- 5331	A	R	A	L	A	L	
4JLX8E- 5331	A	R	B	L	B	L	
4K2YC3- 5335	A	R	A	L	A	L	
4KX86Y- 5331	A	R	A	L	A	L	
4R3LBA- 5332	A	R	A	L	A	L	
4UJ7XP- 5331	A	R	A	L	A	L	
4VJKHW- 5331	A	R	A	L	A	L	
66MM78- 5332	A	R	A	L	A	L	
67G93J- 5332	A	R	A	L	A	L	
67VAT8- 5331	A	R	A	L	A	L	
6FZBBL- 5331	A	R	A	L	A	L	
6MHBFG- 5335	A	R	A	L	A	L	
6MZRLQ- 5331	A	R	A	L	A	L	
6NUF32- 5331	A	R	A	L	A	L	
72WZQP- 5332	A	R	A	L	A	L	

TABLE 1a (Art Studio)

Questioned Imprints							
WebCode- Test	<u>Q1</u>		<u>Q2</u>		<u>Q3</u>		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
7CYNWM- 5331	C		A	L	A	L	
7FFWH2- 5331	A	R	A	L	A	L	
7FY87U- 5331	D	R	B	L	D	L	
7GUQAG- 5331	B	R	A	L	A	L	
7NR6NA- 5335	B	R	A	L	A	L	
7TN8YG- 5331	A	R	A	L	A	L	
7VC9TQ- 5331	B	R	A	L	A	L	
8A7Y8Z- 5331	B	R	B	L	B	L	
8DQ4NB- 5332	B	R	A	L	B	L	
8HFJBW- 5332	B	R	B	L	C	L	
8Q92KY- 5335	B	L	C	R	C	R	
8RQNL2- 5335	A	R	A	L	A	L	
8V7FCU- 5331	A	R	A	L	A	L	
8ZH9K9- 5332	G		A	L	A	L	
92N4LQ- 5335	A	R	A	L	A	L	
92Q7KN- 5331	A	R	A	L	A	L	
966Z2L- 5331	A	R	A	L	A	L	
99UM34- 5331	A	R	A	L	A	L	

TABLE 1a (Art Studio)

Questioned Imprints							
WebCode- Test	<u>Q1</u>		<u>Q2</u>		<u>Q3</u>		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
9K4H2Z- 5331	A	R	B	L	A	L	
9LCZ84- 5335	A	R	A	L	A	L	
9TJUJ8- 5331	R	A	L	A	L	A	
AC6K2V- 5331	A	R	A	L	A	L	
AD2MJR- 5331	A	R	A	L	A	L	
AETJ9L- 5332	A	R	A	L	A	L	
AF8K2T- 5335	A	R	A	L	A	L	
AHDFR7- 5331	D	R	B	L	A	L	
AV26HF- 5335	A	R	A	L	A	L	
BAEXLD- 5331	B	R	A	L	A	L	
BGU7ZG- 5331	B	R	A	L	A	L	
BH8J3R- 5331	B	R	A	L	B	L	
BJJDKD- 5331	A	R	A	L	B	L	
BLBELV- 5332	A	R	A	L	A	L	
BMK3XG- 5331	A	R	B	L	C	L	
C86H6E- 5335	B	R	B	L	B	L	
C9HCJT- 5331	A	R	A	L	A	L	
CA8KNN- 5332	B	R	B	L	B	L	

TABLE 1a (Art Studio)

Questioned Imprints							
WebCode- Test	<u>Q1</u>		<u>Q2</u>		<u>Q3</u>		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
CP6QY7- 5332	A	R	A	L	A	L	
CT84RH- 5331	A	R	C	L	C	L	
CWL7PV- 5331	A	R	A	L	A	L	
D38GG6- 5332	A	R	A	L	B	L	
D9EGJZ- 5331	A	R	A	L	A	L	
DLJ33C- 5331	A	R	A	L	A	L	
DMWZ8G- 5332	A	R	A	L	A	L	
DQQXFK- 5331	A	R	A	L	A	L	
DUVW2R- 5331	A	R	A	L	A	L	
E2RNU2- 5331	A	R	A	L	A	L	
E73UCT- 5331	A	R	A	L	A	L	
EMU3JK- 5331	B	R	A	L	B	L	
ER2ZYY- 5331	A	R	A	L	A	L	
ETX4JE- 5331	A	R	A	L	A	L	
EX8RBG- 5331	A	R	A	L	A	L	
EY637K- 5332	A	R	B	L	A	L	
FBEWZA- 5331	A	R	A	L	A	L	
FFNMD9- 5331	A	R	A	L	A	L	

TABLE 1a (Art Studio)

Questioned Imprints							
WebCode- Test	<u>Q1</u>		<u>Q2</u>		<u>Q3</u>		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
FGYRNC- 5335	B	R	C	L	B	L	
FTT9TZ- 5335	B	R	A	L	A	L	
FVJHYV- 5331	A	R	A	L	A	L	
FYJFX8- 5331	A	R	A	L	A	L	
FYKHYR- 5331	A	R	A	L	A	L	
G2GNTN- 5331	A	R	A	L	A	L	
G662WZ- 5335	B	R	A	L	B	L	
G7G6EB- 5331	A	R	A	L	A	L	
GC2XGH- 5331	A	R	A	L	A	L	
GHQFVT- 5331	B	R	A	L	A	L	
GLPP4A- 5331	B	R	B	L	B	L	
GWPU3V- 5331	B	R	A	L	A	L	
HHJQ2F- 5331	A	R	A	L	C	L	
HTP4BA- 5331	A	R	A	L	A	L	
HUCEVU- 5331	A	R	A	L	A	L	
JBJLUW- 5335	A	R	A	L	A	L	
JEJWMB- 5331	A	R	A	L	A	L	
JHGFMN- 5331	B	R	A	L	B	L	

TABLE 1a (Art Studio)

Questioned Imprints							
WebCode- Test	<u>Q1</u>		<u>Q2</u>		<u>Q3</u>		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
JQEBLM-5331	A	R	A	L	A	L	
JUCPBX-5331	A	R	A	L	A	L	
K2PZ24-5331	A	R	A	L	A	L	
K2Q6P7-5331	B	R	B	L	B	L	
K68ZGJ-5335	A	R	A	L	A	L	
KBXCFL-5331	A	R	A	L	A	L	
KDNHUR-5335	A	R	A	L	A	L	
KE282A-5331	A	R	A	L	A	L	
KK4EJX-5335	B	R	B	L	B	L	
KTU4VT-5332	B	R	B	L	B	L	
L33QPE-5331	B	R	B	L	E	L	
L68RWJ-5331	A	R	A	L	A	L	
LGHRL6-5331	C	R	B	L	A	L	
LTBF9R-5331	A	R	A	L	A	L	
M6JKYJ-5335	A	R	A	L	A	L	
MH8FH6-5331	A	R	A	L	A	L	
MKYLUP-5335	A	R	A	L	A	L	
MMLDM8-5332	B	R	B	L	B	L	

TABLE 1a (Art Studio)

Questioned Imprints							
WebCode- Test	<u>Q1</u>		<u>Q2</u>		<u>Q3</u>		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
MMZCQ9- 5331	A	R	A	L	A	L	
MYBE4D- 5331	A	R	A	L	A	L	
N3R4XB- 5331	A	R	A	L	A	L	
N3VTF8- 5331	C	R	C	L	C	L	
N79YR8- 5331	A	R	A	L	A	L	
NXZ39B- 5331	B	R	B	L	B	L	
PAAYR6- 5331	A	R	A	L	A	L	
PBHN2M- 5335	A	R	A	L	A	L	
PCDMX2- 5331	A	R	A	L	A	L	
PGRXB6- 5331	A	R	A	L	A	L	
PLLWPZ- 5331	A	R	A	L	A	L	
Q8ZEEN- 5332	A	R	A	L	A	L	
QPEKDK- 5335	A	R	A	L	A	L	
R68CZ8- 5331	A	R	A	L	A	L	
RF2JKA- 5331	A	R	A	L	A	L	
RGFHNE- 5335	A	R	A	L	A	L	
RU7E4C- 5331	A	R	A	L	A	L	
RVL4KQ- 5331	B	R	A	L	A	L	

TABLE 1a (Art Studio)

Questioned Imprints							
WebCode- Test	<u>Q1</u>		<u>Q2</u>		<u>Q3</u>		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
T6KWBA-5335	A	R	A	L	A	L	
TAAX6F-5331	A	R	A	L	A	L	
TGVXGL-5332	A	R	A	L	A	L	
TMJ9JA-5335	A	R	A	L	A	L	
TRE9C8-5331	B	R	A	L	A	L	
U3DTZX-5335	A	R	A	L	A	L	
U3UAVQ-5331	B	R	A	L	A	L	
U7AA4Y-5331	A	R	A	L	B	L	
UBPHPD-5331	A	R	A	L	A	L	
UK9LLW-5331	B	R	B	L	D	L	
UNDMYV-5331	A	R	A	L	A	L	
UNR99W-5331	A	R	A	L	A	L	
UUXPKK-5331	A	R	A	L	B	L	
UW4ALK-5331	A	R	A	L	A	L	
V2YQR6-5331	A	R	B	L	C	L	
V339G8-5331	B	R	B	L	B	L	
VBECKK-5331	A	R	A	L	A	L	
VFCRE2-5335	A	R	A	L	A	L	

TABLE 1a (Art Studio)

Questioned Imprints							
WebCode- Test	<u>Q1</u>		<u>Q2</u>		<u>Q3</u>		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
VJVQQB-5331	B	R	B	L	B	L	
VQE83L-5335	B	R	B	L	B	L	
WV6J2N-5335	B	R	B	L	B	L	
W662W4-5331	A	R	A	L	C	L	
WCNAHE-5331	B	R	B	L	C	L	
X26MWE-5332	B	R	A	L	A	L	
X4AHTG-5335	B	R	A	L	B	L	
XD3T6X-5331	A	R	C	L	C	L	
XGJN2H-5331	A	R	B	L	B	L	
XU7P22-5331	B	R	B	L	B	L	
XX3LX3-5335	A	R	G		A	L	
YE9V7M-5331	B	R	A	L	A	L	
YF7G99-5331	A	R	A	L	A	L	
YH8LJ9-5335	A	R	A	L	A	L	
YMZBVQ-5331	B	R	B	L	B	L	
YQ3HPJ-5331	B	R	A	L	A	L	
Z6FAQV-5331	A	R	A	L	A	L	
ZDDC3Z-5331	C	R	B	L	B	L	

TABLE 1a (Art Studio)

Questioned Imprints							
WebCode- Test	Q1		Q2		Q3		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
ZT76M2- 5335	A	R	A	L	A	L	

Response Summary						Participants: 179	
	Q1 Conc.		Q2 Conc.		Q3 Conc.		
		L/R		L/R		L/R	
Identification (A)	123 (68.7%)	R 175 (97.8%)	(A) 139 (77.7%)	L 176 (98.3%)	(A) 129 (72.1%)	L 177 (98.9%)	
High Degree of Ass'n. (B)	46 (25.7%)	L 1 (0.6%)	(B) 33 (18.4%)	R 1 (0.6%)	(B) 35 (19.6%)	R 1 (0.6%)	
Association (C)	6 (3.4%)		(C) 5 (2.8%)		(C) 11 (6.1%)		
Limited Ass'n. (D)	2 (1.1%)		(D) 0 (0.0%)		(D) 2 (1.1%)		
Inconclusive (E)	0 (0.0%)		(E) 0 (0.0%)		(E) 1 (0.6%)		
Non-Ass'n. (F)	0 (0.0%)		(F) 0 (0.0%)		(F) 0 (0.0%)		
Exclusion (G)	1 (0.6%)		(G) 1 (0.6%)		(G) 0 (0.0%)		

Examination Results

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

TABLE 1b (Wash Area)

Questioned Imprints							
WebCode- Test	<u>Q4</u>		<u>Q5</u>		<u>Q6</u>		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
2CRHEV- 5331	A	L	A	R	A	R	
2DQZN7- 5331	B	L	A	R	A	R	
2K78D4- 5331	A	L	A	R	A	R	
2L388G- 5335	B	L	A	R	A	R	
34KPAQ- 5331	A	L	A	R	A	R	
372XZ2- 5331	A	L	A	R	A	R	
3BFFDC- 5331	A	L	A	R	A	R	
3D6CUV- 5331	A	L	A	R	A	R	
3FAAG6- 5332	A	L	A	R	A	R	
3K8UJ3- 5331	A	L	A	R	A	R	
3KG369- 5335	A	L	A	R	A	R	
3N76E3- 5331	A	L	A	R	A	R	
3TE26B- 5331	B	L	A	R	A	R	
3THDHT- 5335	A	L	A	R	A	R	
3TW87L- 5331	A	L	A	R	A	R	
3WEYBG- 5332	B	L	A	R	A	R	

TABLE 1b (Wash Area)

Questioned Imprints							
WebCode- Test	<u>Q4</u>		<u>Q5</u>		<u>Q6</u>		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
44NP78- 5331	D	L	A	R	A	R	
44R8AW- 5331	A	L	A	R	A	R	
47J4YQ- 5335	A	L	A	R	A	R	
4G2VG9- 5331	A	L	A	R	A	R	
4JLX8E- 5331	B	L	B	R	A	R	
4K2YC3- 5335	A	L	A	R	A	R	
4KX86Y- 5331	A	L	A	R	A	R	
4R3LBA- 5332	A	L	A	R	A	R	
4UJ7XP- 5331	A	L	A	R	A	R	
4VJKHW- 5331	A	L	A	R	A	R	
66MM78- 5332	A	L	A	R	A	R	
67G93J- 5332	A	L	A	R	A	R	
67VAT8- 5331	A	L	A	R	A	R	
6FZBBL- 5331	A	L	A	R	A	R	
6MHBFG- 5335	A	L	A	R	A	R	
6MZRLQ- 5331	A	L	A	R	A	R	
6NUF32- 5331	A	L	A	R	A	R	
72WZQP- 5332	A	L	A	R	A	R	

TABLE 1b (Wash Area)

Questioned Imprints							
WebCode- Test	Q4		Q5		Q6		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
7CYNWM- 5331	C		A	R	A	R	
7FFWH2- 5331	A	L	A	R	A	R	
7FY87U- 5331	D	L	A	R	G	R	
7GUQAG- 5331	A	L	A	R	A	R	
7NR6NA- 5335	A	L	A	R	A	R	
7TN8YG- 5331	A	L	A	R	A	R	
7VC9TQ- 5331	A	L	A	R	A	R	
8A7Y8Z- 5331	B	L	A	R	A	R	
8DQ4NB- 5332	B	L	A	R	A	R	
8HFJBW- 5332	B	L	A	R	A	R	
8Q92KY- 5335	B	R	B	L	B	L	
8RQNL2- 5335	A	L	A	R	A	R	
8V7FCU- 5331	A	L	A	R	A	R	
8ZH9K9- 5332	A	L	A	R	A	R	
92N4LQ- 5335	A	L	A	R	A	R	
92Q7KN- 5331	A	L	A	R	A	R	
966Z2L- 5331	A	L	A	R	A	R	
99UM34- 5331	A	L	A	R	A	R	

TABLE 1b (Wash Area)

Questioned Imprints							
WebCode- Test	Q4		Q5		Q6		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
9K4H2Z- 5331	A	L	A	R	A	R	
9LCZ84- 5335	A	L	A	R	A	L	
9TJUJ8- 5331	L	A	R	A	R	A	
AC6K2V- 5331	A	L	A	R	A	R	
AD2MJR- 5331	A	L	A	R	A	R	
AETJ9L- 5332	A	L	A	R	A	R	
AF8K2T- 5335	A	L	A	R	A	R	
AHDFR7- 5331	A	L	A	R	A	R	
AV26HF- 5335	A	L	A	R	A	R	
BAEXLD- 5331	B	L	A	R	A	R	
BGU7ZG- 5331	A	L	A	R	A	R	
BH8J3R- 5331	B	L	A	R	A	R	
BJJDKD- 5331	B	L	A	R	A	R	
BLBELV- 5332	A	L	A	R	A	R	
BMK3XG- 5331	C	L	A	R	A	R	
C86H6E- 5335	B	L	A	R	A	R	
C9HCJT- 5331	B	L	A	R	A	R	
CA8KNN- 5332	A	L	A	R	A	R	

TABLE 1b (Wash Area)

Questioned Imprints							
WebCode- Test	<u>Q4</u>		<u>Q5</u>		<u>Q6</u>		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
CP6QY7- 5332	A	L	A	R	A	R	
CT84RH- 5331	C	L	A	R	A	R	
CWL7PV- 5331	A	L	A	R	A	R	
D38GG6- 5332	A	L	A	R	A	R	
D9EGJZ- 5331	B	L	A	R	A	R	
DLJ33C- 5331	A	L	A	R	A	R	
DMWZ8G- 5332	A	L	A	R	A	R	
DQQXFK- 5331	A	L	A	R	A	R	
DUMW2R- 5331	A	L	A	R	A	R	
E2RNU2- 5331	A	L	A	R	A	R	
E73UCT- 5331	A	L	A	R	A	R	
EMU3JK- 5331	B	L	A	R	A	R	
ER2ZYY- 5331	A	L	A	R	A	R	
ETX4JE- 5331	A	L	A	R	A	R	
EX8RBG- 5331	A	L	A	R	A	R	
EY637K- 5332	B	L	A	R	A	R	
FBEWZA- 5331	A	L	A	R	A	R	
FFNMD9- 5331	A	L	A	R	A	R	

TABLE 1b (Wash Area)

Questioned Imprints							
WebCode- Test	<u>Q4</u>		<u>Q5</u>		<u>Q6</u>		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
FGYRNC- 5335	B	L	A	R	A	R	
FTT9TZ- 5335	A	L	A	R	A	R	
FVJHYV- 5331	A	L	A	R	A	R	
FYJFX8- 5331	A	L	A	R	A	R	
FYKHyr- 5331	A	L	A	R	A	R	
G2GNTN- 5331	A	L	A	R	A	R	
G662WZ- 5335	B	L	A	R	A	R	
G7G6EB- 5331	A	L	A	R	A	R	
GC2XGH- 5331	A	L	A	R	A	R	
GHQFVT- 5331	A	L	A	R	A	R	
GLPP4A- 5331	B	L	A	R	A	R	
GWPU3V- 5331	A	L	A	R	A	R	
HHJQ2F- 5331	A	L	A	R	A	R	
HTP4BA- 5331	A	L	A	R	A	R	
HUCEVU- 5331	A	L	A	R	A	R	
JBjLUW- 5335	A	L	A	R	A	R	
JEJWMB- 5331	A	L	A	R	A	R	
JHGFMN- 5331	A	L	A	R	A	R	

TABLE 1b (Wash Area)

Questioned Imprints							
WebCode- Test	<u>Q4</u>		<u>Q5</u>		<u>Q6</u>		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
JQEBLM-5331	A	L	A	R	A	R	
JUCPBX-5331	A	L	A	R	A	R	
K2PZ24-5331	A	L	A	R	A	R	
K2Q6P7-5331	B	L	A	R	A	R	
K68ZGJ-5335	A	L	A	R	A	R	
KBXCFL-5331	A	L	A	R	A	R	
KDNHUR-5335	A	L	A	R	A	R	
KE282A-5331	A	L	A	R	A	R	
KK4EJX-5335	B	L	A	R	A	R	
KTU4VT-5332	B	L	A	R	A	R	
L33QPE-5331	B	L	B	R	B	R	
L68RWJ-5331	A	L	A	R	A	R	
LGHRL6-5331	A	L	A	R	B	R	
LTBF9R-5331	A	L	A	R	A	R	
M6JKYJ-5335	A	L	A	R	A	R	
MH8FH6-5331	A	L	A	R	A	R	
MKYLUP-5335	A	L	A	R	A	R	
MMLDM8-5332	B	L	A	R	A	R	

TABLE 1b (Wash Area)

Questioned Imprints							
WebCode- Test	<u>Q4</u>		<u>Q5</u>		<u>Q6</u>		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
MMZCQ9- 5331	A	L	A	R	A	R	
MYBE4D- 5331	A	L	A	R	A	R	
N3R4XB- 5331	A	L	A	R	A	R	
N3VTF8- 5331	A	L	A	R	A	R	
N79YR8- 5331	A	L	A	R	A	R	
NXZ39B- 5331	B	L	A	R	A	R	
PAAYR6- 5331	A	L	A	R	A	R	
PBHN2M- 5335	A	L	A	R	A	R	
PCDMX2- 5331	A	L	A	R	A	R	
PGRXB6- 5331	A	L	A	R	A	R	
PLLWPZ- 5331	A	L	A	R	A	R	
Q8ZEEN- 5332	A	L	A	R	A	R	
QPEKDK- 5335	A	L	A	R	A	R	
R68CZ8- 5331	A	L	A	R	A	R	
RF2JKA- 5331	A	L	A	R	A	R	
RGFHNE- 5335	A	L	A	R	A	R	
RU7E4C- 5331	A	L	A	R	A	R	
RVL4KQ- 5331	A	L	A	R	A	R	

TABLE 1b (Wash Area)

Questioned Imprints							
WebCode- Test	Q4		Q5		Q6		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
T6KWBA-5335	A	L	A	R	A	R	
TAAX6F-5331	A	L	A	R	A	R	
TGVXGL-5332	A	L	A	R	A	R	
TMJ9JA-5335	A	L	A	R	A	R	
TRE9C8-5331	A	L	A	R	A	R	
U3DTZX-5335	A	L	A	R	A	R	
U3UAVQ-5331	A	L	A	R	A	R	
U7AA4Y-5331	A	L	A	R	A	R	
UBPHPD-5331	A	L	A	R	A	R	
UK9LLW-5331	B	L	A	R	A	R	
UNDMYV-5331	A	L	A	R	A	R	
UNR99W-5331	A	L	A	R	A	R	
UUXPK-5331	A	L	A	R	A	R	
UW4ALK-5331	A	L	A	R	A	R	
V2YQR6-5331	F	L	A	R	A	R	
V339G8-5331	B	L	A	R	A	R	
VBECKK-5331	A	L	A	R	A	R	
VFCRE2-5335	A	L	A	R	A	R	

TABLE 1b (Wash Area)

Questioned Imprints							
WebCode- Test	<u>Q4</u>		<u>Q5</u>		<u>Q6</u>		
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
VJVQQB-5331	B	L	A	R	A	R	
VQE83L-5335	A	L	A	R	A	R	
VV6J2N-5335	B	L	A	R	A	R	
W662W4-5331	B	L	A	R	A	R	
WCNAHE-5331	D	L	B	R	B	R	
X26MWE-5332	A	L	A	R	A	R	
X4AHTG-5335	B	L	A	R	A	R	
XD3T6X-5331	C	L	A	R	A	R	
XGJN2H-5331	B	L	A	R	A	R	
XU7P22-5331	B	L	A	R	A	R	
XX3LX3-5335	A	L	A	R	A	R	
YE9V7M-5331	A	L	A	R	A	R	
YF7G99-5331	A	L	A	R	A	R	
YH8LJ9-5335	A	L	A	R	A	R	
YMZBVQ-5331	B	L	B	R	B	R	
YQ3HPJ-5331	A	L	A	R	A	R	
Z6FAQV-5331	A	L	A	R	A	R	
ZDDC3Z-5331	A	L	A	R	B	R	

TABLE 1b (Wash Area)

Questioned Imprints							
WebCode- Test	<u>Q4</u>		<u>Q5</u>		<u>Q6</u>		L/R
	Conclusion	L/R	Conclusion	L/R	Conclusion	L/R	
ZT76M2- 5335	A	L	A	R	A	R	

Response Summary						Participants: 179	
	<u>Q4 Conc.</u>	<u>L/R</u>		<u>Q5 Conc.</u>	<u>L/R</u>	<u>Q6 Conc.</u>	<u>L/R</u>
Identification (A)	135 (75.4%)	L 176 (98.3%)	(A)	173 (96.6%)	R 177 (98.9%)	(A) 171 (95.5%)	R 176 (98.3%)
High Degree of Ass'n. (B)	35 (19.6%)	R 1 (0.6%)	(B)	5 (2.8%)	L 1 (0.6%)	(B) 6 (3.4%)	L 2 (1.1%)
Association (C)	4 (2.2%)		(C)	0 (0.0%)		(C) 0 (0.0%)	
Limited Ass'n. (D)	3 (1.7%)		(D)	0 (0.0%)		(D) 0 (0.0%)	
Inconclusive (E)	0 (0.0%)		(E)	0 (0.0%)		(E) 0 (0.0%)	
Non-Ass'n. (F)	1 (0.6%)		(F)	0 (0.0%)		(F) 0 (0.0%)	
Exclusion (G)	0 (0.0%)		(G)	0 (0.0%)		(G) 1 (0.6%)	

Conclusions

TABLE 2

WebCode-Test	Conclusions
2CRHEV-5331	<p>The Item Q1 through Q6 questioned footwear impressions were analyzed, compared and evaluated with the known footwear Item K1 (A-G). The Item Q1, Q5 and Q6 questioned footwear impressions correspond in tread design, physical size, wear and accidental characteristics with the Item K1 right shoe. The Item Q2, Q3 and Q4 questioned footwear impressions correspond in tread design, physical size, wear and accidental characteristics with the Item K1 left shoe. Based upon the above factors it is the opinion of this examiner that: The Item Q1, Q5 and Q6 questioned footwear impressions were made by the Item K1 right shoe. Another item of footwear being the source of the impressions based on the combination of characteristics is considered a practical impossibility. The Item Q2, Q3 and Q4 questioned footwear impressions were made by the Item K1 left shoe. Another item of footwear being the source of the impressions based on the combination of characteristics is considered a practical impossibility. All conclusions listed herein have been verified by a second qualified latent print examiner.</p>
2DQZN7-5331	<p>I have been asked to compare the photographs of the footwear impressions (Q1 to Q6) located at the scene of an alleged vandalism and damage at a local high school with the submitted photographs and inked impressions of the soles of a pair of shoes designated K1. This examination was to establish whether or not either of these shoes could have made the scene footwear impressions. The results and conclusions provided in this statement form my expert opinion, which is based on my scientific knowledge, experience and training. By comparing a shoe's sole pattern with impressions from scenes, it is sometimes possible to determine whether or not the shoe made that impression. This conclusion is based on the correspondence or otherwise of characteristics such as sole pattern and dimensions, degree of wear, and the presence and absence of random acquired characteristics such as nicks, cuts, tears or embedded stones. However, due to the quality of the scene impression or the small portion that may be present, areas of damage or wear on the footwear may not be visible on the scene impression. In determining the strength of any correspondence I have considered: the likelihood of finding the shoeprint evidence if the shoe made the impression, and the likelihood of finding the shoeprint evidence if the shoe did not make the impression. The statement of opinion as to the scientific significance of any correspondence between the shoe and the impression is selected from the following scale: exclusion, indications of non-association, inconclusive, limited association of class characteristics, association of class characteristics, high degree of association, identification. The footwear impressions Q2 to Q4 were near complete footwear impressions of the forefoot and heel area of a left shoe, which corresponded to the sole pattern elements of the submitted left shoe. There was also correspondence in wear and randomly acquired characteristics with the submitted left shoe. Therefore, there is a high degree of association between the submitted left shoe and these scene impression. I cannot exclude other shoes with the same sole pattern, similar dimensions and wear, and similar random features from having made the print. The footwear impression Q1 was near complete footwear impression of the forefoot and heel area of a right shoe, which corresponded to the sole pattern elements of the submitted right shoe. There was also correspondence in wear and randomly acquired characteristics with the submitted right shoe. Therefore, there is a high degree of association between the submitted right shoe and these scene impressions. I cannot exclude other shoes with the same sole pattern, similar dimensions and wear, and similar random features from having made the print. The footwear impressions Q5 and Q6 were almost complete impressions of a right shoe, which corresponded to the sole pattern elements and dimensions of the submitted right shoe. There was also correspondence of wear and randomly acquired characteristics with the submitted right shoe. The correspondence of sole pattern elements, dimensions, wear and multiple areas of randomly acquired characteristics was such to identify this submitted right shoe as having made these impressions to the exclusion of all other footwear.</p>
2K78D4-5331	<p>Six shoe impressions are present in the photographs from the crime scene. Three of the shoe impressions are similar in size, shape, tread design, and wear to the known left shoe from the suspect (Item K1). These impressions share randomly acquired characteristics with the known left shoe from the suspect. It is my opinion that these impressions were made by the suspect's left shoe. Two of the shoe impressions are similar in size, shape, tread design, and wear to the known right shoe from the suspect</p>

TABLE 2

WebCode-Test	Conclusions
	<p>(Item K1). These impressions share randomly acquired characteristics with the known right shoe from the suspect. It is my opinion that these impressions were made by the suspect's right shoe. The remaining shoe impression is similar in size, shape, tread design, and wear to the known right shoe from the suspect (Item K1). This impression shares possible randomly acquired characteristics with the known right shoe from the suspect. It is my opinion that this impression could have been made by the suspect's right shoe or any other shoe with similar characteristics. One additional partial shoe impression is present in the images from the scene which was not labeled as a question impression. This impression is similar in size, shape, and tread design to the known left shoe from the suspect (Item K1). It is my opinion that this impression could have been made by the suspect's left shoe or any other shoe with similar characteristics.</p>
2L388G-5335	<p>B: The results gives strong support for.... (Q1-Q4). A: The results gives extremely strong support for... (Q5-Q6)</p>
34KPAQ-5331	<p>Comparative analysis was conducted between the Item Q2, Q3, and Q4 impressions and the Item K1A left shoe, revealing correspondence of class characteristics (pattern, physical size, and distinctive wear) and multiple distinguishing damage characteristics. It was concluded that the Item K1A left shoe was the source of, and made, the Item Q2, Q3, and Q4 impressions. Another shoe being the source of the listed impressions is considered a practical impossibility. Comparative analysis was conducted between the Item Q1, Q5, and Q6 impressions and the Item K1A right shoe, revealing correspondence of class characteristics (pattern, physical size, and general condition of wear) and multiple distinguishing damage characteristics. It was concluded that the Item K1A right shoe was the source of, and made, the Item Q1, Q5, and Q6 impressions. Another shoe being the source of the listed impressions is considered a practical impossibility. Comparative analysis revealed significant differences (left vs. right) between the Item Q2, Q3, and Q4 left shoe impressions and the Item K1A right shoe. It was concluded that the Item K1A right shoe did not make the Item Q2, Q3, and Q4 impressions. Comparative analysis revealed significant differences (left vs. right) between the Item Q1, Q5, and Q6 right shoe impressions and the Item K1A left shoe. It was concluded that the Item K1A left shoe did not make the Item Q1, Q5, and Q6 impressions.</p>
372XZ2-5331	<p>Q1, Q2, Q3, Q4, Q5, and Q6 were compared to K1. K1 is a Nike, size 8, athletic shoe. The right shoe of K1 is similar in size and exhibits the same tread pattern and randomly acquired characteristics as that of Q1. In the opinion of this examiner, the right shoe of K1 has been identified as having made Q1. The left shoe of K1 is similar in size and exhibits the same tread pattern, wear pattern, and randomly acquired characteristics as that of Q2. In the opinion of this examiner, the left shoe of K1 has been identified as having made Q2. The left shoe of K1 is similar in size and exhibits the same tread pattern, wear pattern, and randomly acquired characteristics as that of Q3. In the opinion of this examiner, the left shoe of K1 has been identified as having made Q3. The left shoe of K1 is similar in size and exhibits the same tread pattern, wear pattern, and randomly acquired characteristics as that of Q4. In the opinion of this examiner, the left shoe of K1 has been identified as having made Q4. The right shoe of K1 is similar in size and exhibits the same tread pattern, wear pattern, and randomly acquired characteristics as that of Q5. In the opinion of this examiner, the right shoe of K1 has been identified as having made Q5. The right shoe of K1 is similar in size and exhibits the same tread pattern, wear pattern, and randomly acquired characteristics as that of Q6. In the opinion of this examiner, the right shoe of K1 has been identified as having made Q6. Charts of identifications were electronically stored. Evidence disposition: Items K1a through K1g, Q1-Q3, and Q4-Q6, were placed on Proficiency Test Return Shelf.</p>
3BFFDC-5331	<p>The right exemplar shoe and questioned impressions Q1, Q5, Q6 share agreement of tread design, physical size, degree of wear and randomly acquired individual characteristics. Therefore, the left exemplar shoe was identified as the source of questioned impressions. The left exemplar shoe and questioned impressions Q2 and Q4 share agreement of tread design, physical size, degree of wear and randomly acquired individual characteristics. Therefore, the left exemplar shoe was identified as the source of questioned impressions. The left exemplar shoe and questioned impression Q3 have the same tread design and physical size with respect to the areas available for comparison. The characteristics in common between impression Q3 and the left exemplar shoe exhibit strong</p>

TABLE 2

WebCode-Test	Conclusions
	<p>associations, however the quality and/or quantity of features observed were insufficient for identification. Other footwear with the same class characteristics observed in impression Q3 are included in the population of possible sources only if they display the same degree of wear and characteristics observed in impression Q3.</p>
3D6CUV-5331	<p>The Items Q1 through Q6 questioned footwear impressions were analyzed, compared and evaluated with the Items K1 right and left known footwear. The Item Q1 questioned footwear impression corresponds in tread design, physical size, general wear, and accidental characteristics with the Item K1 right shoe. The Item Q2 questioned footwear impression corresponds in tread design, physical size, general wear and accidental characteristics with the Item K1 left shoe. The Item Q3 questioned footwear impression corresponds in tread design, physical size, general wear, and accidental characteristics with the Item K1 left shoe. The Item Q4 questioned footwear impression corresponds in tread design, physical size, general wear, and accidental characteristics with the Item K1 left shoe. The Item Q5 questioned footwear impression corresponds in tread design, physical size, general wear, and accidental characteristics with the Item K1 right shoe. The Item Q6 questioned footwear impression corresponds in tread design, physical size, general wear, and accidental characteristics with the Item K1 right shoe. Based upon the above factors, this examiners opinion is as follows: The Item K1 right shoe was the source of, and made, the questioned footwear impressions Q1, Q5 and Q6. The Q1, Q5 and Q6 questioned impressions share agreement of class and randomly acquired characteristics of sufficient quality and quantity with the known footwear K1 right shoe. Another item of footwear being the source of the impression is considered a practical impossibility. The Item K1 left shoe was the source of, and made, the questioned footwear impressions Q2, Q3 and Q4. The Q2, Q3 and Q4 questioned impressions share agreement of class and randomly acquired characteristics of sufficient quality and quantity with the known footwear K1 left shoe. Another item of footwear being the source of the impression is considered a practical impossibility. All conclusions listed herein have been verified by a second qualified latent print examiner.</p>
3FAAG6-5332	<p>Item Description Findings Conclusions 2 Digital image Three (3) questioned footwear impressions Identification* Same tread size, design, and matching randomly acquired characteristics as Item 1 3 Digital image Three (3) questioned footwear impressions Identification* Same tread size, design, and matching randomly acquired characteristics as Item 1 *Not expected to see the same level of agreement in a different source. Remarks: The evidence and digital images are being retained at [Laboratory]. Analytical Detail: These findings were determined using visual and overlay examination techniques. [Participant submitted manually formatted data that was not transferrable into the final report, therefore, data is presented as is.]</p>
3K8UJ3-5331	<p>The questioned prints Q1 to Q6 showed the same details in pattern, size, wear and individual characteristics as the suspect`s shoes K1. Q1 to Q6 were made by these shoes.</p>
3KG369-5335	<p>Q1-Q6 were similar in shape and tread design to the shoes in K1. Impressions Q2, Q3, and Q4 were in agreement in individualizing characteristics and therefore identified as having been made by the left shoe in item K1. Impressions Q1, Q5, and Q6 were in agreement in individualizing characteristics and therefore identified as having been made by the right shoe in item K1</p>
3N76E3-5331	<p>Examination of Lab Items #1 through #6 revealed six footwear impressions of value for comparison. Comparison of the footwear impressions of Lab Items #1 through #6 (labeled Q1 through Q6) with the known footwear and test impressions of Lab Item #7 resulted in the following conclusions: The right shoe of Lab Item #7 was the source of the impressions labeled Q1, Q5, and Q6. The left shoe of Lab Item #7 can be excluded as the source of the impressions labeled Q1, Q5, and Q6. The left shoe of Lab Item #7 was the source of the impressions labeled Q2, Q3, and Q4. The right shoe of Lab Item #7 can be excluded as the source of the impressions labeled Q2, Q3 and Q4. One additional footwear impression was of value for comparison but was not requested for comparison. Should an additional comparison(s) need to be made, the evidence will need to be submitted again with the new examination request.</p>
3TE26B-5331	<p>I conducted a comparison between the questioned impressions Q1 - Q6 with the right (R) & left (L) soles of the known shoes. The following conclusions were made. I concluded that the questioned</p>

TABLE 2

WebCode-Test	Conclusions
	impression Q1 showed a High Degree of Association with the right (R) sole of the known shoe. I concluded that the questioned impressions Q2 - Q4 showed a High Degree of Association with the left (L) sole of the known shoe. I concluded that the questioned impressions Q5 & Q6 and the right (R) sole of the known shoe shared an agreement of class and randomly acquired characteristics of sufficient quality and quantity for an identification.
3THDHT-5335	The marks corresponded in pattern, pattern arrangement, wear (specific in places) and fine detail with the footwear items. In my opinion, the findings show a conclusive link between the marks Q1-Q6 from the scene and submitted footwear items.
3TW87L-5331	The partial, questioned footwear impressions Q1, Q5 and Q6, were made by the known right shoe in Submission K. The partial, questioned footwear impressions Q2, Q3 and Q4, were made by the known left shoe in Submission K.
3WEYBG-5332	The questioned footwear marks, Q1 to Q6, have been compared in detail to the submitted footwear impressions, K1a to K1g. All the marks correspond in pattern design, pattern configuration and element spacing/size with the submitted footwear impressions. The degree and distribution of wear is also in agreement. Furthermore, features in the questioned marks Q2 to Q5 correspond in position, size, shape and orientation with randomly acquired characteristics on the soles of the shoes. For mark Q1 there are indications of features in correspondence with RACs on the shoes, however, the mark is not sufficiently clear or defined to reliably confirm. In my opinion, the correspondence of features for Q2, Q5 and Q6 is of sufficient quality and quantity to state that there is conclusive evidence that these marks were made by the submitted footwear. When addressing the issue of whether or not the questioned marks could have been made by the submitted footwear, given the degree of correspondence observed, in my opinion the findings provide conclusive support for the view that some of the questioned marks, as detailed above, were made by the submitted footwear.
44NP78-5331	Q1 is a photograph of a right shoe impression in a reported green paint medium on a textured vinyl parquet type floor. Exhibit Q1 was visually examined and compared with the photographs of the known shoes (Nike Flex Experience Rn 7 running shoes) and known shoe impressions. The photographs of the known shoes and impressions are designated as Exhibits K1a through K1g. Q1 corresponds in physical shape, design and size with the known right shoe. The paint and the texture of the flooring limited the quality of the impression. Possible randomly acquired characteristic(s) (RAC) were observed, but due to the distortion from the paint and the texture in the flooring, the conclusion is limited. Q1 has an association of class characteristics with the right shoe in Exhibit K1 and therefore could have been made by the known right shoe in K1 but also could have been made by another shoe sharing the same physical shape, design and size. Q2 is a photograph of a left shoe impression on a reported textured vinyl parquet type floor. Exhibit Q2 was visually examined and compared with Exhibits K1a through K1g. There is a high degree of association between Exhibit Q2 and the left shoe in Exhibit K1. Exhibit Q2 corresponds in physical shape, design and size with the known left shoe. In addition, possible accidental mold characteristics were observed as well as RAC. The probability that Q2 was made by a different source is small but not negligible. Q3 is a photograph of a left shoe impression on a textured vinyl parquet type floor. Exhibit Q3 was visually examined and compared with Exhibits K1a through K1g. There is an association of class characteristics between Exhibit Q3 and the left shoe in Exhibit K1. Exhibit Q3 corresponds in physical shape, design and size with the known left shoe. In addition, possible accidental mold characteristics were observed. Exhibit Q3 could have been made by the known left shoe in K1 but also could have been made by another shoe sharing the same physical shape, design and size. Q4 is a photograph of a left shoe impression on a reported textured ceramic tile floor. Exhibit Q4 was visually examined and compared with Exhibits K1a through K1g. There is a limited association of class characteristics between Exhibit Q4 and the left shoe in Exhibit K1. Exhibit Q4 corresponds in physical shape, design and size with the known left shoe. In addition, possible accidental mold characteristics were observed. Exhibit Q4 could have been made by the left shoe in Exhibit K1 but also could have been made by another shoe sharing the same physical shape, design and size. Submission of the original shoes and the original questioned impression may result in a more definitive conclusion. Q5 is a photograph of a right shoe impression on a reported textured ceramic tile floor. Exhibit Q5 was visually examined and compared with Exhibits K1a through K1g. Exhibit Q5

TABLE 2

WebCode-Test	Conclusions
	<p>corresponds in physical shape, design and size with the known right shoe in Exhibit K1. In addition, possible accidental mold characteristics were observed as well as RAC. Exhibit Q5 was identified as having made the right shoe in Exhibit K1. The probability that Q5 was made by a different source is so small that it is negligible. Q6 is a photograph of a right shoe impression on a reported textured ceramic tile floor. Exhibit Q6 was visually examined and compared with Exhibits K1a through K1g. Q6 corresponds in physical shape, design and size with the known right shoe in Exhibit K1. In addition, possible accidental mold characteristics were observed as well as RAC. Exhibit Q6 was identified as having been made by the right shoe in Exhibit K1. The probability that Q6 was made by a different source is so small that it is negligible.</p>
44R8AW-5331	<p>The impressions, Q-1 through Q-6, were made by the submitted shoes, K-1.</p>
47J4YQ-5335	<p>The known left shoe impression from Item K1 (Nike shoe) was compared to the questioned impressions in Item Q2. The questioned impression Item Q2 and the known impression share and agreement of both class characteristics and physical size, along with wear characteristics and randomly acquired characteristics (RAC) of both quality and quantity. This is the highest degree of association. The known left shoe impression from Item K1 (Nike shoe) was compared to the questioned impressions in Item Q4. The questioned impression Item Q4 and the known impression share and agreement of both class characteristics and physical size, along with wear characteristics and randomly acquired characteristics (RAC) of both quality and quantity. This is the highest degree of association. The known right shoe impression from Item K1 (Nike shoe) was compared to the questioned impressions in Item Q5. The questioned impression Item Q5 and the known impression share and agreement of both class characteristics and physical size, along with wear characteristics and randomly acquired characteristics (RAC) of both quality and quantity. This is the highest degree of association. The known right shoe impression from Item K1 (Nike shoe) was compared to the questioned impressions in Item Q6. The questioned impression Item Q6 and the known impression share and agreement of both class characteristics and physical size, along with wear characteristics and randomly acquired characteristics (RAC) of both quality and quantity. This is the highest degree of association. The known left shoe impression from Item K1 (Nike shoe) was compared to the questioned impressions in Item Q3. The questioned impressions in Item Q3 share a correspondence of both class characteristics and physical size, in addition to unusual wear and some randomly acquired characteristics (RAC) between the questioned and the known item. The right known shoe impression from Item K1 (Nike shoe) was compared to the questioned shoe impression in Item Q1. Correspondence of design and physical size and possibly general wear/random acquired characteristics (RAC) between the questioned shoe impression and the known shoe impression.</p>
4G2VG9-5331	<p>Impressions Q1, Q5, and Q6 were made by the suspect right Nike shoe that made impression K1f. Impressions Q2, Q3, and Q4 were made by the suspect left Nike shoe that made impression K1f.</p>
4JLX8E-5331	<p>1. Questioned impressions Q2, Q3 and Q4 and the Known impressions of the left article of suspect footwear correspond in class characteristics and share one or more randomly acquired characteristics. Based upon this, it is the opinion of this examiner that there is a "high degree of association" between Questioned impressions Q2, Q3 and Q4 and the left article of suspect footwear. 2. Questioned impression Q5 and the Known impressions of the right article of suspect footwear correspond in class characteristics and share one or more randomly acquired characteristics. Based upon this, it is the opinion of this examiner that there is a "high degree of association" between Questioned impression Q5 and the right article of suspect footwear. 3. Questioned impressions Q1 and Q6 and the Known impressions of the right article of suspect footwear share agreement of class and randomly acquired characteristics of sufficient quality and quantity to opinion that the right article of suspect footwear produced Questioned impressions Q1 and Q6.</p>
4K2YC3-5335	<p>Q1: The questioned impression and the known footwear share agreement of class and randomly acquired characteristics of sufficient quality and quantity, therefore it has been determined that the right known shoe was the source of, and made, the questioned impression. Another item of footwear being the source of the impression is considered a practical impossibility. Q2: The questioned impression and the known footwear share agreement of class and randomly acquired characteristics of sufficient quality</p>

TABLE 2

WebCode-Test	Conclusions
	<p>and quantity, therefore it has been determined that the left known shoe was the source of, and made, the questioned impression. Another item of footwear being the source of the impression is considered a practical impossibility. Q3: The questioned impression and the known footwear share agreement of class and randomly acquired characteristics of sufficient quality and quantity, therefore it has been determined that the left known shoe was the source of, and made, the questioned impression. Another item of footwear being the source of the impression is considered a practical impossibility. Q4: The questioned impression and the known footwear share agreement of class and randomly acquired characteristics of sufficient quality and quantity, therefore it has been determined that the left known shoe was the source of, and made, the questioned impression. Another item of footwear being the source of the impression is considered a practical impossibility. Q5: The questioned impression and the known footwear share agreement of class and randomly acquired characteristics of sufficient quality and quantity, therefore it has been determined that the right known shoe was the source of, and made, the questioned impression. Another item of footwear being the source of the impression is considered a practical impossibility. Q6: The questioned impression and the known footwear share agreement of class and randomly acquired characteristics of sufficient quality and quantity, therefore it has been determined that the right known shoe was the source of, and made, the questioned impression. Another item of footwear being the source of the impression is considered a practical impossibility.</p>
4KX86Y-5331	<p>The right outsole is identified as the source of questioned impressions Q1, Q5, and Q6. The left outsole is excluded as a possible source for these impressions. The left outsole is identified as the source of questioned impressions Q2, Q3, and Q4. The right outsole is excluded as a possible source for these impressions.</p>
4R3LBA-5332	<p>1: Impression 1 was made by the right known shoe. 2: Impression 2 was made by the left known shoe. 3: Impression 3 was made by the left known shoe. 4: Impression 4 was made by the left known shoe. 5: Impression 5 was made by the right known shoe. 6: Impression 6 was made by the right known shoe.</p>
4UJ7XP-5331	<p>The submitted photograph of the soles of the recovered shoes (K1a-K1c) were examined and compared to the impression visible in Q1. The questioned impression corresponds to the known footwear ((R) shoe) in tread pattern, tread size, tread wear and individual characteristics including a vertical scratch in the surface and a gouge in the heel tread. Thus, Q1 was made by known (K1a-K1c). The submitted photograph of the soles of the recovered shoes (K1a-K1c) were examined and compared to the impression visible in Q2. The questioned impression corresponds to the known footwear ((L) shoe) in tread pattern, tread size, tread wear and individual characteristics including a faint circle on the medial side of the surface above the arch and a gouge in the heel tread. Thus, Q2 was made by known (K1a-K1c). The submitted photograph of the soles of the recovered shoes (K1a-K1c) were examined and compared to the impression visible in Q3. The questioned impression corresponds to the known footwear ((L) shoe) in tread pattern, tread size, tread wear and individual characteristics including 2 faint circles on the medial side of the surface above the arch and a gouge in the heel tread. Thus, Q3 was made by known (K1a-K1c). The submitted photograph of the soles of the recovered shoes (K1a-K1c) were examined and compared to the impression visible in Q4. The questioned impression corresponds to the known footwear ((L) shoe) in tread pattern, tread size, tread wear and individual characteristics including a faint circle on the medial side of the surface above the arch and a gouge in the heel tread. Thus, Q4 was made by known (K1a-K1c). The submitted photograph of the soles of the recovered shoes (K1a-K1c) were examined and compared to the impression visible in Q5. The questioned impression corresponds to the known footwear ((R) shoe) in tread pattern, tread size, tread wear and individual characteristics including a vertical scratch in the surface and gouges in both the toe and heel tread. Thus, Q5 was made by known (K1a-K1c). The submitted photograph of the soles of the recovered shoes (K1a-K1c) were examined and compared to the impression visible in Q6. The questioned impression corresponds to the known footwear ((R) shoe) in tread pattern, tread size, tread wear and individual characteristics including a vertical scratch in the surface and a gouge in the heel tread. Thus, Q6 was made by known (K1a-K1c).</p>
4VJKHW-5331	<p>Agreement of class and sufficient agreement of individual characteristics confirmed the Q1, Q5, and Q6 impressions were made by the K1 right shoe. Agreement of class and sufficient agreement of individual characteristics confirmed the Q2, Q3, and Q4 impressions were made by the K1 Left shoe.</p>

TABLE 2

WebCode-Test	Conclusions
66MM78-5332	<p>1. The right known shoe was the source of, and made, the questioned impression Q1. The chance of another shoe being the source of the impression is considered negligible. 2. The left known shoe was the source of, and made, the questioned impression Q2. The chance of another shoe being the source of the impressions is considered negligible. 3. The left known shoe was the source of, and made, the questioned impression Q3. The chance of another shoe being the source of the impressions is considered negligible. 4. The left known shoe was the source of, and made, the questioned impression Q4. The chance of another shoe being the source of the impressions is considered negligible. 5. The right known shoe was the source of, and made, the questioned impression Q5. The chance of another shoe being the source of the impressions is considered negligible. 6. The right known shoe was the source of, and made, the questioned impression Q6. The chance of another shoe being the source of the impressions is considered negligible.</p>
67G93J-5332	<p>1. Imprint Q1 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 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 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 Q3 ("Identification"). 4. Imprint Q4 is an imprint of a left shoe that correspond in class characteristics (shape, design and wear) and also share some randomly acquired characteristics (RACs) with the left shoe (K1). It is my opinion that there is a full association between the left shoe (K1) and the imprint Q4 ("Identification"). 5. Imprint Q5 is an imprint of a right shoe that correspond in 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 Q5 ("Identification"). 6. Imprint Q6 is an imprint of a right shoe that correspond in class characteristics (shape, design and wear) and also share some randomly acquired characteristics (RACs) with the right shoe (K1). It is my opinion that there is a full association between the right shoe (K1) and the imprint Q6 ("Identification").</p>
67VAT8-5331	<p>The right Nike shoe (Item K1) is similar in general tread design, size, and apparent wear, and shares multiple randomly acquired characteristics with Items Q1, Q5 and Q6. Therefore, the right Nike shoe (Item K1) was identified as having made these questioned shoe impressions (Items Q1, Q5, and Q6). The left Nike shoe (Item K1) is similar in general tread design, size, and apparent wear, and shares multiple randomly acquired characteristic with Items Q2-Q4. Therefore, the left Nike shoe (Item K1) was identified as having made these questioned shoe impressions (Items Q2-Q4).</p>
6FZBBL-5331	<p>Items Submitted: Item K1: (3) Photographs of a pair of Nike athletic shoes, US size 8 outsoles. Item K1: (4) Photographs of test imprints of the Nike athletic shoes, US size 8. Item Q1: Questioned imprint found inside the art studio (textured vinyl tile). Item Q2: Questioned imprint found inside the art studio (textured vinyl tile). Item Q3: Questioned imprint found inside the art studio (textured vinyl tile). Item Q4: Questioned imprint found in the wash area of the art studio (textured ceramic tile). Item Q5: Questioned imprint found in the wash area of the art studio (textured ceramic tile). Item Q6: Questioned imprint found in the wash area of the art studio (textured ceramic tile). Comparison: The questioned imprints labeled Items Q1, Q5 and Q6 corresponds in physical shape, pattern, design and wear, and shares many individual random characteristics or defects with the right known shoe labeled Item K1. In the opinion of the examiner, the imprints labeled Items Q1, Q5 and Q6 were made by the known right shoe, Item K1. The possibility of another item of footwear being the source of the impression is considered a practical impossibility. The questioned imprints labeled Items Q2, Q3 and Q4 corresponds in physical shape, pattern, design and wear, and shares many individual random characteristics or defects with the left known shoe labeled Item K1. In the opinion of the examiner, the imprints labeled Items Q2, Q3 and Q4 were made by the known left shoe, Item K1. The possibility of another item of footwear being the source of the impression is considered a practical impossibility.</p>

TABLE 2

WebCode-Test	Conclusions
6MHBFG-5335	Q1, Q5 and Q6 correspond in physical size, outsole design, and multiple randomly acquired characteristics to the known right shoe and therefore, were made by that shoe. Q2, Q3 and Q4 correspond in physical size, outsole design, and multiple randomly acquired characteristics to the known left shoe and therefore, were made by that shoe.
6MZRLQ-5331	[No Conclusions Reported.]
6NUF32-5331	The evidence in items 1D and 1E was visually examined for impression evidence. Six (6) partial footwear impressions of value were determined to be present in items 1D (Q1, Q2, and Q3) and 1E (Q4, Q5, and Q6). All the partial footwear impressions (Q1 - Q6) in items 1D and 1E were visually examined and compared against the recovered shoes (K1a - K1g) in items 1A, 1B, and 1C. Three (3) partial footwear impressions (Q1, Q5, and Q6) present in items 1D and 1E were determined to have been made by the right shoe (K1a - K1g) in items 1A, 1B, and 1C. Three (3) partial footwear impressions (Q2, Q3, and Q4) present in items 1D and 1E were determined to have been made by the left shoe (K1a - K1g) in items 1A, 1B, and 1C.
72WZQP-5332	Questioned latent shoe impression Q1 was identified as the Right Shoe of K1 Nike Shoe Size 8. The shoe impression corresponds in outsole design, general wear, physical size and shape, and randomly acquired characteristics of sufficient quality and quantity. Questioned latent shoe impression Q2 was identified as the Left Shoe of K1 Nike Shoe Size 8. The shoe impression corresponds in outsole design, general wear, physical size and shape, and randomly acquired characteristics of sufficient quality and quantity. Questioned latent shoe impression Q3 was identified as the Left Shoe of K1 Nike Shoe Size 8. The shoe impression corresponds in outsole design, general wear, physical size and shape, and randomly acquired characteristics of sufficient quality and quantity. Questioned latent shoe impression Q4 was identified as the Left Shoe of K1 Nike Shoe Size 8. The shoe impression corresponds in outsole design, general wear, physical size and shape, and randomly acquired characteristics of sufficient quality and quantity. Questioned latent shoe impression Q5 was identified as the Right Shoe of K1 Nike Shoe Size 8. The shoe impression corresponds in outsole design, general wear, physical size and shape, and randomly acquired characteristics of sufficient quality and quantity. Questioned latent shoe impression Q6 was identified as the Right Shoe of K1 Nike Shoe Size 8. The shoe impression corresponds in outsole design, general wear, physical size and shape, and randomly acquired characteristics of sufficient quality and quantity.
7CYNWM-5331	The footwear impressions in Items Q2 and Q3 were determined to have similar physical size, tread design and wear characteristics to the known impressions of the left shoe of Item K1. Also, individual identifying characteristics were associated between Q2, Q3 and K1, allowing an identification of the left shoes of K1 to Q2 and Q3. Therefore no other shoe could have made these impressions. The footwear impressions in Items Q5 and Q6 were determined to have similar physical size, tread design and wear characteristics to the known impressions of the right shoe of Item K1. Also, individual identifying characteristics were associated between Q5, Q6 and K1, allowing an identification of the right shoes of K1 to Q5 and Q6. Therefore no other shoe could have made these impressions. Items Q1 and Q4 each had similar tread design, physical size and wear patterns to the right and left known shoe, respectively, in Item K1. However, a lack of sufficient detail precluded a closer association to the shoes of K1.
7FFWH2-5331	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: i. Q1 and K1R are consistent and exhibit no discriminating differences with respect to class characteristics: size, shape, tread design, and wear pattern. In addition, Q1 and K1R exhibit 5 corresponding individual characteristics. ii. Q2 and K1L are consistent and exhibit no discriminating differences with respect to class characteristics: size, shape, tread design, and wear pattern. In addition, Q2 and K1L exhibit 5 corresponding individual characteristics. iii. Q3 and K1L are consistent and exhibit no discriminating differences with respect to class characteristics: size, shape, tread design, and wear pattern. In addition, Q3 and K1L exhibit 4 corresponding individual characteristics. iv. Q4 and K1L are consistent and exhibit no discriminating differences with respect to class characteristics: size, shape, tread design, and

TABLE 2

WebCode-Test	Conclusions
	<p>wear pattern. In addition, Q4 and K1L exhibit an area of corresponding feathering and 4 corresponding individual characteristics. v. Q5 and K1R are consistent and exhibit no discriminating differences with respect to class characteristics: size, shape, tread design, and wear pattern. In addition, Q5 and K1R exhibit area of corresponding feathering and 6 corresponding individual characteristics. vi. Q6 and K1R are consistent and exhibit no discriminating differences with respect to class characteristics: size, shape, tread design, and wear pattern. In addition, Q6 and K1R exhibit 5 corresponding individual characteristics.</p>
7FY87U-5331	<p>Q1: Is a right shoe and showed similar class characteristics in tread pattern and make. Examination of impression at scene compared to test impression showed no similar RAC. Q2: Is a left shoe and shows similar class characteristics in tread pattern and make. There was a similar RAC in the ball area and heel area on both the scene impression and the test impression. Q3: Is a left shoe and shows similar class characteristics in both the tread pattern and make. Though there is a similar RAC in the heel of the test impression and scene impression it is not enough for me to call it Identified. Q4: Is a left shoe and shows similar class characteristics in both the tread pattern and make. Though there is a similar RAC in the heel of the test impression and scene impression it is not enough for me to call it Identified. Q5: Is a right shoe and shows similar class characteristics in tread pattern and make. There was a similar RAC in the ball area, toe area and heel area on both the scene impression and the test impression. Q6: Is a right shoe and shows similar class characteristics of tread pattern and make. There were deferent RAC located on the impression that did not coincide with the test impressions.</p>
7GUQAG-5331	<p>The Q1 impression was similar in size, shape, and tread design to the K1 right shoe. In addition, there was a randomly acquired characteristic and areas of wear that were consistent with those in the K1 right shoe. This impression may have been made by this shoe or another shoe with the same characteristics. (Category 2A, CTS Conclusion B). Identifications are not absolute and a statistical significance cannot be assigned. The Q2 impression was similar in size, shape, and tread design to the K1 left shoe. In addition, there were several randomly acquired characteristics that were consistent with those in the K1 left shoe. This impression was made by this shoe (Category 1, CTS Conclusion A). Identifications are not absolute and a statistical significance cannot be assigned. The Q3 impression was similar in size, shape, and tread design to the K1 left shoe. In addition, there were several randomly acquired characteristics that were consistent with those in the K1 left shoe. This impression was made by this shoe (Category 1, CTS Conclusion A). Identifications are not absolute and a statistical significance cannot be assigned. The Q4 impression was similar in size, shape, and tread design to the K1 left shoe. In addition, there were several randomly acquired characteristics that were consistent with those in the K1 left shoe. This impression was made by this shoe (Category 1, CTS Conclusion A). Identifications are not absolute and a statistical significance cannot be assigned. The Q5 impression was similar in size, shape, and tread design to the K1 right shoe. In addition, there were several randomly acquired characteristics that were consistent with those in the K1 right shoe. This impression was made by this shoe (Category 1, CTS Conclusion A). Identifications are not absolute and a statistical significance cannot be assigned. The Q6 impression was similar in size, shape, and tread design to the K1 right shoe. In addition, there were several randomly acquired characteristics that were consistent with those in the K1 right shoe. This impression was made by this shoe (Category 1, CTS Conclusion A). Identifications are not absolute and a statistical significance cannot be assigned. INTERPRETATION OF CONCLUSIONS AND CATEGORIES: A statistical assessment of significance of associations is not possible, but the following categories are intended to provide context for the level of association reported. A Category 1 conclusion (identification) indicates that the compared samples exhibit characteristics demonstrating that the questioned impression was created by the known item. The size, shape, and tread design are the same. In addition, there are randomly acquired characteristics, significant in size, clarity, and/or number that are the same. A Category 2 conclusion (class association) indicates that the compared samples exhibit characteristics demonstrating that the questioned impression could have been created by the known item, but associations within this category cannot definitively establish that the compared samples came from the same source. There are varying degrees of associations within this category depending on the types of characteristics observed. Category 2A: The questioned impression and known item share characteristics not expected to be encountered in the general population. The size, shape, and tread design are the same, as well as wear patterns and/or</p>

TABLE 2

WebCode-Test	Conclusions
	<p>some small randomly acquired characteristics that are the same. Category 2B: The questioned impression and known item share characteristics that have been manufactured. The size, shape, and tread design are the same. A Category 3 (inconclusive) conclusion indicates that the compared samples do not exhibit enough characteristics to associate or eliminate the questioned impression and known item. The questioned impression and known item may share characteristics that have been manufactured or the general shape and tread design are the same, and further comparisons are not possible due to the quality of the impression or documentation of the impression. A Category 4 (elimination) conclusion indicates that the compared samples exhibit characteristics demonstrating that the questioned impression could not have been made by the known item.</p>
7NR6NA-5335	<p>There is a high degree of association between the imprint marked as Q1 and the known right shoe (K1). A high degree of association means that there is correspondence of class characteristics, in addition to unusual wear and/or one or more randomly acquired characteristics between the questioned and known item. Q2 was identified as being made by the known left shoe (K1). Q3 was identified as being made by the known left shoe. Q4 was identified as being made by the known left shoe. Q5 was identified as being made by the known right shoe. Q6 was identified as being made by the known right shoe. An unlabeled imprint was not examined.</p>
7TN8YG-5331	<p>EXAMINATIONS: Determine whether any footwear marks present in Exhibits Q1 through Q7 can be associated with the known pair of outsoles. FINDINGS AND OPINIONS: The questioned footwear marks, Exhibits Q1, Q5 and Q6 were made by the known right shoe. This opinion is the highest degree of association expressed by a footwear examiner. The questioned mark and the known footwear must share sufficient agreement of observable class and individual characteristics. In the opinion of the examiner the known footwear was the source of and made the questioned mark. The questioned footwear marks, Exhibits Q2, Q3 and Q4 were made by the known left shoe. This opinion is the highest degree of association expressed by a footwear examiner. The questioned mark and the known footwear must share sufficient agreement of observable class and individual characteristics. In the opinion of the examiner the known footwear was the source of and made the questioned mark. The questioned footwear mark Exhibit Q7 was made by a left shoe. No further examination conducted.</p>
7VC9TQ-5331	<p>[No Conclusions Reported.]</p>
8A7Y8Z-5331	<p>An excellent correspondence of pattern, dimensions and randomly acquired characteristics were found between the test prints made using the right shoe and two of the scene impressions, Q5 and Q6. In my opinion, this correspondence means that the submitted right shoe made these scene impressions that were located in the wash area of the art studio, Q5 and Q6. An excellent correspondence of pattern and dimensions were found between the test prints made using the right shoe and the scene impression Q1. This scene impression had poor clarity, however there appeared to be some correspondence of randomly acquired characteristics and possible sub-class characteristics. In my opinion, this level of correspondence provides extremely strong support (high degree of association) to the proposition that the right shoe made the scene impression Q1. However, I cannot exclude another right shoe with the same pattern and dimensions, and with the same degree of randomly acquired characteristics and possible sub-class characteristics from having made this scene impression. An excellent correspondence of pattern and dimensions were found between the test prints made using the left shoe and the scene impression Q2. This scene impression had poor clarity, however there appeared to be some correspondence of randomly acquired characteristics and possible sub-class characteristics. In my opinion, this level of correspondence provides extremely strong support (high degree of association) to the proposition that the left shoe made the scene impression Q2. However, I cannot exclude another left shoe with the same pattern and dimensions, and with the same degree of randomly acquired characteristics and possible sub-class characteristics from having made this scene impression. An excellent correspondence of pattern and dimensions and some correspondence of possible randomly acquired or sub-class characteristics were found between the test prints made using the left shoe and the scene impressions Q3 and Q4. In my opinion, this level of correspondence provides very strong support (high degree of association) to the proposition that the left shoe made the scene impressions Q3 and Q4. However, I cannot exclude another left shoe with the same pattern and dimensions, and</p>

TABLE 2

WebCode-Test	Conclusions
	with the same degree of possible randomly acquired or sub-class characteristics from having made these scene impressions.
8DQ4NB-5332	In my opinion, at least one mark was made by the left shoe and at least two other marks were made by the right shoe. I found no evidence to suggest the remaining marks were made by some other pair of shoes.
8HFJBW-5332	a. Q1 was very likely to have been made by the right shoe. For another shoe to have made this imprint, it has to be of the same design and size, with similar wear condition and correspondence in the defect areas. Additionally, the presence of one or more randomly acquired characteristics lends a diminishing chance of finding an alternative shoe source. b. Q2 and Q4 were very likely to have been made by the left shoe. For another shoe to have made these imprints, it has to be of the same design and size, with similar wear condition and correspondence in the defect areas. Additionally, the presence of one or more randomly acquired characteristics lends a diminishing chance of finding an alternative shoe source. c. Q3 could have been made by the left shoe, or another shoe with the same design and size, with similar wear condition and correspondence in the defect areas. d. Q5 and Q6 were made by the right shoe.
8Q92KY-5335	Based on our understanding of the case circumstances and the comparisons carried out between the marks recovered from the scene, it is our view that we have assumed that all the marks have been left by one pair of shoes. These marks have then been left either by the submitted pair K1 or by another unknown pair of shoes. Following the comparisons between the marks and the known material from K1, we conclude that the forensic results provide extremely strong support for the view that the marks have been left by this pair of shoes. By extremely strong support, we mean that it is in the order of 100 million times more likely to make these observations if these marks have been left by these shoes rather than by another unknown pair. If information made available to us changes or if the assumptions that we have exposed are challenged, we will need to re-assess the results.
8RQNL2-5335	The shoeprint Q1, Q5 and Q6 have been produced by the sole of the right mark saucony. The shoeprint Q2, Q3 and Q4 have been produced by the sole of the left mark saucony.
8V7FCU-5331	An examination was conducted comparing the known submitted left and right outsoles (Nike –US 8) to six questioned crime scene footwear impressions of value (Q1 – Q6). Q1 is identified as being made by the submitted right "Nike" outsole based on design, physical size, degree/position of wear, and randomly acquired characteristics. Another item of footwear being the source of the impression is considered a practical impossibility. Q2 is identified as being made by the submitted left "Nike" outsole based on design, physical size, degree/position of wear, and randomly acquired characteristics. Another item of footwear being the source of the impression is considered a practical impossibility. Q3 is identified as being made by the submitted left "Nike" outsole based on design, physical size, degree/position of wear, and randomly acquired characteristics. Another item of footwear being the source of the impression is considered a practical impossibility. Q4 is identified as being made by the submitted left "Nike" outsole based on design, physical size, degree/position of wear, and randomly acquired characteristics. Another item of footwear being the source of the impression is considered a practical impossibility. Q5 is identified as being made by the submitted right "Nike" outsole based on design, physical size, degree/position of wear, and randomly acquired characteristics. Another item of footwear being the source of the impression is considered a practical impossibility. Q6 is identified as being made by the submitted right "Nike" outsole based on design, physical size, degree/position of wear, and randomly acquired characteristics. Another item of footwear being the source of the impression is considered a practical impossibility.
8ZH9K9-5332	The six footwear impressions appeared to share the same general sole design; however, not all of the features were captured in each impression. This general sole design consisted of the following: hexagonal (6-sided) design elements with an approximate circle in the middle of most hexagons in the forefoot and arch areas; a Nike swoosh in the heel area, an array of square/diamond shapes with approximate circles in the heel area and a similar design pattern in the toe area. Q1 Impression: The nearly full-length green footwear impression reportedly found on textured vinyl tile inside the art studio was made by a right shoe. The suspect's shoes were eliminated as having made the Q1 impression

TABLE 2

WebCode-Test	Conclusions
	<p>based on differences in specific sole design and wear. Q2 Impression: The nearly full-length footwear impression reportedly found on textured vinyl tile inside the art studio was made by a left shoe. The inner (medial) aspect of this impression is cut-off by the bottom of the photographs and the toe area of the impression is overlapped by the Q3 impression. The suspect's left shoe was identified as having made the Q2 impression based on the correspondence of class characteristics and multiple randomly acquired characteristics. Q3 Impression: The nearly full-length footwear impression reportedly found on textured vinyl tile inside the art studio was made by a left shoe. The heel area of this impression is overlapped by the Q2 impression. The impression showed movement in the forefoot area of the shoe when the impression was made. The suspect's left shoe was identified as having made the Q3 impression based on the correspondence of class characteristics and multiple randomly acquired characteristics. Q4 Impression: The nearly full-length footwear impression reportedly found on textured ceramic tile in the wash area of the art studio was made by a left shoe. A portion of the forefoot and toe area was cut-off in the photograph, the arch area of this impression was overlapped by the Q5 impression, and the heel area of this impression was partially overlapped by the Q6 impression. The suspect's left shoe was identified as having made the Q4 impression based on the correspondence of class characteristics and multiple randomly acquired characteristics. Q5 Impression: The nearly full-length footwear impression reportedly found on textured ceramic tile in the wash area of the art studio was made by a right shoe. A portion of the heel area was cut-off in the photograph, the arch and forefoot area of this impression was overlapped by the Q4 impression. The suspect's right shoe was identified as having made the Q5 impression based on the correspondence of class characteristics and multiple randomly acquired characteristics. Q6 Impression: The nearly full-length footwear impression reportedly found on textured ceramic tile in the wash area of the art studio was made by a right shoe. A portion of the toe/ball area of the impression was cut-off in the photograph, a portion of the arch was overlapped by the Q4 impression. The suspect's right shoe was identified as having made the Q6 impression based on the correspondence of class characteristics and multiple randomly acquired characteristics.</p>
92N4LQ-5335	<p>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 low-power magnification, 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 Q2, Q3, and Q4 were made by the suspect left shoe and questioned impressions Q1, Q5, and Q6 were made by the suspect right shoe.</p>
92Q7KN-5331	<p>The Item Q1 through Q6 questioned footwear impressions were analyzed, compared and evaluated with the Item K1 right and left Nike US size 8 shoes. The Item Q1 questioned footwear impression corresponds in tread design, physical size, wear and randomly acquired characteristics with the Item K1 right shoe. The Item Q2 questioned footwear impression corresponds in tread design, physical size, wear and randomly acquired characteristics with the Item K1 left shoe. The Item Q3 questioned footwear impression corresponds in tread design, physical size, wear and randomly acquired characteristics with the Item K1 left shoe. The Item Q4 questioned footwear impression corresponds in tread design, physical size, wear and randomly acquired characteristics with the Item K1 left shoe. The Item Q5 questioned footwear impression corresponds in tread design, physical size, wear and randomly acquired characteristics with the Item K1 right shoe. The Item Q6 questioned footwear impression corresponds in tread design, physical size, wear and randomly acquired characteristics with the Item K1 right shoe. Based upon the above factors, it is the opinion of this examiner that: The Items Q1, Q5, and Q6 questioned footwear impressions were made by the Item K1 right shoe. The Items Q2, Q3, and Q4 questioned footwear impressions were made by the Item K1 left shoe.</p>
966Z2L-5331	<p>Examination of the submitted material disclosed the presence of seven, 7, questioned footwear impressions, designated as Q1 through Q7. Examination and comparison of the submitted material yielded the following results and conclusions: Q1, Q5, Q6 and the right known "Nike" shoe are consistent with respect to tread design, size and individualizing characteristics. Therefore, Q1, Q5 and Q6 were made by the right known "Nike" shoe. Q2, Q3, Q4, Q7 and the left known "Nike" shoe are consistent with respect to tread design, size and individualizing characteristics. Therefore, Q2, Q3, Q4</p>

TABLE 2

WebCode-Test	Conclusions
	and Q7 were made by the left known "Nike" shoe. Date range of testing activities: 4/9/19 - 4/15/19. All Items were released to the submitting agency.
99UM34-5331	4: There were portions of three (3) footwear impressions, marked Q1, Q2, and Q3, observed in the photograph that was submitted in Item 4. 4 Vs. 1, 2 and 3: One (1) of the portions of a footwear impression, marked Q1, was of a right shoe and was made by the right shoe represented in the photographs submitted in Items 1, 2 and 3. Two (2) of the portions of footwear impressions, marked Q2 and Q3, were of left shoes and both were made by the left shoe represented in the photographs submitted in Items 1, 2, and 3. 5: There were portions of four (4) footwear impressions, marked Q4, Q5, Q6, and Q7, observed in the photograph that was submitted in Item 5. 5 Vs. 1, 2, and 3: Two (2) of the portions of footwear impressions, marked Q4 and Q7, were of left shoes and both were made by the left shoe represented in the photographs submitted in Items 1, 2, and 3. Two (2) of the portions of footwear impressions, marked Q5 and Q6, were of right shoes and both were made by the right shoe represented in the photographs submitted in Items 1, 2, and 3.
9K4H2Z-5331	Test No. 19-5331: by [Name 1] and [Name 2] (individually performed – same result). In a first step all the questioned items were checked for class association. All Scene of crime prints show the same class characteristics. In the next step the prints were given a closer look, with the result, that all prints could be “associated” with one of the questioned shoes (K1): CONCLUSION: Q1, Q2, Q3, Q4, Q5 and Q6 show a high degree of association or evidence beyond doubt (Identification), that the afore mentioned Q-Prints were made /caused by one of the soles of the suspect shoes K1 (class association and enough individualizing characteristics or wear).
9LCZ84-5335	In the opinion of the examiner, the particular known footwear was the source of, and made, the questioned impressions (Q1 through Q6) and the chance of another item of footwear being the source of the impression is considered negligible.
9TJUJ8-5331	Q1: Pattern is consistent with the submitted trainers. Mark have possible been made by the suspect stepping in paint from the art supply room which was vandalized. Mark has been made by a Right trainer. Upon initial examination there appeared to be a slight difference in the size of the pattern elements, however I think this is due to the substrate – paint being squeezed through the circles and making it appear as though they are slightly different . There appears to be matching damage features as well as wear and shape of blocks. A: R: A. Q2: Pattern is consistent with the submitted Left trainer. Good size and matching wear, manufacturing artefact in the heel and damage feature in the main sole. A: L: A. Q3: Pattern is consistent with the submitted Left trainer. Matching size, wear. A: L: A. Q4: Pattern is consistent with the submitted Left trainer. Good size and matching wear, manufacturing artefact in the heel and damage feature in the main sole. A: L: A. Q5: Pattern is consistent with the submitted Left trainer. Matching size, wear. A: R: A. Q6: Pattern is consistent with the submitted Right trainer. Matching size, wear and damage feature. A: R: A
AC6K2V-5331	Questioned imprints found inside the art studio (Items Q1-Q3)- Q1 was determined to be a right shoe impression which is similar in class characteristics (tread design and size) and wear to the right known shoe (Item K1). Q1 also shares randomly acquired characteristics to the right known shoe. It is our opinion that Q1 was made by the right known shoe. Q2 and Q3 were determined to be left shoe impressions which are similar in class characteristics (tread design and size) and wear to the left known shoe (Item K1). Q2 and Q3 also share randomly acquired characteristics to the left known shoe. It is our opinion that Q2 and Q3 were made by the left known shoe. Questioned imprints found in the wash area of the art studio (Items Q4-Q6)- Q4 was determined to be a left shoe impression which is similar in class characteristics (tread design and size) and wear to the left known shoe (Item K1). Q4 also shares randomly acquired characteristics to the left known shoe. It is our opinion that Q4 was made by the left known shoe. Q5 and Q6 were determined to be right shoe impressions which are similar in class characteristics (tread design and size) and wear to the right known shoe (Item K1). Q5 and Q6 also share randomly acquired characteristics to the right known shoe. It is our opinion that Q5 and Q6 were made by the right known shoe. Please note that an additional impression was observed in the photograph which was unlabeled. No analysis was performed. Photographs of shoes and known imprints of shoes (Item K1a-K1g)- This item was used as a comparison standard.

TABLE 2

WebCode-Test	Conclusions
AD2MJR-5331	<p>The submitted questioned impression photographs exhibit a total of six (6) questioned impressions labeled Q1 – Q6. These six (6) questioned impressions were compared to the submitted known “Nike” outsoles (K1). The following conclusions were reached and are the opinion of this Examiner: Q1: The Q1 questioned impression is similar in general design to the submitted known K1 left “Nike” outsole. However, based on physical shape/orientation differences, the submitted known K1 left “Nike” outsole was not the source of, and did not make, the Q1 questioned impression. The Q1 questioned impression corresponds to the submitted known K1 right “Nike” outsole in physical shape, design, physical size, degree of wear and six (6) areas of randomly acquired characteristics. Therefore, the submitted known K1 right “Nike” outsole was the source of, and made, the Q1 questioned impression. It is unlikely that another item of footwear would contain the same combination of characteristics observed. Q2: The Q2 questioned impression corresponds to the submitted known K1 left “Nike” outsole in physical shape, design, physical size, degree of wear and five (5) areas of randomly acquired characteristics. Therefore, the submitted known K1 left “Nike” outsole was the source of, and made, the Q2 questioned impression. It is unlikely that another item of footwear would contain the same combination of characteristics observed. The Q2 questioned impression is similar in general design to the submitted known K1 right “Nike” outsole. However, based on physical shape/orientation differences, the submitted known K1 right “Nike” outsole was not the source of, and did not make, the Q2 questioned impression. Q3: The Q3 questioned impression corresponds to the submitted known K1 left “Nike” outsole in physical shape, design, physical size, degree of wear and (7) areas of randomly acquired characteristics. Therefore, the submitted known K1 left “Nike” outsole was the source of, and made, the Q3 questioned impression. It is unlikely that another item of footwear would contain the same combination of characteristics observed. The Q3 questioned impression is similar in general design to the submitted known K1 right “Nike” outsole. However, based on physical shape/orientation differences, the submitted known K1 right “Nike” outsole was not the source of, and did not make, the Q3 questioned impression. Q4: The Q4 questioned impression corresponds to the submitted known K1 left “Nike” outsole in physical shape, design, physical size, degree of wear and (8) areas of randomly acquired characteristics. Therefore, the submitted known K1 left “Nike” outsole was the source of, and made, the Q4 questioned impression. It is unlikely that another item of footwear would contain the same combination of characteristics observed. The Q4 questioned impression is similar in general design to the submitted known K1 right “Nike” outsole. However, based on physical shape/orientation differences, the submitted known K1 right “Nike” outsole was not the source of, and did not make, the Q4 questioned impression. Q5: The Q5 questioned impression is similar in general design to the submitted known K1 left “Nike” outsole. However, based on physical shape/orientation differences, the submitted known K1 left “Nike” outsole was not the source of, and did not make, the Q5 questioned impression. The Q5 questioned impression corresponds to the submitted known K1 right “Nike” outsole in physical shape, design, physical size, degree of wear and (8) areas of randomly acquired characteristics. Therefore, the submitted known K1 right “Nike” outsole was the source of, and made, the Q5 questioned impression. It is unlikely that another item of footwear would contain the same combination of characteristics observed. Q6: The Q6 questioned impression is similar in general design to the submitted known K1 left “Nike” outsole. However, based on physical shape/orientation differences, the submitted known K1 left “Nike” outsole was not the source of, and did not make, the Q6 questioned impression. The Q6 questioned impression corresponds to the submitted known K1 right “Nike” outsole in physical shape, design, physical size, degree of wear and (6) areas of randomly acquired characteristics. Therefore, the submitted known K1 right “Nike” outsole was the source of, and made, the Q6 questioned impression. It is unlikely that another item of footwear would contain the same combination of characteristics observed.</p>
AETJ9L-5332	<p>In the opinion of the examiner, the known (Right / Left) NIKE footwear was the source of, and made, the questioned impression and another item of footwear being the source of the impression is considered a practical impossibility.</p>
AF8K2T-5335	<p>It is the opinion of this examiner that the questioned impressions, Q1-imp1, Q5-imp1 and Q6-imp1 were made by the right known Nike standard. Another item of footwear being the source of these impressions is considered a practical impossibility. It is the opinion of this examiner that the questioned impressions, Q2-imp1, Q3-imp1 and Q4-imp1 were made by the left known Nike standard. Another</p>

TABLE 2

WebCode-Test	Conclusions
AHDFR7-5331	<p>item of footwear being the source of these impressions is considered a practical impossibility.</p> <p>In the opinion of this examiner, lack of detail have limited the conclusion between item (001.B.01) (Q1) questioned impression and item 001.A right Nike 8 size shoe 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. In the opinion of this examiner, the characteristics observed exhibit strong associations between item (001.B.02) (Q2) questioned impression and item 001.A left Nike 8 size shoe; however, the quality and quantity were insufficient for an 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 item (001.B.02) (Q2). In the opinion of this examiner, item 001.A left Nike 8 size shoe was the source of, and made, item (001.B.03) (Q3) questioned impression. Another item of footwear being the source of the impression is considered a practical impossibility. The questioned impression and the known footwear share agreement of class and randomly acquired (individual) characteristics of sufficient quality and quantity. In the opinion of this examiner, item 001.A left Nike 8 size shoe was the source of, and made, item (001.C.01) (Q4) questioned impression. Another item of footwear being the source of the impression is considered a practical impossibility. In the opinion of this examiner, item 001.A right Nike 8 size shoe was the source of, and made, item (001.C.02) (Q5) questioned impression. Another item of footwear being the source of the impression is considered a practical impossibility. In the opinion of this examiner, item 001.A right Nike 8 size shoe was the source of, and made, item (001.C.03) (Q6) questioned impression. Another item of footwear being the source of the impression is considered a practical impossibility.</p>
AV26HF-5335	<p>It was determined utilizing side by side and overlay techniques of comparison that the questioned partial footwear impressions Q1, Q5 and Q6 were positively made by the known right shoe. It was determined utilizing side by side and overlay techniques of comparison that the questioned partial footwear impressions Q2, Q3 and Q4 were positively made by the known left shoe.</p>
BAEXLD-5331	<p>COMPARISONS: Compared the partial, questioned footwear impressions of value, Q-1 through Q-6, with the photographs of the known shoes, test impressions, and transparencies, respectively submitted in Submissions 001 and 001A. The unmarked partial, questioned footwear impression of value, was also compared with the photographs of the known shoes, test impressions, and transparencies, respectively submitted in Submissions 001 and 001A. RESULTS: The partial, questioned footwear impression of value, marked Q-1, corresponds in physical size, outsole design, general wear, and some randomly acquired characteristics (individual characteristics) with the known right shoe in Submission 001, and was probably made (high degree of association) by this shoe. However, due to the nature of the impression (appears to be wet) and the substrate upon which the impression occurs on a closer association could not be made. The partial, questioned footwear impression of value, marked Q-1, was not made by the left shoe in Submission 001. The partial, questioned footwear impressions of value, marked Q-2 and Q-3, were each made by the left shoe in Submission 001. The partial, questioned footwear impression of value, marked Q-4, corresponds in physical size, outsole design, general wear, and some randomly acquired characteristics (individual characteristics) with the known left shoe in Submission 001, and was probably made (high degree of association) by this shoe. However, there is one (1) potential discrepancy, which may have been caused by the substrate, therefore a closer association could not be made. The partial, questioned footwear impression of value, marked Q-4, was not made by the right shoe in Submission 001. The partial, questioned footwear impressions of value, marked Q-5 and Q-6, were each made by the right shoe in Submission 001. The partial, questioned unmarked footwear impression of value, corresponds in outsole design, general wear, and some randomly acquired characteristics (individual characteristics) with the known left shoe in Submission 001, and was probably made (high degree of association) by this shoe. However, only a limited amount of the impression is visible in the submitted photograph and therefore a closer association could not be made. This impression was not made by the right shoe in Submission 001.</p>
BGU7ZG-5331	<p>The exemplar right shoe is identified as the source of the unknown footwear impressions Q5 (item 12) and Q6 (item 13). The exemplar left shoe is identified as the source of the unknown footwear impressions Q2 (item 9), Q3 (item 10) and Q4 (item 11). There is a high degree of association</p>

TABLE 2

WebCode-Test	Conclusions
	between the unknown footwear impression Q1 (item 8) and the outsole of the exemplar right shoe. For another shoe to be considered as a possible source of this impression, it would have to share the same physical size, shape, tread design, general wear and randomly acquired characteristics.
BH8J3R-5331	I have considered the proposition that at least one of the marks recovered from the Art Studio was made by the left outsole in question; the results of my examination provide conclusive support for this proposition. I have considered the proposition that two of the marks recovered from the Wash Area were made by the right outsole in question; the results of my examination provide conclusive support for this proposition.
BJJDKD-5331	This case would likely yield at least very strong support if submitted to the [Agency]. Potential match to Q1, Q2, Q3, Q4, Q5, Q6 and Q7. An [SOP] detailing the findings has been produced which details the exhibits, the [Database] code that have been assigned to the exhibits and the result of each comparison. This has been peer reviewed to ensure the report is accurate and the appropriate form has been signed to indicate this has been completed. The [SOP] and all correspondence and documentation has been retained in the screening file numbered 2089. Please note our force procedures only allow reporting to the maximum of very strong support but the letter for the examination results have been assigned using the information provided.
BLBELV-5332	Q2, Q3 & Q4 are left shoe imprints. The imprints appear similar in physical size, tread design, wear, and individual characteristics to the K1 left shoe. In the opinion of the examiner, the left shoe in K1 was the source of, and made, the left footwear imprints Q2, Q3 & Q4. Another item of footwear being the source of the imprints is considered a practical impossibility. Q1, Q5 & Q6 are right shoe imprints. The imprints appear similar in physical size, tread design, wear, and individual characteristics to the K1 right shoe. In the opinion of the examiner, the right shoe in K1 was the source of, and made, the right footwear imprints Q1, Q5 & Q6. Another item of footwear being the source of the imprints is considered a practical impossibility.
BMK3XG-5331	The right Nike shoe in Item K1a was identified as having made the Q1, Q5, and Q6 imprints. The left Nike shoe in Item K1a can produce imprints similar in tread pattern and physical size to the Q2, Q3, and Q4 imprints; however, the lack of clearly defined individual characteristics precluded a specific identification or exclusion.
C86H6E-5335	Marks 5 and 6 would be described as conclusive associations. Marks 1-4 would be strong or very strong association. Shoes having the same undersurface pattern have not previously been seen at this laboratory.
C9HCJT-5331	Questioned Impression #1 share an agreement of class and randomly acquired characteristics of sufficient quality and quantity to identify it as having been produced by the Right shoe of K1. Questioned Impression #2 share an agreement of class and randomly acquired characteristics of sufficient quality and quantity to identify it as having been produced by the Left shoe of K1. Questioned Impression #3 share an agreement of class and randomly acquired characteristics of sufficient quality and quantity to identify it as having been produced by the Left shoe of K1. Questioned Impression #4 share an agreement of class and one or more randomly acquired characteristics and there is a high degree of association the Right shoe of K1, however insufficient for an individualization. Questioned Impression #5 share an agreement of class and randomly acquired characteristics of sufficient quality and quantity to identify it as having been produced by the Right shoe of K1. Questioned Impression #6 share an agreement of class and randomly acquired characteristics of sufficient quality and quantity to identify it as having been produced by the Right shoe of K1.
CA8KNN-5332	Six (6) questioned impressions of value for comparison purposes were observed on Item 001.02 and designated Q1 through Q6. The questioned impressions Q1 through Q6 were compared to the submitted photographs and test impressions of the footwear outsoles and designated K1 (Item 001.01 with the following results: The impression Q1 in the provided photograph represents the forefoot, arch, and heel areas of a right footwear outsole impression. The design, physical size, and general degree of wear of the forefoot, arch, and heel areas of the impression correspond to that of the forefoot, arch, and heel areas of the right outsole of K1. Additionally, void areas in the forefoot and heel areas of impression Q1 were found to correspond overall shape and location to damage observed on the right

TABLE 2

WebCode-Test	Conclusions
	<p>outsole of K1. Based on the described observations it was determined there is a high degree of association between impression Q1 and the right outsole of K1. It is the opinion of the examiner the right outsole of K1 is a strong possible source of the impression Q1. Other right shoe outsides sharing the same design and general degree of wear could also be considered possible sources of Q1. The impression Q2 in the provided photograph represents the forefoot, arch, and heel areas of a left footwear outsole impression. The design, physical size, and general degree of wear of the forefoot, arch, and heel areas of the impression correspond to that of the forefoot, arch, and heel areas of the left outsole of K1. Additionally, void areas in the forefoot and heel areas of impression Q2 were found to correspond overall shape and location to damage observed on the left outsole of K1. Based on the described observations it was determined there is a high degree of association between impression Q2 and the left outsole of K1. It is the opinion of the examiner the left outsole of K1 is a strong possible source of the impression Q2. Other left shoe outsides sharing the same design and general degree of wear could also be considered possible sources of Q2. The impression Q3 in the provided photograph represents the forefoot, arch, and heel areas of a left footwear outsole impression. The design, physical size, and general degree of wear of the forefoot, arch, and heel areas of the impression correspond to that of the forefoot, arch, and heel areas of the left outsole of K1. Additionally, void areas in the forefoot and heel areas of impression Q3 were found to correspond overall shape and location to damage observed on the left outsole of K1. Based on the described observations it was determined there is a high degree of association between impression Q3 and the left outsole of K1. It is the opinion of the examiner the left outsole of K1 is a strong possible source of the impression Q3. Other left shoe outsides sharing the same design and general degree of wear could also be considered possible sources of Q3. The impression Q4 in the provided photograph represents the forefoot, arch, and heel areas of a left footwear outsole impression. The design, physical size, and general degree of wear of the forefoot, arch, and heel areas of the impression correspond to that of the forefoot and arch areas of the left outsole of K1. Additionally, void areas in the forefoot and heel areas of impression Q4 were found to correspond in size, shape, and position to damage observed on the left outsole of K1. Based on this correspondence of both manufactured and randomly acquired accidental characteristics related to wearing of the shoe, the left outsole of K1 was identified as the source of impression Q4. It is the opinion of the examiner that impression Q4 was made by the left outsole of K1. The impression Q5 in the provided photograph represents the forefoot, arch, and heel areas of a right footwear outsole impression. The design, physical size, and general degree of wear of the forefoot, arch, and heel areas of the impression correspond to that of the forefoot and arch areas of the right outsole of K1. Additionally, void areas in the forefoot and heel areas of impression Q5 were found to correspond in size, shape, and position to damage observed on the right outsole of K1. Based on this correspondence of both manufactured and randomly acquired accidental characteristics related to wearing of the shoe, the right outsole of K1 was identified as the source of impression Q5. It is the opinion of the examiner that impression Q5 was made by the right outsole of K1. The impression Q6 in the provided photograph represents the forefoot, arch, and heel areas of a right footwear outsole impression. The design, physical size, and general degree of wear of the forefoot, arch, and heel areas of the impression correspond to that of the forefoot and arch areas of the right outsole of K1. Additionally, void areas in the forefoot and heel areas of impression Q6 were found to correspond in size, shape, and position to damage observed on the right outsole of K1. Based on this correspondence of both manufactured and randomly acquired accidental characteristics related to wearing of the shoe, the right outsole of K1 was identified as the source of impression Q6. It is the opinion of the examiner that impression Q6 was made by the right outsole of K1.</p>
CP6QY7-5332	Items Q1, Q5 and Q6 have been identified with item K1 right. Items Q2, Q3 and Q4 have been identified with item K1 left.
CT84RH-5331	Q1, Q5 and Q6 were made by the known right shoe. Q2, Q3 and Q4 could have been made by the known left shoe or by another left footwear source exhibiting all the same analyzed characteristics. Q1, Q5 and Q6 could not have been made by the known left shoe. Q2, Q3 and Q4 could not have been made by the known right shoe.
CWL7PV-5331	RESULTS OF EXAMINATION/ANALYSIS: Comparison: a. Questioned footwear impressions Q1 through Q6 were compared to the known right (K1R) and left shoes (K1L), as well as test impressions generated

TABLE 2

WebCode-Test	Conclusions
	<p>(K1d-K1g) with the following results: i. Q1 and K1R are consistent and exhibit no discriminating differences with respect to class characteristics: size, shape, tread design, and wear pattern. In addition, Q1 and K1R exhibit (5) corresponding individual characteristics. ii. Q2 and K1L are consistent and exhibit no discriminating differences with respect to class characteristics: size, shape, tread design, and wear pattern. In addition, Q2 and K1L exhibit (7) corresponding individual characteristics. iii. Q3 and K1L are consistent and exhibit no discriminating differences with respect to class characteristics: size, shape, tread design, and wear pattern. In addition, Q3 and K1L exhibit (7) corresponding individual characteristics. iv. Q4 and K1L are consistent and exhibit no discriminating differences with respect to class characteristics: size, shape, tread design, and wear pattern. In addition, Q4 and K1L exhibit (7) corresponding individual characteristics. v. Q5 and K1R are consistent and exhibit no discriminating differences with respect to class characteristics: size, shape, tread design, and wear pattern. In addition, Q5 and K1R exhibit (6) corresponding individual characteristics. vi. Q6 and K1R are consistent and exhibit no discriminating differences with respect to class characteristics: size, shape, tread design, and wear pattern. In addition, Q6 and K1R exhibit (7) corresponding individual characteristics.</p> <p>INTERPRETATION OF RESULTS: 1. It is the opinion of the undersigned that questioned footwear impressions Q1, Q5, and Q6 were made by the known right shoe, K1R. 2. It is the opinion of the undersigned that questioned footwear impressions Q2, Q3, and Q4 were made by the known left shoe, K1L.</p>
D38GG6-5332	<p>Based upon my experience of undertaking and interpreting the results of footwear comparisons, and the level of correspondence noted in pattern, pattern size, specific wear and several damage/manufacturing features, in my opinion, the findings show conclusively that the training shoes in question made the footwear marks Q1 to 6 recorded in the photographs.</p>
D9EGJZ-5331	<p>In my opinion, the particular known right shoe was the source of, and made, the questioned impressions Q1, Q5 and Q6. The chance of another shoe being the source of the impressions is considered negligible. In my opinion, the particular known left shoe was the source of, and made, the questioned impressions Q2 and Q3. The chance of another shoe being the source of the impressions is considered negligible. In my opinion, the characteristics observed exhibit strong associations between the questioned impression Q4 and the known left shoe, however, the quality was insufficient for an identification. The known left shoe is a possible source of the questioned impression. Other shoes with the same class characteristics are included as possible sources only if they display the same wear and randomly acquired characteristics in the questioned impression.</p>
DLJ33C-5331	<p>[No Conclusions Reported.]</p>
DMWZ8G-5332	<p>Slady (Q1-Q6) pochodza od obuwia, którego fotografie i odbitki próbne dostarczono do badan [Translation was requested and not received prior to report publication].</p>
DQQXFK-5331	<p>The known right footwear depicted in the photographs marked K1a, K1b and K1c, in exhibit FIEP, was the source of, and made, the questioned footwear impression marked Q1, in exhibit FIEP. This conclusion is based on outsole design, physical size, wear and randomly acquired characteristics. Another item of footwear being the source of this impression is considered a practical impossibility. The known left footwear depicted in the photographs marked K1a, K1b and K1c, in exhibit FIEP, was the source of, and made, the questioned footwear impression marked Q2, in exhibit FIEP. This conclusion is based on outsole design, physical size, wear, mold characteristics and randomly acquired characteristics. Another item of footwear being the source of this impression is considered a practical impossibility. The known left footwear depicted in the photographs marked K1a, K1b and K1c, in exhibit FIEP, was the source of, and made, the questioned footwear impression marked Q3, in exhibit FIEP. This conclusion is based on outsole design, physical size, wear and randomly acquired characteristics. Another item of footwear being the source of this impression is considered a practical impossibility. The known left footwear depicted in the photographs marked K1a, K1b and K1c, in exhibit FIEP, was the source of, and made, the questioned footwear impression marked Q4, in exhibit FIEP. This conclusion is based on outsole design, physical size, wear, mold characteristics and randomly acquired characteristics. Another item of footwear being the source of this impression is considered a practical impossibility. The known right footwear depicted in the photographs marked K1a, K1b and K1c, in</p>

TABLE 2

WebCode-Test	Conclusions
	<p>exhibit FIEP, was the source of, and made, the questioned footwear impression marked Q5, in exhibit FIEP. This conclusion is based on outsole design, physical size, wear, mold characteristics and randomly acquired characteristics. Another item of footwear being the source of this impression is considered a practical impossibility. The known right footwear depicted in the photographs marked K1a, K1b and K1c, in exhibit FIEP, was the source of, and made, the questioned footwear impression marked Q6, in exhibit FIEP. This conclusion is based on outsole design, physical size, wear and randomly acquired characteristics. Another item of footwear being the source of this impression is considered a practical impossibility. During the examination of the six (6) documented questioned footwear impressions, a seventh questioned footwear impression, designated Q7, was located and documented. Images of this questioned footwear impression are on file at our office in the event that additional comparisons are requested.</p>
DUVW2R-5331	<p>Right shoeprint impressions Q1 and Q6 and partial right shoeprint impression Q5 are similar in tread design, size, and share randomly acquired characteristics with the right shoe from the suspect. It is our opinion that these shoeprint impressions were made by the suspect's right shoe. Left shoeprint impression Q2 and partial left shoeprint impressions Q3 and Q4 are similar in tread design, size, and share randomly acquired characteristics with the left shoe from the suspect. It is our opinion that these shoeprint impressions were made by the suspect's left shoe.</p>
E2RNU2-5331	<p>The suspect's left shoe positively made the imprints Q2, Q3 and Q4. The suspect's right shoe positively made the imprints Q1, Q5, and Q6.</p>
E73UCT-5331	<p>Comparison of the partial shoe imprint labeled "found inside the art studio (textured vinyl tile), Q1", (item 8.1), to the recovered "Nike" right shoe revealed similar class characteristics and corresponding individualizing characteristics. Level I association. Comparison of the partial shoe imprint labeled "found inside the art studio (textured vinyl tile), Q2", (item 8.2), to the recovered "Nike" left shoe revealed similar class characteristics and corresponding individualizing characteristics. Level I association. Comparison of the partial shoe imprint labeled "found inside the art studio (textured vinyl tile), Q3", (item 8.3), to the recovered "Nike" left shoe revealed similar class characteristics and corresponding individualizing characteristics. Level I association. Comparison of the partial shoe imprint labeled "found in the wash area of the art studio (textured ceramic tile), Q4", (item 9.1), to the recovered "Nike" left shoe revealed similar class characteristics and corresponding individualizing characteristics. Level I association. Comparison of the partial shoe imprint labeled "found in the wash area of the art studio (textured ceramic tile), Q5", (item 9.2), to the recovered "Nike" right shoe revealed similar class characteristics and corresponding individualizing characteristics. Level I association. Comparison of the partial shoe imprint labeled "found in the wash area of the art studio (textured ceramic tile), Q6", (item 9.3), to the recovered "Nike" right shoe revealed similar class characteristics and corresponding individualizing characteristics. Level I association.</p>
EMU3JK-5331	<p>By comparing the soles of the shoes to shoeprints it is often possible to determine whether or not a particular shoe made a print. I have compared the shoes to the shoeprints. This comparison process examines the shoe and the shoeprint to investigate any correspondence in sole pattern and dimensions, the presence of any wear, and the location, size and shape of any area of random damage. I have compared the questioned prints Q1 to Q6 with the photographs of the pair of shoes and the test prints made by the shoes. In determining the strength of any correspondences I have considered: the likelihood of finding the shoeprint evidence if the shoe made the print, and the likelihood of finding the shoeprint evidence if the shoe did not make the print. The statement of opinion as to the scientific significance of the correspondence between the shoe and the shoeprint 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, is conclusive. Prints Q1, Q5, and Q6 were from a right shoe; prints Q2, Q3 and Q4 were from a left shoe. In each print, the other shoe of the pair could not have made the print. There is extremely strong support for the proposition that the right shoe made print Q1. However, any other shoe with the same sole pattern and of a similar size, and the same degree of damage and wear could also have produced this shoeprint. There is extremely strong support for the proposition that the left shoe made prints Q3 and Q4. However, any other shoe with the same sole pattern and of a similar size, and the same degree of damage and wear could also have produced</p>

TABLE 2

WebCode-Test	Conclusions
	these shoeprints. The evidence is conclusive that the right shoe made the prints Q5 and Q6. The evidence is conclusive that the left shoe made the print Q2.
ER2ZYY-5331	Impressions Q1, Q5, and Q6 were made by the submitted right shoe (K1). Impressions Q2, Q3 and Q4 were made by the submitted left shoe (K1).
ETX4JE-5331	The submitted known footwear was examined and compared to the impressions visible in Q1-Q6. Q1, Q5 and Q6 correspond to the known right shoe in tread design, tread size, tread wear and individual characteristics including gouges and scratches in the surface. Thus Q1, Q5 and Q6 were made by the known right shoe. Q2, Q3 and Q4 correspond to the known left shoe in tread design, tread size, tread wear and individual characteristics including gouges and circular marks in the surface. Thus Q2, Q3 and Q4 were made by the known left shoe.
EX8RBG-5331	[No Conclusions Reported.]
EY637K-5332	The footwear prints are clear but Q4 and Q5 have more than a footwear prints, are formed by two or more soles.
FBEWZA-5331	Q-1 through Q-6 were made by the known shoes represented in K1.
FFNMD9-5331	Impressions Q1, Q5, and Q6 and the K1 known right shoe share agreement of class and randomly acquired characteristics of sufficient quality and quantity. Consequently, impressions Q1, Q5, and Q6 were made by the K1 known right shoe. Impressions Q2 - Q4 and the K1 known left shoe share agreement of class and randomly acquired characteristics of sufficient quality and quantity. Consequently, impressions Q2 - Q4 were made by the K1 known left shoe. There is an additional unlabeled partial footwear impression present in the photograph of impressions Q4 - Q6. This impression was not compared.
FGYRNC-5335	The questioned imprints Q5 and Q6 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 Q5 and Q6. 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 left shoe. They correspond in class characteristics of design, physical size, and general wear and randomly acquired characteristics to the recovered left shoe and the known imprints, which were made with the left shoesole. The quantity of the observed randomly acquired characteristics was sufficient for an identification. Other footwear with the same class characteristics observed in the imprints are included in the population of possible sources only if they display the same wear and randomly acquired characteristics observed in the questioned imprints Q3 and Q4. The questioned imprint Q1 is associated with the sole of the right shoe. It corresponds in class characteristics of design, physical size, and general wear and randomly acquired characteristics to the recovered right shoe and the known imprints, which were made with the right shoesole. The quantity of the observed randomly acquired characteristics was sufficient for an identification. Other footwear with the same class characteristics observed in the imprints are included in the population of possible sources only if they display the same wear and randomly acquired characteristics observed in the questioned imprint Q1. The class characteristics of design and physical size correspond between the questioned imprint Q2 and the recovered sole of the left shoe. The left shoe is a possible source of the questioned imprint Q2 and therefore could have produced the imprint.
FTT9TZ-5335	The left Nike shoe recovered from the suspect's home made the left shoe impression in the art studio (item Q2) and the left shoe impressions in the art studio wash area (items Q3 and Q4). The right Nike shoe recovered from the suspect's home made the right shoe impressions in the art studio wash area (impressions Q5 and Q6). The right Nike shoe recovered from the suspect's home most likely made the right shoe impression in the art studio (impression Q1). Both have the same tread pattern and are of a similar size and have similar general wear. There is also some limited corresponding agreement in individual characteristics between the right shoe and the scene impression; however, there is insufficient

TABLE 2

WebCode-Test	Conclusions
	detail in the scene impression for an identification.
FVJHYV-5331	Sufficient agreements of class and individual characteristics confirmed the Q1, Q5, and Q6 footwear impressions were made by the known right shoe. Sufficient agreements of class and individual characteristics confirmed the Q2, Q3, and Q4 footwear impressions were made by the known left shoe.
FYJFX8-5331	K1 Right shoe is identified as having made Q1, Q5 and Q6. There are at least two random characteristics in the forefoot and one stone in the heel that support this conclusion, as well as size and physical shape. K1 left shoe is identified as having made Q2, Q3, and Q4. There are at least two random characteristics in the forefoot and one stone in the heel that support this conclusion, as well as size and physical shape.
FYKHyr-5331	Results and Conclusions: Item 8: 8.1 One right shoe impression labeled "Q1, found inside the art studio". Examined visually and with 1 to 1 photographic overlays. Comparison of item 8.1, the right shoe impression labeled "Q1, found inside the art studio", to the recovered right shoe revealed similar class characteristics and corresponding individualizing characteristics. Level 1 association. 8.2 One partial left shoe impression labeled "Q2, found inside the art studio". Examined visually and with 1 to 1 photographic overlays. Comparison of item 8.2, the partial left shoe impression labeled "Q2, found inside the art studio", to the recovered left shoe revealed similar class characteristics and corresponding individualizing characteristics. Level 1 association. 8.3 One partial left shoe impression labeled "Q3, found inside the art studio". Examined visually and with 1 to 1 photographic overlays. Comparison of item 8.3, the partial left shoe impression labeled "Q3, found inside the art studio", to the recovered left shoe revealed similar class characteristics and corresponding individualizing characteristics. Level 1 association. Item 9: 9.1 One partial left shoe impression labeled "Q4, found in the wash area of the art studio". Examined visually and with 1 to 1 photographic overlays. Comparison of item 9.1, the partial left shoe impression labeled "Q4, found in the wash area of the art studio", to the recovered left shoe revealed similar class characteristics and corresponding individualizing characteristics. Level 1 association. 9.2 One partial right shoe impression labeled "Q5, found in the wash area of the art studio". Examined visually and with 1 to 1 photographic overlays. Comparison of item 9.2, the partial right shoe impression labeled "Q5, found in the wash area of the art studio", to the recovered right shoe revealed similar class characteristics and corresponding individualizing characteristics. Level 1 association. 9.3 One partial right shoe impression labeled "Q6, found in the wash area of the art studio". Examined visually and with 1 to 1 photographic overlays. Comparison of item 9.3, the partial right shoe impression labeled "Q6, found in the wash area of the art studio", to the recovered right shoe revealed similar class characteristics and corresponding individualizing characteristics. Level 1 association.
G2GNTN-5331	Item Q1 impression was made by the Item K1 right shoe. Item Q2 impression was made by the Item K1 left shoe. Item Q3 impression was made by the Item K1 left shoe. Item Q4 impression was made by the Item K1 left shoe. Item Q5 impression was made by the Item K1 right shoe. Item Q6 impression was made by the Item K1 right shoe.
G662WZ-5335	The right Nike athletic shoe recovered from the suspect's home (Item K1) made the right shoe impressions in the art studio wash area (Items Q5 and Q6), and most likely made the right shoe impression in the art studio (Item Q1). The left Nike athletic shoe recovered from the suspect's home (Item K1) made the left shoe impression in the art studio (Item Q2), and most likely made the left shoe impressions in the wash area (Items Q3 and Q4).
G7G6EB-5331	Questioned items Q1, Q5, and Q6 (right shoe impressions) were made by the known right shoe. Questioned items Q2, Q3, and Q4 (left shoe impressions) were made by the known left shoe.
GC2XGH-5331	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 impressions labelled Q1, Q5 and Q6 were found to be consistent in shape, physical size and individual characteristics with the suspect's right shoe. 2.Questioned impressions labelled Q2 ,Q3 and Q4 were found to be consistent in shape,

TABLE 2

WebCode- Test	Conclusions
GHQFVT- 5331	<p>physical size and individual characteristics with the suspect's left shoe.</p> <p>The wet green footwear impression (Q1) depicted in the photograph (Item #4) corresponds in physical size, design, wear and general condition with the right shoe depicted in the photograph (Item #1) and could have been made by this shoe or another right shoe of the same physical size, design, and general condition. Due to the limited detail in the impression a stronger association was not made. The partial black footwear impression (Q2) depicted in the photograph (Item #4) corresponds in physical size, design, wear and shares unique characteristics with the left shoe depicted in the photograph (Item #1) indicating the footwear impression was made by the left shoe. The partial black footwear impression (Q3) depicted in the photograph (Item #4) corresponds in physical size, design, wear and shares unique characteristics with the left shoe depicted in the photograph (Item #1) indicating the footwear impression was made by the left shoe. The partial black footwear impression (Q4) depicted in the photograph (Item #5) corresponds in physical size, design, wear and shares unique characteristics with the left shoe depicted in the photograph (Item #1) indicating the footwear impression was made by the left shoe. The partial black footwear impression (Q5) depicted in the photograph (Item #5) corresponds in physical size, design, wear and shares unique characteristics with the right shoe depicted in the photograph (Item #1) indicating the footwear impression was made by the right shoe. The partial black footwear impression (Q6) depicted in the photograph (Item #5) corresponds in physical size, design, wear and shares unique characteristics with the right shoe depicted in the photograph (Item #1) indicating the footwear impression was made by the right shoe. The partial black footwear impression (Unidentified) depicted in the photograph (Item #5) corresponds in physical size and design with the left shoe depicted in the photograph (Item #1), however, it does not exhibit the same amount of wear nor does it share the same unique characteristics as the known impressions, therefore, it was not made by the known left shoe (K1).</p>
GLPP4A- 5331	<p>In my opinion, the results of my examinations provide conclusive evidence that at least 2 of the marks from the scene were made by the submitted right shoe. Where I have stated that the findings provide a degree of support for a scenario, I have selected what I consider to be the most appropriate term from the following scale of support: no support, limited, moderate, moderately strong, strong, very strong and extremely strong. In some cases the level of support for one proposition may be so great that the likelihood of the alternative proposition being true is so remote that it can be discounted and an assessment of the level of support as 'conclusive' may be appropriate.</p>
GWPU3V- 5331	<p>I concluded that the photographed scene impressions Q2, Q3 and Q4 are identified, by agreement of class and randomly acquired characteristics with those observed on the recovered left Nike shoe and that scene impressions Q5 and Q6 are identified by the agreement of class and randomly acquired characteristics with those observed on the recovered right Nike shoe. The chance of other shoes having the same agreement of class and randomly acquired characteristics would be negligible. I concluded that the photographed scene impression Q1 and the recovered right Nike shoe have a high degree of association of class and randomly acquired characteristics, but due to the visual quality of the characteristics in the scene impression an identification could not be concluded. An unlabelled 7th impression also has a high degree of association with the recovered left Nike shoe.</p>
HHJQ2F- 5331	<p>Six footwear impressions on the exhibit 1 photos were pre-marked as Q1 through Q6. One additional impression was present and marked Q7. These impressions were compared to the known footwear, as represented by the exhibit 2 photos, with the following results: Q1: The Q1 impression was similar in outsole design, physical size, and general wear to the exhibit 2 right shoe outsole. Additionally, two randomly acquired characteristics corresponded between the impression and the right outsole, as did an additional mark of unclear significance. In the opinion of this examiner, the right shoe represented in exhibit 2 was the source of, and made, Q1. Another piece of footwear being the source of Q1 is considered a practical impossibility. Identification. Q2: The Q2 impression was similar in outsole design, physical size, and general wear to the exhibit 2 left shoe outsole. Areas of texturing corresponded between Q2 and the left shoe outsole, which is a feature of the mold used to manufacture the outsole. Additionally, two randomly acquired characteristics corresponded between the impression and the left outsole, as did additional marks of unclear significance. In the opinion of this examiner, the left shoe represented in exhibit 2 was the source of, and made, Q2. Another piece of</p>

TABLE 2

WebCode-Test	Conclusions
	<p>footwear being the source of Q2 is considered a practical impossibility. Identification. Q3: The Q3 impression was similar in outsole design, physical size, and general wear to the exhibit 2 left shoe outsole. No correspondence of randomly acquired characteristics was seen; however, additional marks of unclear significance did correspond. In the opinion of this examiner, the left shoe represented in exhibit 2 is a possible source of Q3 and therefore could have produced it. Other footwear with the same class characteristics and additional observed marks are included in the population of possible sources. Association of Class Characteristics. Q4: The Q4 impression was similar in outsole design, physical size, and general wear to the exhibit 2 left shoe outsole. An area of texturing corresponded between Q4 and the left shoe outsole, which is a feature of the mold used to manufacture the outsole. Additionally, two randomly acquired characteristics corresponded between the impression and the left outsole, as did additional marks of unclear significance. In the opinion of this examiner, the left shoe represented in exhibit 2 was the source of, and made, Q4. Another piece of footwear being the source of Q4 is considered a practical impossibility. Identification. Q5: The Q5 impression was similar in outsole design, physical size, and general wear to the exhibit 2 right shoe outsole. Areas of texturing corresponded between Q5 and the right shoe outsole, which is a feature of the mold used to manufacture the outsole. Additionally, two randomly acquired characteristics corresponded between the impression and the right outsole, as did an additional mark of unclear significance. In the opinion of this examiner, the right shoe represented in exhibit 2 was the source of, and made, Q5. Another piece of footwear being the source of Q5 is considered a practical impossibility. Identification. Q6: The Q6 impression was similar in outsole design, physical size, and general wear to the exhibit 2 right shoe outsole. An area of texturing corresponded between Q6 and the right shoe outsole, which is a feature of the mold used to manufacture the outsole. Additionally, three randomly acquired characteristics corresponded between the impression and the right outsole, as did additional marks of unclear significance. In the opinion of this examiner, the right shoe represented in exhibit 2 was the source of, and made, Q6. Another piece of footwear being the source of Q6 is considered a practical impossibility. Identification. Q7: The Q7 impression was similar in outsole design, physical size, and general wear to the exhibit 2 left shoe outsole. Areas of texturing corresponded between Q7 and the left shoe outsole, which is a feature of the mold used to manufacture the outsole. Additionally, one randomly acquired characteristic corresponded between the impression and the left outsole. In the opinion of this examiner, the characteristics observed exhibit a strong association between Q7 and the exhibit 2 left shoe; however, the quality and quantity were insufficient for an identification. Other footwear with the same class characteristics are included in the population of possible sources only if they display the same randomly acquired characteristic and mold marks observed in Q7. High Degree of Association.</p>
HTP4BA-5331	<p>In this test we used TrasoScan system and Lucia Forensic 7.40 program. The comparisons of the enclosed footwear impressions (Q1-Q6 and K1a-K1g) concerned the physical size and shape of the outsole, the outsole design and random individual identifying characteristics. From the performed comparative analysis we observed that on the surface of the outsoles of shoes, being the comparative material, there were present some individual identifying characteristics. Similar individual characteristics were also found in the evidence material marked Q2, Q3 and Q4 on the left outsole, Q1, Q5 and Q6 on the right outsole.</p>
HUCEVU-5331	<p>1) Impressions Q1, Q5 and Q6 were made by the submitted right Nike shoe (item K1f). 2) Impressions Q2, Q3 and Q4 were made by the submitted left Nike shoe (item K1f).</p>
JBLLUW-5335	<p>The questioned imprints Q1, Q5, and Q6 were made by the known right shoe. The questioned imprints Q2, Q3, and Q4 were made by the known left shoe.</p>
JEJWMB-5331	<p>[No Conclusions Reported.]</p>
JHGFMN-5331	<p>Comparison of item 8.1, the shoe impression labeled "Q1, found inside the art studio", to the recovered right shoe revealed similar class characteristics and corresponding individualizing characteristics. Level I association. Comparison of item 8.2, the partial shoe impression labeled "Q2, found inside the art studio", to the recovered left shoe revealed similar class characteristics and corresponding individualizing characteristics. Level I association. Comparison of item 8.3, the partial</p>

TABLE 2

WebCode-Test	Conclusions
JQEBLM-5331	<p>shoe impression labeled "Q3 found inside the art studio", to the recovered left shoe revealed similar class characteristics and corresponding individualizing characteristics. Level I association. Comparison of item 9.1, the partial shoe impression labeled "Q4, found in the wash area of the art studio to the recovered left shoe revealed similar class characteristics and corresponding individualizing characteristics. Level I association. Comparison of item 9.2, the shoe impression labeled "Q5, found in the wash area of the art studio", to the recovered right shoe revealed similar class characteristics and corresponding individualizing characteristics. Level I association. Comparison of item 9.3, the shoe impression labeled "Q6, found in the wash area of the art studio", to the recovered right shoe revealed similar class characteristics and corresponding individualizing characteristics. Level I association.</p> <p>D) RESULTS OF EXAMINATION/ANALYSIS: 1. Observed Impressions: a. Laboratory item #4 - 3 questioned footwear impressions on wood textured vinyl tile. i. Q1 - one almost complete footwear impression in green residue. ii. Q2 - one partial footwear impression in black residue, overlapping Q3. iii. Q3 - one partial footwear impression in black residue, overlapping Q2. b. Laboratory item #5 - 4 questioned footwear impressions on tan colored textured ceramic tile. i. Q4 - one almost complete footwear impression in black residue, overlapping Q5. ii. Q5 - one almost complete footwear impression in black residue, overlapping Q4. iii. Q6 - one almost complete footwear impression in black residue. iv. Q7 - one partial footwear impression in black residue. 2. Comparison: a. Questioned impressions Q1 through Q7 were compared to the known left and right sneakers, K1L and K1R, as well as test impressions generated by K1L and K1R with the following results: i. Q1 and K1R are consistent and exhibit no discriminating differences with respect to class characteristics: size, shape, tread design, and wear pattern. In addition, Q1 and K1R exhibit 4 corresponding individual characteristics. ii. Q2 and K1L are consistent and exhibit no discriminating differences with respect to class characteristics: size, shape, tread design, and wear pattern. In addition, Q2 and K1L exhibit 5 corresponding individual characteristics. iii. Q3 and K1L are consistent and exhibit no discriminating differences with respect to class characteristics: size, shape, tread design, and wear pattern. In addition, Q3 and K1L exhibit 5 corresponding individual characteristics. iv. Q4 and K1L are consistent and exhibit no discriminating differences with respect to class characteristics: size, shape, tread design, and wear pattern. In addition, Q4 and K1L exhibit 7 corresponding individual characteristics. v. Q5 and K1R are consistent and exhibit no discriminating differences with respect to class characteristics: size, shape, tread design, and wear pattern. In addition, Q5 and K1R exhibit 7 corresponding individual characteristics. vi. Q6 and K1R are consistent and exhibit no discriminating differences with respect to class characteristics: size, shape, tread design, and wear pattern. In addition, Q6 and K1R exhibit 6 corresponding individual characteristics. vii. Q7 and K1L are consistent and exhibit no discriminating differences with respect to class characteristics: size, shape, tread design, and wear pattern. In addition, Q7 and K1L exhibit 2 corresponding individual characteristics. E) INTERPRETATION OF RESULTS: 1. It is the opinion of the undersigned that questioned footwear impressions Q1, Q5, and Q6 were made by the known right sneaker, K1R submitted as Laboratory items #1 through #3. 2. It is the opinion of the undersigned that questioned footwear impressions Q2, Q3, Q4, and Q7 were made by the known left sneaker, K1L submitted as Laboratory items #1 through #3.</p>
JUCPBX-5331	The impressions were made by the shoes K1.
K2PZ24-5331	Footwear Impression Q1 orients with a right shoe. This impression corresponds to the K1 right shoe in outsole design, physical size, wear and three randomly acquired characteristics. Therefore, the K1 right shoe was identified as the source of this impression. Footwear Impression Q2 orients with a left shoe. This impression corresponds to the K1 left shoe in outsole design, physical size, wear and three randomly acquired characteristics. Therefore, the K1 left shoe was identified as the source of this impression. Footwear Impression Q3 orients with a left shoe. This impression corresponds to the K1 left shoe in outsole design, physical size, wear and four randomly acquired characteristics. Therefore, the K1 left shoe was identified as the source of this impression. Footwear Impression Q4 orients with a left shoe. This impression corresponds to the K1 left shoe in outsole design, physical size, wear and three randomly acquired characteristics. Therefore, the K1 left shoe was identified as the source of this impression. Footwear Impression Q5 orients with a right shoe. This impression corresponds to the K1 right shoe in outsole design, physical size, wear and five randomly acquired characteristics. Therefore,

TABLE 2

WebCode-Test	Conclusions
	<p>the K1 right shoe was identified as the source of this impression. Footwear Impression Q6 orients with a right shoe. This impression corresponds to the K1 right shoe in outsole design, physical size, wear and five randomly acquired characteristics. Therefore, the K1 right shoe was identified as the source of this impression.</p>
K2Q6P7-5331	<p>On the Item Q1 there is a shoeprint which correspond in pattern, measurable size, general wear and some individual characteristics with the right shoe of the item K1. It is probable that the shoeprints on the item Q1 is left by the right shoe of item K1. On the items Q5 and Q6 there are shoeprints which corresponds in pattern, measurable size, general wear and several individual characteristics with the right shoe of the item K1 The shoeprints on the items Q5 and Q6 are left by the right shoe of the items K1. On the items Q2, Q3 and Q4 there are shoeprints that corresponds in pattern, measurable size, general wear and some individual characteristics with the left shoe of the item K1 It is probable that the shoeprints on the items Q2, Q3 and Q4 are left by the left shoe of the item K1.</p>
K68ZGJ-5335	<p>The analysis of footwear impressions rated Q1 to Q6 and their comparison with the photographs and the known imprints made with the shoes show correspondence of dimensions and consistent wear. It can therefore be concluded that : Q1, Q5 and Q6 are identified with the sole of right shoe; Q2, Q3 and Q4 are identified with the sole of left shoe;</p>
KBXCFL-5331	<p>The evidence in items 1D and 1E (CTS # Q1 through Q6) was visually examined for impression evidence. Six (6) questioned imprints of value were determined to be present in items 1D and 1E (CTS # Q1 through Q6). All six (6) of the questioned imprints in items 1D and 1E (CTS # Q1 through Q6) were visually examined and compared against the recovered shoes in items 1A, 1B, and 1C (CTS # K1a through K1g). Three (3) of the questioned imprints in items 1D and 1E (CTS # Q1, Q5, and Q6) were determined to have been made by the recovered right shoe in items 1A, 1B, and 1C (CTS # K1a through K1g). Three (3) of the questioned imprints in items 1D and 1E (CTS # Q2, Q3, and Q4) were determined to have been made by the recovered left shoe in items 1A, 1B, and 1C (CTS # K1a through K1g).</p>
KDNHUR-5335	<p>Item 1 contained two images of six unknown footwear impressions, Q1-Q6, said to be from the scene of a high school vandalism. These impressions were compared to images and known impressions (also on Item 1) from a pair of shoes recovered from the suspect's home. A complete evaluation of an unknown impression and a known shoe includes looking at correspondence in tread design, physical size and shape of design present, wear characteristics and any distinctive characteristics randomly acquired on the tread of the shoe that are represented in the unknown impression. The known shoes corresponded in physical shape, tread design, size of tread and randomly acquired characteristics to the Q1-Q6 unknown impressions. Therefore, the known shoes are the source of the unknown impressions from the scene (Type I Association/Identification). The Item 2 disc was created by the scientist and will be retained in the Trace Evidence Section. Interpretation: The following descriptions are meant to provide context to the opinions reached in this report. Every type of conclusion may not be applicable in every case or for every material type. Type I Association: Identification: An association in which items share individual characteristics and/or physically fit together that demonstrate the items were once from the same source. Type II Association: Association with distinct characteristics: An association in which items correspond in all measured physical properties, chemical composition and/or microscopic characteristics and share distinctive characteristic(s) that would not be expected to be found in the population of this evidence type. The distinctive characteristics were not sufficient for a Type I Association. Type III Association: Association with conventional characteristics: An association in which items correspond in all measured physical properties, chemical composition and/or microscopic characteristics and could have originated from the same source. Because it is possible for another sample to be indistinguishable from the submitted evidence, an individual source cannot be determined. Type IV Association: Association with limitations: An association in which items could not be differentiated based on observed and/or measured properties and/or chemical composition. As compared to the categories above, this type of association has decreased evidential value as a result of items that are more commonly encountered in the relevant population, the inability to perform a complete analysis, limited information, or minor variations observed in the data. Inconclusive: No conclusion could be reached regarding an association or an elimination between the items. Dissimilar:</p>

TABLE 2

WebCode-Test	Conclusions
	<p>The items were dissimilar in physical properties and/or chemical composition, indicating that the items may not have originated from the same source. However, these dissimilarities were insufficient for a definitive Elimination. Elimination: Items exhibit dissimilarities in one or more of the following: physical properties, chemical composition or microscopic characteristics and, therefore, conclusively did not originate from the same source.</p>
KE282A-5331	<p>Q1: Unknown footwear impression Q1 was made by the Right Shoe of Item K. Q2: Unknown footwear impression Q2 was made by the Left Shoe of Item K. Q3: Unknown footwear impression Q3 was made by the Left Shoe of Item K. Q4: Unknown footwear impression Q4 was made by the Left Shoe of Item K. Q5: Unknown footwear impression Q5 was made by the Right Shoe of Item K. Q6: Unknown footwear impression Q6 was made by the Right Shoe of Item K.</p>
KK4EJX-5335	<p>Results: The shoe print Q1 was compared to the shoes. Pattern, size and wear conformity was observed between the shoe print and the corresponding part of the right shoe. In the shoe print, several details that corresponded with damage to the shoe's sole were also observed. Conclusion: It is expected that a shoe print assigned by the right shoe may look like the shoe print Q1. The percentage of other shoes that can set aside a shoe print that looks like this with this sole pattern, this sole size and with this wear and with these details is considered very small. The results strongly support that the right shoe made the shoe print Q1. Level +3, High degree of association(B). Results: The shoe print Q2 was compared to the shoes. Pattern, size and wear conformity was observed between the shoe print and the corresponding part of the left shoe. In the shoe print, several details that corresponded with damage to the shoe's sole were also observed. Conclusion: It is expected that a shoe print assigned by the left shoe may look like the shoe print Q2. The percentage of other shoes that can set aside a shoe print that looks like this with this sole pattern, this sole size and with this wear and with these details is considered very small. The results strongly support that the left shoe made the shoe print Q2. Level +3, High degree of association(B). Results: The shoe print Q3 was compared to the shoes. Pattern, size and wear conformity was observed between the shoe print and the corresponding part of the left shoe. In the shoe print, several details that corresponded with damage to the shoe's sole were also observed. Conclusion: It is expected that a shoe print assigned by the left shoe may look like the shoe print Q2. The percentage of other shoes that can set aside a shoe print that looks like this with this sole pattern, this sole size and with this wear and with these details is considered very small. The results strongly support that the left shoe made the shoe print Q2. Level +3, High degree of association(B). Results: The shoe print Q4 was compared to the shoes. Pattern, size and wear conformity was observed between the shoe print and the corresponding part of the left shoe. In the shoe print, details that corresponded with damage to the shoe's sole were also observed. Conclusion: It is expected that a shoe print assigned by the left shoe may look like the shoe print Q4. The percentage of other shoes that can set aside a shoe print that looks like this with this sole pattern, this sole size and with this wear and with these details is considered small. The results support that the left shoe made the shoe print Q4. Level +2, High degree of association(B). Results: The shoe print Q5 was compared to the shoes. Pattern, size and wear conformity was observed between the shoe print and the corresponding part of the right shoe. In the shoe print, several details that corresponded with damage to the shoe's sole were also observed. Conclusion: It is expected that a shoe print assigned by the right shoe may look like the shoe print Q5. The percentage of other shoes that can set aside a shoe print that looks like this with this sole pattern, this sole size and with this wear and with these details is considered extremely small. The results extremely strongly support that the right shoe made the shoe print Q5. Level +4, Identification(A). Results: The shoe print Q6 was compared to the shoes. Pattern, size and wear conformity was observed between the shoe print and the corresponding part of the right shoe. In the shoe print, several details that corresponded with damage to the shoe's sole were also observed. Conclusion: It is expected that a shoe print assigned by the right shoe may look like the shoe print Q6. The percentage of other shoes that can set aside a shoe print that looks like this with this sole pattern, this sole size and with this wear and with these details is considered very small. The results strongly support that the right shoe made the shoe print Q6. Level +3, Identification(A)</p>
KTU4VT-5332	<p>Q-1: It is the opinion of the undersigned examiners that the Questioned footwear impression in Q-1 corresponds in physical size, physical shape, outsole design, wear characteristics, and one Individual characteristic with the Known right shoe and could have been made by this shoe. Due to the lack of</p>

TABLE 2

WebCode-Test	Conclusions
	<p>additional identifying characteristics (and/or limited detail in the impression), a more positive association was not made. Q-2: It is the opinion of the undersigned examiners that the Questioned footwear impression in Q-2 corresponds in physical size, physical shape, outsole design, wear characteristics, and one Individual characteristic with the Known left shoe and could have been made by this shoe. Due to the lack of additional identifying characteristics (and/or limited detail in the impression), a more positive association was not made. Q-3: It is the opinion of the undersigned examiners that the Questioned footwear impression in Q-3 corresponds in physical size, physical shape, outsole design, wear characteristics, and one Individual characteristic with the Known left shoe and could have been made by this shoe. Due to the lack of additional identifying characteristics (and/or limited detail in the impression), a more positive association was not made. Q-4: It is the opinion of the undersigned examiners that the Questioned footwear impression in Q-4 corresponds in physical size, physical shape, outsole design, wear characteristics, and one Individual characteristic with the Known left shoe and could have been made by this shoe. Due to the lack of additional identifying characteristics (and/or limited detail in the impression), a more positive association was not made. Q-5: It is the opinion of the undersigned examiners that the Questioned footwear impression in Q-5 corresponds in physical size, physical shape, outsole design, wear characteristics, and Individual characteristics with the Known right shoe. The footwear impression was made by the Known right shoe. Q-6: It is the opinion of the undersigned examiners that the Questioned footwear impression in Q-6 corresponds in physical size, physical shape, outsole design, wear characteristics, and Individual characteristics with the Known right shoe. The footwear impression was made by the Known right shoe.</p>
L33QPE-5331	<p>Questioned imprints of Q1-Q6 compared with known imprints made with the recovered shoes found to be consistent in shape, physical size.</p>
L68RWJ-5331	<p>01-01: This item (Items K1a-K1g) was used for comparison purposes. 01-02: This photograph depicts a total of three questioned footwear impressions (Q1-Q3). One of the questioned impressions (Q1) is a complete right footwear impression and is similar in size, shape, and tread design to the suspect's right shoe (01-01). In addition, there are two randomly acquired characteristics visible in the questioned impression and on the outsole of this shoe. It is my opinion that this questioned impression was made by the suspect's right shoe (Category 1). The other two questioned impressions (Q2 and Q3) are nearly complete left footwear impressions and are similar in size, shape, and tread design to the suspect's left shoe (01-01). In addition, there are three randomly acquired characteristics visible in each of the questioned impressions and on the outsole of this shoe. It is my opinion that these questioned impressions were made by the suspect's left shoe (Category 1). 01-03: This photograph depicts a total of three questioned footwear impressions (Q4-Q6). One of the questioned impressions (Q4) is a nearly complete left footwear impression and is similar in size, shape, and tread design to the suspect's left shoe (01-01). In addition, there are three randomly acquired characteristics visible in the questioned impression and on the outsole of this shoe. It is my opinion that this questioned impression was made by the suspect's left shoe (Category 1). The other two questioned impressions (Q5 and Q6) are nearly complete right footwear impressions and are similar in size, shape, and tread design to the suspect's right shoe (01-01). In addition, there are three randomly acquired characteristics visible in each of the questioned impressions and on the outsole of this shoe. It is my opinion that these questioned impressions were made by the suspect's right shoe (Category 1).</p>
LGHRL6-5331	<p>The impression represented by Q1 has the same class characteristics as the right shoe K1. The impression represented by Q2 has a high degree of association to the left shoe K1. The impression represented by Q3 was made by the left shoe K1. The impression represented by Q4 was made by the left shoe K1. The impression represented by Q5 was made by the right shoe K1. The impression represented by Q6 has a high degree of association to the right shoe K1.</p>
LTBF9R-5331	<p>Three footwear imprints, Items 001-Q1, 001-Q5, and 001-Q6, were produced by the recovered right shoe represented in Items 001-K1a through 001-K1g. Three footwear imprints, Items 001-Q2, 001-Q3, and 001-Q4, were produced by the recovered left shoe represented in Items 001-K1a through 001-K1g.</p>
M6JKYJ-5335	<p>The right shoe of item K1 was identified as the source of impressions Q1, Q5 and Q6. The left shoe of item K1 was identified as the source of impressions Q2, Q3 and Q4.</p>

TABLE 2

WebCode-Test	Conclusions
MH8FH6-5331	Questioned imprints of Q1-Q6 were compared with known imprint made with the recovered shoes. Questioned imprints of Q1, Q5, Q6 were found to be consistent in shape, physical size, and individual characteristics with the imprint of the suspect right shoe. Questioned imprints of Q2, Q3, Q4 were found to be consistent in shape, physical size, and individual characteristics with the imprint of the suspect left shoe.
MKYLUP-5335	Two photographs (Item Q) were examined for the presence of footwear impressions. Six footwear impressions were observed on the two photographs; Impressions Q1, Q2, Q3 were observed on photograph 19-5335_Q1-Q3 and Impressions Q4, Q5, Q6 were observed on photograph 19-5335_Q4-Q6. The six impressions were compared to the shoes in Item K and the test impressions made from the shoes in Item K (Item K TESTIMP). Impressions Q1, Q5, and Q6 has similarities in size, shape, tread design, and individualizing characteristics with the right shoe in Item K; therefore, Impressions Q1, Q5, and Q6 are identified as being made by the right shoe in Item K. Impressions Q2, Q3, and Q4 has similarities in size, shape, tread design, and individualizing characteristics with the left shoe in Item K; therefore, Impressions Q2, Q3, and Q4 are identified as being made by the left shoe in Item K.
MMLDM8-5332	Q5, Q6 and recovered shoes share agreement of class and randomly acquired characteristics of sufficient quality and quantity. Q1, ~ Q4 and recovered shoes share same class characteristics, unusual wear and/or one or more randomly acquired characteristics, too.
MMZCQ9-5331	The Items Q1 through Q6 questioned footwear impressions were analyzed, compared and evaluated with the Items K1 right and left known footwear. The Item Q1 questioned footwear impression corresponds in tread design, physical size, general wear, and accidental characteristics with the Item K1 right shoe. The Item Q2 questioned footwear impression corresponds in tread design, physical size, general wear and accidental characteristics with the Item K1 left shoe. The Item Q3 questioned footwear impression corresponds in tread design, physical size, general wear, and accidental characteristics with the Item K1 left shoe. The Item Q4 questioned footwear impression corresponds in tread design, physical size, general wear, and accidental characteristics with the Item K1 left shoe. The Item Q5 questioned footwear impression corresponds in tread design, physical size, general wear, and accidental characteristics with the Item K1 right shoe. The Item Q6 questioned footwear impression corresponds in tread design, physical size, general wear, and accidental characteristics with the Item K1 right shoe. Based upon the above factors, this examiners opinion is as follows: The Item K1 right shoe was the source of, and made, the questioned footwear impressions Q1, Q5 and Q6. The questioned impressions Q1, Q5 and Q6 and the known footwear K1 right shoe share agreement of class and randomly acquired characteristics of sufficient quality and quantity. Another item of footwear being the source of the impression is considered a practical impossibility. The Item K1 left shoe was the source of, and made, the questioned footwear impressions Q2, Q3 and Q4. The questioned impressions Q2, Q3 and Q4 and the known footwear K1 left shoe share agreement of class and randomly acquired characteristics of sufficient quality and quantity. Another item of footwear being the source of the impression is considered a practical impossibility. All conclusions listed herein have been verified by a second qualified latent print examiner.
MYBE4D-5331	The impression and partial impressions visible on the photographs labeled Q1, Q5 and Q6 were identified as having been made by the outsole of the right shoe labeled K1. The partial impressions visible on the photographs labeled Q2, Q3 and Q4 were identified as having been made by the outsole of the left shoe labeled K1.
N3R4XB-5331	Photographs of known shoe soles and photographs of imprints made from those known shoes submitted as Items K1a-K1g were examined and compared to photographs of questioned shoe prints submitted as Items Q1-Q6. Items Q1, Q5, and Q6 were made by the K1 right shoe. Items Q2-Q4 were made by the K1 left shoe.
N3VTF8-5331	Q1 could have been made by K1 right or another shoe exhibiting the same characteristics. Q2 and Q3 could have been made by K1 left or another shoe exhibiting the same characteristics. Q4 was made by K1 left. Q5 and Q6 were made by K1 right.

TABLE 2

WebCode-Test	Conclusions
N79YR8-5331	<p>ITEMS OF EVIDENCE: 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: Transparencies reprinted from the Item 3 known imprint photographs. Item: 4 - Items Q1-Q3: Questioned imprints found inside the art studio (textured vinyl tile). Item: 4.1: Questioned footwear impression represented as Q1. RESULTS: The Item 4.1 impression was made by the Item 1 right shoe. Item: 4.2: Questioned footwear impression represented as Q2. RESULTS: The Item 4.2 impression was made by the Item 1 left shoe. Item: 4.3: Questioned footwear impression represented as Q3. RESULTS: The Item 4.3 impression was made by the Item 1 left shoe. Item: 5 - Items Q4-Q6: Questioned imprints found in the wash area of the art studio (textured ceramic tile). Item: 5.1: Unknown footwear impression represented as Q4. RESULTS: The Item 5.1 impression was made by the Item 1 left shoe. Item: 5.2: Unknown footwear impression represented as Q5. RESULTS: The Item 5.2 impression was made by the Item 1 right shoe. Item: 5.3: Unknown footwear impression represented as Q6. RESULTS: The Item 5.3 impression was made by the Item 1 right shoe. Impression evidence in this case was examined utilizing the ACE-V methodology.</p>
NXZ39B-5331	<p>By comparing a shoe with a questioned impression, it may be possible to determine whether or not the shoe made that impression. This conclusion is based on the correspondence or otherwise of characteristics such as sole pattern and size, degree of wear and the presence or absence of random sole damage, such as nicks, cuts and embedded stones. In determining the strength of a correspondence between an impression and a shoe, I have considered the following two propositions: the likelihood of finding the shoe impression evidence if the shoe in question made the impression, and the likelihood of finding the shoe impression evidence if the shoe did not make the impression. The statement of opinion as to the scientific significance of the correspondence between the shoe and the 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 and is conclusive. There was a correspondence of pattern elements, dimensions and wear between the right Nike shoe and Impression Q1. There appeared to be some correspondence of randomly acquired characteristics between the impression and shoe, however there was limited clarity in the impression in these areas. In my opinion, this provides strong support for the proposition that the right shoe made the impression Q1. However, another right shoe with the same sole characteristics may have also made the impression Q1. There was a correspondence of pattern elements, dimensions, wear and a randomly acquired characteristic between the left Nike shoe and Impression Q2. In my opinion, this provides very strong support for the proposition that the left shoe made the impression Q2. However, another left shoe with the same sole characteristics may have also made the impression Q2. There was a correspondence of pattern elements, dimensions, wear and a randomly acquired characteristic between the left Nike shoe and Impression Q3. In my opinion, this provides very strong support for the proposition that the left shoe made the impression Q3. However, another left shoe with the same sole characteristics may have also made the impression Q3. There was a correspondence of pattern elements, dimensions, wear and randomly acquired characteristics between the left Nike shoe and Impression Q4. However, there was a possible randomly acquired characteristic that was visible in the scene impression that was not present on the test impressions of the sole of the left shoe. In my opinion, this provides very strong support for the proposition that the left shoe made the impression Q4. However, another left shoe with the same sole characteristics may have also made the impression Q4. There was a correspondence of pattern elements, dimensions, wear and randomly acquired characteristics between the right Nike shoe and Impression Q5. In my opinion, this is conclusive evidence that the right shoe made the scene impression Q5. There was a correspondence of pattern elements, dimensions, wear and randomly acquired characteristics between the right Nike shoe and Impression Q6. In my opinion, this is conclusive evidence that the the right shoe made the scene impression Q6.</p>
PAAYR6-5331	<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, Q5, and Q6 correspond to the known right shoe in tread pattern, tread size, tread wear, and individual characteristics including scratches and nicks in the tread surface. Thus, Q1, Q5, and Q6 were made by the known right shoe. Q2, Q3, and</p>

TABLE 2

WebCode-Test	Conclusions
PBHN2M-5335	<p>Q4 correspond to the known left shoe in tread pattern, tread size, tread wear, and individual characteristics including scratches and nicks in the tread surface. Thus, Q2, Q3, and Q4 were made by the known left shoe.</p>
PCDMX2-5331	<p>Two photographs were examined for footwear impressions. Six footwear impressions (Impressions Q1-Q6) suitable for comparison were observed on the two photographs. The six footwear impressions, labeled Q1-Q6, from the two photographs were compared to the suspect's shoes (Item K1a-K1g). Three footwear impressions, labeled Q2, Q3, and Q4, was similar in size, shape, and tread design to the suspect's left shoe (Item K1a-K1g). There was sufficient quality and quantity of individualizing characteristics in agreement between Impression Q2, Q3, and Q4 and the suspect's left shoe (K1a-K1g); therefore, Impressions Q2, Q3, and Q4 were identified as having been made by the suspect's left shoe in Item K1a-K1g. Three footwear impressions, labeled Q1, Q5, and Q6, were similar in size, shape and tread design to the suspect's right shoe (Item K1a-K1g). There was sufficient quality and quantity of individualizing characteristics in agreement between Impressions Q1, Q5, and Q6 and the suspect's right shoe (K1a-K1g); therefore, Impressions Q1, Q5, and Q6 were identified as having been made by the suspect's right shoe in Item K1a-K1g.</p>
PGRXB6-5331	<p>Impressions Q1, Q5, Q6 were made by right shoe from recovered pair of shoes (marked K1 - Nike, size 8 (US), 5.5 (UK), 39 (EUR), 25 (CM)). Impressions Q2, Q3, Q4 were made by left shoe from recovered pair of shoes (marked K1 - Nike, size 8 (US), 5.5 (UK), 39 (EUR), 25 (CM)).</p>
PLLWPZ-5331	<p>Imprint Q1 is identified as being made by the right shoe of item K1, Imprint Q2 is identified as being made by the left shoe of item K1, Imprint Q3 is identified as being made by the left shoe of item K1, Imprint Q4 is identified as being made by the left shoe of item K1, Imprint Q5 is identified as being made by the right shoe of item K1, Imprint Q6 is identified as being made by the right shoe of item K1.</p>
Q8ZEEN-5332	<p>The footwear impressions labeled 1, 5, and 6 orient with the K1 right shoe. In addition, these impressions correspond in outsole design and physical size and share randomly acquired characteristics with the outsole of the right shoe. Therefore, the K1 right shoe is identified as the source of the impressions labeled 1, 5, and 6. The footwear impressions labeled 2, 3, and 4 orient with the K1 left shoe. In addition, these impressions correspond in outsole design and physical size and share randomly acquired characteristics with the outsole of the left shoe. Therefore, the K1 left shoe is identified as the source of the impressions labeled 2, 3, and 4.</p>
QPEKDK-5335	<p>There was sufficient correspondence of sole pattern, size, level of wear and randomly acquired characteristics between the shoe marks labelled (Q1), (Q5) &(Q6) and the test mark taken from the right 'Nike' brand shoes. As such this shoe produced the mark, to the exclusion of all others (Identification). There was sufficient correspondence of sole pattern, size, level of wear and randomly acquired characteristics between the shoe marks labelled (Q2), (Q3) &(Q4) and the test mark taken from the left 'Nike' brand shoes. As such this shoe produced the mark, to the exclusion of all others (Identification).</p>
R68CZ8-5331	<p>Q1, Q5, and Q6 were identified to the right shoe from item K. Q2, Q3, and Q4 were identified to the left shoe from item K.</p> <p>Impression Q1: In the opinion of this examiner, the particular known footwear was the source of, and made, the questioned impression. Another item of footwear being the source of the impression is considered a practical impossibility. This is based on consistency between the known right shoe and this impression based on design features, sizing, wear pattern, and six individual characteristics. Impression Q2: In the opinion of this examiner, the particular known footwear was the source of, and made, the questioned impression. Another item of footwear being the source of the impression is considered a practical impossibility. This is based on consistency between the known left shoe and this impression based on design features, sizing, wear pattern, and five individual characteristics. Impression Q3: In the opinion of this examiner, the particular known footwear was the source of, and made, the questioned impression. Another item of footwear being the source of the impression is considered a practical impossibility. This is based on consistency between the known left shoe and this impression based on design features, sizing, wear pattern, and five individual characteristics. Partial unlabeled Impression on Photo containing Q1 through Q3: In the opinion of this examiner, the known left footwear is a possible</p>

TABLE 2

WebCode-Test	Conclusions
	<p>source of the questioned impression and therefore could have produced the impression. Other footwear with the same design features, spatial relationship, and wear observed in the impression are included in the population of possible sources. Further, it is the opinion of this examiner, dissimilarities between the questioned impression and the known right footwear based on wear and spatial relationship indicated non-association; however, the details were not sufficiently clear to permit exclusion. Impression Q4: In the opinion of this examiner, the particular known footwear was the source of, and made, the questioned impression. Another item of footwear being the source of the impression is considered a practical impossibility. This is based on consistency between the known left shoe and this impression based on design features, sizing, wear pattern, and four individual characteristics. Impression Q5: In the opinion of this examiner, the particular known footwear was the source of, and made, the questioned impression. Another item of footwear being the source of the impression is considered a practical impossibility. This is based on consistency between the known right shoe and this impression based on design features, sizing, wear pattern, and six individual characteristics. Impression Q6: In the opinion of this examiner, the particular known footwear was the source of, and made, the questioned impression. Another item of footwear being the source of the impression is considered a practical impossibility. This is based on consistency between the known right shoe and this impression based on design features, sizing, wear pattern, and five individual characteristics. Partial unlabeled Impression on Photo containing Q4 through Q6: In the opinion of this examiner, the characteristics observed exhibit strong associations between the questioned impression and the known footwear; however, the quantity was 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 design features, degree of wear, and the one individual characteristic that is exhibited in the known left shoe.</p>
RF2JKA-5331	<p>Q1 is full right footwear impression. The right outsole as represented by K1a was identified as making this impression. Q2 is an almost full left footwear impression. The left outsole as represented by K1a was identified as making this impression. Q3 is a partial left outsole impression. The left outsole as represented by K1a was identified as making this impression. Q4 is an almost full left outsole impression. The left outsole as represented by K1a was identified as making this impression. Q5 is an almost full right outsole impression. The right outsole as represented by K1a was identified as making this impression. Q6 is an almost full right outsole impression. The right outsole as represented by K1a was identified as making this impression.</p>
RGFHNE-5335	<p>The results of the examination extremely strongly support that the imprint Q1, Q5, Q6 were made with the right shoe K1 (Level +4). The results of the examination extremely strongly support that the imprint Q2, Q3, Q4 were made with the left shoe K1 (Level +4).</p>
RU7E4C-5331	<p>The right known shoe (K1) is identified as the source of impressions Q1, Q5, and Q6. These impressions were made with this particular shoe. The left known shoe (K1) is identified as the source of impressions Q2, Q3, and Q4. These impressions were made with this particular shoe. Two partial impressions which were not numbered in the K1 photographs (one near Q3, and one near Q5 and Q6) were not compared for this report.</p>
RVL4KQ-5331	<p>I would complete an [SOP] for the above Screening and the result would be: The footwear recovered consists of a pair of shoes coded as NIKE 2704 (exhibit ref K1). These shoes were compared in detail to the footwear marks recorded at PT-19-5331 (exhibits Q1 - Q6). The marks are in agreement with the submitted footwear in terms of pattern, configuration, size, general degree and position of wear, and Identifying features. These exhibits are recommended for submission to a Forensic Service Provider for evidential comparison and an [SOP] (or statement).</p>
T6KWBA-5335	<p>For the scenario given, my all my report conclusions would have wording something like this: It is the opinion of this examiner that the right shoe, from Item K1, was the source of Q1-IMP01 based on the correspondence in outsole design, the physical size and shape of the outsole design elements, and two randomly acquired characteristics. It is the opinion of this examiner that the left shoe, from Item K1, was the source of Q2-IMP01 based on the correspondence in outsole design, the physical size and shape of the outsole design elements, and three randomly acquired characteristics. It is the opinion of this examiner that the left shoe, from Item K1, was the source of Q3-IMP01 based on the correspondence in outsole design, the physical size and shape of the outsole design elements, and three randomly</p>

TABLE 2

WebCode-Test	Conclusions
	<p>acquired characteristics. It is the opinion of this examiner that the left shoe, from Item K1, was the source of Q4-IMP01 based on the correspondence in outsole design, the physical size and shape of the outsole design elements, and four randomly acquired characteristics. It is the opinion of this examiner that the right shoe, from Item K1, was the source of Q5-IMP01 based on the correspondence in outsole design, the physical size and shape of the outsole design elements, and five randomly acquired characteristics. It is the opinion of this examiner that the right shoe, from Item K1, was the source of Q6-IMP01 based on the correspondence in outsole design, the physical size and shape of the outsole design elements, and four randomly acquired characteristics.</p>
TAAX6F-5331	<p>"Dark Walked Impressions"</p>
TGVXGL-5332	<p>Footwear impressions suitable for comparative examination were noted in Exhibit Q1-Q3 and Exhibit Q4-Q6. Three (3) footwear impressions noted in Exhibit Q1-Q3 (image Q1) and Exhibit Q4-Q6 (images Q5 and Q6) were made by the right shoe depicted in Exhibits K1a through K1c based on design, physical size, shape, wear, manufacturer's logo (only images Q1 and Q6), corresponding stippling (only in images Q5 and Q6), 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. Four (4) footwear impressions noted in Exhibit Q1-Q3 (images Q2 and Q3) and Exhibit Q4-Q6 (images Q4 and Q8) were made by the left shoe depicted in Exhibits K1a through K1c based on design, physical size, shape, wear, manufacturer's logo (only images Q2, Q3 and Q4), corresponding stippling, 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.</p>
TMJ9JA-5335	<p>The Item K1 right shoe has been identified as being the source of the Q1FW1 impression. The Q1FW1 impression was not made by the left shoe. The Item K1 left shoe has been identified as being the source of the Q2FW1 impression. The Q2FW1 impression was not made by the right shoe. The Item K1 left shoe has been identified as being the source of the Q3FW1 impression. The Q3FW1 impression was not made by the right shoe. The Item K1 left shoe has been identified as being the source of the Q4FW1 impression. The Q4FW1 impression was not made by the right shoe. The Item K1 right shoe has been identified as being the source of the Q5FW1 impression. The Q5FW1 impression was not made by the left shoe. The Item K1 right shoe has been identified as being the source of the Q6FW1 impression. The Q6FW1 impression was not made by the left shoe.</p>
TRE9C8-5331	<p>A high degree of association (tread design, size, general wear, and possible randomly acquired characteristics) was determined to exist between the right shoe from which the photos/impressions (item #K1) were taken and the questioned impression Q1. A stronger conclusion could not be made due to a lack of quality/clarity in the questioned image/impression. Other footwear with the same class characteristics are included in the population of possible sources only if they display the same wear and possible randomly acquired characteristics observed in the questioned impression. The left shoe from which the photos/impressions (item #K1) were taken is identified as having made the questioned impressions Q2, Q3, and Q4 based on a correspondence of observed class characteristics (specific tread design and size), general wear, and randomly acquired characteristics of sufficient quality and quantity. The right shoe from which the photos/impressions (item #K1) were taken is identified as having made the questioned impressions Q5 and Q6 based on a correspondence of observed class characteristics (specific tread design and size), general wear, and randomly acquired characteristics of sufficient quality and quantity.</p>
U3DTZX-5335	<p>Seven footwear impressions (Q1 through Q7) suitable for comparison were observed in items 8 through 13. Please note that Q7 was not listed as a questioned impression by the Collaborative Testing Services, but it was determined to be suitable for comparison. Footwear impressions Q1 through Q7 were compared to known shoes K1 (items 1 through 7) with the following results: Q1 - K1 - right shoe was identified as the source of impression Q1. In the opinion of the examiner, K1-right shoe made impression Q1. Q2 - K1 - left shoe was identified as the source of impression Q2. In the opinion of the</p>

TABLE 2

WebCode-Test	Conclusions
	<p>examiner, K1-left shoe made impression Q2. Q3 - K1 - left shoe was identified as the source of impression Q3. In the opinion of the examiner, K1-left shoe made impression Q3. Q4 - K1 - left shoe was identified as the source of impression Q4. In the opinion of the examiner, K1-left shoe made impression Q4. Q5 - K1 - right shoe was identified as the source of impression Q5. In the opinion of the examiner, K1-right shoe made impression Q5. Q6 - K1 - right shoe was identified as the source of impression Q6. In the opinion of the examiner, K1-right shoe made impression Q6. Q7 - K1 - left shoe was identified as the source of impression Q7. In the opinion of the examiner, K1-left shoe made impression Q7. Item CD1 will be returned to the submitting agency. This item may contain digital images with information that may only be viewed using Adobe Photoshop software.</p>
U3UAVQ-5331	<p>Results: Q1: The questioned impression and the known impression of the right shoe in K1f share characteristics that are not expected to be encountered in the general population. The size, shape, and tread design are the same. Also present are wear patterns and some randomly acquired characteristics that are the same. This impression could have been made by this shoe. (Category 2A). Q2: The impression was similar in size, shape and tread design to the known impression of the left shoe in K1d and K1f. Similar randomly acquired characteristics that are significant in size, shape and clarity are also present. This impression was made by this shoe. (Category 1). Identifications are not absolute and a statistical significance cannot be assigned. Q3: The impression was similar in size, shape and tread design to the known impression of the left shoe in K1f. Similar randomly acquired characteristics that are significant in size, shape and clarity are also present. This impression was made by this shoe. (Category 1). Identifications are not absolute and a statistical significance cannot be assigned. Q4: The impression was similar in size, shape and tread design to the known impression of the left shoe in K1f. Similar randomly acquired characteristics that are significant in size, shape and clarity are also present. This impression was made by this shoe. (Category 1). Identifications are not absolute and a statistical significance cannot be assigned. Q5: The impression was similar in size, shape and tread design to the known impression of the right shoe in K1f. Similar wear patterns were noted. Similar randomly acquired characteristics that are significant in size, shape and clarity are also present. This impression was made by this shoe. (Category 1). Identifications are not absolute and a statistical significance cannot be assigned. Q6: The impression was similar in size, shape and tread design to the known impression of the right shoe in K1d and K1f. Similar wear patterns were noted. Similar randomly acquired characteristics that are significant in size, shape and clarity are also present. This impression was made by this shoe. (Category 1). Identifications are not absolute and a statistical significance cannot be assigned.</p>
U7AA4Y-5331	<p>Q1: The mark shows agreement in pattern, size, wear and fine detail to the sole of the right shoe such that in our opinion the right shoe was responsible for making the mark. Q2: The mark shows agreement in pattern, size, wear and fine detail to the sole of the left shoe such that in our opinion the left shoe was responsible for making the mark. Q3: The mark shows agreement in pattern, size, wear and limited fine detail to the sole of the left shoe such that in our opinion it is probable that the left shoe was responsible for making the mark. Q4: The mark shows agreement in pattern, size, wear and fine detail to the sole of the left shoe such that in our opinion the left shoe was responsible for making the mark. Q5: The mark shows agreement in pattern, size, wear and fine detail to the sole of the right shoe such that in our opinion the right shoe was responsible for making the mark. Q6: The mark shows agreement in pattern, size, wear and fine detail to the sole of the right shoe such that in our opinion the right shoe was responsible for making the mark.</p>
UBPHPD-5331	<p>i. Q1 and K1R are consistent and exhibit no discriminating differences with respect to class characteristics: size, shape, tread design, and wear pattern. In addition, Q1 and K1R exhibit 5 corresponding individual characteristics and one area of feathering. ii. Q2 and K1L are consistent and exhibit no discriminating differences with respect to class characteristics: size, shape, tread design, and wear pattern. In addition, Q2 and K1L exhibit 4 corresponding individual characteristics and one area of feathering. iii. Q3 and K1L are consistent and exhibit no discriminating differences with respect to class characteristics: size, shape, tread design, and wear pattern. In addition, Q3 and K1L exhibit 5 corresponding individual characteristics. iv. Q4 and K1L are consistent and exhibit no discriminating differences with respect to class characteristics: size, shape, tread design, and wear pattern. In addition, Q4 and K1L exhibit 3 corresponding individual characteristics and one area of feathering. V. Q5 and</p>

TABLE 2

WebCode-Test	Conclusions
	<p>K1R are consistent and exhibit no discriminating differences with respect to class characteristics: size, shape, tread design, and wear pattern. In addition, Q5 and K1R exhibit 4 corresponding individual characteristics and one area of feathering. vi. Q6 and K1R are consistent and exhibit no discriminating differences with respect to class characteristics: size, shape, tread design, and wear pattern. In addition, Q6 and K1R exhibit 5 corresponding individual characteristics and one area of feathering. 1. It is the opinion of the undersigned that questioned footwear impression Q1, Q5 and Q6 were made by the known right shoe K1R. 2. It is the opinion of the undersigned that questioned footwear impression Q2, Q3, Q4 and Q7 were made by the known left shoe K1L.</p>
UK9LLW-5331	<p>Questioned imprints, Q5 and Q6, have been made by the suspect's right shoe. Questioned imprint, Q1, shows a high degree of association with the suspect's right shoe. Questioned imprints, Q2 and Q4, show a high degree of association with the suspect's left shoe. Questioned imprint, Q3, show a limited association of class characteristics with the suspect's left shoe.</p>
UNDMYV-5331	<p>The Q1 footwear impression corresponds to the K1 right shoe in outsole design, physical size, wear and five randomly acquired characteristics. Therefore, the K1 right 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 three randomly acquired characteristics. Therefore, the K1 left shoe was identified as the source of this impression. The Q3 footwear impression corresponds to the K1 left shoe in outsole design, physical size, wear and four randomly acquired characteristics. Therefore, the K1 left shoe was identified as the source of this impression. The Q4 footwear impression corresponds to the K1 left shoe in outsole design, physical size, wear and three randomly acquired characteristics. Therefore, the K1 left shoe was identified as the source of this impression. The Q5 footwear impression corresponds to the K1 right shoe in outsole design, physical size, wear and five randomly acquired characteristics. Therefore, the K1 right shoe was identified as the source of this impression. The Q6 footwear impression corresponds to the K1 right shoe in outsole design, physical size, wear and five randomly acquired characteristics. Therefore, the K1 right shoe was identified as the source of this impression.</p>
UNR99W-5331	<p>Impressions Q1, Q5, Q6 were made by right shoe from recovered pair of shoes (marked K1 - Nike, size 8 (US), 5.5 (UK), 39 (EUR), 25 (CM)). Impressions Q2, Q3, Q4 were made by left shoe from recovered pair of shoes (marked K1 - Nike, size 8 (US), 5.5 (UK), 39 (EUR), 25 (CM)).</p>
UUXPK-5331	<p>The impressions marked Q1, Q2, Q4, Q5, and Q6 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 shoes were the source of the impressions. The impression marked Q3 showed a strong association to the Suspect's shoes; however, the quality and quantity of individual characteristics were insufficient for an identification. Other footwear with the same class characteristics observed in the questioned impression are included in the population of possible sources but only if they display the same degree of wear and the same potential individual characteristics.</p>
UW4ALK-5331	<p>In the opinion of the examiner, Item 001.A (K1a) right Nike brand size 8 (US) shoe was the source of, and made, Item 001.H.01 (Q1) right full shoe track found on the textured vinyl tile inside the art studio. The questioned impression and the known footwear share agreement of class and randomly acquired (individual) characteristics of sufficient quality and quantity. In the opinion of the examiner, Item 001.A (K1a) left Nike brand size 8 (US) shoe was the source of, and made, Item 001.H.02 (Q2) left full shoe track found on the textured vinyl tile inside the art studio. The questioned impression and the known footwear share agreement of class and randomly acquired (individual) characteristics of sufficient quality and quantity. In the opinion of the examiner, Item 001.A (K1a) left Nike brand size 8 (US) shoe was the source of, and made, Item 001.H.03 (Q3) left full shoe track found on the textured vinyl tile inside the art studio. The questioned impression and the known footwear share agreement of class and randomly acquired (individual) characteristics of sufficient quality and quantity. In the opinion of the examiner, Item 001.A (K1a) left Nike brand size 8 (US) shoe was the source of, and made, Item 001.I.01 (Q4) left full shoe track found on the textured ceramic tile in the wash area of the art studio. The questioned impression and the known footwear share agreement of class and randomly acquired (individual)</p>

TABLE 2

WebCode-Test	Conclusions
	<p>characteristics of sufficient quality and quantity. In the opinion of the examiner, Item 001.A (K1a) right Nike brand size 8 (US) shoe was the source of, and made, Item 001.I.02 (Q5) right full shoe track found on the textured ceramic tile in the wash area of the art studio. The questioned impression and the known footwear share agreement of class and randomly acquired (individual) characteristics of sufficient quality and quantity. In the opinion of the examiner, Item 001.A (K1a) right Nike brand size 8 (US) shoe was the source of, and made, Item 001.I.03 (Q6) right full shoe track found on the textured ceramic tile in the wash area of the art studio. The questioned impression and the known footwear share agreement of class and randomly acquired (individual) characteristics of sufficient quality and quantity.</p>
V2YQR6-5331	<p>Footwear comparison conducted between suspect shoes (photographs K1a-K1c) and inked impression made with them (K1d-K1g) to scene impressions (Q1-Q3) on textured vinyl tiles and (Q4-Q6) on textured ceramic tiles. Q1, Q5 and Q6 were made by the suspect right shoe. Q2, Q3 and Q4 were made by a left shoe: Q2 shared a high degree of association with the suspect shoe. Q3 shared an association of class characteristics with the suspect shoe. Q4 shows some dissimilarities in comparison to the suspect shoe.</p>
V339G8-5331	<p>On examination, I found: i. The individual characteristics of the right shoe sole to be similar to the questioned imprints Q1, Q5 and Q6. ii. The individual characteristics of the left shoe sole to be similar to the questioned imprints Q2, Q3 and Q4. Therefore, I am of the opinion that i. The questioned imprints Q1, Q5 and Q6 were made by the right shoe. ii. The questioned imprints Q2, Q3 and Q4 were made by the left shoe.</p>
VBECKK-5331	<p>The right sneaker of K1 made impressions Q1, Q5, and Q6. The left sneaker of K1 made impressions Q2, Q3, and Q4.</p>
VFCRE2-5335	<p>[No Conclusions Reported.]</p>
VJVQQB-5331	<p>The Q1 impression on the vinyl tile could have been made by the K1 right shoe or by another right shoe with similar class characteristics of design, physical size, wear, and/or one or more randomly acquired characteristics in the visible areas. The Q2 and Q3 impressions on the vinyl tile could have been made by the K1 left shoe or by another left shoe with similar class characteristics of design, physical size, wear, and/or one or more randomly acquired characteristics in the visible areas. The Q4 impression on the ceramic tile could have been made by the K1 left shoe or by another left shoe with similar class characteristics of design, physical size, wear, and/or one or more randomly acquired characteristics in the area visible. The K1 Nike right shoe was identified as the source of the Q5 and Q6 shoe impressions on the ceramic tile based on correspondence of class characteristics and random accidental characteristics in the visible areas.</p>
VQE83L-5335	<p>The left and right shoes (soles and test impressions depicted in K1a through K1g) were compared to the impressions from the scene (depicted in Q1 through Q6 and X) with the following conclusions: IMPRESSIONS ON VINYL TILE IN THE ART STUDIO: Q1: The right shoe could be the source of Q1. HIGH DEGREE OF ASSOCIATION; Another right shoe containing a similar pattern, size, degree of wear, and randomly acquired characteristics could have made the impression. Q2: The left shoe could be the source of Q2. HIGH DEGREE OF ASSOCIATION; Another left shoe containing a similar pattern, size, degree of wear, and randomly acquired characteristics could have made the impression. Q3: The left shoe could be the source of Q3. HIGH DEGREE OF ASSOCIATION; Another left shoe containing a similar pattern, size, degree of wear, randomly acquired characteristics could have made the impression. IMPRESSION ON CERAMIC TILE IN THE ART STUDIO WASH ROOM: Q4: The left shoe was identified as the source of Q4. IDENTIFICATION; Q5: The right shoe was identified as the source of Q5. IDENTIFICATION; Q6: The right shoe was identified as the source of Q6. IDENTIFICATION; X: The left shoe could be the source of X. ASSOCIATION OF CLASS CHARACTERISTICS; Another shoe containing a similar pattern, orientation and spacing of pattern elements (including a shoe of different overall size), degree of wear and randomly acquired characteristic could have made the impression. The left shoe was eliminated as the source of Q1, Q5, and Q6. EXCLUSION; The right shoe was eliminated as the source of Q2, Q3, Q4, and X. EXCLUSION</p>

TABLE 2

WebCode- Test	Conclusions
WV6J2N- 5335	[No Conclusions Reported.]
W662W4- 5331	<p>The Q1, Q5, and Q6 questioned impressions were made by the K1 known right shoe. These identifications are based on sufficient agreement of the combination of individual characteristics and all discernible class characteristics. The Q2 questioned impression was made by the K1 known left shoe. This identification is based on sufficient agreement of the combination of individual characteristics and all discernible class characteristics. The Q4 questioned impression could not be identified as being made by the K1 known left shoe. This inconclusive result is due to insufficient quantity/quality of individual characteristics corresponding between Q4 and the K1 known left shoe. However, the K1 known left shoe and Q4 share similar class characteristics including design, physical size/shape, and wear features. In addition to these class characteristics there is one confirmed individual characteristic and one possible individual characteristic that cannot be confirmed without examination of the shoe. The Q3 questioned impression could not be identified or eliminated as being made by the K1 known left shoe. This inconclusive result is due to insufficient quantity/quality of individual characteristics corresponding between Q3 and the K1 known left shoe. However, the K1 known left shoe and Q3 share similar class characteristics including design, physical size/shape, and wear features. In addition to these class characteristics there is one possible individual characteristic that cannot be confirmed without examination of the shoe. The Q3 and Q4 questioned impressions were not made by the K1 known right shoe. These eliminations are due to the Q3 and Q4 questioned impressions being made by a left shoe and K1 being a right shoe.</p>
WCNAHE- 5331	<p>Based on the comparison of the images and shoes and the test impressions with the questioned impressions there was overall a high degrees of association between the questioned impressions and known Nike sports shoes sole patterns for both the left and right shoes. This high degree of association was the result of observing the following - the correspondence of class characteristics, in addition to unusual wear and/or one or more randomly acquired characteristics. There were no observable deviations of significance between the sole patterns in the images and test impressions with the questioned impressions.</p>
X26MWE- 5332	<p>Visual examination of the digital images reveals six questioned impressions suitable for comparison. Examination and comparisons of one of the questioned impressions (Q1) with the known right shoe item K1a-g reveals inconclusive results. The right shoe revealed significant similarities in class characteristics such as tread design, physical dimension, as well as corresponding condition of wear and random accidental characteristics which demonstrate a high degree of association between the questioned impression and the known right shoe. The clarity of the noted accidental characteristics prevented a stronger association. The questioned impressions Q2 and Q3 and Q4 were identified as having been made by the left shoe item K1a-g. The left shoe revealed significant similarities in class characteristics such as tread design, physical dimension, as well as corresponding condition of wear and random accidental characteristics to conclude these questioned impressions were made by this left shoe. The questioned impressions Q5 and Q6 were identified as having been made by the right shoe item K1a-g. The right shoe revealed significant similarities in class characteristics such as tread design, physical dimension, as well as corresponding condition of wear and random accidental characteristics to conclude these questioned impressions were made by this right shoe. An identification decision/conclusion is reached when the questioned impression and the known impression have corresponding detail, and the examiner would not expect to see the same arrangement of details repeated in an impression that came from a different source.</p>
X4AHTG- 5335	<p>Q1 - The known right Nike shoe shares a high degree of association with impression Q1, displaying an agreement of outsole class characteristics including specific shape, design and physical size, and high agreement of wear and randomly acquired characteristics. As a result, I formed the opinion that impression Q1 could have been made by the right Nike shoe or any other shoe with the same class characteristics, wear and randomly acquired characteristics. Limitations in the clarity of the impression precluded further determination of association or disassociation. Q2 - The known left Nike shoe shared an agreement of outsole class characteristics of specific shape, design and physical size, specific wear and randomly acquired characteristics with impression Q2. As a result, I formed the opinion that</p>

TABLE 2

WebCode- Test	Conclusions
	<p>Impression Q2 was made by the known left Nike Shoe. Q3 - The known left Nike shoe shares a high degree of association with impression Q3, displaying an agreement of outsole class characteristics including specific shape, design and physical size, and high agreement of wear and randomly acquired characteristics. As a result, I formed the opinion that impression Q3 could have been made by the left Nike shoe or any other shoe with the same class characteristics, wear and randomly acquired characteristics. Limitations in the clarity of the impression precluded further determination of association or disassociation. Q4 - The known left Nike shoe shares a high degree of association with impression Q4, displaying an agreement of outsole class characteristics including specific shape, design and physical size, and high agreement of wear and randomly acquired characteristics. As a result, I formed the opinion that impression Q4 could have been made by the left Nike shoe or any other shoe with the same class characteristics, wear and randomly acquired characteristics. Limitations in the clarity of the impression precluded further determination of association or disassociation. Q5 - The known right Nike shoe shared an agreement of outsole class characteristics of specific shape, design and physical size, specific wear and randomly acquired characteristics with impression Q5. As a result, I formed the opinion that Impression Q5 was made by the known right Nike Shoe. Q6 - The known right Nike shoe shared an agreement of outsole class characteristics of specific shape, design and physical size, specific wear and randomly acquired characteristics with impression Q6. As a result, I formed the opinion that Impression Q6 was made by the known right Nike Shoe. Partial between Q5 and Q6 - There is an association of class characteristics between the known left Nike Shoe and the partial impression located between Q5 and Q6. As a result, I formed the opinion that this partial impression could have been made by the left Nike shoe or any other shoe with the same class</p>
XD3T6X- 5331	Q1, Q5 and Q6 were made by the known right shoe. Q2, Q3, and Q4 could have been made by the known left shoe or another item exhibiting the same analyzed characteristics.
XGJN2H- 5331	Q1- CONCLUSIVE evidence. Q2- EXTREMELY STRONG evidence. Q3- VERY STRONG evidence. Q4- EXTREMELY STRONG evidence. Q5- CONCLUSIVE evidence. Q6- CONCLUSIVE evidence
XU7P22- 5331	<p>The characteristics observed exhibit strong associations between the questioned shoe impression Q1 and the right outsole of the Nike shoe comprising item K1a, however, the quality and clarity of the characteristics in the questioned impression were insufficient for an identification. The right shoe of item K1a is a possible source of the questioned impression and could have produced the impression. Other shoes with the same class characteristics are included as possible sources only if they display the same wear and randomly acquired characteristics seen in the questioned impression Q1. (High degree of association.) The characteristics observed exhibit strong associations between the questioned shoe impression Q2 and the left outsole of the Nike shoe comprising item K1a, however, the quality and clarity of the characteristics in the questioned impression were insufficient for an identification. The left shoe of item K1a is a possible source of the questioned impression and could have produced the impression. Other shoes with the same class characteristics are included as possible sources only if they display the same wear and randomly acquired characteristics seen in the questioned impression Q2. (High degree of association.) The characteristics observed exhibit strong associations between the questioned shoe impression Q3 and the left outsole of the Nike shoe comprising item K1a, however, the quality and clarity of the characteristics in the questioned impression were insufficient for an identification. The left shoe of item K1a is a possible source of the questioned impression and could have produced the impression. Other shoes with the same class characteristics are included as possible sources only if they display the same wear and randomly acquired characteristics seen in the questioned impression Q3. (High degree of association.) The characteristics observed exhibit strong associations between the questioned shoe impression Q4 and the left outsole of the Nike shoe comprising item K1a, however, the quality and clarity of the characteristics in the questioned impression were insufficient for an identification. The left shoe of item K1a is a possible source of the questioned impression and could have produced the impression. Other shoes with the same class characteristics are included as possible sources only if they display the same wear and randomly acquired characteristics seen in the questioned impression Q4. (High degree of association.) The outsole of the right Nike shoe comprising item K1a was the source of, and made, the questioned shoe impression Q5. The chance of another shoe outsole being the source of the impression is considered negligible. (Identification.) The outsole of the right Nike shoe comprising item K1a was the source of, and made, the questioned shoe impression Q6. The</p>

TABLE 2

WebCode- Test	Conclusions
	chance of another shoe outsole being the source of the impression is considered negligible. (Identification.)
XX3LX3-5335	The questioned impressions Q1, Q5, and Q6 corresponded in physical shape, physical size, outsole tread design, general wear characteristics, and individual characteristics with the respective portion of K1, right shoe. These questioned impressions were identified to the right shoe, K1. The questioned impressions Q3 and Q4 corresponded in physical shape, physical size, outsole tread design, general wear characteristics, mold/manufacturing characteristics, and individual characteristics with the respective portion of K1, left shoe. These questioned impressions were identified to the left shoe, K1. The questioned impression Q2 corresponded in physical shape, outsole tread design, and mold/manufacturing characteristics with the left shoe, K1. However, the questioned impression did not correspond in physical size or general wear characteristics with the left shoe, K1 and was excluded as being made by the left or right shoe, K1.
YE9V7M-5331	The Q1 green impression was similar in size, shape, and tread design to the suspect's right known shoe. Several small areas of wear and a randomly acquired characteristic was present that was consistent with the suspect's right known shoe. This green impression could have been made by the suspect's right shoe or another shoe with the same characteristics (Conclusion B). The Q5 and Q6 impressions were similar in size, shape, and tread design to the suspect's right known shoe. In addition, there were several randomly acquired characteristics and wear areas that were consistent with those in the suspect's right known shoe. These impressions were made by this shoe (Conclusion A). The Q2, Q3, and Q4 impressions were similar in size, shape, and tread design to the suspect's left known shoe. In addition, there were several randomly acquired characteristics and wear areas that were consistent with those in the suspect's left known shoe. These impressions were made by this shoe (Conclusion A). Identifications are not absolute and a statistical significance cannot be assigned.
YF7G99-5331	Q1, Q5, Q6 and K1R are consistent and exhibit no discriminating differences with respect to class characteristics: size, shape, tread design, and wear pattern. In addition: i. Q1 and K1R exhibit 6 corresponding individual characteristics. ii. Q5 and K1R exhibit 10 corresponding individual characteristics. iii. Q6 and K1R exhibit 11 corresponding individual characteristics. Q2, Q3, Q4 and K1L are consistent and exhibit no discriminating differences with respect to class characteristics: size, shape, tread design, and wear pattern. In addition: i. Q2 and K1L exhibit 7 corresponding individual characteristics. ii. Q3 and K1L exhibit 6 corresponding individual characteristics. iii. Q4 and K1L exhibit 13 corresponding individual characteristics. 1. It is the opinion of the undersigned that questioned footwear impression Q1, Q5 and Q6 were made by the known sneaker K1R. 2. It is the opinion of the undersigned that questioned footwear impression Q2, Q3, and Q4 were made by the known sneaker K1L.
YH8LJ9-5335	The questioned shoeprints Q2, Q3 and Q4 were found to agree in outsole pattern, size, wear characteristics and individual characteristics with the control shoeprints pertaining to the recovered left shoe. The questioned shoeprints Q2, Q3 and Q4 were made by the recovered left shoe. The questioned shoeprints Q1, Q5 and Q6 were found to agree in outsole pattern, size, wear characteristics and individual characteristics with the control shoeprints pertaining to the recovered right shoe. The questioned shoeprints Q1, Q5 and Q6 were made by the recovered right shoe.
YMZBVQ-5331	Three of the impressions (Q1, Q5 and Q6) match the right runner in pattern, size and other features. The other three impressions (Q2, Q3 and Q4) match the left runner in pattern, size and other features. The results offer extremely strong support for the view that the impressions were made by the runners of the suspect rather than other footwear. I have chosen the above from the following scale: weak support, moderate support, moderately strong support, strong support, very strong support, extremely strong support.
YQ3HPJ-5331	[No Conclusions Reported.]
Z6FAQV-5331	Q1, Q5 and Q6 come from right shoe K1. Q2, Q3 and Q4 come from left shoe K1.

TABLE 2

WebCode- Test	Conclusions
ZDDC3Z- 5331	Six questioned shoe marks were compared against the impressions of one known pair of shoes. On completing the examination I was unable to exclude the known shoes as a contributor to two of the questioned marks (Q4 and Q5). A further three of the questioned marks showed a high degree of association with the known shoes and likely to be a contributor (Q2, Q3 and Q6). One other mark was compared against the known shoes. The questioned mark (Q1) shared the same class characteristics of the known shoe through design, physical size and general wear. However; while not being able to exclude it; due to the substrate (textured wood pattern tile) the questioned mark was made on and the substance that made the mark (green paint) I am unable to confirm the known shoes as the contributor.
ZT76M2- 5335	It is my opinion that the right shoe was the source of, and made, the impression Q1-IMP1. Another item of footwear being the source of the impression is considered a practical impossibility. It is my opinion that the left shoe was the source of, and made, the impression Q2-IMP1. Another item of footwear being the source of the impression is considered a practical impossibility. It is my opinion that the left shoe was the source of, and made, the impression Q3-IMP1. Another item of footwear being the source of the impression is considered a practical impossibility. It is my opinion that the left shoe was the source of, and made, the impression Q4-IMP1. Another item of footwear being the source of the impression is considered a practical impossibility. It is my opinion that the right shoe was the source of, and made, the impression Q5-IMP1. Another item of footwear being the source of the impression is considered a practical impossibility. It is my opinion that the right shoe was the source of, and made, the impression Q6-IMP1. Another item of footwear being the source of the impression is considered a practical impossibility.

Additional Comments

TABLE 3

WebCode-Test	Additional Comments
372XZ2-5331	<p>Note 1: An additional footwear imprint (toe area) is on the upper half of the photo on the right edge that is not labeled. Note 2: Web search of UPC 00888411930815: found several images of a Nike Flex Experience sole which looked similar to that of K1, what I initially indicated as wear in the hexagons closest to the heel may not only indicate wear but also the way the raised dot pattern is on the shoe or where the hexagon falls on the raised dot pattern of the shoe. In review of the several images, only one image showed the open (possibly indented) circles; however, they were not in the same location as K1's so it is assumed these are random. Also, upon reviewing the several images, the placement of the indented hexagon which makes the pattern open hexagons also don't appear to be positioned in the exact same location within the hexagon. The placement of the hexagon indent may also be a random feature. Web images electronically stored and saved with the following file names AJ5900-600_609_alternative2, AJ5908-003_SOLE, AJ5908-400_462_alternative2, AJ5900401_4, nike-flex-experience-rn-8-university-red-mens-size-3, Nike-Flex-Experience-Run-7-4E-Black-Anthracite-1</p>
3N76E3-5331	<p>The test impressions/imprints made with the recovered shoes had voids and were not recorded well. It was confusing to have an additional impression in which answers were not required to be provided.</p>
3THDHT-5335	<p>It would be useful to have the actual training shoes for examination to confirm the nature of the features present, in particular, whether or not they are genuine damage features.</p>
3TW87L-5331	<p>There is one unmarked, partial, questioned footwear impression, on the sheet of photo paper, that bears the partial, questioned footwear impressions Q4, Q5 and Q6. The unmarked, partial, questioned footwear impression, corresponds in outsole design, general condition of wear and some individual characteristics with the known left shoe in Submission K and was probably made by that shoe.</p>
3WEYBG-5332	<p>Routinely, any detailed footwear marks examination requires the submission of the actual items of footwear so that any correspondence or difference, particularly in relation to randomly acquired characteristics, can be directly related to the items of footwear.</p>
4K2YC3-5335	<p>The additional partial questioned impression located on the same surface and in the same photograph as items Q4-Q6 was assigned as item Q7 and a comparative analysis was performed. The results are listed below. Q7: The characteristics observed exhibit strong associations between the questioned impression and known footwear; however, the quality and/or quantity were insufficient for an identification. The analysis of this comparison has determined that there is a high degree of association between Q7 and the left known shoe. The right shoe is excluded as the source of questioned impression Q7.</p>
4KX86Y-5331	<p>The printed image containing questioned impressions Q4-Q6 also contains a partial footwear impression of similar design that was not analyzed for the purposes of this report.</p>
66MM78-5332	<p>A further area of shoemark was evident in items Q4-Q6 to the right of Q5. I would have carried out a comparison on this mark also as it shows similar class characteristics to the known left shoe.</p>
67VAT8-5331	<p>An additional unlabeled left toe impression is present in the photo of Q4-Q6. This left toe impression is similar in general tread design to the left Nike shoe (Item K1), but is a more complete toe impression. Due to the limited test impressions provided, no conclusion was drawn. Additional comparisons may be performed if additional test impressions and / or the shoes (Item K1) are submitted for comparison.</p>
6MHBFG-5335	<p>Methods of Analysis: Items were analyzed using a combination of visual examination, test impression preparation, side by side comparison, and digital overlay comparisons.</p>
72WZQP-5332	<p>There was an additional partial footwear impression on the test that I was told to disregard by CTS.</p>
7VC9TQ-5331	<p>In my opinion the findings provide conclusive evidence that the marks Q2 to Q6 have been made by the submitted training shoes. It is also my opinion that the findings provide extremely strong support for the view that the mark Q1 has been made by the submitted right training shoe</p>

TABLE 3

WebCode-Test	Additional Comments
8A7Y8Z-5331	If I had the pair of recovered shoes, I may be able to determine if some of the defects were sub-class or randomly acquired characteristics. Hence I reserve the right to amend my opinion following the physical examination of the shoes.
8V7FCU-5331	*An additional partial footwear impression is contained on the photograph marked Q4-Q6. CTS was contacted and advised that the additional impression was not intended for examination.
8ZH9K9-5332	The white outlined circles observed on the outsole of the left shoe were reproducible in the submitted test-impressions and were clearly visible in the photographs of the outsole. These circles appear to be random and are not located on the outsole of the right shoe. However, without having the shoes to examine, these circles were assumed to be randomly acquired characteristics. There is texture on the heel area of the shoes. The photographs of the outsoles were examined and it appears that Schallamach is present on the inner edges of heel area. The Schallamach pattern differs from the textured area in that the Schallamach is linear and perpendicular to the abrasive surface as one would walk while wearing the shoes. However, without having the shoes to examine, the pattern was assumed to be Schallamach.
99UM34-5331	An additional portion of a left footwear impression was noted in the photograph with footwear impressions Q4 through Q6 located between Q5 and Q6. This impression was labelled Q7 and was made by the left shoe represented in the photographs of known sole designs K1a through K1g.
9K4H2Z-5331	We do take the liberty to mention, that the test prints don't match our standards imposed on ourselves. Since the crime scene prints, including all the randomly acquired characteristics or wear features are known, better attention to these (i.e. applying more ink / stronger color) would have been appreciated. The degree of how "presentable" the features are influences the degree of our conclusion.
AD2MJR-5331	A 7th questioned impression is observed on the Q4-Q6 photograph of the textured ceramic tile. Since this questioned impression is not numbered, it was not examined/compared. However, this questioned impression is of value for comparison and would be examined/compared in casework.
BAEXLD-5331	There was an additional partially, questioned footwear impression on the photograph labeled as "Items Q4 - Q6." This impression was from the toe portion of a left shoe but was not marked. Therefore in my conclusions it is listed as "the partial, questioned unmarked footwear impression of value."
BH8J3R-5331	Accidental damage was noted on photographs of outsoles. This would be confirmed by examining the shoes in question. Identifications were made on the basis that these features were confirmed as accidental damage, as in normal casework, by examining the items. Remaining features highlighted are assumed to be mould features.
BJJDKD-5331	An additional impression has been noted on the photograph recovered from the wash area in the art studio (textured ceramic tile). Our procedure would result in this case not being accepted into the unit and the CSI being informed of the error. Once this error has been amended and the case has been updated on the case management system the case can be accepted in the unit and be processed. In this instance I have assigned the additional impression the exhibit number of Q7 to ensure that this has been accounted for. Exhibit Q7 would have the result of B & L and this has been included in the [SOP] that has been produced for this case.
BMK3XG-5331	The sole of the left shoe contains some "circles" that appear to be a sub-class feature, perhaps from the mold. The left shoe toe area has a damaged area that "appears" to align with marks in the Q2 imprint; however, it is not definitive due to floor grain pattern and imprint over marks. This left shoe area where the defect is located is not shown in the Q3 and Q4 imprints.
C86H6E-5335	In forming the conclusions the circular features in the toe areas of the shoes are assumed to be moulding features and the inclusions between the pattern elements in the heel are taken to be stones or other debris and not mould features.
CT84RH-5331	Our laboratory does not use the sliding scale of conclusions as indicated on the previous page. We also must adhere to our State's report writing guidelines, which likewise does not include the sliding scale. We would typically report our conclusions as above. For Q2, Q3 and Q4, "C" was chosen because it best fits the way we currently report our conclusions. If our procedures did allow for the sliding scale, this analyst would have reported Q2, Q3 and Q4 as "B" ("Correspondence of class

TABLE 3

WebCode-Test	Additional Comments
	characteristics, in addition to unusual wear and/or one or more randomly acquired characteristics between the questioned and the known item".)
CWL7PV-5331	An additional partial questioned footwear impression, Q7, was observed near Q5 and Q6. Q7 and K1L are consistent and exhibit no discriminating differences with respect to class characteristics: size, shape, tread design, and wear pattern. In addition, Q7 and K1L exhibit (2) corresponding individual characteristics. It is the opinion of the undersigned that the questioned footwear impression Q7 could have been made by the known left shoe, K1L, or any other item exhibiting the same analyzed characteristics.
D38GG6-5332	It has been assumed that all six marks were made by the same pair of shoes, therefore, when taken collectively, the findings show conclusively that the marks in question were made by the training shoes.
D9EGJZ-5331	ASSUMPTIONS: It is assumed that the randomly acquired characteristics (RAC's) in the heel region of the left and right known shoes and questioned impressions Q1, Q2, Q3, Q4, Q5 and Q6 are actual RAC's and not as a result of manufacture marks. It is assumed that the RAC's in the ball region of the left known shoe and questioned impressions Q2, Q3 and Q4 are actual RAC's and not as a result of manufacture marks. LIMITATIONS: The limitation of this test is the absence of the actual known shoes for closer examination which precluded the opportunity to determine likelihood of manufacture marks compared to RAC's.
DUVW2R-5331	An additional impression was observed. No analysis was performed on this impression.
EMU3JK-5331	This was a well set-up test. Test prints could have been better.
ETX4JE-5331	Conclusions and terminology reported are based on [Laboratory] policy.
G662WZ-5335	There were a few features on both the right and left shoe soles (Item K1) that I noted as potential randomly acquired characteristics that corresponded to detail in the questioned impressions. However, based on the photos, it looked like it was possible that some of those features could have been mold defects or air bubbles (created during manufacture). It's possible that if I had the actual shoes rather than photos of them I could have better assessed those features. But, since I was limited to photos only, I could not eliminate the possibility that those particular features were sub-class characteristics.
GLPP4A-5331	The test marks provided were poor quality and did not show fine detail. It was difficult to assess some of the features on the soles of the shoes without being able to see the actual shoes. Some of the features could have been mould features rather than damage features and vice versa.
GWPU3V-5331	The conclusions are based on characteristics visible in the photographs alone without the shoes for better determinations regarding the presence, or true identification, of possible randomly acquired characteristics.
HHJQ2F-5331	There was an additional impression in the same photo as Q4-Q6 that was unmarked and did not have a space for reporting the comparison result. This was a point of confusion, as to whether CTS intended for this to be compared or not. Also, some of the small marks on the outsoles were difficult to determine from the photos whether they were individual/randomly acquired characteristics or not (e.g. mold/manufacturing defects), which precluded the ability to assign significance to any correspondence of those marks to the Q impressions.
K2PZ24-5331	An additional footwear impression in the upper righthand corner of the Items Q4-Q6 image was observed. However, this impression was not marked and the datasheet did not provide the ability to report any results from the comparison of this impression. Therefore, this impression was ignored.
N3R4XB-5331	A separate, unmarked, partial shoe print was located in the top, right corner of the photograph containing Q4-Q6. This shoe print was not examined.
N3VTF8-5331	Due to limited randomly acquired characteristics (individual characteristics) and/or the quality of the impression in Q1-Q3, choice C was chosen. Our laboratory currently does not use a range of conclusions based on our state's requirements and C was the best option to fit our reporting criteria (we

TABLE 3

WebCode-Test	Additional Comments
	do not use high degree of association). Had I been able to use that reporting title, I would have chosen B for Q2 and Q3. In our laboratory, no conclusions would be made without physically having the suspected shoes. Furthermore, additional exemplars/known imprints would have been created due to the quality of the ones received.
N79YR8-5331	During normal casework, the known shoes would be required in order to confirm any random identifying characteristics observed in the unknown impressions.
NXZ39B-5331	It was difficult to determine if the characteristics were from wear or randomly acquired from the photographs. If the shoes were examined, I may have been able to determine what the nature of the characteristics were.
RGFHNE-5335	The appearance of the shoe soles K1 was very 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 valuable and helpful in confirming the observed details.
RVL4KQ-5331	There is a further mark of a main sole area from the same pattern near Q5 and Q6 that has not been labelled/exhibited. I have compared this to the submitted footwear also, and found that it is in agreement with the Left shoe, and I would give a result of 'B' - High degree of association.
T6KWBA-5335	In the wording for the conclusions, I tried to used the item designations given. I would have sub designated differently had I had the actual shoes.
TGVXGL-5332	An additional footwear impression was noted in Exhibit Q4-Q6 and this impression was designated as image Q8 and is reported in the conclusions.
TMJ9JA-5335	I found it unusual that all of the impressions would be identified on a CTS proficiency test. I also thought that is was odd that there was a footwear impression noted on the image that contained Items Q4-Q6 that was not given a designation. The additional footwear impression was not labeled at all.
TRE9C8-5331	There was unmarked imprint on the sheet that contained Q4, Q5, and Q6.
U3DTZX-5335	Additional impression noted and reported.
U3UAVQ-5331	Additional impressions noted during examination in near impression Q6 that were not labeled. These were present near the heel and toe areas of impression Q6. No analysis or comparisons were conducted on these unlabeled impressions.
U7AA4Y-5331	Marks not within a scaled area would not generally be considered for a size comparison in routine casework. The "lifts" for the right shoes were outwith a scaled area and would not be used for comparison work in routine casework. We would normally receive the actual footwear to do a comparison rather than photographs of the soles. The multiple photographs did not allow us to accurately determine whether detail was damage or a manufacturing defect. It was noted that no marks showed a mix of green and black paint/material. The shoes would be examined for paint.
UBPHPD-5331	vii. Q7 and K1L are consistent and exhibit no discriminating differences with respect to class characteristics: size, shape, tread design, and wear pattern. In addition, Q7 and K1L exhibit 1 corresponding individual characteristics and one area of feathering.
UNDMYV-5331	An additional unlabeled questioned impression was noted on the image of impressions Q4 through Q6 but was not used for comparison.
V2YQR6-5331	Consideration needs to be given to the impact the washing of the shoes may have had. It is always preferable to have the actual shoes when conducting a comparison and for test impressions to be made on like surfaces.
VQE83L-5335	The impression designated "X" was an unlabeled footwear impression that was depicted on photograph Q4-Q6.
W662W4-5331	In many areas of my examination I was handicapped in this proficiency due to not physically having the shoes to examine. I was unable to verify certain characteristics as being individual in nature, or possibly

TABLE 3

WebCode-Test	Additional Comments
	<p>mold features, or air bubbles, etc. There was also a series of circular indentations / damage to the left shoe - it is unclear if this was meant to be individual in nature and again without having the shoe I was unable to make this determination; for that reason these circular indentations were not given much weight during my examination process and that affected the resulting conclusions. I understand it is not possible to provide the shoes to each participant, however if individual characteristics are added to an outsole for the sake of testing, it should be something that is easily determined to be individual because the shoes are not being provided. On the Q4-Q6 image provided there is a partial impression in the top right corner that does not have a Q number. It is the opposite foot from Q5 and Q6 which are nearest it. There was no indication in the instructions on what to do with this impression, neither Q5 or Q6 had additional spots for conclusions other than the main impression. This was very confusing and extra impressions that are away from designated Qs should be given a Q number or detail instructions on what the test taker is supposed to do with said impressions.</p>
WCNAHE-5331	<p>It may be possible with the actual examination of the shoes to determine if the observable features were randomly acquired characteristics or possible a combination of wear and manufacturing characteristics. From this determination it would then may lead to consider the possibility of positive identification of the suspect shoes with the questioned impressions.</p>
X26MWE-5332	<p>There is an additional partial toe impression noted on the question impression image of Q4-Q6 that was not numerated by CTS. No comparison results reported for this impression.</p>
X4AHTG-5335	<p>The substance that impression Q1 was made in appear more fluid, resulting in less clarity. The colour also lessened visualization of the detail of the impression. As a result less random characteristics and specific wear detail was able to be detected and a lower level of conclusion was achieved. For the left shoes, I could not confirm from the images if the circular artefact's in the forefoot were in fact random damage, or if they were some feature internal to the outsole that was coming through due to wear. Therefore, in impressions Q3 and Q4 where the forefoot is partially obscured/distorted and less random artefact's and specific wear was able to be viewed, the level of conclusion was lesser. IF the shoes were able to be physically examined this would provide further information as to the nature of the circular artefact's.</p>
XD3T6X-5331	<p>Our laboratory does not use the provided scale of conclusions. We adhere to our State's report writing guidelines which reports as stated in Section 2 above and does not use a scale. For Q2, Q3 and Q4, "C" was chosen because the underlined title of that selection best fit the way we currently report our conclusions. If our procedures did allow for a scale in reporting, this analyst would have chosen "B" "Correspondence of class characteristics, in addition to unusual wear and/or one or more randomly acquired characteristics between the questioned and the known item" for Q2, Q3 and Q4.</p>
XGJN2H-5331	<p>Q1- 5 x randomly acquired characteristics in agreement. Q2- 3 x randomly acquired characteristics in agreement (footwear slightly smaller than scene mark, however explainable as items suspected to have been washed i.e. possible shrinkage). Q3- 1 x randomly acquired characteristic in agreement (movement towards toe area). Q4- 3 x randomly acquired characteristics in agreement. Q5- 7 x randomly acquired characteristics in agreement. Q6- 6 x randomly acquired characteristics in agreement. N.B: Area to right of Q5 (left main sole area)- not in assessment but has 1 x randomly acquired characteristic in agreement (1 x cut)- B: HIGH DEGREE OF ASSOCIATION (Very Strong evidence)</p>
XU7P22-5331	<p>I found the test impressions of the toes and heels rolled separately to be inadequate for this comparison assessment. In this respect, I found a sizing discrepancy between the test impressions and Nike shoe outsoles. Accordingly, I solely relied upon the walked test impressions for this assessment. If this was a 'real world' comparison, I would have made inquiries with Nike with a view to establishing if some of the potential RAC's I found were true RAC's (unique to the shoe) or were defects in the factory moulds for the outsoles.</p>
YE9V7M-5331	<p>A partial impression of a toe region was present on the photo that included the Q4-Q6 impressions. This partial impression was not labeled.</p>
YMZBVQ-5331	<p>In our laboratory highest degree of association is "extremely strong support" rather than "identification". For this reason we selected "B" rather than "A" for the individual impressions Q2, Q4, Q5 and Q6.</p>

TABLE 3

WebCode- Test	Additional Comments
YQ3HPJ- 5331	An additional mark located beside Q5 contains same class characteristics, a number of randomly acquired characteristics and corresponding distinct wear with the impressions marked "Left Shoe".
ZDDC3Z- 5331	For the left known shoe I used six random acquired marks to compare against the questioned marks - Q2, Q3, Q4. While none achieved the six marks it wasn't due to the marks not being present it was because either the shoe mark was cut off prior to the mark or overlay in that area by another shoe impression. Q2 achieved 4 out of 6 with a further 1 (partial). Q3 achieved 4 out of 6 with mark ending prior. Q4 achieved 5 out of 6 with mark ending prior. I chose Q4 as the identifier because of it's higher rate of random acquired. For the right known shoe I could only confirm four random acquired marks to compare against the questioned marks - Q1, Q5, Q6. Q5 was the only one that achieved all four so it was chosen as the identifier. Q1 achieved 1 out of 4 couldn't confirm others were there (but not excluded). Q5 achieved 4 out of 4. Q6 achieved 3 out of 4 with mark ending prior

-End of Report-
(Appendix may follow)

Test No. 19-5331: Footwear Imprint Evidence

DATA MUST BE SUBMITTED BY **June 3, 2019, 11:59 p.m.** TO BE INCLUDED IN THE REPORT

Participant Code: U1234A

WebCode: 4HTGYJ

The Accreditation Release section can be accessed by using the "Continue to Final Submission" button above. This information can be entered at any time prior to submitting to CTS.

Scenario:

Police are investigating vandalism and property damage within a local high school. Footwear imprints were recovered from the art studio classroom and surrounding area, where supplies and a kiln were damaged and the walls were vandalized with paint. Based on security camera footage, a suspect was identified and shoes were recovered from her home the next day. The shoes appear to have been washed. Investigators are asking you to compare the imprints recovered at the scene with photographs of the shoe soles and known imprints made with the shoes. The recovered shoes are manufactured by Nike, and the shoe tag reads: US 8 UK 5.5 EUR 39 CM 25, 8/16/17 908996-010 9/11/17, 107795068, UPC 00888411930815.

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 shoe and walk across a sheet of paper.

Items Submitted (Sample Pack FIEP - Photographs):

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

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

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

Items Q1-Q3: Questioned imprints found inside the art studio. (textured vinyl tile)

Items Q4-Q6: Questioned imprints found in the wash area of the art studio. (textured ceramic tile)

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.

Art Studio		
<u>Imprint</u>		<u>L/R</u>
Q1:	<input type="text"/>	<input type="text"/>
Q2:	<input type="text"/>	<input type="text"/>
Q3:	<input type="text"/>	<input type="text"/>

Wash Area		
<u>Imprint</u>		<u>L/R</u>
Q4:	<input type="text"/>	<input type="text"/>
Q5:	<input type="text"/>	<input type="text"/>
Q6:	<input type="text"/>	<input type="text"/>

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

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

3.) Additional Comments

RELEASE OF DATA TO ACCREDITATION BODIES

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

CTS submits external proficiency test data directly to 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)