## Imprint Impression Evidence Test No. 16-533/534 Summary Report

This test was sent to 257 participants. Each sample pack contained either digitally produced photographs (16-533) or a DVD with digital images (16-534) of eight 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 214 participants, 176 for $16-533$ and 38 for 16-534 ( $83 \%$ response rate) and are compiled into the following tables:
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## Manufacturer's Information

Each sample pack consists of nine photographs. One photograph ( Kla ) shows the soles of the two suspect shoes lit from above. Two photographs ( K 1 b and K 1 c ) show the suspect soles lit with oblique lighting on the heels and toes, respectively. Four photographs (Kld, Kle, Klf and Klg) show known imprints made with the suspect shoes. Two photographs contain images of the eight questioned imprints, Q1-Q4 in the first photograph and Q5-Q8 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 identifications could be established.

SAMPLE PREPARATION -
The shoes used in this test had been worn frequently over the course of four months. Once the shoes were no longer worn, the soles were cleaned of any debris with water and paper towels. The owner of the suspect shoes wore them to produce the known imprints on Klf and Klg.

KNOWN IMPRINTS (Kld-Klg): Known imprints were created by coating the sole of each suspect shoe with fingerprint ink and producing individual imprints on office copy paper. The imprints on Kld and Kle were created by rolling each shoe onto paper attached to a fingerprinting palm roller. The toe and heel areas of each shoe were rolled separately, and the heels were placed above their respective toes to distinguish the imprints from those on KIf and Klg. The imprints on Klf and Klg were produced by walking across paper targets while wearing the suspect shoes.

QUESTIONED IMPRINTS (Q1-Q8): Questioned imprints Q1-Q8 were created by coating the sole of each shoe (see table below) with fingerprint ink and having the wearer of each pair of shoes walk across the vinyl tiles.

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.

## VERIFICATION -

Laboratories that conducted the pre-distribution examination of the images identified imprints Q1 and Q5 to the suspect's left shoe and identified imprints Q 4 and Q 8 to the suspect's right shoe. They eliminated imprints Q2, Q3, Q6, and Q7.

| Imprints | Shoe Type | Manufacturer | Left/Right | Size (U.S.) |
| :--- | :---: | :---: | :---: | :---: |
| Q2, Q6, Q7 | Moccasin shoe (Images not provided) | Tom's | Right | 6.5 |
| Q3 | Moccasin shoe (Images not provided) | Tom's | Left | 6.5 |
| Q1, Q5 | Moccasin shoe (Suspect Shoe K1) | Tom's | Left | 7.5 |
| Q4, Q8 | Moccasin shoe (Suspect Shoe K1) | Tom's | Right | 7.5 |

## Summary Comments

This test was designed to allow participants to assess their proficiency with footwear imprint examination. Test material consisted of two photographs containing eight questioned footwear imprints (Q1-Q8), a photograph of the two suspect shoe soles (Kla), two photographs of oblique lighted images of the same soles ( $\mathrm{Klb}-\mathrm{Klc}$ ), and four photographs of inked exemplar imprints made with the shoes ( $\mathrm{Kld}-\mathrm{Klg}$ ). Participants were requested to determine if any of the questioned imprints were made by the suspect shoes. Two of these imprints (Q4, Q8) were made by the suspect right shoe; two of these imprints (Q1, Q5) were made by the suspect left shoe. The remaining four imprints were made by two other shoes (Refer to the Manufacturer's Information for preparation details).

Of the 214 responding participants, 208 ( $97 \%$ ) reported all of the expected identifications and eliminations. The remaining six individuals all reported "Inconclusive" for one or more of the questioned imprints. Those reporting inconclusive findings only did so for prints with an expected outcome of elimination. The provided explanations centered on the variability and limited detail of randomly acquired characteristics within the questioned prints.

## Examination Results

Indicate the results of your comparisons of the suspect shoes with the questioned imprints
TABLE la (House \#1 Kitchen)

| Questioned Imprints |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| WebCode-Test | Q1 | Q2 | Q3 | Q4 |
| 232UNQ-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 28XFD8-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 2BFPGD-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 2C7YEL-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 2D2HGM-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 2LWA2A-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 2M8BM9-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 2YX9N7-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 32PEUP-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 392TCK-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 3AVJHY-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 3DBZPH-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 3DDPUF-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 3HCVXL-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| $3 \mathrm{~J} 33 \mathrm{~V} 4-533$ | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 3J7L4Z-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |

TABLE la (House \# 1 Kitchen)

| Questioned Imprints |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| WebCode-Test | Q1 | Q2 | Q3 | Q4 |
| 3ML3BJ-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 3QJJND-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 3VY6H7-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 44BJ3M-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 4A8JUZ-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 4E6WZX-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 4H68WX-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 4L79WV-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 4RPNE7-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 4RTYHQ-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 4VB9LW-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 4XEZDA-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 4YСВ9С-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 4YFP6L-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 67AGNY-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 6A9RKY-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 6DQ2M6-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |

TABLE la (House \# 1 Kitchen)

| Questioned Imprints |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| WebCode-Test | Q1 | Q2 | Q3 | Q4 |
| 6ELGY2-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 6JBYDD-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 72AECJ-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 79R4D4-533 | Left Shoe Identification | Inconclusive | Inconclusive | Right Shoe Identification |
| 7A77LX-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 7BDNKT-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 7NMCJH-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 7QQZB2-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 7R88KP-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 82P9D6-533 | Left Shoe Identification | Inconclusive | Elimination | Right Shoe Identification |
| 83G99U-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 88UUH2-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 8C8UET-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 8D2KK8-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 8DHRUV-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 8ED87R-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 8PYCER-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |

TABLE la (House \# 1 Kitchen)

| Questioned Imprints |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| WebCode-Test | Q1 | Q2 | Q3 | Q4 |
| 8WGK3N-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 8YJHDG-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 993QZB-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 9FRW8J-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 9VEH3A-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 9YXD73-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| A6F7WR-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| A6JQKV-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| A88CZP-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| A8P72Y-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| AB99X8-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| ACYJJX-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| AJG2QE-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| APQ7RE-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| AWLXC2-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| B6GBV2-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| B7CUYN-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |

TABLE la (House \# 1 Kitchen)

| Questioned Imprints |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| WebCode-Test | Q1 | Q2 | Q3 | Q4 |
| BH4RFT-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| BVBHHZ-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| BVN8HR-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| BW2U3R-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| BWJQKT-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| BXWBFN-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| C2ERAE-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| C38NWM-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| C4BPA6-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| C77YTM-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| CEZ8DE-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| CHXXAR-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| CNLHC8-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| CWETPN-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| CWGDMP-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| CXABQP-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| CZCEE7-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |

TABLE la (House \# 1 Kitchen)

| Questioned Imprints |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| WebCode-Test | Q1 | Q2 | Q3 | Q4 |
| D6NGZ2-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| DN4Q4M-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| DTD4LL-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| DW9XJM-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| DWFZEM-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| EE8BRN-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| EKWR7Z-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| ENU9HU-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| F7VFAZ-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| F86KL4-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| FB7K9F-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| FBLQKY-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| FEK464-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| FHPMEW-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| FJHNAM-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| FKCEF2-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| FL78ZC-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |

TABLE la (House \# 1 Kitchen)

| Questioned Imprints |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| WebCode-Test | Q1 | Q2 | Q3 | Q4 |
| FLPYAW-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| FMGY6M-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| FYALBH-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| G86V6D-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| GFEAY3-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| GL2DUC-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| GRNZPG-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| H3M3GR-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| HP49DE-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| J26FKV-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| J2LN9P-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| J4VPFH-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| J6CL9G-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| JCQGZ6-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| JCREBZ-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| JJQYFG-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| JU6TTV-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |

TABLE la (House \# 1 Kitchen)

| Questioned Imprints |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| WebCode-Test | Q1 | Q2 | Q3 | Q4 |
| K32YA4-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| K649TJ-533 | Left Shoe Identification | Inconclusive | Elimination | Right Shoe Identification |
| K6ZP7G-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| K93H9R-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| K9L99Z-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| KGYBH8-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| KHR4DQ-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| KKEUEV-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| KKGKLD-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| KLADGW-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| KNGJ84-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| KP9R4L-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| KTD9NB-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| L2WBVW-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| L3TNHP-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| L3XYM9-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| L93U79-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |

TABLE la (House \# 1 Kitchen)

| Questioned Imprints |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| WebCode-Test | Q1 | Q2 | Q3 | Q4 |
| LB7HZC-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| LJGRCC-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| LRTXY3-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| M9D7CQ-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| MBJQ2C-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| MCDG8Q-533 | Left Shoe Identification | Inconclusive | Elimination | Right Shoe Identification |
| MELK79-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| N8X7UM-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| NA9YX2-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| NB3P3G-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| NDKWEW-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| NGK6KR-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| NMBHKV-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| NN63DL-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| P3G2VR-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| P3LHUQ-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| PBWVWF-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |

TABLE la (House \# 1 Kitchen)

| Questioned Imprints |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| WebCode-Test | Q1 | Q2 | Q3 | Q4 |
| PJ79TP-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| PQ422J-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| PU8M23-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| PZZRTL-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| Q24YB6-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| Q6KFHN-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| Q6MUDW-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| QGVLVB-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| QGZ7HE-534 | Left Shoe Identification | Inconclusive | Inconclusive | Right Shoe Identification |
| QL7YCA-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| QLD29A-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| QRED67-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| R7TQC7-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| R9Z6JC-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| RRXGC8-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| RUEQFD-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| RWRD2X-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |

TABLE la (House \# 1 Kitchen)

| Questioned Imprints |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| WebCode-Test | Q1 | Q2 | Q3 | Q4 |
| T623FW-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| TDAJZB-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| TFY3R2-534 | Left Shoe Identification | Elimination | Inconclusive | Right Shoe Identification |
| TKR8JJ-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| TP38UP-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| TV9R3F-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| TYQZ7L-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| U6CDKE-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| U8WDLG-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| U9BNFE-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| UAH4MK-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| UDHH9P-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| UG7HY8-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| UHZF38-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| UPZQJX-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| UUA42W-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| V99GP7-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |

TABLE la (House \# 1 Kitchen)

| Questioned Imprints |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| WebCode-Test | Q1 | Q2 | Q3 | Q4 |
| VBDX9W-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| VLY2FV-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| VVFW9F-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| W3HGWW-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| W8U364-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| WGGD7H-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| WHAEXR-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| WQ2GEH-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| WWBQUQ-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| WX6GZ7-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| X46FNZ-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| X6VMKH-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| XKDAHV-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| XL9PUR-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| XRFGWX-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| XVVX4G-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| XYYLT6-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |

TABLE la (House \# 1 Kitchen)


## Examination Results

Indicate the results of your comparisons of the suspect shoes with the questioned imprints
TABLE 1b (House \#2 Foyer)

| Questioned Imprints |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| WebCode-Test | Q5 | Q6 | Q7 | Q8 |
| 232UNQ-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 28XFD8-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 2BFPGD-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 2C7YEL-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 2D2HGM-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 2LWA2A-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 2M8BM9-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 2YX9N7-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 32PEUP-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 392TCK-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 3AVJHY-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 3DBZPH-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 3DDPUF-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 3HCVXL-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| $3 \mathrm{~J} 33 \mathrm{~V} 4-533$ | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 3J7L4Z-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 3ML3BJ-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 3QJJND-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |

## TABLE 1b (House \#2 Foyer)

| Questioned Imprints |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| WebCode-Test | Q5 | Q6 | Q7 | Q8 |
| 3VY6H7-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 44BJ3M-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 4A8JUZ-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 4E6WZX-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 4H68WX-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 4L79WV-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 4RPNE7-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 4RTYHQ-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 4VB9LW-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 4XEZDA-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 4YCB9С-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 4YFP6L-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 67AGNY-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 6A9RKY-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 6DQ2M6-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 6ELGY2-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 6JBYDD-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 72AECJ-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 79R4D4-533 | Left Shoe Identification | Inconclusive | Inconclusive | Right Shoe Identification |

## TABLE 1b (House \#2 Foyer)

| Questioned Imprints |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| WebCode-Test | Q5 | Q6 | Q7 | Q8 |
| 7A77LX-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 7BDNKT-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 7NMCJH-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 7QQZB2-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 7R88KP-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 82P9D6-533 | Left Shoe Identification | Inconclusive | Elimination | Right Shoe Identification |
| 83G99U-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 88UUH2-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 8C8UET-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 8D2KK8-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 8DHRUV-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 8ED87R-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 8PYCER-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 8WGK3N-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 8YJHDG-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 993QZB-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 9FRW8J-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 9VEH3A-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| 9YXD73-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |

## TABLE 1b (House \#2 Foyer)

| Questioned Imprints |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| WebCode-Test | Q5 | Q6 | Q7 | Q8 |
| A6F7WR-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| A6JQKV-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| A88CZP-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| A8P72Y-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| AB99X8-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| ACYJJX-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| AJG2QE-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| APQ7RE-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| AWLXC2-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| B6GBV2-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| B7CUYN-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| BH4RFT-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| BVBHHZ-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| BVN8HR-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| BW2U3R-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| BWJQKT-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| BXWBFN-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| C2ERAE-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| C38NWM-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |

## TABLE 1b (House \#2 Foyer)

| Questioned Imprints |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| WebCode-Test | Q5 | Q6 | Q7 | Q8 |
| C4BPA6-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| C77YTM-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| CEZ8DE-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| CHXXAR-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| CNLHC8-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| CWETPN-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| CWGDMP-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| CXABQP-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| CZCEE7-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| D6NGZ2-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| DN4Q4M-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| DTD4LL-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| DW9XJM-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| DWFZEM-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| EE8BRN-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| EKWR7Z-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| ENU9HU-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| F7VFAZ-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| F86KL4-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |

## TABLE 1b (House \#2 Foyer)

| Questioned Imprints |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| WebCode-Test | Q5 | Q6 | Q7 | Q8 |
| FB7K9F-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| FBLQKY-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| FEK464-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| FHPMEW-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| FJHNAM-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| FKCEF2-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| FL78ZC-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| FLPYAW-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| FMGY6M-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| FYALBH-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| G86V6D-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| GFEAY3-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| GL2DUC-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| GRNZPG-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| H3M3GR-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| HP49DE-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| J26FKV-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| J2LN9P-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| J4VPFH-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |

## TABLE 1b (House \#2 Foyer)

| Questioned Imprints |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| WebCode-Test | Q5 | Q6 | Q7 | Q8 |
| J6CL9G-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| JCQGZ6-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| JCREBZ-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| JJQYFG-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| JU6TTV-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| K32YA4-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| K649TJ-533 | Left Shoe Identification | Elimination | Inconclusive | Right Shoe Identification |
| K6ZP7G-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| K93H9R-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| K9L99Z-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| KGYBH8-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| KHR4DQ-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| KKEUEV-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| KKGKLD-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| KLADGW-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| KNGJ84-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| KP9R4L-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| KTD9NB-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| L2WBVW-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |

## TABLE 1b (House \#2 Foyer)

| Questioned Imprints |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| WebCode-Test | Q5 | Q6 | Q7 | Q8 |
| L3TNHP-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| L3XYM9-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| L93U79-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| LB7HZC-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| LJGRCC-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| LRTXY3-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| M9D7CQ-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| MBJQ2C-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| MCDG8Q-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| MELK79-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| N8X7UM-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| NA9YX2-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| NB3P3G-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| NDKWEW-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| NGK6KR-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| NMBHKV-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| NN63DL-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| P3G2VR-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| P3LHUQ-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |

## TABLE 1b (House \#2 Foyer)

| Questioned Imprints |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| WebCode-Test | Q5 | Q6 | Q7 | Q8 |
| PBWVWF-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| PJ79TP-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| PQ422J-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| PU8M23-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| PZZRTL-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| Q24YB6-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| Q6KFHN-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| Q6MUDW-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| QGVLVB-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| QGZ7HE-534 | Left Shoe Identification | Inconclusive | Inconclusive | Right Shoe Identification |
| QL7YCA-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| QLD29A-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| QRED67-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| R7TQC7-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| R9Z6JC-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| RRXGC8-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| RUEQFD-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| RWRD2X-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| T623FW-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |

## TABLE 1b (House \#2 Foyer)

| Questioned Imprints |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| WebCode-Test | Q5 | Q6 | Q7 | Q8 |
| TDAJZB-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| TFY3R2-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| TKR8JJ-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| TP38UP-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| TV9R3F-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| TYQZ7L-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| U6CDKE-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| U8WDLG-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| U9BNFE-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| UAH4MK-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| UDHH9P-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| UG7HY8-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| UHZF38-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| UPZQJX-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| UUA42W-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| V99GP7-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| VBDX9 W-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| VLY2FV-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| VVFW9F-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |

## TABLE 1b (House \#2 Foyer)

| Questioned Imprints |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| WebCode-Test | Q5 | Q6 | Q7 | Q8 |
| W3HGWW-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| W8U364-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| WGGD7H-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| WHAEXR-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| WQ2GEH-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| WWBQUQ-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| WX6GZ7-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| X46FNZ-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| X6VMKH-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| XKDAHV-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| XL9PUR-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| XRFGWX-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| XVVX4G-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| XYYLT6-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| Y6EUK9-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| YCGQFR-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| YMD3MD-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| YN63H4-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| ZBWL9D-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |

## TABLE 1b (House \#2 Foyer)

| Questioned Imprints |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| WebCode-Test | Q5 | Q6 | Q7 | Q8 |
| ZCTW6F-533 Id | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| ZCWBZP-533 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| ZRP6BU-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| ZV4RY8-533 Id | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| ZVHD9A-533 Id | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| ZZBFAN-534 | Left Shoe Identification | Elimination | Elimination | Right Shoe Identification |
| Response Summary |  |  |  | Participants: 214 |
| Right Shoe Identification Left Shoe Identification Elimination Inconclusive | Q5 | Q6 | Q7 | Q8 |
|  | n 0 (0.0\%) | 0 (0.0\%) | 0 (0.0\%) | 214 (100.0\%) |
|  | 214 (100.0\%) | 0 (0.0\%) | 0 (0.0\%) | 0 (0.0\%) |
|  | 0 (0.0\%) | 211 (98.6\%) | 211 (98.6\%) | 0 (0.0\%) |
|  | 0 (0.0\%) | 3 (1.4\%) | 3 (1.4\%) | 0 (0.0\%) |

## Examination Results

TABLE 1c - Complete Results

| Response Summary |  |  |  | Participants: 214 |
| :---: | :---: | :---: | :---: | :---: |
|  | Q1 | Q2 | Q3 | Q4 |
| ~ Right Shoe Identification | 0 (0.0\%) | 0 (0.0\%) | 0 (0.0\%) | 214 (100.0\%) |
| Left Shoe Identification | 214 (100.0\%) | 0 (0.0\%) | 0 (0.0\%) | 0 (0.0\%) |
| 产 | 0 (0.0\%) | 209 (97.7\%) | 211 (98.6\%) | 0 (0.0\%) |
| Inconclusive | 0 (0.0\%) | 5 (2.3\%) | 3 (1.4\%) | 0 (0.0\%) |
|  | Q5 | Q6 | Q7 | Q8 |
| © Right Shoe Identification | 0 (0.0\%) | 0 (0.0\%) | 0 (0.0\%) | 214 (100.0\%) |
| - Left Shoe Identification | 214 (100.0\%) | 0 (0.0\%) | 0 (0.0\%) | 0 (0.0\%) |
| 产 Elimination | 0 (0.0\%) | 211 (98.6\%) | 211 (98.6\%) | 0 (0.0\%) |
| Inconclusive | 0 (0.0\%) | 3 (1.4\%) | 3 (1.4\%) | 0 (0.0\%) |

## Conclusions

## TABLE 2

## Conclusions

232UNQ-533 The known left footwear depicted in the photographs marked K1a, K1b and K1c, in exhibit IIEP, was the source of, and made, the questioned footwear impressions marked Q1 and Q5, in exhibit IIEP. Another item of footwear being the source of the impressions is considered a practical impossibility. The known right footwear depicted in the photographs marked Kla, K1b and K1c, in exhibit IIEP, was the source of, and made, the questioned footwear impressions marked Q4 and Q8, in exhibit IIEP. Another item of footwear being the source of the impressions is considered a practical impossibility. The known footwear depicted in the photographs marked $\mathrm{Kla}, \mathrm{K1b}$ and K1c, in exhibit IIEP, were not the source of, and did not make, questioned footwear impressions Q2, Q3, Q6 and Q7, in exhibit IIEP. Images of the unidentified footwear impressions in exhibit IIEP have been retained in our files in the event that future comparisons are requested.

28XFD8-533
Impression \#Q1 corresponded with the known left shoe \#K1 in outsole design, physical size/alignment of pattern elements and degree of wear. There was overwhelming correspondence in fabric impressions from the sole, the frayed edges of this fabric. There were numerous corresponding nicks, cuts and scratches apparent, sufficient to conclude that in this examiner's opinion, the known footwear (item \#K1 leff) was the source of the questioned impression (item \#Q1). There are no notable indications that the question impression (item \#Q1) was made by another source. Identification. Impression \#Q2 corresponded with the known right shoe \#K1 in outsole design however there were discernible differences in the physical size. Impression \#Q2 appears to have been made by a smaller shoe than \#K1 right. These differences were sufficient to say that in this examiner's opinion, the known footwear (item \#K1) was not the source of, and did not make, the questioned impression (item \#Q2). Exclusion. Impression \#Q3 corresponded with the known left shoe \#K1 in outsole design however there were discernible differences in the physical size. Impression \#Q2 appears to have been made by a smaller and more heavily worn shoe than \#K1 left. These differences were sufficient to say that in this examiner's opinion, the known footwear (item \#K1) was not the source of, and did not make, the questioned impression (item \#Q3). Exclusion. Impression \#Q4 corresponded with the heel of the known right shoe \#K1 in outsole design, physical size/alignment of pattern elements and degree of wear. There was overwhelming correspondence in fabric impressions, specific wear boundaries from the sole and the frayed edges of this fabric. There were at least 3 corresponding nicks, cuts and scratches apparent, sufficient to conclude that in this examiner's opinion, the known footwear (item \#K1 right) was the source of the questioned impression (item \#Q4). There are no notable indications that the question impression (item \#Q4) was made by another source. Identification. Impression \#Q5 corresponded with the heel of the known left shoe \#K1 in outsole design, physical size/alignment of pattern elements and degree of wear. There was overwhelming correspondence in fabric impressions, specific wear boundaries from the sole and the frayed edges of this fabric. There were at least 5 corresponding nicks, cuts and scratches apparent, sufficient to conclude that in this examiner's opinion, the known footwear (item \#K1 leff) was the source of the questioned impression (item \#Q5). There are no notable indications that the question impression (item \#Q4) was made by another source. Identification. Impression \#Q6 corresponded with the known right shoe \#K1 in outsole design however there were discernible differences in the physical size. Impression \#Q6 appears to have been made by a smaller and more heavily worn shoe than \#K1 right. These differences were sufficient to say that in this examiner's opinion, the known footwear (item \#K1) was not the source of, and did not make, the questioned impression (item \#Q6). Exclusion. Impression \#Q7 corresponded with the known right shoe \#K1 in outsole design however there were discernible differences in the physical size. Impression \#Q7 appears to have been made by a smaller and more heavily worn shoe than \#K1 right. These differences were sufficient to say that in this examiner's opinion, the known footwear (item \#K1) was not the source of, and did not make, the questioned impression (item \#Q7). Exclusion. Impression \#Q8 corresponded with the mid-toe region of the known right shoe \#K1 in outsole design, physical size/alignment of pattern elements and degree of wear. There was overwhelming correspondence in fabric impressions, specific wear boundaries from the sole and the frayed edges of this fabric.
There were at least 5 corresponding nicks, cuts and scratches apparent, sufficient to conclude that

## TABLE 2

## Conclusions

in this examiner's opinion, the known footwear (item \#K1 right) was the source of the questioned impression (item \#Q8). There are no notable indications that the question impression (item \#Q8) was made by another source. Identification.

2BFPGD-533 All questioned imprints show a similar pattern. Imprints Q1 and Q5 have the same size and class characteristics and the same degree of wear as the suspect's left shoe. Also each of them shows a number of additional marks which correspond to those in the known imprints ( $\mathrm{K} 1 \mathrm{~d}-\mathrm{Klg}$ ) made with the suspect's left shoe. Imprints Q4 and Q8 have the same size and class characteristics and the same degree of wear as the suspect's left shoe. Also each of them shows a number of additional marks which correspond to those in the known imprints ( $\mathrm{Kld}-\mathrm{Klg}$ ) made with the suspect's right shoe. As we only have photographs of the shoe sole of the suspect's shoes we are not able to distinguish exactly between marks resulting from the manufacturing process (class characteristics) and marks caused by subsequent wear and/or other identifying characteristics. Nevertheless, most of these marks are not typical of a manufacturing process. So our conclusions regarding imprints Q1, Q4, Q5, and Q8 are drawn with a high degree of probability but to be absolutely sure we would have to ask you to send us the original shoes. The imprints Q2, Q3, Q6 and Q7 can be eliminated. The class characteristics show the same pattern but significant differences exist in size, in the degree of wear and the individual characteristics.

2C7YEL-533 The Item Q1 through Q8 questioned shoe impressions were analyzed, compared and evaluated with the Item K1 Tom's, US size 7.5, shoes. The Item Q1 questioned shoe impression corresponds in tread design, physical size, specific wear and identifying characteristics with the Item K1 left shoe. The Item Q2 questioned shoe impression shares a similar tread design with the Item K1 right shoe. However, the Item Q2 questioned shoe impression does not correspond in physical size or specific wear with the Item K1 right shoe. The Item Q3 questioned shoe impression shares a similar tread design with the Item K1 left shoe. However, the Item Q3 questioned shoe impression does not correspond in physical size or specific wear with the Item K1 left shoe. The Item Q4 questioned shoe impression corresponds in tread design, physical size, specific wear and identifying characteristics with the Item K1 right shoe. The Item Q5 questioned shoe impression corresponds in tread design, physical size, specific wear and identifying characteristics with the Item K1 left shoe. The Item Q6 questioned shoe impression shares a similar tread design with the Item K1 right shoe. However, the Item Q6 questioned shoe impression does not correspond in physical size or specific wear with the Item K1 right shoe. The Item Q7 questioned shoe impression shares a similar tread design with the Item K1 right shoe. However, the Item Q7 questioned shoe impression does not correspond in specific wear with the Item K1 right shoe. The Item Q8 questioned shoe impression corresponds in tread design, physical size, specific wear and identifying characteristics with the Item K1 right shoe. Based upon the above factors, it is the opinion of this examiner that: The Item Q1 and Q5 questioned shoe impressions were made by the Item K1 left shoe. The Item Q4 and Q8 questioned shoe impressions were made by the Item K1 right shoe. The Item Q2, Q3, Q6 and Q7 questioned shoe impressions were not made by the Item K1 right or left shoes.
2D2HGM-533 K1a-K1g: This item was used for comparison purposes. Q1-Q4: This photograph depicts a total of four shoe impressions. Two of the questioned impressions (Q2, Q3) are similar in tread design, but different in size and/or shape from the suspect's shoes (01-01). It is my opinion that these two impressions were not made by the suspect's shoes (Category 5). One of the questioned impressions is a nearly complete left shoe impression (Q1) 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 remaining questioned impression is a partial shoe impression (Q4) 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). Q5-Q8: This photograph depicts a total of four shoe impressions. Two of the questioned impressions (Q6, Q7) are similar in tread design, but different in size and/or shape from the suspect's shoes (01-01). It is

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my opinion that these two impressions were not made by the suspect's shoes (Category 5). One of the questioned impressions is a partial shoe impression (Q5) and is similar in size, shape, and tread design to the suspect's left 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 left shoe (Category 1). The remaining questioned impression is a partial shoe impression (Q8) 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).
2LWA2A-533 The submitted evidence was examined and compared. Specimen Q1 consists of a nearly full footwear impression and is identical to the known left shoe depicted in images Kla through Klg . Specimen Q2 consists of a nearly full footwear impression. Q2 does not match the known shoes depicted in images Kla through Klg , therefore these shoes are eliminated as the source of the impression on specimen Q2. Specimen Q3 is a nearly full footwear impression. Q3 does not match the known shoes depicted in images Kla through Klg , therefore these shoes are eliminated as the source of the impression on specimen Q3. Specimen Q4 consists of a partial footwear impression and is identical to the known right shoe depicted in images Kla through Klg. Specimen Q5 consists of a partial footwear impression and is identical to the known left shoe depicted in images Kl a through Klg . Specimen Q6 is a nearly full footwear impression. Q6 does not match the known shoes depicted in images Kl a through Klg , therefore these shoes are eliminated as the source of the impression on specimen Q6. Specimen Q7 is a partial footwear impression. Q7 does not match the known shoes depicted in images Kla through Klg , therefore these shoes are eliminated as the source of the impression on specimen Q7. Specimen Q8 consists of a partial footwear impression and is identical to the known right shoe depicted in images Kla through Klg.
2M8BM9-533 Item Q1 was made by Item K1 Left Shoe. Item Q2 was not made by Item K1 Left or Right Shoe. Item Q3 was not made by Item K1 Left or Right Shoe. Item Q4 was made by Item K1 Right Shoe. Item Q5 was made by Item K1 Left Shoe. Item Q6 was not made by Item K1 Left or Right Shoe. Item Q7 was not made by Item K1 Left or Right Shoe. Item Q8 was made by Item K1 Right Shoe.
2YX9N7-533 Questioned imprints of Q1-Q8 were compared with known imprint made with the the recovered shoes. Questioned imprints of Q1, Q5 were found to be consistent in shape, physical size, and individual characteristics with the imprint of the recovered left shoe. Questioned imprints of Q4, Q8 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, Q6, Q7 were eliminated as having been made by the recovered shoe.
32PEUP-533 The Item K1 a left shoe was not the source of, and did not make, the Items Q2, Q4, Q6, Q7, and Q8 right shoe impressions. The Item Kla right shoe was not the source of, and did not make, the Items Q1, Q3, and Q5 left shoe impressions. The Item Q1 impression was compared to the Item Kla left shoe and found to exhibit class (tread pattern, physical size, and general condition of wear) and individual characteristic correspondence. It was concluded that the Item Kla left shoe was the source of, and made, the Item Q1 impression. Another shoe being the source of the Item Q1 impression is considered a practical impossibility. Due to class and individual characteristic differences, the Item K1a right shoe was not the source of, and did not make, the Item Q2 impression. Due to class and individual characteristic differences, the Item Kla left shoe was not the source of, and did not make the Item Q3 impression. The Item Q4 impression was compared to the Item Kla right shoe and found to exhibit class (tread pattern, physical size, and general condition of wear) and individual characteristic correspondence. It was concluded that the Item Kla right shoe was the source of, and made, the Item Q4 impression. Another shoe being the source of the Item Q4 impression is considered a practical impossibility. The Item Q5 impression was compared to the Item Kla left shoe and found to exhibit class (tread pattern, physical size, and general condition of wear) and individual characteristic correspondence. It was concluded that the Item Kla left shoe was the source of, and made, the Item Q5 impression. Another shoe being the source of the Item Q5 impression is considered a practical impossibility. Due to class

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and individual characteristic differences, the Item Kla right shoe was not the source of, and did not make, the Item Q6 and Q7 impressions. The Item Q8 impression was compared to the Item Kla right shoe and found to exhibit class (tread pattern, physical size, and general condition of wear) and individual characteristic correspondence. It was concluded that the Item Kla right shoe was the source of, and made, the Item Q8 impression. Another shoe being the source of the Item Q8 impression is considered a practical impossibility.

392TCK-533 The Items Q1, Q2, Q3, Q4, Q5, Q6, Q7 and Q8 questioned footwear impressions were analyzed, compared, and evaluated with the Item K1 known footwear. The Item Q1 questioned footwear impression corresponds in tread design, physical size, specific wear and accidental characteristics with the Item K1 left shoe. The Item Q2 questioned footwear impression shares similar tread design features with the Item K1 left/right shoes; however, does not correspond in wear. The Item Q3 questioned footwear impression shares similar tread design features with the Item K1 left/right shoes; however, does not correspond in wear. The Item Q4 questioned footwear impression corresponds in tread design, physical size, specific wear and accidental characteristics with the Item K1 right shoe. The Item Q5 questioned footwear impression corresponds in tread design, physical size, specific wear and accidental characteristics with the Item K1 left shoe. The Item Q6 questioned footwear impression shares similar tread design features with the Item K1 leff/right shoes; however, does not correspond in wear. The Item Q7 questioned footwear impression shares similar tread design features with the Item K1 left/right shoes; however, does not correspond in wear. The Item Q8 questioned footwear impression corresponds in tread design, physical size, specific wear and accidental characteristics with the Item K1 right shoe. Based upon the above factors, it is the opinion of this examiner that the ltems Q1 and Q5 questioned footwear impressions were made by the Item K1 left shoe. The Items Q4 and Q8 questioned footwear impressions were made by the Item K1 right shoe. The Items Q2, Q3, Q6 and Q7 questioned footwear impressions were not made by the Item K1 left/right shoes. All conclusions listed herein have been verified by a second qualified latent print examiner.
3AVJHY-533 Footwear Impressions Q1 and Q5 were made by the same left shoe as depicted in Known Impression K1g. Footwear Impression Q3 was made by a second left shoe, possibly the same type of shoe as the Known Footwear based on similarities in design elements. Footwear Impressions Q4 and Q8 were made by the same right shoe as depicted in Known Impression K1g. Footwear Impressions Q2, Q6 and Q7 were made by a second right shoe, possibly the same type of shoe as the Known Footwear based on similarities in design elements.
3DBZPH-533 Q1 is an almost full impression of a left shoe. The impression and the left suspect shoe both have similar over-all outsole design, similar size, similar wear pattern, and at least four individual or random characteristics. I conclude this impression was made by the left suspect shoe. Q2 is an almost full impression of a shoe. It more closely resembles a right shoe impression than a left shoe. Although it has a similar over-all outsole design to the suspect shoes, there are differences in the individual design elements. I conclude this impression was not made by the suspect shoes. Q3 is an almost full impression of a shoe. Although it has a similar over-all outsole design to the suspect shoes, there are individual or random characteristics in the heel area that are not present in the suspect shoes. I conclude this impression was not made by the suspect shoes. Q4 is a shoe heel impression. The impression and the right suspect shoe heel both have similar over-all outsole design, similar size, similar wear pattern, and at least three individual or random characteristics. I conclude this impression was made by the right suspect shoe. Q5 is a shoe heel impression. The impression and the left suspect shoe heel both have similar over-all outsole design, similar size, similar wear pattern, and at least one individual or random characteristic. I conclude this impression was made by the left suspect shoe. Q6 is an almost full impression of a right shoe. Although it has similar over-all outsole design to the suspect right shoe, individual design elements differ in shape, location, or orientation. I conclude this impression was not made by the suspect shoes. Q7 is a partial shoe impression. Although it has similar over-all outsole design to the suspect shoes, individual design elements differ in shape, location, or orientation. I conclude this impression was not made by the suspect shoes. Q8 is a partial toe-ball area shoe impression. This impression and the right suspect shoe both have similar over-all outsole design, similar size,

## TABLE 2

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similar wear pattern, and at least one individual or random characteristic. I conclude this impression was made by the right suspect shoe.

3DDPUF-533 The known Toms shoes submitted in Item 1 were visually compared to the questioned footwear impressions Q1-Q8 in Item 2. Based on tread size, tread design, general wear and individual characteristics, Items Q1 and Q5 were made by the submitted Toms left shoe (IDENTIFICATION). Based on tread size, tread design, general wear and individual characteristics, Items Q4 and Q8 were made by the submitted Toms right shoe (IDENTIFICATION). Due to tread design discrepancies, variation in wear and individual characteristics, Items Q2, Q3, Q6, and Q7 were eliminated as having been produced by the submitted Toms shoes (EXCLUSION).

3HCVXL-533 The questioned footwear impressions, Items $Q 1$ through $Q 8$ were analyzed, compared and evaluated with the Item K1 right and left shoes. The Items Q1 and Q5 questioned footwear impressions correspond in tread design, physical size, specific wear and accidental characteristics with the Item K1 left shoe. The Items Q4 and Q8 questioned footwear impressions correspond in tread design, physical size, specific wear and accidental characteristics with the Item K1 right shoe. The Items Q2, Q3, Q6 and Q7 questioned footwear impressions share similar tread design characteristics with the K1 shoes but do not correspond in wear. Based upon the above factors it is the opinion of this examiner that the Items Q1 and Q5 questioned footwear impressions were made by the Item K1 left shoe. The Items Q4 and Q8 questioned footwear impressions were made by the Item K1 right shoe. The Items Q2, Q3, Q6 and Q7 questioned footwear impressions were not made by the Item K1 shoes.

3J33V4-533
[No Conclusions Reported.]
3J7L4Z-534 Q1 is consistent in outsole design, physical size, physical shape and wear characteristics with the known left shoe. In addition, there are individual characteristics present in the questioned imprint that are consistent in size, shape and location with the individual characteristics present in the known left shoe. It is the opinion of the undersigned examiners that the questioned imprint Q1 was made by the known left shoe. Q2 is consistent in outsole design and physical shape with the known right shoe, however, it is not consistent in wear and individual characteristics with the known right shoe. It is the opinion of the undersigned examiners that the questioned imprint Q2 was not made by the known right shoe. Q3 is consistent in outsole design and physical shape with the known left shoe, however, it is not consistent in wear and individual characteristics with the known left shoe. It is the opinion of the undersigned examiners that the questioned imprint Q3 was not made by the known left shoe. Q4 is consistent in outsole design, physical shape and wear characteristics with the known right shoe. In addition, there are individual characteristics present in the questioned imprint that are consistent in size, shape and location with the individual characteristics present in the known right shoe. It is the opinion of the undersigned examiners that the questioned imprint Q4 was made by the known right shoe. Q5 is consistent in outsole design, physical size, physical shape and wear characteristics with the known left shoe. In addition, there are individual characteristics present in the questioned imprint that are consistent in size, shape and location with the individual characteristics present in the known left shoe. It is the opinion of the undersigned examiners that the questioned imprint Q5 was made by the known left shoe. Q6 is consistent in outsole design and physical shape with the known right shoe, however, it is not consistent in wear and individual characteristics with the known right shoe. It is the opinion of the undersigned examiners that the questioned imprint Q6 was not made by the known right shoe. Q7 is consistent in outsole design and physical shape with the known right shoe, however, it is not consistent in wear and individual characteristics with the known right shoe. It is the opinion of the undersigned examiners that the questioned imprint Q7 was not made by the known right shoe. Q8 is consistent in outsole design, physical size, physical shape and wear characteristics with the known right shoe. In addition, there are individual characteristics present in the questioned imprint that are consistent in size, shape and location with the individual characteristics present in the known right shoe. It is the opinion of the undersigned examiners that the questioned imprint Q8 was made by the known right shoe.

## TABLE 2

3ML3BJ-533

3QJJND-533

3VY6H7-533

44BJ3M-533

4A8JUZ-533
4E6WZX-533 Questioned impressions Q1 and Q5 were made by the submitted left Tom's brand shoe, size 7.5 (K1). Questioned impressions Q4 and Q8 were made by the submitted right Tom's brand shoe, size 7.5 (K1). Questioned impressions Q2, Q6, and Q7 were made by a second right shoe with similar outsole design as the submitted Tom's brand shoes, K1. Questioned impression Q3 was made by a second left shoe with similar outsole design as the submitted Tom's brand shoes, K1. Suspect shoes for Q2, Q3, Q6, and Q7 include Tom's brand shoes; however, any suspect shoes should be submitted to the laboratory for analysis.
4H68WX-533 Impressions Q1 and Q5 were made by the submitted K1 Left shoe. Impressions Q4 and Q8 were made by the submitted K1 Right shoe. Impressions Q2, Q6 and Q7 were made by a second right shoe with similar outsole design as the submitted K1 shoes. Impression Q3 was made by a second left shoe with similar outsole design as the submitted K 1 shoes.
4L79WV-533 1.Examination of Exhibits 4 and 5 revealed four latent footwear impressions on Exhibit 4 (photograph of vinyl tile Q1-Q4) and four latent footwear impressions on Exhibit 5 (photograph of vinyl tile Q5-Q8) suitable for comparison. Latent footwear impressions suitable for comparison are not always suitable for association but may be suitable for exclusionary purposes. 2. The latent footwear impressions on the Exhibits and the associated standards listed below correspond in physical size, design, wear, and randomly acquired characteristics. The likelihood of observing this amount of correspondence when made by different sources is considered extremely low. EXHIBIT:
4-Q1; IMPRESSION: One latent footwear; STANDARD: Exhibits 1-3 (Left Foot). EXHIBIT: 4-Q4; IMPRESSION: One latent footwear; STANDARD: Exhibits $1-3$ (Right Foot). EXHIBIT: 5-Q5; IMPRESSION: One latent footwear; STANDARD: Exhibits 1-3 (Left Foot). EXHIBIT: 5-Q8; IMPRESSION: One latent footwear; STANDARD: Exhibits 1-3 (Right Foot). 3. The latent footwear impressions on Exhibits 4 (Q2 \& Q3) and 5 (Q6 \&Q7) were excluded as having originated from Exhibits 1-3 (Kla-Klg) 4.Images of the latent footwear impressions will remain on file at this laboratory.

## TABLE 2

4RPNET-533 The questioned impressions (Q1 through Q8) contained in the photographs were examined and compared to the know shoes from Item 1. It was determined that the left shoe of Item 1 exhibited similar tread design, physical size and wear characteristics, as well as individual characteristics, to the photographed impressions labeled Q1 and Q5. Therefore, the left shoe of Item 1 produced the impressions captured in these photographs. Furthermore, it was also determined that the right shoe of Item 1 exhibited similar tread design, physical size and wear characteristics, as well as individual characteristics, to the photographed impressions labeled Q4 and Q8. Therefore, the right shoe of Item 1 produced the impressions captured in these photographs. The photographed impressions labeled Q2, Q3, Q6 and Q7 were determined not to have been made by either shoe of Item 1 .

4RTYHQ-534 Results of Laboratory Examination: Item 1 contained images of eight questioned impressions (designated as Q1 - Q8), one pair of known shoes, and test impressions said to be made by these shoes. The images of the known shoes and test impressions will be compared to the eight questioned impressions. A complete evaluation of a questioned impression and a known shoe includes looking at correspondence in tread design, physical size and shape of design present, wear characteristics, and any distinctive characteristics randomly acquired on the outsole of the shoe at are represented in the questioned impression. Four of the questioned impressions, two of which were left impressions (Q1 and Q5) and two that were right impressions (Q4 and Q8), corresponded in physical shape, tread design, size of tread and individual characteristics to the known shoes depicted on the Item 1 CD. Therefore, the Item 1 shoes are the source of the questioned impressions from the scene (Type 1 Association). The remaining four questioned impressions (Q2, Q3, Q6, and Q7) were similar in general tread design (dots and bow-tie-shaped elements) but differed in wear, individual characteristics, and/or did not align well with the known shoes depicted on the Item 1 CD. Therefore, these shoes can be eliminated as a possible source of these questioned impressions (Elimination). Additional examinations could be performed on these impressions upon the submission of additional shoes. The Item 2 CD was created by the scientist.

4VB9LW-533 1.K1 (left shoe) was the source of, and made, the questioned impression Q1. 2. K1 (right shoe) was the source of, and made, the questioned impression Q4. 3. K1 (left shoe) was the source of, and made the questioned impression Q5. 4. K1 (right shoe) was the source of and made the questioned impression, Q8. 5. K1 (right and left shoes) was not the source of, and did not make the questioned impressions Q2, Q3, Q6, and Q7.
4XEZDA-533 The Q1 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 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. The Q5 footwear impression corresponds to the K1 left shoe in outsole design, physical size, wear and two randomly acquired characteristics. Therefore, the K1 left shoe was identified as the source of this impression. The Q8 footwear 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. The Q2, Q6 and Q7 footwear impression share similar features with the outsole design of the K1 right shoe. However, wear differences were observed between these impressions and the K1 right shoe. Therefore, the K1 right shoe was eliminated as the source of these impressions. The Q3 footwear impression shares similar features with the outsole design of the K1 left shoe. However, wear differences were observed between this impression and the K1 left shoe. Therefore, the K1 left shoe was eliminated as the source of this impression.

4YCB9C-534 The analysis of footwear impressions rated Q1 to Q8 and their comparison with the photographs and the known imprints of recovered shoes showed correspondence of dimensions and consistent wear that can be concluded that: Q1 and Q5 identify with the sole of left shoe. Q4 and Q8 identify with the sole of right shoe. Differences in size and the lack of consistent wear leads us to exclude Q2, Q3, Q6 and Q7.

## Conclusions

4YFP6L-533 Items Q1-Q4. Questioned impressions from the kitchen of house \#1. This item consists of a photograph with four impressions from the kitchen of house \#1. One of the impressions is a partial left shoe impression which is similar in size, shape, and tread design, and also shares at least three randomly acquired characteristics with the suspect's left shoe (ltems Kla-Klg). It is my opinion that this partial left shoe impression was made by the suspect's left shoe (ltems Kla Klg ). [Category 1]. One of the impressions is a partial shoe impression which is similar in size and tread design, and also shares at least two randomly acquired characteristics with the suspect's right shoe (Items Kla-Klg). It is my opinion that this partial shoe impression was made by the suspect's right shoe (ltems Kla-Klg). [Category 1]. The remaining impressions are partial shoe impressions which are dissimilar in size and wear to the suspect shoes (ltems Kla-Klg). It is my opinion that these partial shoe impressions were not made by the suspect's shoes (ltems Kla-Klg). [Category 5]. Items Q5-Q8. Questioned impressions from the foyer of house \#2. This item consists of a photograph with four impressions from the foyer of house \#2. One of the impressions is a partial shoe impression which is similar in size and tread design, and also shares at least two randomly acquired characteristics with the suspect's leff shoe (Items $\mathrm{Kla}-\mathrm{Klg}$ ). It is my opinion that this partial left shoe impression was made by the suspect's left shoe (ltems Kla-Klg). [Category 1]. One of the impressions is a possible right partial shoe impression which is similar in size and tread design, and shares at least two randomly acquired characteristics with the suspect's right shoe (Items Kla Klg ). It is my opinion that this possible right partial shoe impression was made by the suspect's right shoe (ltems Kla-Klg). [Category 1]. The remaining impressions are partial shoe impressions which are dissimilar in size and wear to the suspect's shoes (ltems Kla-Klg). It is my opinion that these partial shoe impressions were not made by the suspect's shoes (ltems $\mathrm{Kla}-\mathrm{Klg}$ ). [Category 5]. Items Kla-Klg. Submitted photographs and test impressions of the suspect's shoes This item consists of photographs of the tread from the suspect's shoes and test impressions of the suspect's shoes which were used for comparison purposes.
67AGNY-533 Q1, Q5: Impressions Q1 and Q5 exhibited similar physical size, tread design, wear, and accidental/individual characteristics when compared with the left $K$ shoe. It was therefore determined that the left K shoe made impressions Q1 and Q5 from the crime scene. Q4, Q8: Impressions Q4 and Q8 exhibited similar physical size, tread design, wear, and accidental/individual characteristics when compared with the right $K$ shoe. It was therefore determined that the right $K$ shoe made impressions Q4 and Q8 from the crime scene. Q2, Q3, Q6, Q7: Differences in class characteristics were noted in comparing impressions Q2, Q3, Q6 and Q7 with the right and left $K$ shoes. Therefore the right and left $K$ shoes were excluded as the source of impressions Q2, Q3, Q6 and Q7. Class characteristics can include size, tread pattern and certain wear characteristics.
6A9RKY-533 It is the opinion of the examiner that the track depicted in Laboratory Item (001.B.01) (Q1), Questioned imprint found in the kitchen of house \#1 was made by item 001.A, Tom's brand 7.5 size left shoe, recovered from the subject. It is the opinion of the examiner that the track depicted in Laboratory ltem (001.B.02) (Q2), Questioned imprint found in the kitchen of house \#1 was not made by item 001 .A, Tom's brand 7.5 size shoes, recovered from the subject. Sufficient differences were noted in the individual characteristics between the questioned imprint and the known footwear. It is the opinion of the examiner that the track depicted in Laboratory Item (001.B.03) (Q3), Questioned imprint found in the kitchen of house \#1 was not made by item 001 .A, Tom's brand 7.5 size shoes, recovered from the subject. Sufficient differences were noted in the individual characteristics between the questioned imprint and the known footwear. It is the opinion of the examiner that the track depicted in Laboratory Item (001.B.04) (Q4), Questioned imprint found in the kitchen of house \#1 was made by item 001.A, Tom's brand 7.5 size right shoe, recovered from the subject. It is the opinion of the examiner that the track depicted in Laboratory Item (001.C.01) (Q5), Questioned imprint found in the foyer of house \#2 was made by item 001 .A, Tom's brand 7.5 size left shoe, recovered from the subject. It is the opinion of the examiner that the track depicted in Laboratory Item (001.C.02) (Q6), Questioned imprint found in the foyer of house \#2 was not made by item 001.A, Tom's brand 7.5 size shoes, recovered from the subject. Sufficient differences were noted in the individual characteristics between the questioned imprint and the known footwear. It is the opinion of the examiner that the track
depicted in Laboratory Item (001.C.03) (Q7), Questioned imprint found in the foyer of house \#2 was not made by item 001.A, Tom's brand 7.5 size shoes, recovered from the subject. Sufficient differences were noted in the individual characteristics between the questioned imprint and the known footwear. It is the opinion of the examiner that the track depicted in Laboratory Item (001.C.04) (Q8), Questioned imprint found in the foyer of house \#2 was made by item 001.A, Tom's brand 7.5 size right shoe, recovered from the subject.
6DQ2M6-533 Examination of Lab Items \#8 and \#9 revealed eight footwear impressions of value for comparison (labeled Q1 through Q8). Comparison of the footwear impressions with the known footwear and test impressions of Lab ltems \#1 through \#7/K1 revealed the impressions labeled Q1 and Q5 were made by the left shoe of K1. Comparison of the footwear impressions with the known footwear and test impressions of Lab ltems \#1 through \#7/K1 revealed the impressions labeled Q4 and Q8 were made by the right shoe of K1. Comparison of the footwear impressions with the known footwear and test impressions of Lab ltems \#1 through \#7/K1 revealed the impression labeled Q2 was not made by the shoes of K1 based on different design and physical size. Comparison of the footwear impressions with the known footwear and test impressions of Lab Items \#1 through \#7/K1 revealed the impression labeled Q3 was not made by the shoes of K1 based on different designs, physical size and wear. Comparison of the footwear impressions with the known footwear and test impressions of Lab Items \#1 through \#7/K1 revealed the impression Q6 was not made by the shoes of K1 based on different physical size and wear. Comparison of the footwear impressions with the known footwear and test impressions of Lab ltems \#1 through \#7/K1 revealed the impression labeled Q7 was not made by the shoes of K1 based on different design and wear. Comparison of the footwear impressions with the known footwear and test impressions of Lab Items \#1 through \#7/K1 revealed the impression labeled Q3 was not made by the shoes of K1 based on different design, physical size and wear features. Comparison of the footwear impressions with the known footwear and test impressions of Lab ltems \#1 through \#7/K1 revealed the impression Q6 was not made by the shoes of K1 based on different physical size and wear features. Comparison of the footwear impressions with the known footwear and test impressions of Lab Items \#1 through \#7/K1 revealed the impression labeled Q7 was not made by the shoes of $K 1$ based on different design and wear features.
6ELGY2-533 As a result of my examination I determined the following: Q1: The shoeprint was made by a left shoe. The class characteristics and unique characteristics of the suspect's left shoe are consistent with the class characteristics and unique characteristics of the shoe print Q1. The shoe print Q1 was made by the suspect's left shoe. Q2: The shoeprint was made by a right shoe. The class characteristics of the suspect's right shoes are similar to the class characteristics of the shoe print Q2. The unique characteristics of the suspect's right shoe are different from the unique characteristics of the shoe print Q2. The shoe print could therefore not have been made by the suspect's shoe. Q3: The shoeprint was made by a left shoe. The class characteristics of the suspect's left shoe are similar to the class characteristics of the shoe print Q3. The unique characteristics of the suspect's left shoe are different from the unique characteristics of the shoe print Q3. The shoe print could therefore not have been made by the suspect's shoe. Q4: The shoeprint was made by a right shoe. The class characteristics and unique characteristics of the suspect's right shoe are consistent with the class characteristics and unique characteristics of the shoe print Q4. The shoe print Q4 was made by the suspect's right shoe Q5: The shoeprint was made by a left shoe. The class characteristics and unique characteristics of the suspect's left shoe are consistent with the class characteristics and unique characteristics of the shoe print Q5. The shoe print Q5 was made by the suspect's left shoe. Q6: The shoeprint was made by a right shoe. The class characteristics of the suspect's right shoe are similar to the class characteristics of the shoe print Q6. The unique characteristics of the suspect's right shoe are different from the unique characteristics of the shoe print Q6. The shoe print could therefore not have been made by the suspect's shoe. Q7: The shoeprint was made by a right shoe. The class characteristics of the suspect's right shoe are similar to the class characteristics of the shoe print Q7. The unique characteristics of the suspect's right shoe are different from the unique characteristics of the shoe print Q7. The shoe print could therefore not have been made by the suspect's shoe. Q8: The shoeprint was made by a right shoe. The class characteristics and unique characteristics of the

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suspect's right shoe are consistent with the class characteristics and unique characteristics of the shoe print Q8. The shoe print Q8 was made by the suspect's right shoe.
6JBYDD-533 Q1 and Q5 were positively identified as being made by the left shoe of K1. Q4 and Q8 were positively identified as being made by the right shoe of $K 1 . Q 2, Q 3, Q 6$, and $Q 7$ were grossly dissimilar in size, wear pattern and individual characteristics to both the right and left shoe of K1, and can be eliminated as being made by K1.

72AECJ-534 Q-IMP1: Item K2 (left shoe) is the source of, and made, the questioned impression. Another item of footwear being the source of the impression is considered a practical impossibility. Q-IMP2: Items K1 and K2 are excluded as the source of the questioned impression based on differences in outsole pattern design and wear. Q-IMP3: Items K1 and K2 are excluded as the source of the questioned impression based on differences in outsole pattern design and wear. Q-IMP4: Item K1 (right shoe) is the source of, and made, the questioned impression. Another item of footwear being the source of the impression is considered a practical impossibility. Q-IMP5: Item K2 (left shoe) is the source of, and made, the questioned impression. Another item of footwear being the source of the impression is considered a practical impossibility. Q-IMP6: Items K1 and K2 are excluded as the source of the questioned impression based on differences in outsole pattern design and wear. Q-IMP7: Items K1 and K2 are excluded as the source of the questioned impression based on differences in outsole pattern design and wear. Q-IMP8: Item K1 (right shoe) is the source of, and made, the questioned impression. Another item of footwear being the source of the impression is considered a practical impossibility.

79R4D4-533 The evidence impressions (Q1, Q4, Q5, Q8) were identified as having been made by the known shoes (K1). The evidence impressions (Q2, Q3, Q6, Q7) exhibit similar class characteristics as those produced by the known shoes (K1). However, due to the lack of corresponding individual characteristics, it is not possible to identify the shoe. The evidence impressions 9Q2, Q6, Q7) were identified as having been made by the same shoe.

7A77LX-533 Impressions Q1, Q4, Q5, and Q8 correspond in general outsole design, physical size, and areas of wear/damage to the pair of $K$ shoes. Accordingly, impressions $Q 1, Q 4, Q 5$, and $Q 8$ were made by the K shoes. Impressions Q2, Q3, Q6, and Q7 correspond in general outsole design to the pair of $K$ shoes. However, differences in design element spacing and wear were found between the shoes and the impressions. As a result of these differences, it was determined that impressions Q2, Q3, Q6, and Q7 were not made by the $K$ shoes.

7BDNKT-534 [No Conclusions Reported.]
7NMCJH-533 Eight shoe impressions are present in the photographs from the crime scene. Two 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 (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. Three of the shoe impressions are similar in general tread design and shape to the known right shoe from the suspect (Item K1) but do not exhibit the same randomly acquired characteristics present in the known right shoe from the suspect. It is my opinion that these impressions were not made by the suspect's right shoe. The remaining impression is similar in general tread design and shape to the known left shoe from the suspect (ltem K1) but does not exhibit the same randomly acquired characteristics present in the known left shoe from suspect. It is my opinion that this impression was not made by the suspect's left shoe.

7QQZB2-533 The questioned imprints Q1 found in the kitchen of house \#1 and Q5 found in the foyer of house \#2 may have originated from the left side of the suspects shoes. The questioned imprints Q4 found in the kitchen of house \#1 and Q8 found in the foyer of house \#2 may have originated from the right side of the suspects shoes.

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82P9D6-533 I conducted a comparative examination between the known impressions from the left and right shoe supplied (as well as the soles of the shoes) and the questioned imprints No Q1 to Q8. The results of my examination were as follows: Q1 and Q5 were identified as having been made by the left shoe. Q4 and Q8 were identified as having been made by the right shoe. Q3 and Q7 were eliminated as having been made by either shoe. Q2 and Q6 were inconclusive and a more definitive determination could not be made. This was due for a number of reasons: the variability seen between the detail in the imprints made by rolling and those made by walking; both were incomplete and difficult to define the edges; the general lack of clarity of these two scene impressions and both these imprints overlapped other imprints masking the detail in those areas.

83G99U-533 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 Q8. Questioned impressions labelled Q1 and Q5 were found to be consistent in shape, physical size and individual characteristics with the suspect's left shoe. Questioned impressions labelled Q4 and Q8 were found to be consistent in shape, physical size and individual characteristics with the suspect's right shoe. Questioned impressions labelled Q2, Q3, Q6 and Q7 were found to have similar shape with the suspect's shoes, however they were dissimilar in physical size and characteristics from the suspect's shoes. Therefore, questioned impressions labelled Q2, Q3, Q6 and Q7 can be eliminated.

88UUH2-533 The exemplar left shoe is the source of the unknown footwear impressions item 8 (Q1) and item 12 (Q5), based on class and individual characteristics. The exemplar right shoe is the source of the unknown footwear impressions item 11 (Q4) and item 15 (Q8), based on class and individual characteristics. The exemplar right and left shoes are both excluded as possible sources of the unknown footwear impressions items 9 (Q2), 10 (Q3), 13 (Q6) and 14 (Q7), based on class characteristics.

8C8UET-533 Q1 and Q5 come from left shoe K1. Q4 and Q8 come from right shoe K1. Q2, Q3, Q6 and Q7 do not come from shoes K1.

8D2KK8-534 The questioned shoeprints identified as "Q1 and Q5" were caused by the sole of the suspect left shoe. The questioned shoeprints identified as "Q4 and Q8" were caused by the sole of the suspect rigth shoe. The other shoeprints submited (Q2, Q3, Q6 and Q7) show morphology and pattern as the imprints made by suspect's shoe, however these shoeprints were not made by the suspect's shoe.

8DHRUV-534 Two (2) left footwear impressions noted in images of Exhibits Q1 and Q5 were made by the left photographed outsole depicted in Exhibits Kla through K1c based on design, physical size, shape, wear, specific wear and randomly acquired characteristics. Two (2) right footwear impressions noted in images of Exhibits Q4 and Q8 were made by the right photographed outsole depicted in Exhibits Kla through Klc based on design, physical size, shape, wear, specific wear and randomly acquired characteristics. Footwear impression noted in image of Exhibit Q2 was not made by the photographed outsoles depicted in Exhibits Kla through Klc based on differences in wear and randomly acquired characteristics. Footwear impressions noted in images of Exhibits Q3, Q6 and Q7 were not made by the photographed outsoles depicted in Exhibits Kla through Klc based on differences in wear, specific wear and randomly acquired characteristics.

8ED87R-533 1. Examination of Exhibits 4 and 5 (printed out images of Q1 through Q8) revealed four latent footwear impressions on Exhibit 4 and four latent footwear impressions on Exhibit 5 suitable for comparison. Latent footwear impressions suitable for comparison are not always suitable for association, but may be suitable for exclusionary purposes. 2. The latent footwear impressions on the Exhibits and the associated standards listed below each correspond in physical size, design, wear, and randomly acquired characteristics. The likelihood of observing these amounts of

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correspondence when two impressions are made by different sources is considered extremely low. Exhibit 4: One latent footwear impression (Q1) - Exhibits 1-3 (left shoe). Exhibit 4: One latent footwear impression (Q4) - Exhibits 1-3 (right shoe). Exhibit 5: One latent footwear impression (Q5) - Exhibits 1-3 (left shoe). Exhibit 5: One latent footwear impression (Q8) - Exhibits 1-3 (right shoe) 3. The remaining latent footwear impressions on Exhibits $4(Q 2, Q 3)$ and 5 (Q6, Q7) were excluded as having originated from Exhibits 1-3 (left and right shoes). 4. Images of the non-associated latent footwear impressions in this case will remain on file at this laboratory for any future comparisons.

8PYCER-533 1. Analysis of Exhibits 004 and 005 (images of impressions) revealed four latent footwear impressions on Exhibit 004 and four footwear impressions on Exhibit 005 suitable for association. 2. One of the latent footwear impressions on Exhibit 004 (Q1) and one of the latent footwear impressions on Exhibit 005 (Q5) and the left shoe impression of Exhibit 001-003 correspond in physical size, design, wear, and randomly acquired characteristics. The likelihood of observing this amount of correspondence when two impressions are made by different sources is considered extremely low. 3. One of the latent footwear impressions on Exhibit 004 (Q4) and one of the latent footwear impressions on Exhibit 005 (Q8) and the right shoe impression of Exhibit 001-003 correspond in physical size, design, wear, and randomly acquired characteristics. The likelihood of observing this amount of correspondence when two impressions are made by different sources is considered extremely low. 4. The remaining latent footwear impressions on Exhibit 004 (Q2 and Q3) and Exhibit 005 (Q6 and Q7) were excluded as having originated from Exhibit 001-003. 5. Images of the latent impressions in this case will remain on file at this laboratory.

8WGK3N-533 Examination of the digital image prints displaying the deposited questioned imprints revealed eight suitable patterned impressions marked Q1 through Q8. Comparisons revealed that the suitable patterned impressions marked Q1 and Q5 were identified as having been made by the left shoe depicted in the digital image prints marked Kla through Klg. Comparisons revealed that the suitable patterned impressions marked Q4 and Q8 were identified as having been made by the right shoe depicted in digital image prints marked Kla through K1g. Based on class characteristics and/or general wear characteristics, the suitable patterned impressions marked Q2, Q3, Q6 and Q7 were eliminated as having been made by the shoes depicted in the digital image prints marked Kla through Klg.
8YJHDG-533 Impression Examination: In comparing the Questioned imprints (Items \#Q1 and \#Q5) to the Known recovered shoes and impressions (Items \#K1A - \#K1G), it was found that they have the same tread design, tread size, general and unique wear characteristics as the Known left shoe. Therefore, in the opinion of the examiner, Items \#Q1 and \#Q5 were made by the Known left shoe. In comparing the Questioned imprints (Items \#Q4 and \#Q8) to the Known recovered shoes and impressions (ltems \#K1A - \#K1G), it was found that they have the same tread design, tread size, general and unique wear characteristics as the Known right shoe. Therefore, in the opinion of examiner, Items \#Q4 and \#Q8 were made by the Known right shoe. In comparing the Questioned imprints (Items \#Q2, \#Q3, \#Q6 and \#Q7) to the Known recovered shoes and impressions (ltems \#K1A - \#K1G), it was found that all have, although similar, different tread design, tread size and/or general wear patterns. Therefore, in the opinion of examiner, ltems \#Q2, \#Q3, \#Q6 and \#Q7 could not have been made by the Known recovered shoes.

993QZB-533 Q1 and Q5 were made by the K1 left shoe. These identifications are based on sufficient agreement of the combination of individual characteristics and all discernable class characteristics. Q4 and Q8 were made by the K1 right shoe. These identifications are based on sufficient agreement of the combination of individual characteristics and all discernable class characteristics. Q2, Q3, Q6, and Q7 were not made by the K1 left or K1 right shoes. These eliminations are based on differences in class and/or individual characteristics. Q1 and Q5 were not made by the K1 right shoe. Q4 and Q8 were not made by the K1 left shoe. These eliminations are based on differences in class and/or individual characteristics.

9FRW8J-533 Q1 - The questioned footwear impression was made by the known left shoe. Q2 - The questioned footwear impression was not made by either of the known shoes. Q3 - The questioned footwear

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impression was not made by either of the known shoes. Q4 - The questioned footwear impression was made by the known right shoe. Q5 - The questioned footwear impression was made by the known left shoe. Q6 - The questioned footwear impression was not made by either of the known shoes. Q7 - The questioned footwear impression was not made by either of the known shoes. Q8 - The questioned footwear impression was made by the known right shoe.

9VEH3A-533 The submitted images and known impressions of the suspect shoes ( $\mathrm{Kla}-\mathrm{Klg}$ ) were examined and compared to the questioned impressions visible in Q1-Q8. Q1 and Q5 correspond to the known left shoe in tread pattern, tread size, tread wear, and individual characteristics including scratches in the surface. Thus, Q1 and Q5 were made by the known left shoe. Q4 and Q8 correspond to the known right shoe in tread pattern, tread size, tread wear, and individual characteristics including nicks and gouges in the surface. Thus, Q4 and Q8 were made by the known right shoe. Q2 and Q6 correspond to the known right shoe in tread pattern. However they are dissimilar in tread size and individual characteristics including scratches and nicks in the surface. Thus, the known right shoe is not the source of Q2 or Q6. Q3 corresponds to the known left shoe in tread pattern. However, they are dissimilar in tread wear and individual characteristics including scratches in the surface. Thus, the known left shoe is not the source of Q3. Q7 corresponds to the known right shoe in tread pattern and tread size. However, they are dissimilar in tread wear and individual characteristics including scratches and nicks in the surface. Thus, the known right shoe is not the source of Q7.
9YXD73-533 [No Conclusions Reported.]
A6F7WR-533 a. The partial footwear outsole impression identified as Q1 corresponds in physical size and design and shares numerous randomly acquired characteristics with the outsole of the left article of the footwear submitted for examination. The submitted article of footwear is thus identified as having made this impression. b. The partial footwear outsole impression identified as Q2 does not correspond with the outsole pattern design of submitted footwear. The submitted footwear are thus eliminated as having produced this impression. c. The partial footwear outsole impression identified as Q3 was produced by a left article of footwear; however, this impression is different in size than the submitted left article of footwear. The submitted article of footwear is thus eliminated as having produced this impression. d. The partial footwear outsole impression identified as Q4 corresponds in physical size and design and shares numerous randomly acquired characteristics with the outsole of the right heel of the article of footwear submitted for examination. The submitted article of footwear is thus identified as having made this impressions. e. The partial footwear outsole impression identified as Q5 corresponds in physical size and design and shares numerous randomly acquired characteristics with the outsole for the left heel area of the article of footwear submitted for examination. The submitted article of footwear is thus identified as having made this impression. f. The partial footwear outsole impression identified as Q6 was produced by a right article of footwear; however, this impression is different in size than the submitted right article of footwear. The submitted article of footwear is thus eliminated as having produced this impression. g. The partial footwear outsole impression identified as Q7 was produced by a right article of footwear; however, this impression is different in size than the submitted right article of footwear. The submitted article of footwear is thus eliminated as having produced this impression. h. The partial footwear outsole impression identified as Q8 corresponds in physical size and design and shares numerous randomly acquired characteristics with the outsole of the right toe area of the article of footwear submitted for examination. The submitted article of footwear is thus identified as having made this impressions.
A6JQKV-533 Relating to House 1: In my opinion, the findings demonstrate conclusively that - The suspect's left shoe has made impression Q1. The suspect's right shoe has made impression Q4. The suspect's shoes have NOT made impressions Q2 or Q3. Relating to House 2: In my opinion, the findings demonstrate conclusively that - The suspect's left shoe has made impression Q5. The suspect's right shoe has made impression Q8. The suspect's shoes have NOT made impressions Q6 or Q7.

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A88CZP-533

A8P72Y-534

AB99X8-533

ACYJJX-533 The footwear item\# (K1-left) was identified as having made the questioned partial impressions (Q1 \& Q5). The footwear item\# (K1-right) was identified as having made the questioned partial impressions (Q4 \& Q8). The footwear item\# (K1 right \& left) were excluded as having made the questioned partial impressions (Q2, Q3, Q6 \& Q7) due to dissimilar general tread pattern, size and wear pattern.

AJG2QE-533 Examination and comparison of the exemplar impressions from the shoes and the questioned impressions reveals sufficient similarity in tread design, size, wear and accidental characteristic alignment to conclude that the left shoe produced the questioned impressions labeled Q1 and Q5. Examination and comparison of the exemplar impressions from the shoes and the questioned impressions reveals sufficient similarity in tread design, size, wear and accidental characteristic alignment to conclude that the right shoe produced the questioned impressions labeled Q4 and Q8. The shoes depicted in the submitted images did not produce the questioned impressions labeled Q2, Q3, Q6, and Q7.

APQ7RE-533 In the opinion of the examiner, the footwear imprints labeled Q1 \& Q5, correspond in design/pattern features, physical size, and wear, and share several individual characteristics or defects, with the left known shoe from the pair labeled K1. Therefore, the left known shoe labeled K1, was the source of, and was determined to have made the imprints labeled Q1 \& Q5. Another item of footwear being the source of the imprints is considered a practical impossibility. In the opinion of the examiner, the footwear imprints labeled Q4 \& Q8, correspond in design/pattern features, physical size, and wear, and share several individual characteristics or defects, with the right known shoe from the pair labeled K1. Therefore, the right known shoe labeled K1, was the source of, and was determined to have made the imprints labeled Q4 \& Q8. Another item of footwear being the source of the imprints is considered a practical impossibility. In the opinion of the examiner, the questioned footwear imprints labeled Q2, Q3, Q6, and Q7 are of different pattern features, physical sizes, wear patterns, and individual characteristics, than the known shoes

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labeled K1. Therefore, the known shoes labeled K1 were not the source of, and so did not make, the imprints labeled Q2, Q3, Q6 or Q7.

AWLXC2-534 The following results were obtained by comparing photographs of Q1-Q8 to Kla-K1g using Adobe Photoshop CS4. In the opinion of the examiner, the left K1 shoe was the source of, and made Q1 and Q5. Another item of footwear being the source of the impressions is considered a practical impossibility. In the opinion of the examiner, the right K1 shoe was the source of, and made Q4 and Q8. Another item of footwear being the source of the impressions is considered a practical impossibility. Impressions Q2, Q6, and Q7 are right shoe impressions. The impressions appear similar in tread design, but the wear patterns are different. In the opinion of the examiner, the right K1 shoe was not the source of, and did not make the impressions. Impression Q3 is a left shoe impression. The impression appears similar in tread design, but the wear pattern is different. In the opinion of the examiner, the left K1 shoe was not the source of, and did not make the impression.
B6GBV2-533 Q1 and Q5 were made by K1 (left shoe). Q4 and Q8 were made by K1 (right shoe). Q2, Q3, Q6 and Q7 could not have been made by K1.

B7CUYN-533 Impressions Q1 and Q5 were made by the submitted left Tom's shoe, K1. Impressions Q4 and Q8 were made by the submitted right Tom's shoe, K1. Impressions Q2, Q6, and Q7 were made by a second right shoe of similar design to the submitted Tom's shoes. Impression Q3 was made by a second left shoe of similar design to the submitted Tom's shoes, possibly from the same pair as Impressions Q2, Q6, and Q7.

BH4RFT-533 In my opinion, these findings provide conclusive evidence that the considered footwear marks (Q1, Q4, Q5 \& Q8) have been made by the submitted shoes. There are marks from both scenes (Q2, Q3, Q6 \& Q7) that have not been made by the submitted shoes.
BVBHHZ-534 Traces of abrasion and scratch of questioned imprints Q1 and Q5 are coincident with those of imprints made with the suspect's left shoe. Traces of abrasion and scratch of questioned imprints Q4 and Q8 are coincident with those of imprints made with the suspect's right shoe. Traces of abrasion and scratch of questioned imprints Q2, Q3, Q6 and Q7 are NOT coincident with those of imprints made with the suspect's shoes.

BVN8HR-533 Two questioned shoe prints Q1, Q5 are identified to the left suspect shoe and two questioned shoe prints Q4, Q8 are identified to the right suspect shoe. In those respected comparisons we found the same class and individual characteristics. Four questioned shoe prints Q2, Q3, Q6, Q7 have the same design with one of the suspect shoes but there are not same individual charecteristics so these shoe prints to eliminate.

BW2U3R-533 The suspect's left shoe positively made the imprints Q1 and Q5. The suspect's right shoe positively made the imprints Q4 and Q8. The suspect's shoes did not make the imprints Q2, Q3, Q6, and Q7.

BWJQKT-533 [No Conclusions Reported.]
BXWBFN-533 1. Analysis of Exhibits 4 and 5 revealed four latent footwear impressions on Exhibit 4 (images Q1 through Q4) and four latent footwear impressions on Exhibit 5 (images Q5 through Q8) suitable for comparison. Footwear impressions suitable for comparison are not always suitable for identification but may be suitable for exclusionary purposes. 2. The latent footwear impressions on the Exhibits and the associated standards listed below each correspond in physical size, design, wear, and randomly acquired characteristics. The likelihood of observing these amounts of correspondence when two impressions are made by different sources is considered extremely low. EXHIBIT \#\#: 4 (Q1); IMPRESSION: One latent footwear; STANDARD: Exhibit 3/Left suspect shoe. EXHIBIT \#\#: 4 (Q4); IMPRESSION: One latent footwear; STANDARD: Exhibit 3/Right suspect shoe. EXHIBIT \#\#: 5 (Q5); IMPRESSION: One latent footwear; STANDARD: Exhibit 3/Left suspect shoe. EXHIBIT \#\#: 5 (Q8); IMPRESSION: One latent footwear; STANDARD: Exhibit 3/Right suspect shoe. 3. The latent footwear impressions Q2, Q3, Q6 and Q7 on Exhibits

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4 and 5 were excluded from having originated from the same source as Exhibit 3 (suspect shoes). 4. Images of the non-associated latent footwear impressions in this case will remain on file at this laboratory for any future comparisons.

C2ERAE-533 The photographs depicting partial footwear impressions (Q1-Q8) were compared to Items Kla-K1g. Items Q1 and Q5 share agreement of class and randomly acquired characteristics of sufficient quality and quantity with the left side shoe of Item $K 1$, therefore, identified as having been made by the left side shoe of Item K1. Items Q4 and Q8 share agreement of class and randomly acquired characteristics of sufficient quality and quantity with the right side shoe of Item K1, therefore, identified as having been made by the right side shoe of Item K1. Items Q2, Q3, Q6 and Q7 were excluded to Items Kla-K1g due to sufficient differences noted in the comparison of randomly acquired characteristics.

## C38NWM-533 [No Conclusions Reported.]

C4BPA6-534 Although similar in general design, Q2, Q3, Q6 and Q7 are different in physical size, specific design (precise arrangement of design elements) and wear pattern to the known footwear and therefore, could not have been made by those shoes. Q1 and Q5 correspond in physical size, outsole design, wear pattern and multiple randomly acquired characteristics to the known left shoe and therefore, were made by that shoe. Q4 and Q8 correspond in physical size, outsole design, wear pattern and multiple randomly acquired characteristics to the known right shoe and therefore, were made by that shoe.

C77YTM-533 1. Analysis of Exhibits 4 (photograph of impressions on tile) and 5 (photograph of impressions on tile) revealed four latent footwear impressions each suitable for comparison. Latent footwear impressions suitable for comparison are not always suitable for association but may be suitable for exclusionary purposes. 2. One of the latent footwear impressions on Exhibit 4 (Q1) and one of the latent footwear impressions on Exhibit 5 (Q5) and the left shoe impression of Exhibits 1-3 each corresponds in physical size, design, and randomly acquired characteristics. The likelihood of observing these amounts of correspondence when two impressions are made by different sources is considered extremely low. 3. One of the latent footwear impressions on Exhibit 4 (Q4) and one of the latent footwear impressions on Exhibit 5 (Q8) and the right shoe impression of Exhibits 1-3 each corresponds in physical size, design, and randomly acquired characteristics. The likelihood of observing these amounts of correspondence when two impressions are made by different sources is considered extremely low. 4. The remaining latent footwear impressions on Exhibit 4 (Q2 and Q3) and Exhibit 5 (Q6 and Q7) were excluded as having originated from Exhibits 1-3. 5. Images of the latent impressions in this case will remain on file at this laboratory.

CEZ8DE-533 Q1 - The questioned footwear impression was made by the known left shoe. Q2 - The questioned footwear impression was not made by either of the known shoes. Q3 - The questioned footwear impression was not made by either of the known shoes. Q4 - The questioned footwear impression was made by the known right shoe. Q5 - The questioned footwear impression was made by the known left shoe. Q6 - The questioned footwear impression was not made by either of the known shoes. Q7 - The questioned footwear impression was not made by either of the known shoes. Q8 - The questioned footwear impression was made by the known right shoe.

CHXXAR-533 IMO the left and right shoe can be eliminated from having made marks Q2, Q3, Q6 and Q7 due to differences in pattern arrangement and/or wear features. $I M O$ the left shoe corresponds in pattern + pattern arrangement to Q1 and Q5. Furthermore there was corresponding wear and damage features. IMO the left shoe conclusively made marks Q1 and Q5. Therefore the right shoe can be eliminated from having made these marks. IMO the right shoe corresponded in pattern + pattern arrangement to Q4 and Q8. Also corresponding wear \& damage features observed. IMO the right shoe conclusively made these marks. Therefore the left shoe can be eliminated from having made these marks.

CNLHC8-533 Q1 and Q5 were made by the known left shoe. Q4 and Q8 were made by the known right shoe. Q2, Q3, Q6 and Q7 could not have been made by either the known right shoe or the known left

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shoe.
CWETPN-533 [No Conclusions Reported.]
CWGDMP-533 I compared the evidence impressions in Q1 through Q8 with the test impressions from K1. Based on consistent class characteristics and sufficient agreement in individual characteristics, I determined that the following impressions were made the same shoes as $K 1$ : Q1, Q4, Q5, and Q8. Q1 \& Q5 were made by left shoe. Q4 and Q8 were made by the right shoe. There was sufficient differences in class characteristics such as size and the spatial relationship of Q2, Q3, Q6, and Q7 to determine they were not made by the shoes depicted in K1.
CXABQP-534 All the above marks were compared in detail to the submitted footwear impressions (photographs) Kla-g. The questioned marks agree in pattern design with the submitted footwear impressions. Some differences were noted in terms of size, pattern element spacing and configuration in certain marks which can be eliminated from having been made by the submitted footwear impressions. Some differences were also noted in degree and distribution of wear, and the occurrence of randomly occurring damage features which were present on the footwear impressions and not on the scene marks. Given these findings in my opinion Q2, 3,6 and 7 can be eliminated from having been made by the recovered footwear. Marks Q1, 4, 5 and 8 agree in pattern design, pattern element configuration and size. Whilst some greater degree in wear is noted in the scene marks this can be accounted for by time delay, the potential level of use between offence and recovery of footwear given nature of work of suspect. Identifying features are apparent in each of these marks agreeing in size, shape, position and orientation with randomly acquired damage on the outsoles of the recovered footwear. Given these findings, in my opinion marks Q1, 4, 5 and 8 were made by the submitted footwear.

CZCEE7-533 Questioned footwear impressions Q1 through Q8 were compared to the submitted known shoes ( Kl a through Klg ). The submitted known left shoe was similar in tread design, size of tread design, wear pattern and shape and location of randomly acquired characteristics to questioned footwear impressions Q1 and Q5. Therefore, questioned footwear impressions Q1 and Q5 were made by the submitted known left shoe (Identification). The submitted known right shoe was similar in tread design, size of tread design, wear pattern and shape and location of randomly acquired characteristics to questioned footwear impressions Q4 and Q8. Therefore, questioned footwear impressions Q4 and Q8 were made by the submitted known right shoe (Identification). The submitted known shoes were similar in tread design but dissimilar in size of tread design to questioned footwear impressions Q2, Q3, Q6 and Q7. Therefore, the submitted known shoes can be eliminated from having made these questioned footwear impressions (Exclusion).
D6NGZ2-533 Comparison of Q1, the shoe impression labeled "found in the kitchen of house \#1", and Q5, the shoe impression labeled "found in the foyer of house \#2", to the suspect's left shoe revealed similar class characteristics and corresponding individualizing characteristics. Level I Association. Comparison of Q4, the shoe impression labeled "found in the kitchen of house \#1", and Q8, the shoe impression labeled "found in the foyer of house \#2", to the suspect's right shoe revealed similar class characteristics and corresponding individualizing characteristics. Level I Association. Comparison of Q2 and Q3, the shoe impressions labeled "found in the kitchen of house \#1", and Q6 and Q7, the shoe impressions labeled "found in the foyer of house \#2", to the suspect's right shoe and the suspect's left shoe did not reveal similar wear patterns or corresponding individualizing characteristics. Elimination.
DN4Q4M-533 [No Conclusions Reported.]
DTD4LL-534 In relation to house \#1 : The findings provide conclusive evidence that certain of the footwear marks on the kitchen floor (Q1 and Q4), were made by the submitted pair of shoes (K1). The remaining marks (Q2 and Q3), although of the same pattern as the submitted shoes, featured different alignment (together with significant wear/damage differences) and therefore could not have been made by the shoes. In relation to house \#2: The findings provide conclusive evidence that certain of the footwear marks on the foyer floor (Q5 and Q8), were made by the submitted

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pair of shoes (K1). The remaining marks (Q6 and Q7), although of the same pattern as the submitted shoes, featured different alignment (together with significant wear/damage differences) and therefore could not have been made by the shoes.

DW9XJM-533 [No Conclusions Reported.]
DWFZEM-533 The impression Q1 was made by the suspect's left shoe. The impression Q2 was not made by the suspects right or left shoe. The impression Q3 was not made by the suspects right or left shoe. The impression Q4 was made by the suspects right shoe. The impression Q5 was made by the suspects left shoe. The Impression Q6 was not made by the suspects right or left shoe. The impression Q7 was not made by the suspects right or left shoe. The impression Q8 was made by the suspects right shoe.

EE8BRN-533 The Q1 and Q5 were identified to the left suspect shoe. The Q4 and Q8 were identified to the right suspect shoe. The Q2, Q3, Q6, and Q7 were eliminated because there are no unique signs for comparing.

EKWR7Z-533 The known right shoe (K1) was identified as having made the impressions depicted as Q4 and Q8. There is correspondence in size, tread design, and several randomly acquired characteristics. The known right shoe (K1) is the source, and made, the impressions Q4 and Q8. The known left shoe (K1) was identified as having made the impressions depicted as Q1 and Q5. There is correspondence in size, tread design, and several randomly acquired characteristics. The known left shoe $(K 1)$ is the source, and made, the impressions $Q 1$ and $Q 5$. The known shoes $(K 1)$ were excluded as having made the impressions depicted as Q2, Q3, Q6, and Q7. These questioned impressions are dissimilar in tread design to the known shoes. The known shoes (K1) are not the source, and did not make, the impressions Q2, Q3, Q6, and Q7.

ENU9HU-533 I examined the eight unknown footwear impressions labelled Q1-Q8. All were suitable for comparison. I manually compared the unknown impressions with the impressions \& photographs of known shoes submitted. Q1 \& Q5 were made by the left K1 shoe. Q4 \& Q8 were made by the right K1 shoe. All others were not made by either K1 shoe.

F7VFAZ-533 Q1, Q2, Q3, Q4, Q5, Q6, Q7 and Q8 were compared to K1. The left shoe of K1 is similar in size and exhibits the same tread pattern, wear pattern, and individual characteristics as that of Q1. The left shoe of K1 has been identified as having made Q1. The right shoe of K1 is similar in size and exhibits the same tread pattern, wear pattern, and individual characteristics as that of Q4. The right shoe of K1 has been identified as having made Q4. The left shoe of K1 is similar in size and exhibits the same tread pattern, wear pattern, and individual characteristics as that of Q5. The left 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 individual characteristics as that of Q8. The right shoe of K1 has been identified as having made Q8. K1 and Q2 exhibit similar tread pattern; however, their size, wear pattern and individual characteristics are not the same. K1 has been excluded as having made Q2. K1 and Q3 exhibit similar tread pattern; however, their size, wear pattern individual characteristics are not the same. K1 has been excluded as having made Q3. K1 and Q6 exhibit similar tread pattern; however, their size, wear pattern, and individual characteristics are not the same. K1 has been excluded as having made Q6. K1 and Q7 exhibit similar tread pattern; however, their size, wear pattern, and individual characteristics are not the same. K1 has been excluded as having made Q7. Transparencies were made of K1d and K1f. These were itemized as B1466-1.

F86KL4-533 Q1 and Q5 were made by K1 left sneaker. Q4 and Q8 were made by K1 right sneaker. Q2, Q3, Q6 and Q7 could not have been made by K1 left or right sneakers.

FB7K9F-534 Q1 and Q5 were identified to the left shoe from K1. Q4 and Q8 were identified to the right shoe from K1. Q2, Q3, Q6, and Q7 were excluded as having been made by the shoes from K1.

FBLQKY-533 Sufficient agreements of class and individual characteristics confirmed the Q1 and Q5 impressions were made by the known left shoe. Sufficient agreements of class and individual

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characteristics confirmed the Q4 and Q8 impressions were made by the known right shoe. Sufficient disagreements of class and/or individual characteristics confirmed the Q2, Q3, Q6, and Q7 impressions were not made by the known left or right shoes.

FEK464-533 The questioned footwear impressions (items Q1-Q8) observed in the photographs were visually compared to the images and test impressions from the suspect's shoes (items Kla-K1g). The questioned impressions (Q1 and Q5) exhibited size, tread design, wear pattern, and randomly acquired characteristics in agreement with the suspect's left shoe. These impressions (Q1 and Q5) were produced by the suspect's left shoe (Identification). The questioned impressions (Q4 and Q8) exhibited size, tread design, wear pattern, and randomly acquired characteristics in agreement with the suspect's right shoe. These impressions (Q4 and Q8) were produced by the suspect's right shoe (Identification). The questioned impressions (Q2, Q3, Q6, and Q7) differed from the suspect's shoes in wear pattern and randomly acquired characteristics. The suspect's shoes did not produce the questioned impressions labeled as Q2, Q3, Q6, and Q7 (Exclusion).

FHPMEW-533 Q1 and Q5 were made by K left shoe. Q4 and Q8 were made by $K$ right shoe. Q2, Q3, Q6 and Q7 could not have been made by K.

FJHNAM-533 [No Conclusions Reported.]
FKCEF2-533 The partial outsole impressions labeled \#Q1 and \#Q5 were identified as having been made by the outsole of the left shoe in Item \#K1. The partial outsole impressions labeled \#Q4 and \#Q8 were identified as having been made by the outsole of the right shoe in Item \#K1. The partial outsole impressions labeled \#Q2, \#Q3, \#Q6, and \#Q7 were excluded from having been made by the outsole of either shoe in Item \#K1 based on class characteristic differences (size).

FL78ZC-533 The left Tom's shoe (item K1) is similar in general tread design, size, and apparent wear, and shares multiple randomly acquired characteristics with Items Q1 and Q5. Therefore, the left Tom's shoe (item K1) was identified as having made these questioned shoe impressions (items Q1 and Q5). The right Tom's shoe (item K1) is similar in general tread design, size, and apparent wear, and shares at least one randomly acquired characteristic with Items Q4 and Q8. Therefore, the right Tom's shoe (item K1) was identified as having made these questioned shoe impressions (items Q4 and Q8). The Tom's shoes (item K1) are dissimilar in class characteristics to the remaining questioned shoe impressions (items Q2, Q3, Q6, and Q7) and are excluded as having been the source of these questioned shoe impressions.

FLPYAW-533 Q1 The left (KL) shoe was the source of, and made, the impression Q1. The chance of another item of footwear being the source of the impression Q1 is considered negligible. Q2 Both the left $(\mathrm{KL})$ and right (KR) shoes were not the source of and did not make the impression Q2. Q3 Both the left (KL) and right (KR) shoes were not the source of and did not make the impression Q3. Q4 The right (KR) shoe was the source of, and made, the impression $Q 4$. The chance of another item of footwear being the source of the impression Q4 is considered negligible. Q5 The left (KL) shoe was the source of, and made, the impression Q5. The chance of another item of footwear being the source of the impression Q5 is considered negligible. Q6 Both the left (KL) and right (KR) shoes were not the source of and did not make the impression Q6. Q7 Both the left (KL) and right $(K R)$ shoes were not the source of and did not make the impression Q7. Q8 The right (KR) shoe was the source of, and made, the impression Q8. The chance of another item of footwear being the source of the impression $Q 8$ is considered negligible.

FMGY6M-533 1. Analysis of Exhibits 1.4 and 1.5 revealed 8 latent footwear impressions L001-L008; Q1-Q8) suitable for comparison. Latent footwear impressions suitable for comparison are not always suitable for association but may be suitable for exclusionary purposes. 2. The latent footwear impressions on Exhibits 1.4 and 1.5 and the associated standard listed below correspond in physical size, design, wear, and randomly acquired characteristics. The likelihood of observing this amount of correspondence when made by different sources is considered extremely low. LOO1 (Q1) Exhibit 1.4 associated to left foot in Exhibit 1.3 (K1). L004 (Q4) Exhibit 1.4 associated to right foot in Exhibit 1.3 (K1). L005 (Q5) Exhibit 1.5 associated to left foot in Exhibit 1.3 (K1). L008

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(Q8) Exhibit 1.5 associated to right foot in Exhibit 1.3 (K1). 3. The remaining latent footwear impressions on Exhibits 1.4 and 1.5 (L002-Q2, L003-Q3, L006-Q6, L007-Q7) were excluded as having originated from Exhibits 1.1 through 1.3 (left/right shoe Kla -g).
FYALBH-534 In my opinion, the findings show conclusively that the marks Q1 and Q4, relating to house 1, and Q5 and Q8, relating to house 2, were made by the shoes K1. the marks Q2 and Q3 9house 1) and the marks Q6 and Q7 9house 2) are similar in pattern to the shoes K1 but have not been made by these shoes.

G86V6D-533 The questioned imprints (Exhibits Q1 through Q8) were compared to the outsole tread design elements and randomly acquired characteristics present on Exhibits Kla through Klg, the recovered shoes. Based on the outsole tread design elements and randomly acquired characteristics present on Exhibits Kla through K1g, Exhibits Q4 and Q8 have been identified as having been made by the right recovered shoe; Exhibits Q1 and Q5 have been identified as coming from the left recovered shoe. Tread design elements in Exhibits Q2, Q3, Q6 and Q7 are similar to Exhibits K1 a through K1g. However, the recovered shoes can be eliminated as the source of the Exhibits Q2, Q3, Q6 and Q7, questioned imprints, based on the differences in randomly acquired characteristics.

GFEAY3-533

GL2DUC-534 Impressions Q1 and Q5 were in agreement in individualizing characteristics and therefore identified as having been made by the left shoe in item K1. Impressions Q4 and Q8 were in agreement in individualizing characteristics and therefore identified as having been made by the right shoe in item K1. Impressions Q2, Q3, Q6, and Q7 were excluded as having been made by the shoes in item K1 due to opposite tread alignment or disagreement in individualizing characteristics.

GRNZPG-533 Comparison examinations were conducted on the evidence listed above. The findings of this examiner are the following: 1. Questioned impressions 8 (Q1) and 12 (Q5) were made by the same left shoe as the submitted standards, labeled as being from Tom's size US 7.5 (K1). 2. Questioned impressions 11 (Q4) and 15 (Q8) were made by the same right shoe as the submitted standards, labeled as being from Tom's size US 7.5 (K1). 3. Questioned impression 10 (Q3) was made by a second left shoe with similar outsole design as the submitted standards but had differences in wear and individual characteristics. 4. Questioned impressions 9 (Q2), 13 (Q6) and 14 (Q7) were made by a second right shoe with similar outsole design as the submitted standards but had differences in wear and individual characteristics.
H3M3GR-533 One questioned footwear impression of Contributor Item \#Q1 - was made by the left shoe of Contributor Item \#K1. One questioned footwear impression of Contributor Item \#Q2 - was not made by Contributor Item \#K1 based on different design features. One questioned footwear impression of Contributor Item \#Q3 - was not made by Contributor Item \#K1 based on different design features. One questioned footwear impression of Contributor Item \#Q4 - was made by the right shoe of Contributor Item \#K1. One questioned footwear impression of Contributor Item \#Q5 - was made by the left shoe of Contributor Item \#K1. One questioned footwear impression of Contributor Item \#Q6 - was not made by Contributor Item \#K1 based on different design, physical size and wear features. One questioned footwear impression of Contributor Item \#Q7 was not made by Contributor Item \#K1 based on different design and wear features. One questioned footwear impression of Contributor Item \# Q8 - was made by the right shoe of Contributor Item \#K1.

HP49DE-534 Items Q1-Q8 were examined for impressions. Eight impressions suitable for comparison (Q1-8) were observed and preserved through digital imaging. The impressions were compared to

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photographs ( $K 1 a-c$ ) and test impressions ( $K 1 d-g$ ) of a pair of recovered shoes. Two impressions $(Q 1,5)$ were identified as having been made by the left shoe. Two impressions (Q4, 8) were identified as having been made by the right shoe. Four impressions ( $Q 2,3,6,7$ ) were excluded from the left and right shoes due to disagreement in tread design or individualizing characteristics.

J26FKV-533 It was determined that the footwear impressions Q1 and Q5, were made by the suspect's left, size $71 / 2$, Tom's shoe, K1. It was determined that the footwear impressions Q4 and Q8 were made by the suspect's right, size $71 / 2, \mathrm{Tom}^{\prime}$ s shoe, K1. It was determined that the footwear impressions Q2, Q3, Q6, and Q7 were not made by the suspect's left or right, size $71 / 2$, Tom's shoes, K1 .

J2LN9P-533 Impressions no. Q1, Q4, Q5 and Q8 corresponds with known impressions in physical size, design, wear and random acquired characteristics ( $R A C ' s$ ) - conclusion for this prints is identification. Impressions no. Q2, Q3, Q6, Q7 doesn't correspond with known impressions in physical size. Also Q3 has different range of general wear - conclusion for impressions no. Q2, Q3, Q6, Q7 is elimination.

J4VPFH-533 Impressions Q1 and Q5 were made by the submitted left shoe. Impressions Q4 and Q8 were made by the submitted right shoe. Impression Q3 was made by a second left shoe with a similar outsole design as the submitted left shoe. Impressions Q2, Q6 and Q7 were made by a second right shoe with a similar outsole design as the submitted right shoe.

J6CL9G-533 The recovered left shoe made impression Q1 from the kitchen of house \#1 and Q5 from the foyer of house \#2 (identification). The recovered right shoe made impression Q4 from the kitchen of house \#1 and Q8 from the foyer of house \#2 (identification). Neither the left nor the right recovered shoes made impressions Q2 and Q3 from the kitchen of house \#1 or Q6 and Q7 from the foyer in house \#2 (exclusion). The range of possible conclusions are listed and defined in the examination section of this report.

JCQGZ6-533 The left known (suspect) shoe represented by images K1a through K1g made questioned impressions Q1 and Q5 and is identified as the source of these impressions. The right known (suspect) shoe represented by images Kla through K1g made questioned impressions Q4 and Q8 and is identified as the source of these impressions. Neither of the known (suspect) shoes represented by images K1 a through K1g made the questioned impressions Q2, Q3, Q6, and Q7. The shoes are eliminated as a possible source for these impressions.

JCREBZ-533 The questioned impressions (Q1-Q8) were compared to the photographs and known impressions of the known Tom's shoes. Q1 and Q5 corresponded in tread design, physical size, wear, and randomly acquired characteristics to the known left Tom's shoe. Q1 and Q5 were identified as having been made by the known left Tom's shoe (Identification; See Association Scale Below). Q4 and Q8 corresponded in tread design, physical size, wear, and randomly acquired characteristics to the known right Tom's shoe. Q4 and Q8 were identified as having been made by the known right Tom's shoe (Identification). Q2, Q3, Q6, and Q7 corresponded in gross general tread design to the known Tom's shoes, but the questioned impressions had either differences in specific tread design features and/or general and specific wear patterns to the known Tom's shoes. The known Tom's shoes are excluded as a possible source of impressions Q2, Q3, Q6, and Q7 (Exclusion).
JJQYFG-534 The findings provide a conclusive match between the submitted shoes and two of the footwear marks recovered from House\#1. The findings also show that two of the other footwear marks recovered from House\#1 were not made by the submitted shoes. The findings provide a conclusive match between the submitted shoes and two of the footwear marks recovered from House\#2. The findings also show that two of the other footwear marks recovered from House\#2 were not made by the submitted shoes.

JU6TTV-533 The evidence in items 1D and 1E (CTS \# Q1 through Q8) was visually examined for impression evidence. Eight (8) questioned imprints of value were determined to be present in items 1D and 1E (CTS \# Q1 through Q8). All eight (8) of the questioned imprints in items 1D and 1E (CTS \#

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Q1 through Q8) were visually examined and compared against the recovered shoes in items 1 A , $1 B$, and $1 C$ (CTS \# Kla through K1g). Two (2) of the questioned imprints in items 1 D and 1 E (CTS \# Q1 and Q5) were determined to have been made by the recovered left shoe in items 1A, 1 B , and 1 C (CTS \# Kla through K1g). Two (2) of the questioned imprints in items 1 D and 1 E (CTS \# Q4 and Q8) were determined to have been made by the recovered right shoe in items 1A, 1B, and 1C (CTS \# Kla through Klg). Four (4) of the questioned imprints in items 1D and 1 (CTS \# Q2, Q3, Q6, and Q7) were determined not to have been made by the recovered shoes in items 1A, 1B, and 1 C (CTS \# Kla through K1g).

K32YA4-533 ITEMS OF EVIDENCE: Item: 1 Kla : Photograph of the soles of the recovered shoes, lighted from above. Item: $2 \mathrm{Klb}-\mathrm{Klc}$ : Two oblique lighted images of the soles of the recovered shoes, light direction indicated by arrows. Item: $3 \mathrm{Kld}-\mathrm{Klg}$ : Known imprints made with the recovered shoes. Item: 3.1 Transparencies created from the Item 3 photographs. Item: 4 Q1-Q4: Questioned imprints found in the kitchen of house \#1 (vinyl tile). Item: 4.1 Unknown footwear impression represented as Q1 on Item 4. RESULTS: The Item 4.1 impression was made by the Item 1 left shoe. Item: 4.2 Unknown footwear impression represented as Q2 on Item 4. RESULTS: The Item 4.2 impression was not made by the Item 1 shoes. Item: 4.3 Unknown footwear impression represented as Q3 on Item 4. RESULTS: The Item 4.3 impression was not made by the Item 1 shoes. Item: 4.4 Unknown footwear impression represented as Q4 on Item 4. RESULTS: The Item 4.4 impression was made by the Item 1 right shoe. Item: 5 Q5-Q8: Questioned imprints found in the foyer of house \#2 (vinyl tile). Item: 5.1 Unknown footwear impression represented as Q5 on Item 5. RESULTS: The Item 5.1 impression was made by the Item 1 left shoe. Item: 5.2 Unknown footwear impression represented as Q6 on Item 5. RESULTS: The Item 5.2 impression was not made by the Item 1 shoes. Item: 5.3 Unknown footwear impression represented as Q7 on Item 5. RESULTS: The Item 5.3 impression was not made by the Item 1 shoes. Item: 5.4 Unknown footwear impression represented as Q8 on Item 5. RESULTS: The Item 5.4 impression was made by the Item 1 right shoe. Impression evidence in this case was examined utilizing the ACE-V methodology.
K649TJ-533 Shoeprint Q1 reportedly found in the kitchen of House \# 1 was identified as having been made by the submitted left shoe. Shoeprint Q4 reportedly found in the kitchen of House \#1 was identified as having been made by the submitted right shoe. Shoeprint Q3 reportedly found in the kitchen of House \#1 was eliminated as having been made by the submitted shoes. Results of comparison of shoeprint Q2 to the submitted shoes was inconclusive. Shoeprint Q5 reportedly found in the foyer of House \#2 was identified as having been made by the submitted left shoe. Shoeprint Q8 reportedly found in the foyer of House \#2 was identified as having been made by the submitted right shoe. Shoeprint Q6 reportedly found in the foyer of House \#2 was eliminated as having been made by the submitted shoes. Results of comparison of shoeprint $Q 7$ to the submitted shoes was inconclusive.
K6ZP7G-534 Shoeprints Q1, Q4, Q5 and Q8 have been produced for recovered shoes K1. Shoeprints Q2, Q6 and Q7 have been produced for another shoes named by us as K2. Shoeprint Q3 has not been produced by K 1 . This shoeprint could be produced by left shoe of K 2 or another shoe named K3. The shoes K1 have produced shoeprint in House \#1 and in House \#2 also shoe K2. We can not determine if shoeprint Q3 is produced by shoe K2 or, perhaps, for another shoe, K3 (House \#1).
K93H9R-534 [No Conclusions Reported.]
K9L99Z-533 Questioned impressions Q1 and Q5 were identified as having been made by the K1 left shoe. Questioned impressions Q4 and Q8 were identified as having been made by the K 1 right shoe. The K1 shoes were excluded as the sources of questioned impressions Q2, Q3, Q6, and Q7.
KGYBH8-533 Q1 - The questioned footwear impression was made by the known left shoe. Q2 - The questioned footwear impression was not made by either of the known shoes. Q3 - The questioned footwear impression was not made by either of the known shoes. Q4 - The questioned footwear impression was made by the known right shoe. Q5 - The questioned footwear impression was made by the

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known left shoe. Q6 - The questioned footwear impression was not made by either of the known shoes. Q7 - The questioned footwear impression was not made by either of the known shoes. Q8 - The questioned footwear impression was made by the known right shoe.

KHR4DQ-534 Q1 and Q5-Identification Leff. In my opinion the left shoe from K1 made the questioned impressions. The chance of another shoe being the source of these impressions is considered negligible. Q4 and Q8 - Identification Right. In my opinion the right shoe from K1 made the questioned impressions. The chance of another shoe being the source of these impressions is considered negligible. Q2, Q3, Q6 and Q7 - Elimination. Due to difference in pattern, wear, size and randomly acquired characteristics, the shoes in K1 did not make the impressions.

KKEUEV-533 The questioned prints Q2, Q3, Q6 and Q7 showed differences in details and wear. Therefore they could not have been made by the suspect's shoes K1. The questioned prints Q1, Q4, Q5 and Q8 showed the same pattern, size, wear and individual characteristics to identify the suspect's shoes K1.

KKGKLD-534 In my opinion: 1. There is conclusive support for the proposition that two of the marks photographed at house \#1 were made by the 'Toms' shoes submitted for examination. 2. There is also conclusive support for the proposition that two of the marks photographed at house \#2 were made by the 'Toms' shoes submitted for examination. 3. Two other marks, found at each of the two scenes, were not made by the submitted 'Toms' shoes.

KLADGW-533 The outsole impression visible in Exhibit \#Q1 and the partial outsole impression visible in Exhibit \#Q5 were identified as having been made by the outsole of the left shoe in Exhibit \#K1. The partial outsole impressions visible in Exhibits \#Q4 and \#Q8 were identified as having been made by the outsole of the right shoe in Exhibit \#K1. The outsole impressions visible in Exhibits \#Q2, \#Q3, \#Q6, and \#Q7 were excluded from having been made by the outsole of either shoe in Exhibit \#K1 based on class characteristic differences (size).
KNGJ84-533 The Item Q1 through Q8 questioned footwear impressions were analyzed, compared and evaluated with the Item K1 known left and right shoes. The Item Q1 questioned footwear impression corresponds in tread design, physical size, specific wear and accidental characteristics with the Item K1 left shoe. The Item Q2 questioned footwear impression shares similar tread design features with the Item K1 left and right shoes, however, does not correspond in wear. The Item Q3 questioned footwear impression shares similar tread design features with the Item K1 left and right shoes, however, does not correspond in wear. The Item Q4 questioned footwear impression corresponds in tread design, physical size, specific wear and accidental characteristics with the Item K1 right shoe. The Item Q5 questioned footwear impression corresponds in tread design, physical size, specific wear and accidental characteristics with the Item K1 left shoe. The Item Q6 questioned footwear impression shares similar tread design features with the Item K1 left and right shoes, however, does not correspond in wear. The Item Q7 questioned footwear impression shares similar tread design features with the Item K1 left and right shoes, however, does not correspond in wear. The Item Q8 questioned footwear impression corresponds in tread design, physical size, specific wear and accidental characteristics with the Item K1 right shoe. Based upon the above factors it is the opinion of this examiner that: The Item Q4 and Q8 questioned footwear impressions were made by the Item K1 right shoe. The Item Q1 and Q5 questioned footwear impressions were made by the Item K1 left shoe. The Item Q2, Q3, Q6 and Q7 questioned footwear impressions were not made by the Item K1 left or right shoe.

KP9R4L-533 The impressions depicted in the Q1 and Q5 photographs were made by the K1 left shoe. The impressions depicted in the Q4 and Q8 photographs were made by K 1 right shoe. The impressions depicted in the Q2, Q3, Q6, and Q7 photographs were not made by the K1 shoes.

KTD9NB-533 Questioned impressions Q1 and Q5 were identified as having been made by the left shoe of K1. Questioned impressions Q4 and Q8 were identified as having been made by the right shoe of K1. The identifications that were made were based upon the reproducibility of class, wear, and sufficient reproducible individual characteristics. Questioned impressions Q2, Q3, Q6 and Q7 can be eliminated as having been made by the standard shoes of K 1 based upon a difference in

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wear and individual characteristics. Questioned impressions Q2, Q6 and Q7 were all made by the same unknown right shoe based upon similarity of class, wear, and individual characteristics. Questioned impression Q3 is of an unknown left shoe.

L2WBVW-533 Visual examinations of the eight questioned impressions, Q1-Q8, were compared to the submitted photographs, K1a-K1g. Examination of the footwear impressions Q1 and Q5 showed the tread design, physical size, wear condition, and randomly acquired characteristics to be the same as that of the left shoe, Item K1. This shoe made these impressions. (Identification). Examination of the footwear impressions Q4 and Q8 showed the tread design, physical size, wear condition, and randomly acquired characteristics to be the same as that of the right shoe, Item K1. This shoe made these impressions. (Identification). Examination of the footwear impressions Q2, Q3, Q6, and Q7 showed the tread design to be similar, but the wear condition was different than that of the submitted shoes, K1. These shoes did not make any of these impressions. (Exclusion).

L3TNHP-533 Impression Q-1 was made by the left shoe of item K1. Impression Q-2 was not made by item K1. Impression Q-3 was not made by item K1. Impression Q-4 was made by the right shoe of item K1. Impression Q-5 was made by the left shoe of item K1. Impression Q-6 was not made by item K1. Impression Q-7 was not made by item K1. Impression Q-8 was made by the right shoe of item K1.

L3XYM9-534 Q1, Q4, Q5, and Q8 were made by the submitted footwear marked K1. Identification is established when the size, wear pattern, and accidental characteristics are in agreement. Q2, Q3, Q6, and Q7 were not made by the submitted footwear marked K1. Exclusion is established when there are sufficient features in disagreement to conclude the impression originated from a different source.

L93U79-533 The submitted two (2) photographs of the soles of shoes (no shoe information) and the four (4) photographs of test impressions from the shoes were compared and evaluated to the two (2) photographs of eight (8) grid/polygon partial shoe prints of value pre-marked Q-1 thru Q-8. Size, design, pattern, physical dimensions and individual characteristics correspond between four (4) grid/polygon patterned partial shoe prints and the submitted photographs of the soles of shoes. Four (4) of the impressions shared a similar design and pattern, however they have been excluded due to differences in physical dimensions.

LB7HZC-534 House \#1 (Kitchen): Two footwear crime scene marks have been eliminated - they could not have been made by the suspects footwear. (Q2 \& Q3) One impression would provide conclusive support that it was made by the suspect left shoe (Q1) One impression would provide conclusive support that it was made by the suspect right shoe (Q4) House \#2 (Foyer): Two footwear crime scene marks have been eliminated - they could not have been made by the suspects footwear (Q6 \& Q7). One impression would provide conclusive support that it was made by the suspect left shoe (Q5). One impression would provide conclusive support that it was made by the suspect right shoe (Q8).
LJGRCC-534 Visual analysis of the CD (item 1) revealed two digital images (items 1A and 1B) with multiple footwear impressions suitable for comparison. The remaining images (items 1C and 1D) are images of the known shoes. Visual examination and comparison reveals the following: Two of the questioned impressions from the digital images (items 1A/Q1 and 1B/Q5) were made by the known left shoe as depicted in the digital image (item 1D). The known left shoe revealed similar class characteristics in tread design, physical shape/size, general and specific wear, and multiple randomly acquired characteristics to determine that these questioned impressions were made by this known left shoe. These questioned impressions were made by a left shoe; therefore, the right shoe was not compared. Two of the questioned impressions from the digital images (items 1A/Q4 and $1 B / Q 8$ ) were made by the known right shoe as depicted in the digital image (item 1D). The known right shoe revealed similar class characteristics in tread design, physical shape/size, general and specific wear, and multiple randomly acquired characteristics to determine that these questioned impressions were made by this known right shoe. These questioned impressions were

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made by a right shoe; therefore, the left shoe was not compared. One of the questioned impressions from the digital images (items 1A/Q3) was not made by the known left shoe as depicted in the digital image (item 1D). The known left shoe revealed a significant difference in physical shape/size and wear to determine that this questioned impression was not made by this known left shoe. This questioned impression was made by a left shoe; therefore, the right shoe was not compared. Three of the questioned impressions from the digital images (items 1A/Q2, 1B/Q6, and 1B/Q7) were not made by the known right shoe as depicted in the digital image (item 1D). The known right shoe revealed a significant difference in physical shape/size and wear to determine that these questioned impressions were not made by this known right shoe. These questioned impressions were made by a right shoe; therefore, the left shoe was not compared.

LRTXY3-533 The right outsole is identified as the source of impressions Q4 and Q8. The left outsole is excluded as a possible source. The left outsole is identified as the source of impressions Q1 and Q5. The right outsole is excluded as a possible source. Both the left and right outsoles are excluded as a possible source for impressions Q2, Q3, Q6, and Q7.

M9D7CQ-533 The evidence in items 1D and 1E (Q1-Q8) was visually examined for impression evidence. Eight (8) partial footwear impressions of value were determined to be present in items 1D (Q1, Q2, Q3, and Q4) and 1E (Q5, Q6, Q7, and Q8). All the partial footwear impressions (Q1-Q8) in items 1D and 1E were visually examined and compared to the recovered shoes ( $\mathrm{K} 1 \mathrm{a}-\mathrm{K} 1 \mathrm{~g}$ ) in items 1A, 1B, and 1C. Two (2) partial footwear impressions (Q1 and Q5) present in items 1D and $1 E$ were determined to have been made by the left shoe $(K 1 a-K 1 g)$ in items $1 A, 1 B$, and $1 C$. Two (2) partial footwear impressions (Q4 and Q8) present in items $1 D$ and $1 E$ were determined to have been made by the right shoe $(\mathrm{K} 1 \mathrm{a}-\mathrm{K} 1 \mathrm{~g})$ in items $1 \mathrm{~A}, 1 \mathrm{~B}$, and 1 C . Four (4) partial footwear impressions (Q2, Q3, Q6, and Q7) present in items 1D and 1E were determined not to have been made by the recovered shoes $(\mathrm{Kla}-\mathrm{Klg})$ in items $1 \mathrm{~A}, 1 \mathrm{~B}$, and 1 C .

MBJQ2C-534 The questioned imprints labeled Q1 through Q8 were examined and found to have value for comparison. Q1 through Q8 were compared to the photographs of the outsoles and the imprints reportedly made with the recovered shoes K1. Q1 was made by K1 (left shoe). Q2 was not made by K1. Q3 was not made by K1. Q4 was made by K1 (right shoe). Q5 was made by K1 (left shoe). Q6 was not made by K1. Q7 was not made by K1. Q8 was made by K1 (right shoe).

MCDG8Q-533 Q1: Was identified as being made by the known left shoe. Randomly acquired characteristics were observed in the same area on both the questioned and known impressions. Both have the same outsole design and exhibit the same wear patterns. Q2: My conclusion is inconclusive due to the small amount of the tread pattern being visible for comparison. Because there is limited information I was unable to conclusively say what area of the shoe outsole was being displayed and unable to find any randomly acquired characteristics or any areas of disagreement. Q3: Was eliminated as being made by either the left or right known shoe. Q4: Was identified as being made by the known right shoe. Randomly acquired characteristics were observed in the same area on both the questioned and known impressions. Both have the same outsole design and exhibit the same wear patterns. Q5: Was identified as being made by the known left shoe. Randomly acquired characteristics were observed in the same area on both the questioned and known impressions. Both have the same outsole design and exhibit the same wear patterns. Q6: Was eliminated as being made by either the left or right known shoe. Q7: Was eliminated as being made by either the left or right known shoe. Q8: Was identified as being made by the known right shoe. Randomly acquired characteristics were observed in the same area on both the questioned and known impressions. Both have the same outsole design and exhibit the same wear patterns.

MELK79-533 Four (4) patent footwear impressions, 4.1 through 4.4, are depicted in Item 4. Four (4) patent footwear impressions, 5.1 through 5.4, are depicted in Item 5. Footwear impressions 4.1 and 5.1 were made by the left Tom's shoe depicted in Items 1, 2, and 3. Footwear impressions 4.4 and 5.4 were made by the right Tom's shoe depicted in Items 1, 2, and 3. Footwear impressions 4.2, $4.3,5.2$ and 5.3 were not made by the Tom's shoes depicted in Items 1, 2 and 3 .

N8X7UM-533
Marks Q1 and Q5 were examined when they were each found to show agreement in pattern,

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size, wear and fine detail with areas of the sole of the left submitted shoe and in our opinion the left shoe was responsible for making these marks. Marks Q4 and Q8 were examined when they were each found to show agreement in pattern, size, wear and fine detail with areas of the sole of the right submitted shoe and in our opinion the right shoe was responsible for making these marks. Marks Q2, Q3, Q6 and Q7 were examined when in each case they were found to be different from the soles of both the right and left submitted shoes. In our opinion none of the submitted shoes were responsible for making these marks.

NA9YX2-533 Q1 - The questioned footwear impression was made by the known left shoe. Q2 - The questioned footwear impression was not made by either of the known shoes. Q3-The questioned footwear impression was not made by either of the known shoes. Q4 - The questioned footwear impression was made by the known right shoe. Q5 - The questioned footwear impression was made by the known left shoe. Q6 - The questioned footwear impression was not made by either of the known shoes. Q7 - The questioned footwear impression was not made by either of the known shoes. Q8 - The questioned footwear impression was made by the known right shoe.

NB3P3G-533
001.H (Q1) In the opinion of the examiner, the subject's Tom's brand size US 7.5 left shoe was the source of, and made, Item 001.H (Q1) a left shoe imprint found on the vinyl tile in the kitchen of house \#1. Another item of footwear being the source of the impression is considered a practical impossibility. 001.I (Q2) In the opinion of the examiner, the subject's Tom's brand size US 7.5 right shoe was not the source of Item 001.1 (Q2) a right shoe imprint found on the vinyl tile in the kitchen of house \#1. Sufficient differences were noted in the comparison of class and/or randomly acquired characteristics between the questioned imprint and the known footwear. 001.J (Q3) In the opinion of the examiner, the subject's Tom's brand size US 7.5 left shoe was not the source of Item 001 .J (Q3) a left shoe imprint found on the vinyl tile in the kitchen of house \# 1 . Sufficient differences were noted in the comparison of class and/or randomly acquired characteristics between the questioned imprint and the known footwear. 001.K (Q4) In the opinion of the examiner, the subject's Tom's brand size US 7.5 right shoe was the source of, and made, Item 001 .K (Q4) a right shoe heel imprint found on the vinyl tile in the kitchen of house \#1. Another item of footwear being the source of the impression is considered a practical impossibility. 001.L (Q5) In the opinion of the examiner, the subject's Tom's brand size US 7.5 left shoe was the source of, and made, Item 001.L (Q5) a left shoe heel imprint found on the vinyl tile in the foyer of house \#2. Another item of footwear being the source of the impression is considered a practical impossibility. 001.M (Q6) In the opinion of the examiner, the subject's Tom's brand size US 7.5 right shoe was not the source of Item 001 .M (Q6) a right shoe imprint found on the vinyl tile in the foyer of house \#2. Sufficient differences were noted in the comparison of class and/or randomly acquired characteristics between the questioned imprint and the known footwear. 001.N(Q7) In the opinion of the examiner, the subject's Tom's brand size US 7.5 right shoe was not the source of ltem 001.N (Q7) a right shoe imprint found on the vinyl tile in the foyer of house \#2. Sufficient differences were noted in the comparison of class and/or randomly acquired characteristics between the questioned imprint and the known footwear. 001.0 (Q8) In the opinion of the examiner, the subject's Tom's brand size US 7.5 right shoe was the source of, and made, Item $001 . \mathrm{O}(\mathrm{Q} 8$ ) a right toe area shoe imprint on the vinyl tile in the foyer of house \#2. Another item of footwear being the source of the impression is considered a practical impossibility.

NDKWEW-533 On the item Q1 there is a shoeprint which correspond in pattern, wear, size and individual characteristics with the left shoe of the item K1. The shoeprint of item Q1 is left By the left shoe of item K1. On the items Q2 and Q3 the are shoeprints which doesn't correspond in size nor wear with the shoes of item K1. The shoeprtints of items Q2 and Q3 are not left By the shoes of item K 1 . On the items Q4 and Q8 there are partial shoeprints which corresponds in pattern, wear and individual characteristics with the right shoe of item K1. The shoeprints of item Q4 and Q8 are left by the right shoe of item K1. On the item Q5 there is a partial shoeprint which correspond in pattern, wear and individual characteristics with the left shoe of item K1. The shoeprint of item Q5 is left by the left shoe of item K1. On the items Q6 and Q7 the are partial shoeprints which doesn't correspond in wear with the right shoe of the item K1. The shoeprints of items Q6 and Q7

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are not left By the right shoe of item K1.
NGK6KR-533 Upon examination, I found: i) Characteristic marks on the questioned imprints Q1 and Q5 and the characteristic marks on the recovered left shoe to be similar. ii) Characteristic marks on the questioned imprints Q4 and Q8 and the characteristic marks on the recovered right shoe to be similar. iii) Characteristic marks on the questioned imprints Q2, Q3, Q6 and Q7 and the characteristic marks on the recovered shoes are dissimilar. Therefore, the questioned imprints $Q 1$, Q4, Q5 and Q8 were made by the recovered shoes but questioned imprints Q2, Q3, Q6 and Q7 were not made by the recovered shoes.

NMBHKV-533 The suspect's shoes represented by Kla through K1g were visually compared to impressions Q1 through Q8 using direct side by side comparison and overlay comparison methods. The suspect's left Toms brand shoes (represented by K1a-K1g) has the same tread design, physical size, wear characteristics, and randomly acquired characteristics as impression Q1. Impression Q1 was identified as having been made by the left Toms brand shoe identified as from the suspect (Identification). The suspect's right Toms brand shoe (represented by Kla-Klg) has the same tread design as impression Q2, however there are differences in wear characteristics. Impression Q2 was eliminated as having been made by the right Toms brand shoe identified as from the suspect based on differences in wear characteristics (Exclusion). The suspect's left Toms brand shoe (represented by Kla-Klg) has the same tread design as impression Q3, however there were differences in physical size and wear characteristics. Impression Q3 was eliminated as having been made by the left Toms brand shoe identified as from the suspect based on differences in physical size and wear characteristics (Exclusion). The suspect's right Toms brands shoe (represented by Kla-K1g) has the same tread design, physical size, wear characteristics, and randomly acquired characteristics as impression Q4. Impression Q4 was identified as having been made by right Toms brand shoe identified as from the suspect (Identification). The suspect's left Toms brand shoes (represented by Kla-K1g) has the same tread design, physical size, wear characteristics, and randomly acquired characteristics as impression Q5. Impression Q5 was identified as having been made by the left Toms brand shoe identified as from the suspect (Identification). The suspect's right Toms brand shoe (represented by Kla-K1g) has the same tread design as impressions Q6 and Q7, however there were differences in wear characteristics. Impressions Q6 and Q7 were eliminated as having been made by the right Toms brand shoe identified as from the suspect based on differences in wear characteristics (Exclusion). The suspect's right Toms brand shoes (represented by Kla-K1g) has the same tread design, physical size, wear characteristics, and randomly acquired characteristics as impression Q8. Impression Q8 was identified as having been made by the right Toms brand shoe identified as from the suspect (Identification).
NN63DL-533 The questioned imprints 01 and 05 were identified as that of the left suspect shoe. The questioned imprints Q4 and Q8 were identified as that of the right suspect shoe. Imprints Q2, Q3, Q6 and Q7 were not made by the recovered shoes Kla-Klg.

P3G2VR-533 An examination was conducted comparing the known submitted left and right outsoles (Tom's US 7.5) to eight questioned crime scene footwear impressions of value (Q1-Q8). Q1 is identified as being made by the submitted left "Tom's" outsole based on design, physical size, degree of wear, and randomly acquired characteristics. Another item of footwear being the source of the impression is considered a practical impossibility. Q2 is excluded as being made by either of the submitted "Tom's" outsoles. Q3 is excluded as being made by either of the submitted "Tom's" outsoles. Q4 is identified as being made by the submitted right "Tom's" outsole based on design, physical size, degree 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 left "Tom's" outsole based on design, physical size, degree of wear, and randomly acquired characteristics. Another item of footwear being the source of the impression is considered a practical impossibility. Q6 is excluded as being made by either of the submitted "Tom's" outsoles. Q7 is excluded as being made by either of the submitted "Tom's" outsoles. Q8 is identified as being made by the submitted right "Tom's" outsole based on design, physical size, degree of wear, and randomly acquired characteristics. Another item of footwear being the source

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of the impression is considered a practical impossibility.
P3LHUQ-533 Items: 1. A sealed manila envelope identified as "2016 CTS Forensic Testing Program Test No. 16-533 Imprint Impression Evidence". 1-1. Photograph images Kla-Klg of known shoes "Tom's US-7.5" and their rolled and walked impressions. 1-2. Two photograph images depicting eight evidence partial shoe impressions labeled "Q1-Q8". Results: Result: The design of the outsoles, item \#1-2-2, \#1-2-3, \#1-2-6 and \#1-2-7, were found to be different than the pattern present in the outsole and impressions depicted in item \#1-1. The design characteristics, areas of wear, texturing of impressions depicted in item \#1-2-1 and \#1-2-5, were found to correspond to the left shoe depicted in item \#1-1. Randomly acquired characteristics were found to correspond in position and orientation between the impressions depicted in item \#1-2-1 and \#1-2-5, and the outsole of the left shoe depicted in item \#1-1. The design characteristics, areas of wear, texturing of the impressions depicted in item \#1-2-4 and \#1-2-8, were found to correspond to the right shoe depicted in item \#1-1. Randomly acquired characteristics were found to correspond in position and orientation between the impressions depicted in item \#1-2-4 and \#1-2-8, and the outsole of the right shoe depicted in item \#1-1. Opinion: The shoe depicted in item \#1-1, was not the source of the impressions depicted in item \#1-2-2, \#1-2-3, \#1-2-6 and \#1-2-7. This is an exclusion. Please see association key below. These associations are significant enough to determine that the left shoe depicted in item \#1-1, was the source of the impressions depicted in item \#1-2-1 and \#1-2-5. This is an identification. Please see association key below. These associations are significant enough to determine that the right shoe depicted in item \#1-1, was the source of the impressions depicted in item \#1-2-4 and \#1-2-8. This is an identification. Please see association key below. Note: Class characteristics can include outsole design, physical size, areas of wear, and/or texturing.

PBWVWF-533 The K1 submitted known shoes were excluded from being the source of the Q-2, Q-3, Q-6, and Q-7 questioned impressions. There were significant differences noted in class characteristics and randomly acquired characteristics between the questioned impressions and the known shoes. The known shoes were not the source of and did not make the impressions. The Kl submitted known shoes were identified as the source of the Q-1 (left), Q-4 (right), Q-5 (left), and Q-8 (right) questioned impressions. There was sufficient agreement in the quality and quantity of class characteristics and randomly acquired characteristics between the questioned impressions and the known shoes. The known shoes were the source of and did make the impressions.
PJ79TP-533 The comparisons of the enclosed footwear impressions (Q1-Q8 and Kla-Klg) 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 outsole of shoes, being the comparative material, there were present some individual identifying characteristics. Similar individual characteristics were also found in the evidence material marked Q4 and Q8 on the right outsole and Q1 and Q5 on the left outsole. This we concluded that items Q2, Q3, Q6 and Q7 are different from the comparative materials.
PQ422J-533 Questioned imprints identified as Q1 (Kitchen of house \#1) and Q5 (Foyer of house \#2) were made by the left recovered shoe. Questioned imprints identified as Q4 (Kitchen of house \#1) and Q8 (Foyer of house \#2) were made by the right recovered shoe. Questioned imprints identified as Q2, Q3 (Kitchen of house \#1), Q6 and Q7 (Foyer of house \#2) were not made by the right or leff recovered shoes.

PU8M23-533 Q1 - The questioned footwear impression was made by the known left shoe. Q2 - The questioned footwear impression was not made by either of the known shoes. Q3 - The questioned footwear impression was not made by either of the known shoes. Q4 - The questioned footwear impression was made by the known right shoe. Q5 - The questioned footwear impression was made by the known left shoe. Q6 - The questioned footwear impression was not made by either of the known shoes. Q7 - The questioned footwear impression was not made by either of the known shoes. Q8 - The questioned footwear impression was made by the known right shoe.

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Q1 was made by the known leff 'Toms' shoe. Partial scene impression Q1 corresponded in outsole general size, shape and design to the outsole of the left 'Toms' shoe. Some artefacts observed in scene impression Q1 which correlate to damage observed on the outsole of the left 'Toms' shoe. Correlation was also observed in the degree of wear to the outsole of the leff 'Toms' shoe and partial scene impression Q1. b) That partial scene impression Q1 was not made by the known right 'Toms' shoe. Whilst similar in outsole design, impression Q1 did not correlate in shape with the right 'Toms' shoe. 2) That partial scene impression Q2 was not made by either the known left or right 'Toms' shoes. Whilst similar in outsole design and shape to the right 'Toms' shoe, impression Q2 did not correlate in wear or to damage that was present on the outsole of the right 'Toms' shoe. Whilst similar in outsole design to the left 'Toms' shoe, Impression Q2 did not correlate in shape with the left 'Toms' shoe. 3) That partial scene impression Q3 was not made by either the known left or right 'Toms' shoes. Whilst similar in outsole design to both 'Toms' shoes, impression Q3 did not correlate in wear or to damage that was present on the outsole of either 'Toms' shoe. 4a) That partial scene impression Q4 was made by the known right 'Toms' shoe. Partial scene impression Q4 corresponded in outsole general size, shape and design to the outsole of the right 'Toms' shoe. Some artefacts observed in scene impression Q4 which correlate to damage observed on the out sole of the right 'Toms' shoe and correlation was also observed in the degree of wear to the outsole of the right 'Toms' shoe and partial scene impression Q4. b)That partial scene impression Q4 was not made by the known left 'Toms' shoe. Whilst similar in outsole design, impression Q4 did not correlate in shape with the left 'Toms' shoe. 5a) That partial scene impression Q5 was made by the known left 'Toms' shoe. Partial scene impression Q5 corresponded in outsole general size, shape and design to the out sole of the left 'Toms' shoe. Some artefacts observed in scene impression Q5 which correlate to damage observed on the out sole of the left 'Toms' shoe and correlation was also observed in the degree of wear to the outsole of the leff 'Toms' shoe and partial scene impression Q5. b) That partial scene impression Q5 was not made by the known right 'Toms' shoe. Whilst similar in outsole design, impression Q5 did not correlate in shape with the right 'Toms' shoe. 6) That partial scene impression Q6 was not made by either the known left or right 'Toms' shoes. Whilst similar in outsole design and shape to the right 'Toms' shoe, impression Q6 did not correlate in wear or to damage that was present on the outsole of the right 'Toms' shoe. Whilst similar in outsole design to the left 'Toms' shoe, Impression Q6 did not correlate in shape with the left 'Toms' shoe. 7) That partial scene impression Q7 was not made by either the known left or right 'Toms' shoes. Whilst similar in outsole design and shape to the right 'Toms' shoe, impression Q7 did not correlate in wear or to damage that was present on the outsole of the right 'Toms' shoe. Whilst similar in outsole design to the left 'Toms' shoe, Impression Q7 did not correlate in shape with the left 'Toms' shoe. 8a) That partial scene impression Q8 was made by the known right 'Toms' shoe. Partial scene impression Q8 corresponded in outsole general size, shape and design to the outsole of the right 'Toms' shoe. Some artefacts observed in scene impression Q8 which correlate to damage observed on the outsole of the right 'Toms' shoe and correlation was also observed in the degree of wear to the outsole of the right 'Toms' shoe and partial scene impression Q8. b)That partial scene impression Q8 was not made by the known left 'Toms' shoe. Whilst similar in outsole design, impression Q8 did not correlate in shape with the left 'Toms' shoe.
Q24YB6-533 [No Conclusions Reported.]
Q6KFHN-533 Eight imprints (Q1-Q8) were observed on the vinyl tile. These imprints (Q1-Q8) all featured the same tread design consisting of a textured woven-like material with rounded voids containing irregular-shaped dots. A pair of Tom's size 7.5 shoes (K1) was submitted for comparison. The tread design observed on the outsole of the shoes $\left(\mathrm{K}_{1}\right)$ consisted of a textured woven-like material with rounded voids on the toe/ball and heel areas, and hourglass-shaped elements on the arch area. The imprints (Q1-Q8) were visually compared to the Tom's shoes (K1). The imprint (Q1) corresponds in tread design, physical shape and size, wear, and multiple individual characteristics to the LEFT Tom's shoe (K1). The imprint (Q1) was IDENTIFIED as having been made by the LEFT Tom's shoe (K1). The imprint (Q2) corresponds in tread design to the RIGHT Tom's shoe (K1); however, there are differences in physical shape and size, wear, and individual characteristics.

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Therefore, the LEFT and RIGHT Tom's shoes (K1) can be ELIMINATED as a source of the imprint (Q2). The imprint (Q3) corresponds in tread design to the LEFT Tom's shoe (K1); however, there are differences in physical shape and size, wear, and individual characteristics. Therefore, the LEFT and RIGHT Tom's shoes (K1) can be ELIMINATED as a source of the imprint (Q3). The partial heel imprint (Q4) corresponds in tread design, physical shape and size, wear, and multiple individual characteristics to the RIGHT Tom's shoe (K1). The imprint (Q4) was IDENTIFIED as having been made by the RIGHT Tom's shoe (K1). The partial heel imprint (Q5) corresponds in tread design, physical shape and size, wear, and multiple individual characteristics to the LEFT Tom's shoe (K1). The imprint (Q5) was IDENTIFIED as having been made by the LEFT Tom's shoe (K1). The imprint (Q6) corresponds in tread design to the RIGHT Tom's shoe (K1); however, there are differences in physical shape and size, wear, and individual characteristics. Therefore, the LEFT and RIGHT Tom's shoes (K1) can be ELIMINATED as a source of the imprint (Q6). The imprint (Q7) corresponds in tread design to the RIGHT Tom's shoe (K1); however, there are differences in physical shape and size, wear, and individual characteristics. Therefore, the LEFT and RIGHT Tom's shoes (K1) can be ELIMINATED as a source of the imprint (Q7). The partial imprint (Q8) corresponds in tread design, physical shape and size, wear, and multiple individual characteristics to the RIGHT Tom's shoe (K1). The imprint (Q8) was IDENTIFIED as having been made by the RIGHT Tom's shoe (K1). Additionally, the imprints (Q2, Q6, and Q7) are consistent in tread design, physical shape and size, general wear, and multiple individual characteristics. The imprints (Q2, Q6, and Q7) were made by the same RIGHT shoe.

Q6MUDW-533 The Items Q1 through Q8 questioned footwear impressions were analyzed, compared and evaluated with the Item K1 right and K1 left Tom's, US size 7.5 shoes. The Item Q1 questioned footwear impression corresponds in tread design, physical size, specific wear and identifying characteristics with the Item K1 left shoe. The Item Q2 questioned footwear impression shares a similar tread design with the Item K1 right shoe, however the Item Q2 impression does not correspond in physical size or specific wear with the Item K1 shoes. The Item Q3 questioned footwear impression shares a similar tread design with the Item K1 left shoe, however the Item Q3 impression does not correspond in physical size or specific wear with the Item K1 shoes. The Item Q4 questioned footwear impression corresponds in tread design, physical size, specific wear and identifying characteristics with the Item K1 right shoe. The Item Q5 questioned footwear impression corresponds in tread design, physical size, specific wear and identifying characteristics with the Item K1 left shoe. The Item Q6 and Q7 questioned footwear impressions share a similar tread design with the Item K1 right shoe, however the Item Q6 impression does not correspond in physical size or specific wear with the Item K1 shoes. The Item Q7 impression does not correspond in specific wear with the Item K1 shoes. The Item Q8 questioned footwear impression corresponds in tread design, physical size, specific wear and identifying characteristics with the Item K1 right shoe. Based upon the above factors, it is the opinion of this examiner that: The Item Q1 and Q5 questioned footwear impressions were made by the Item K1 left shoe. The Item Q4 and Q8 questioned footwear impressions were made by the Item K1 right shoe. The Item Q2, Q3, Q6 and Q7 questioned footwear impressions were not made by the Item K1 right or K1 left shoes.
QGVLVB-533 1.The questioned imprints marked "Q1" and "Q5" were made by the suspect's left shoe which is depicted in the photographs marked "Kla" to "K1c". 2. The questioned imprint marked "Q4" and "Q8" were made by the suspect's right shoe which is depicted in the photographs marked "K1a" to "K1c". 3.The four questioned imprints marked "Q2", "Q3", "Q6" and "Q7" were not made by the suspect's shoes. The three right shoe imprints marked "Q2", "Q6" and "Q7" were made by the same right shoe.
QGZ7HE-534 Q1 was determined to be the right shoe based on similar class characteristics and enough distinctive individual characteristics to determine the impression was made by the right shoe. Q2 Was inconclusive, there was not enough detail to determine if the impression was made by the known shoes. Additional test impressions may help in further examining this questioned impression. Q3 was inconclusive, although it shred similar class characteristics there appears to be some individual characteristics in the impression that are not in the know shoe. A closer

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examination of the physical shoe would be required for further analysis. Q4 was determined to be the right shoe there were some distinctive individual characteristics in the heal that were present in the known right shoe and the impression. Q5 was determined to be the left shoe there were distinctive individual characteristics in the known shoe that were present in the impression. Q6 Was inconclusive there were not enough individual characteristics in the impression to determine in if was made by the known shoe. Q7 was inconclusive there was not enough individual characteristics in the impression to determine if it was made by the known shoe. Q8 was determined to be the right shoe there were distinctive individual characteristics that were present in both the right shoe and the impression.

QL7YCA-534 Unknown footwear impressions \#Q1 and \#Q5 were made by the left known shoe of K1. Unknown footwear impressions \#Q4 and \#Q8 were made by the right known shoe of K1. Unknown footwear impressions \#Q2, \#Q3, \#Q6, and \#Q7 were eliminated.

QLD29A-533 Imprints Q1 and Q4 found in the kitchen of house \# 1, and imprints Q5 and Q8 found in the foyer of house \#2, were made by the left shoe and right shoe in K1a. Imprints Q2, Q3, Q6 and Q7 were not made by the recovered shoes.

QRED67-533 Visual examination of the images (items 1B and 1C) reveals eight footwear impressions suitable for comparison. Visual examination and comparison of two of the questioned impressions (Q1 and Q5) with the left shoe (K1) reveals they have corresponding tread design, physical dimension, general condition of wear, specific wear and random accidental characteristics. Therefore, it is concluded that the left shoe made the questioned impressions. Visual examination and comparison of two of the questioned impressions (Q4 and Q8) with the right shoe (K1) reveals they have corresponding tread design, physical dimension, general condition of wear, specific wear and random accidental characteristics. Therefore, it is concluded that the right shoe made the questioned impressions. Visual examination and comparison of four of the questioned impressions (Q2, Q3, Q6 and Q7) with the shoes (K1) reveals they are dissimilar with respect to tread design. Therefore, it is concluded that the shoes did not make the questioned impressions.

R7TQC7-533 A screening report would be produced. For Q1, Q4, Q5 \& Q8 result would state; Positive screen based on correspondence of pattern, size, wear, and one or more random features. For Q2, Q3, Q6 \& Q7 the result would state; Exclusion.

R9Z6JC-533 [No Conclusions Reported.]
RRXGC8-533 [No Conclusions Reported.]
RUEQFD-533 In my opinion the findings provide conclusive evidence for the view that the shoes made some of the footwear impressions at house \#1 and at house \#2. The remaining impressions at both houses, although of the same sole pattern type as the suspect's shoes, can be excluded from having been made by them. Therefore the remaining impressions were made by some other shoes with the same sole pattern type.

RWRD2X-534 Eight (8) questioned impressions of value for comparison purposes were observed on Item 001.02 and designated as Q1 through Q8. The questioned impressions Q1 through Q8 were compared to the submitted photographs and test impressions of the footwear outsoles designated as K1 (Item 001.01) with the following results: The impression Q1 in the provided photograph represents a nearly complete left footwear outsole impression. The design, physical size, and general degree of wear of the heel and forefoot areas of the impression correspond to that of the heel and forefoot areas of the left outsole of K1. Additionally, void areas in the forefoot and heel areas of impression Q1 were found to correspond to the position and orientation of damage observed on the left outsole of K1. Based on the correspondence of both manufactured and randomly acquired accidental characteristics related to the wearing of the shoe, the left outsole of K1 was identified as the source of impression Q1. It is the opinion of the examiner that impression Q1 was made by the left outsole of K1. The impression Q2 in the provided photograph represents a nearly complete right footwear outsole impression. While general features of the design of the

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heel and forefoot areas of the impression are similar to those observed in the heel and forefoot areas of the right outsole of K1, the specific elements of the design in the heel and forefoot areas of Q2 and the right outsole of K1 do not correspond in specific shape or position. Additionally, K1 differs in physical size from the impression Q2. Based on this difference of manufactured characteristics, the right outsole of K1 was excluded as the source of impression Q2. It is the opinion of the examiner that impression Q2 was not made by the right outsole of K1. The impression Q3 in the provided photograph represents a nearly complete left footwear outsole impression. While general features of the design of the heel and forefoot areas of the impression are similar to those observed in the heel and forefoot areas of the left outsole of K1, the specific elements of the design in the heel and forefoot areas of Q3 and the left outsole of K1 do not correspond in specific shape or position. Additionally, K1 differs in physical size from the impression Q3. Based on this difference of manufactured characteristics, the left outsole of K1 was excluded as the source of impression Q3. It is the opinion of the examiner that impression Q3 was not made by the left outsole of K1. The impression Q4 in the provided photograph represents the heel area of a right footwear outsole impression. The design, physical size, and general degree of wear of the impression correspond to that of the heel area of the right outsole of K1. Additionally, void areas in the impression Q4 were found to correspond to the position and orientation of damage observed on the heel area of the right outsole of K1. Based on the correspondence of both manufactured and randomly acquired accidental characteristics related to the wearing of the shoe, the right 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 right outsole of K1. The impression Q5 in the provided photograph represents the heel area of a left footwear outsole impression. The design, physical size, and general degree of wear of the impression correspond to that of the heel area of the left outsole of K1. Additionally, void areas in the impression Q5 were found to correspond to the position and orientation of damage observed on the heel area of the left outsole of K1. Based on the correspondence of both manufactured and randomly acquired accidental characteristics related to the wearing of the shoe, the left 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 left outsole of K1. The impression Q6 in the provided photograph represents a nearly complete right footwear outsole impression. While general features of the design of the heel and forefoot areas of the impression are similar to those observed in the heel and forefoot areas of the right outsole of K1, the specific elements of the design in the heel and forefoot areas of Q6 and the right outsole of K1 do not correspond in specific shape or position. Additionally, K1 differs in physical size from the impression Q6. Based on this difference of manufactured characteristics, the right outsole of K1 was excluded as the source of impression Q6. It is the opinion of the examiner that impression Q6 was not made by the right outsole of K1. The impression Q7 in the provided photograph represents a nearly complete right footwear outsole impression. While general features of the design of the heel and forefoot areas of the impression are similar to those observed in the heel and forefoot areas of the right outsole of K1, the specific elements of the design in the heel and forefoot areas of Q7 and the right outsole of K1 do not correspond in specific shape or position. Additionally, K1 differs in physical size from the impression Q7. Based on this difference of manufactured characteristics, the right outsole of $K 1$ was excluded as the source of impression Q7. It is the opinion of the examiner that impression Q7 was not made by the right outsole of K1. The impression Q8 in the provided photograph represents the forefoot area of a right footwear outsole impression. The design, physical size, and general degree of wear of the impression correspond to that of the forefoot area of the right outsole of K1. Additionally, void areas in the impression Q8 were found to correspond to the position and orientation of damage observed on the forefoot area of the right outsole of K1. Based on the correspondence of both manufactured and randomly acquired accidental characteristics related to the wearing of the shoe, the right outsole of K1 was identified as the source of impression Q8. It is the opinion of the examiner that impression Q8 was made by the right outsole of K1.

T623FW-533 A questioned impression from the kitchen in house \#1 (Q1) is a left shoeprint impression. A questioned impression from the foyer in house \#2 (Q5) is a partial shoeprint impression. This shoeprint impression and partial shoe print impression are similar in class characteristics (tread

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design, size, and wear) and also share randomly acquired characteristics (accidentals) with the suspect's left shoe ( Kla ag). It is our opinion that this shoeprint impression and partial shoeprint impression were made by the suspect's left shoe. Additional questioned impressions from the kitchen in house \#1 (Q4) and the foyer in house \#2 (Q8) are partial shoeprint impressions. These partial shoeprint impressions are similar in class characteristics (tread design, size, and wear) and also share randomly acquired characteristics (accidentals) with the suspect's right shoe (Kla-g). It is our opinion that these partial shoeprint impressions were made by the suspect's right shoe. The remaining questioned impressions from the kitchen in house \#1 (Q2, Q3) and foyer in house \#2 (Q6, Q7) are dissimilar in class characteristics to the suspect's shoes. It is our opinion that these question impressions were not made by the suspect's shoes.

TDAJZB-533 Impression \#1 is consistent in design features, size, wear pattern, and two individual characteristic regions with substantial length and shape with the known left shoe. In the opinion of this examiner, the particular known footwear was the source of, and made impression \#1. Another item of footwear being the source of the impression is considered a practical impossibility. Impression \#2 is generally consistent in design features with the submitted known right shoe; however, in the opinion of this examiner, the submitted known footwear was not the source of, and did not make impression \#2. This is based on inconsistencies in wear observed and the lack of alignment between the known right shoe and impression \#2. Impression \#3 is generally consistent in design features with the submitted left shoe; however, in the opinion of this examiner, the submitted known footwear was not the source of, and did not make impression \#3. This is based on inconsistencies in wear observed and the lack of alignment between the known left shoe and impression \#3. Impression \#4 is consistent in design features, size, wear pattern, and three individual characteristics with the known right shoe. In the opinion of this examiner, the particular known footwear was the source of, and made impression \#4. Another item of footwear being the source of the impression is considered a practical impossibility. Impression \#5 is consistent in design features, size, wear pattern, and three individual characteristics with the known left shoe. In the opinion of this examiner, the particular known footwear was the source of, and made impression \#5. Another item of footwear being the source of the impression is considered a practical impossibility. Impression \#6 is generally consistent in design features with the submitted known right shoe; however, in the opinion of this examiner, the submitted known footwear was not the source of, and did not make impression \#6. This is based on inconsistencies in wear observed and the lack of alignment between the known right shoe and impression \#6. Impression \#7 is generally consistent in design features with the submitted known right shoe; however, in the opinion of this examiner, the submitted known footwear was not the source of, and did not make impression \#7. This is based on inconsistencies in wear observed and the lack of alignment between the known right shoe and impression \#7. Impression \#8 is consistent in design features, size, wear pattern, and three individual characteristics with the known right shoe. In the opinion of this examiner, the particular known footwear was the source of, and made impression \#8. Another item of footwear being the source of the impression is considered a practical impossibility.

TFY3R2-534 Q3 to K1R \& K1L - Indications of non-association were observed, for dissimilarities were observed. However, potential distortion factor (wear or possibly pressure/movement) could be the cause of some dissimilarities, and thus, exclusion is not prudent at this time.

TKR8JJ-533 1) The left shoe of known item Kla, was the source of, and made, the questioned impression marked Q1 and the likelihood of another item being the source of the impression is considered negligible. 2) The left and right shoe of known item Kla was not the source of and did not make the questioned impression marked Q2. 3) The left and right shoe of known item Kla was not the source of and did not make the questioned impression marked Q3. 4) The right shoe of known item Kla, was the source of, and made, the questioned impression marked Q4 and the likelihood of another item being the source of the impression is considered negligible. 5) The left shoe of known item Kla, was the source of, and made, the questioned impression marked Q5 and the likelihood of another item being the source of the impression is considered negligible. 6) The left and right shoe of known item Kla was not the source of and did not make the questioned

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impression marked Q6. 7) The left and right shoe of known item Kla was not the source of and did not make the questioned impression marked Q7. 8) The right shoe of known item Kla, was the source of, and made, the questioned impression marked Q8 and the likelihood of another item being the source of the impression is considered negligible.

TP38UP-533 EXAMINATIONS: Determine whether any footwear marks present in Items Q1 through Q8 can be associated with the known pair of outsoles. FINDINGS AND OPINIONS: The questioned footwear marks, Items Q1 and Q5 were made by the known left shoe. This opinion is the highest degree of association expressed by a footwear examiner. The questioned mark and the known footwear must share sufficient agreement of observable class and individual characteristics. In the opinion of the examiner the known footwear was the source of and made the questioned mark. The questioned footwear marks, Items Q4 and Q8 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 Items Q2, Q3, Q6 and Q7 questioned marks were not made by the known pair of shoes. This opinion means that there are observable differences in class and/or identifying characteristics between the questioned mark and the known shoe. The following equipment was employed in the examination of the footwear marks: magnifying glass and transparencies.
TV9R3F-534 The results of the examination extremely strongly support that the imprints Q1 and Q5 were made with the left shoe K1 (Level +4). The results of the examination extremely strongly support that the imprints Q4 and Q8 were made with the right shoe K1 (Level +4 ). The results of the examination strongly support that the imprints Q2, Q3, Q6 and Q7 were not made with the shoes K1 (Level $-3)$.
TYQZ7L-533 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 the following items could be excluded (as possibly been made by printmaker K1): Q2, Q3, Q6, Q7 showed the same pattern as K1 but had different shoe size and wear. Therefore they were EXCLUDED. CONCLUSION Q1, Q4, Q5, Q8 = There is evidence beyond doubt, 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).
U6CDKE-533 Questioned imprints identified as Q1 (Kitchen of house \#1) and Q5 (Foyer of house \#2) were made by the left recovered shoe. Questioned imprints identified as Q4 (Kitchen of house \#1) and Q8 (Foyer of house \#2) were made by the right recovered shoe. Questioned imprints identified as Q2, Q3 (Kitchen of house \#1), Q6 and Q7 (Foyer of house \#2) were not made by the right or leff recovered shoes.

U8WDLG-533 Questioned impressions Q1 and Q5 were made by the left suspect shoe. Questioned impressions Q4 and Q8 were made by the right suspect shoe. Questioned impressions Q2, Q3, Q6 and Q7 were eliminated as being made by the suspect shoes.
U9BNFE-534 Impressions identify Q1, Q4, Q5 and Q8 corresponds in same size, same design, same pattern and same individual characteristics, with a pairs of shoe identify K1 (Q1 and Q5 left side) (Q4 and Q8 right side). Impressions identify Q2, Q3, Q6 and Q7 correspond in same size, same designs and same pattern with a pair of shoes identify K1 (Q2, Q6 and Q7 right side) (Q3 left side), but they have different individuals characteristics between each.

UAH4MK-533 Impressions Q1 and Q5 are identified as having been created by the left outsole of the item K1a shoes. Impressions Q2, Q3, Q6 and Q7 are eliminated as having been created by the outsoles of the item Kla shoes. Impressions Q4 and Q8 are identified as having been created by the right outsole of the item Kla shoes.

UDHH9P-533 Examination and comparison of the questioned shoeprints Q1-Q8 and the known shoes yielded the following results: Q-shoeprints Q-1, Q-5 and the left shoe are consistent with respect to tread

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design, size and individualizing characteristics. Therefore, $Q$ shoeprints Q-1 and Q-5 were made by the left shoe. Q-shoeprints Q4, Q8 and the right shoe are consistent with respect to tread design, size and individualizing characteristics. Therefore, $Q$ shoeprints $Q 4$ and $Q 8$ were made by the right shoe. Questioned shoeprints Q2, Q3, Q6 and Q7 and the known shoes are dissimilar with respect to size and wear. Therefore the questioned shoeprints Q2, Q3, Q6 and Q7 could not have been made by the known shoes.

UG7HY8-533 The left shoe (Item K1) is the source of one imprint in the kitchen (Item Q1) and one imprint in the foyer (Item Q5). The right shoe (Item K1) is the source of one imprint in the kitchen (ltem Q4) and one imprint in the foyer (Item Q8). The recovered shoes (ltem K1) is not the source of two imprints in the kitchen (Items Q2 \& Q3) or two imprints in the foyer (Items Q6 \& Q7). A right shoe is the source of one imprint in the kitchen (ltem Q2) \& two imprints in the foyer (Items Q6 \& Q7).
UHZF38-533 The sole of both the left and right shoe from the suspect showed a significant/high degree of specific wear and damage. These damages and specific wear could be detected as details in some of the crime scene imprints. From the imprints found in the kitchen Q1-Q4, two were made from suspect's shoes. Q1 was made by the left shoe and Q4 was made by the right shoe. Furthermore two imprints found in the foyer Q5-Q8 of the house were made by the suspect's shoes. Q5 was made by the left shoe and Q8 was made by the right shoe. The imprints Q2, Q3, Q6 and Q7 differed significantly, regarding details from wear and tear, from prints made by the suspect's shoes. Conclusion: The result speaks with certainty that imprints Q1 and Q5 have been made by the suspect's left shoe. (Identification). The result speaks with certainty that imprints Q4 and Q8 have been made by the suspect's right shoe. (Identification). The result speaks with certainty that imprints Q2, Q3, Q6 and Q7 have not been made by any of the suspect's shoes. (Elimination).

UPZQJX-533 Q1 - The questioned footwear impression was made by the known left shoe. Q2 - The questioned footwear impression was not made by either of the known shoes. Q3-The questioned footwear impression was not made by either of the known shoes. Q4 - The questioned footwear impression was made by the known right shoe. Q5 - The questioned footwear impression was made by the known left shoe. Q6 - The questioned footwear impression was not made by either of the known shoes. Q7 - The questioned footwear impression was not made by either of the known shoes. Q8 - The questioned footwear impression was made by the known right shoe.

UUA42W-533 I compared the outsoles of K1 (a-g) to the footwear impressions Q1-Q8. Item K1 corresponded in both design and physical size, and agreement of class and randomly acquired characteristics; therefore, K1 (leff) made Q1 and Q5 and K1 (right) made Q4 and Q8. Impressions Q2-Q3 and Q6-Q7 were excluded as having been made by K1 due to sufficient differences of randomly acquired characteristics.
V99GP7-534 [No Conclusions Reported.]
VBDX9W-533 The photographs of questioned shoe prints items Q1-Q8 were examined and compared to photographs of shoes and known shoe prints Items Kla-Klg. Items Q1 and Q5 were made by the left shoe K1. Items Q4 and Q8 were made by the right shoe K1. Items Q2, Q3, Q6, and Q7 were not made by the shoes KI .

VLY2FV-534 [No Conclusions Reported.]
WFW9F-533 It was determined that the questioned impressions represented by Q1 and Q5 were made by the K1 left shoe. It was determined that the questioned impressions represented by Q4 and Q8 were made by the K1 right shoe. It was determined that the questioned impressions represented by Q2, Q3, Q6 and Q7 were not made by the K1 left or right shoe.
W3HGWW-533 A complete evaluation of a questioned impression and a known shoe includes looking at correspondence in tread design, physical size and shape of design present, wear characteristics, and any distinctive characteristics randomly acquired on the outsole of the shoe that are represented in the questioned impression. Eight questioned impressions (Q1-Q8) in Items 4-5

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were compared to the known shoes represented in the photographs in $\mathrm{Kla}-\mathrm{Klg}$ in Items $1-3$. The unknown shoeprints in Q1, Q4, Q5 and Q8 correspond in general tread design, physical size and shape of tread, wear and the presence of randomly acquired characteristics to the known shoes represented in photographs K1a-K1g in Items 1-3. Therefore, these shoes represented in the Items $1-3$ photographs are the source of these unknown shoeprints (Type 1 Association/Identification). The unknown shoeprints in Q2, Q3, Q6 and Q7 were different wear and randomly acquired characteristics to the known shoes represented in the photographs Kla Klg in Items 1 - 3. Therefore, these shoes can be eliminated as being a possible source for the unknown shoeprints in Q2, Q3, Q6 and Q7 (Elimination).

W8U364-533 1. Analysis of Exhibits 4 and 5 (Q1 through Q8) revealed four latent footwear impressions (Q1 through Q4) on Exhibit 4 (questioned imprints) and four latent footwear impressions (Q5 through Q8) on Exhibit 5 (questioned imprints) suitable for identification. 2. The latent footwear impressions of Exhibits 4 and 5 and the associated standards listed below each corresponding in physical size, design, wear, and randomly acquired characteristics. The likelihood of observing these amounts of correspondence when two impressions are made by different sources is considered extremely low. Exhibit: 4 - Q1; Impression: One latent footwear; Standard: Left shoe (Exhibits 1-3). Exhibit: 4 - Q4; Impression: One latent footwear; Standard: Right shoe (Exhibits 1-3). Exhibit: 5 - Q5; Impression: One latent footwear; Standard: Left shoe (Exhibit 1-3). Exhibit: 5 - Q8; Impression: One latent footwear; Standard: Right shoe (Exhibits 1-3). 3. The remaining latent footwear impressions on Exhibits 4 and 5 (Q2, Q3, Q6 and Q7) were excluded as having originated from Exhibits 1-3 (Left and Right shoe). 4. Images of the non-associated latent footwear impressions in this case will remain on file at this laboratory for any future comparison.

WGGD7H-533 Q1 was made by the known left shoe. Q2 could not have been made by the known shoes. Q3 could not have been made by the known shoes. Q4 was made by the known right shoe. Q5 was made by the known left shoe. Q6 could not have been made by the known shoes. Q7 could not have been made by the known shoes. Q8 was made by the known right shoe. Contact the laboratory if there are any questions.

WHAEXR-533 The known shoes are labeled as K1 (right) and K1 (left). The photographs of the known shoes (K1) were compared to the photographs of the questioned footwear impressions (Q1 - Q8). K1 was not the source of, and did not make the Q2, Q3, Q6, and Q7 impressions. In the opinion of the examiner, K1 (right) was the source of, and made, the questioned impressions labeled Q4 and Q8. Another item of footwear being the source of the impressions is considered a practical impossibility. In the opinion of the examiner, K1 (left) was the source of, and made, the questioned impressions labeled Q1 and Q5. Another item of footwear being the source of the impressions is considered a practical impossibility.

WQ2GEH-533 [No Conclusions Reported.]
WWBQUQ-533 Item: 1 Photograph of the soles of the recovered shoes, lighted from above (K1a). Item: 2 Two oblique lighted images of the soles of the recovered shoes, light direction indicated by arrows (K1b-K1c). Item: 3 Known imprints made with the recovered shoes (K1d-K1g). Item: 4 Questioned imprints found in the kitchen of house \#1 (vinyl tile)(Q1-Q4). Item: 4.1 Unknown impression represented on Item 4 (Q1). RESULTS: The Item 4.1 impression was made by the Item 3 left shoe. Item: 4.2 Unknown impression represented on Item 4 (Q2). RESULTS: The Item 4.2 impression was not made by the Item 3 shoe(s). Item: 4.3 Unknown impression represented on Item 4 (Q3). RESULTS: The Item 4.3 impression was not made by the Item 3 shoe(s). Item: 4.4 Unknown impression represented on Item 4 (Q4). RESULTS: The Item 4.4 impression was made by the Item 3 right shoe. Item: 5 Questioned imprints found in the foyer of house \#2 (vinyl tile) (Q5-Q8). Item: 5.1 Unknown impression represented on Item 5 (Q5). RESULTS: The Item 5.1 impression was made by the Item 3 left shoe. Item: 5.2 Unknown impression represented on Item 5 (Q6). RESULTS: The Item 5.2 impression was not made by the Item 3 shoe(s). Item: 5.3 Unknown impression represented on Item 5 (Q7). RESULTS: The Item 5.3 impression was not made by the Item 3 shoe(s). Item: 5.4 Unknown impression represented on Item 5 (Q8). RESULTS: The Item 5.4 impression was made by the Item 3 Right shoe. Impression evidence in this case was

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examined utilizing the ACE-V methodology.
WX6GZ7-533 1. Impressions Q1, and Q5 were made by the submitted left Tom's shoes, size 7.5. 2. Impressions Q4 and Q8 were made by the submitted right Tom's shoe, size 7.5. 3. Impressions Q2, Q6 and Q7 were made by a second right shoe, possibly a Tom's shoe. 4. Q3 was made by a second left shoe, possibly a Tom's shoe.
X46FNZ-533 Impressions Q1 and Q5 were made by the submitted left Tom's shoe, size $71 / 2$ (Kl g). Impressions Q4 and Q8 were made by the submitted right Tom's shoe, size $71 / 2(\mathrm{Klg})$. Impressions Q2, Q6 and Q7 were made by a second right shoe of similar design. Impression Q3 was made by a second left shoe of similar design, possibly from the same pair as impressions Q2, Q6 and Q7.

X6VMKH-533 The footwear impressions labeled Q1 and Q5 correspond in physical size, design, wear, and collectively share three RACs with the outsole of the K1 left shoe. Therefore, the K1 left shoe is identified as the source of these impressions. The footwear impressions labeled Q4 and Q8 correspond in physical size, design, wear, and collectively share five RACs with the outsole of the K2 right shoe. Therefore, the K2 right shoe is identified as the source of these impressions. The footwear impressions labeled Q2, Q6, and Q7 share similar design features and orient with the K1 right shoe. However, differences in wear were observed between the aforementioned impressions and corresponding areas on the outsole of the right shoe. Therefore, the K1 right shoe is eliminated as the source of these impressions. The footwear impression labeled Q3 shares similar design features and orients with the K1 left shoe. However, differences in wear were observed between the aforementioned impression and corresponding areas on the outsole of the left shoe. Therefore, the K1 left shoe is eliminated as the source of these impressions.
XKDAHV-533 Examination of Exhibits Q1 through Q8 revealed a total of eight shoe impressions that were suitable for comparison. The questioned impressions were compared with the known shoes and impressions depicted in Exhibits K1 (a-g). The results of the comparison are as follows: Exhibits Q1, Q4, Q5, and Q8 were made by the known shoes in Exhibit K1. Exhibits Q2, Q3, Q6, and Q7 were not made by the shoes in Exhibit K1.
XL9PUR-533 Physical examination of the vinyl tiles from House \#1 and House \#2 revealed the presence of eight partial shoe impressions. There were three left partial shoe impressions and five right partial shoe impressions that appear to have the same tread design. Physical comparison of two of the left partial shoe impressions, Q1 and Q5, with the left shoe represented by K1a through K1g revealed them to be consistent with respect to size, shape, tread design, wear, and individual characteristics. Therefore, these two left partial shoe impressions were made by the left shoe from the suspect. Physical comparison of two of the right partial shoe impressions, Q4 and Q8, with the right shoe represented by Kla through Klg revealed them to be consistent with respect to size, shape, tread design, wear, and individual characteristics. Therefore, these two right partial shoe impressions were made by the right shoe from the suspect. Physical comparison of one of the left partial shoe impressions, Q3, with the left shoe represented by K1a through K1g revealed them to be inconsistent with respect to tread design. Therefore, this one left partial shoe impression was not made by the left shoe from the suspect. Physical comparison of three of the right partial shoe impressions, Q2, Q6, and Q7, with the right shoe represented by K1a through K1g revealed them to be inconsistent with respect to tread design. Therefore, these three right partial shoe impressions were not made by the right shoe from the suspect.

XRFGWX-533 [No Conclusions Reported.]
XVVX4G-533 The questionned imprints, items Q1 and Q5, have been made by the left recovered shoe. The questionned imprints, items Q4 and Q8, have been made by the right recovered shoe. The questionned imprints, items Q2, Q3, Q6 and Q7 have not been made by neither recovered shoes. The questionned imprints, items Q2, Q6 and Q7 have been made by the same right unknown shoe. The questionned imprint, item Q3, have been made by an unknown left shoe.

## TABLE 2

## Conclusions

XYYLT6-533 Impressions Q1 and Q5 were made by the left suspect shoe (K1-leff). Impressions Q4 and Q8 were made by the right suspect shoe. (K1-right). Impressions Q2, Q6, and Q7 were made by a second right shoe of similar outsole design to the suspect shoes. Impression Q3 was made by a second left shoe of similar outsole design to the suspect shoes.

Y6EUK9-533 In my opinion, the above findings: 1. Show conclusively that the left shoe under consideration has made the footwear impressions labelled Q1 \& Q5, shown in the images provided. 2. Show conclusively that the right shoe under consideration has made the footwear impressions labelled Q4 \& Q8, shown in the images provided. 3. Show conclusively that the shoes under consideration have not made the remaining footwear impressions labelled $\mathrm{Q} 2,3,6,7$, shown in the images provided.

YCGQFR-533 Specimens Q1-8 were compared visually with Specimens Kla-g (photos of suspect shoes, Specimen K1) and each other which yielded the following results: Specimens Q1 and Q5 were made by the left shoe of $K 1$. Specimens Q4 and Q8 were made by the right shoe of $K 1$. Specimens Q2, 3, 6 and 7 were not made by the shoes of K1. Specimens Q2, 6 and 7 were made by the same right shoe that is not yet identified.

YMD3MD-534 The class, wear and randomly acquired characteristics visible in Impressions 1 and 5 correspond with the left known shoe and within the limits of practical certainty, Impressions 1 and 5 were made by the left known shoe. Both shoes submitted for comparison can be excluded as having made Impressions 2, 3, 6 and 7 . The class, wear and randomly acquired characteristics visible in impressions 4 and 8 correspond with the right known shoe and within the limits of practical certainty, Impressions 4 and 8 were made by the right known shoe.

YN63H4-533 The following impressions correspond in outsole pattern, size, wear and accidental characteristic to the submitted exemplar footwear. Q1 was created by the left shoe heel and toe sections. Q4 was created by the right shoe heel section. Q5 was created by the left shoe heel section. Q8 was created by the right shoe toe area. Q2, 6, and 7 also appeared possibly smaller in physical size to the US size 7.5 exemplar footwear. Finding inconsistent wear and a lack of corresponding characteristics. The exemplar footwear did not create impressions Q2, Q3, Q6 and Q7.

ZBWL9D-533 It was determined that Q-1, Q-4, Q-5 and Q-8 were made by the submitted pair, K-1. Q-2, Q-3, Q-6 and Q-7 were not made by the submitted pair, K-1.

ZCTW6F-533 The results of this examination provide conclusive support for the proposition that the submitted left and right shoes made two marks recovered from House \#1 and two marks recovered from House \#2.

ZCWBZP-533 The item K1 left shoe has been individualized as being the source of the Q1FWI \& the Q5FWI impressions. The item K1 right shoe has been individualized as being the source of the Q4-FWI \& the Q8FWI impressions. The Q2FWI, Q3FWI, Q6FWI \& Q7FWI impressions were not made by the item K1 shoes.

ZRP6BU-534 The impressions labeled Q1 and Q5 were IDENTIFIED to the K1 left shoe and impressions labeled Q4 and Q8 were IDENTIFIED to the K1 right shoe. The individualization of an impression is established through the agreement of corresponding individual characteristics of sufficient number and significance to individualize and establishing that there are no differences that cannot be accounted for. The impressions labeled Q2, Q3, Q6 and Q7 were not identified to the K1 shoes.

ZV4RY8-533 Based on my examination, I found that: i) The questioned imprints Q1 and Q4 found in the kitchen of the house are similar to that known imprints made with the suspect shoes. ii) The questioned imprints Q5 and Q8 found in the foyer of the house are similar to that known imprints made with the suspect shoes. iii) The questioned imprints Q2, Q3, Q6 and Q7 were dissimilar to that known imprints made with the suspect shoes.

ZVHD9A-533 Q1 - Impression Q1 was made by the item K1 a-g left shoe. Q2 - Impression Q2 was not made by the item Kla-g right or left shoe. Q3 - Impression Q3 was not made by the item Kla-g right or

## TABLE 2

WebCode-Test

## Conclusions

left shoe. Q4 - Impression Q4 was made by the item Kla-g right shoe. Q5 - Impression Q5 was made by the item Kla-g left shoe. Q6 - Impression Q6 was not made by the item Kla-g right or left shoe. Q7 - Impression Q7 was not made by the item Kla-g right or left shoe. Q8 Impression Q8 was made by the item Kla-g right shoe.

ZZBFAN-534 It is the opinion of this examiner that the footwear impression IMP-Q4 and IMP-Q8 were made by Item KIR, the right shoe. It is the opinion of this examiner that the footwear impressions IMP-Q1 and IMP-Q5 were made by Item K1L, the left shoe. IMP-Q2, IMP-Q3, IMP-Q6, and IMP-Q7 are eliminated as having been made by K1R and K1L, the right and left shoes.

## Additional Comments

## TABLE 3

## Additional Comments

28XFD8-533 This test does not accurately reflect the quality and type of impressions seen in casework nor does it reflect the range of conclusions available to the practitioner.
32PEUP-533 The Item Q2, Q6, and Q7 right shoe impressions were intercompared and found to exhibit and agreement of class (tread pattern, physical size, and general condition of wear) and individual characteristic correspondence. It was concluded that the Item Q2, Q6, and Q7 impressions were made by the same shoe (shoe not submitted).
3DDPUF-533 An Association Scale is included in the report. [Scale not included in this report.]
79R4D4-533 Though Q1, Q4, Q5, Q8 had different individual characteristics as impressions Q2, Q6, Q7 we do not eliminate on individual characteristics; class only.
82P9D6-533 Q2 and Q6 are more likely to be an exclusion as no prominent or distinct reference points could be found. However because the information within these two impressions was limited (for the reasons stated above) I was unable to be more definitive.
83G99U-533 Questioned impressions labelled Q2 and Q6 were found to be consistent in shape, physical size and individual characteristics with questioned impressions labelled Q7.
A6JQKV-533 During the footwear examinations it was noted that there are features common to the impressions Q2, Q6 and Q7. In my opinion this demonstrates conclusively that the same right shoe (but not the suspect's right shoe) is responsible for making each of these impressions.
AB99X8-533 It is likely that the impressions marked Q2, Q6, and Q7 were made by the same shoe.
C4BPA6-534 Methods of Analysis: Items were analyzed using a combination of visual examination, side by side and digital overlay comparisons.
CXABQP-534 Questioned marks compared with photographic 1:1 images of outsoles. Comparison work would ideally be undertaken in conjunction with recovered footwear. Damage features should be verified against original footwear.
CZCEET-533 Association Scale for Footwear and Tire Impressions. The following descriptions are meant to provide context to the levels of opinions reached in footwear and tire impression comparisons. Each level may not include every variable in every case. Lacks sufficient detail - No comparison was conducted: the examiner determined there were no discernible questioned footwear/tire impressions or features present. Or - A comparison was conducted: the examiner determined that there was insufficient detail in the questioned impression for a meaningful conclusion. This opinion only applies to the known footwear or tire that was examined and does not necessarily preclude future examinations with other known footwear or tires. Exclusion - This is the highest degree of non-association expressed in footwear and tire impression examinations. Sufficient differences were noted in the comparison of class and/or randomly acquired characteristics between the questioned impression and the known footwear or tire. Indications of non-association - The questioned impression exhibits dissimilarities when compared to the known footwear or tire; however, the details or features were not sufficiently clear to permit an exclusion. Limited association of class characteristics - Some similar class characteristics were present; however, there were significant limiting factors in the questioned impression that did not permit a stronger association between the questioned impression and the known footwear or tire. These factors may include but were not limited to: insufficient detail, lack of scale, improper position of scale, improper photographic techniques, distortion or significant lengths of time between the date of the occurrence and when the footwear or tires were recovered that could account for a different degree of general wear. No confirmable differences were observed that could exclude the footwear or tire. Association of class characteristics - The class characteristics of both design and physical size must correspond between the questioned impression and the known footwear or tire. Correspondence of general wear may also be present. High degree of association - The questioned impression and known footwear or tire must correspond in the class characteristics of design, physical size, and general wear. For this degree of association there must also exist: (1)

TABLE 3

## Additional Comments

wear that, by virtue of its specific location, degree and orientation make it unusual and/or (2) one or more randomly acquired characteristics. Identification - This is the highest degree of association expressed by a footwear and tire impression examiner. The questioned impression and the known footwear or tire share agreement of class and randomly acquired characteristics of sufficient quality and quantity.
FEK464-533 Association Scale for Footwear and Tire Impressions: The following descriptions are meant to provide context to the levels of opinions reached in footwear and tire impression comparisons. Each level may not include every variable in every case. Lacks sufficient detail - No comparison was conducted: the examiner determined there were no discernible questioned footwear/tire impressions or features present. Or - A comparison was conducted: the examiner determined that there was insufficient detail in the questioned impression for a meaningful conclusion. This opinion only applies to the known footwear or tire that was examined and does not necessarily preclude future examinations with other known footwear or tires. Exclusion - This is the highest degree of non-association expressed in footwear and tire impression examinations. Sufficient differences were noted in the comparison of class and/or randomly acquired characteristics between the questioned impression and the known footwear or tire. Indications of non-association - The questioned impression exhibits dissimilarities when compared to the known footwear or tire; however, the details or features were not sufficiently clear to permit an exclusion. Limited association of class characteristics - Some similar class characteristics were present; however, there were significant limiting factors in the questioned impression that did not permit a stronger association between the questioned impression and the known footwear or tire. These factors may include but were not limited to: insufficient detail, lack of scale, improper position of scale, improper photographic techniques, distortion or significant lengths of time between the date of the occurrence and when the footwear or tires were recovered that could account for a different degree of general wear. No confirmable differences were observed that could exclude the footwear or tire. Association of class characteristics - The class characteristics of both design and physical size must correspond between the questioned impression and the known footwear or tire. Correspondence of general wear may also be present. High degree of association - The questioned impression and known footwear or tire must correspond in the class characteristics of design, physical size, and general wear. For this degree of association there must also exist: (1) wear that, by virtue of its specific location, degree and orientation make it unusual and/or (2) one or more randomly acquired characteristics. Identification - This is the highest degree of association expressed by a footwear and tire impression examiner. The questioned impression and the known footwear or tire share agreement of class and randomly acquired characteristics of sufficient quality and quantity.
FL78ZC-533 The Tom's shoes (item K1) appear to have fabric covering the tread elements on the shoes. Items Q2, Q3, Q6, and Q7 were eliminated as having been made by Item K1 based on the orientation of this fabric relative to the overall tread design. Items Q2, Q3, Q6, and Q7 represent right shoe impressions which are similar in size and general tread design elements to the Tom's shoes (item K1). Items Q2, Q6, and Q7 contain similar wear, but due to the lack of confirmable randomly acquired characteristics, these questioned shoe impressions could not be identified as having been made by the same shoe. Any footwear with the same general tread design, size, and wear is included in the population of possible sources. Item Q3 exhibits some features that are visually dissimilar to Items Q2, Q6, and Q7; however, the features present are not sufficient to permit an exclusion from Items Q2, Q6, and Q7.
FYALBH-534 The marks Q2 (house 1) and Q6 and Q7 (house 2 have all been made by the same right shoe.
JCREBZ-533 An Association Scale would be attached to the report. [Scale not included in this report.]
K32YA4-533 During normal casework, the known shoes would be required in order to confirm any random identifying characteristics observed in the unknown impression(s).
K6ZP7G-534 It was essential before start the comparation to have and examine phisically this footwear because the composition of the sole is not common (EVA foam, fabric and PVC) and this model of footwear is unusual in our country.

## Additional Comments

KHR4DQ-534 Eliminations were made based on differences in RACs observed in the soles and the scene marks.
L93U79-533 Q-1 Identified to left shoe. Q-2 Excluded. Q-3 Excluded. Q-4 Identified to right shoe. Q-5 Identified to left shoe. Q-6 Excluded. Q-7 Excluded. Q-8 Identified to right shoe.
NGK6KR-533
Q2, Q6 and Q7 were made by the same right shoe.
NMBHKV-533
We also attach an association scale to our reports. [Scale not included in this report.]
P3LHUQ-533 Identification: This is the highest degree of association. The questioned impression and the known footwear or tire share agreement of class and randomly acquired characteristics of sufficient quality and quantity. The particular known footwear or tire was the source of, and made, the questioned impression and another tire or item of footwear being the source of this impression is considered a practical impossibility. Exclusion: The particular known footwear or tire did not make the questioned impression.
PBWVWF-533
*All identifications are contingent on examination of the actual shoes.
PQ422J-533 Questioned imprints identified as Q2 (Kitchen of house \#1), Q6 and Q7 (Foyer of house \#2) were made by the same right shoe. Questioned imprint identified as Q3 (Kitchen of house \#1) was made by a left shoe.

PZZRTL-534

QGVLVB-533

QGZ7HE-534

R7TQC7-533 No strength of evidence has been provided as our unit provides screening results only and not evidential comparisons. Where a positive screening result is provided and a further evidential comparison required this would be submitted to an external provider.
TV9R3F-534 The appearance of the shoe soles K1 was very specific and highly detailed. Though the submitted pictures af the shoe soles (Kla-K1c) were of good quality, having access to the actual shoes would have been valuable and helpful in confirming the observed details.

## Additional Comments

U6CDKE-533 Questioned imprints identified as Q2 (Kitchen of house \#1), Q6 and Q7 (Foyer of house \#2) were made by the same right shoe. Questioned imprint identified as Q3 (Kitchen of house \# 1) was made by a left shoe.
UHZF38-533 I like your tests, but I hope that they could be a bit more difficult in the future.
V99GP7-534 The footwear impressions marked Q2, Q6 and Q7 were made by an unknown right shoe. The footwear impression marked Q3 was made by an unknown left shoe.

VBDX9W-533 Items Q2, Q6, and Q7 are right shoes of apparent smaller physical size than the K1 shoes. Items Q2, Q6, and Q7 exhibit similar apparent individual characteristics. Item Q3 is a left shoe of apparent smaller physical size than the K 1 shoes.
W3HGWW-533 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 1 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 2 Association: Highly likely. 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 1 Association. Type 3 Association: Could have. 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 4 Association: Cannot eliminate. An association in which items correspond in some but possibly not all measured physical properties, chemical composition and/or microscopic characteristics and cannot be eliminated as coming from the same source. This type of evidence may be commonly encountered in the environment, may have limited comparative value and/or there may be factor(s) limiting the comparison. Inconclusive: No conclusion could be reached regarding an association between the items. 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. Non-Association: Items exhibit dissimilarities but certain details or features are not sufficient for an Elimination.
WWBQUQ-533 In actual casework, the shoes would be required for examination to confirm random characteristics.

Y6EUK9-533 My findings are based upon the images submitted as part of this trial.
YMD3MD-534 The body of the report would contain; Explanation on how a comparison is conducted (class, wear and then randomly acquired characteristics) with referenced definitions. Explanation on the difference between absolute and practical certainty as defined by AFTE.

## Accreditation Release Statement

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

$\square$This participant's data is intended for submission to ASCLD/LAB, ANAB, and/or A2LA. (Accreditation Release section on the last page must be completed and submitted.)

$\square$This participant's data is NOT intended for submission to ASCLD/LAB, ANAB, or A2LA.

## Scenario:

Police are investigating a cluster of break-ins and thefts in a residential neighborhood. Footwear impressions were found in several houses that were struck in the same day. The day after these break-ins, a pair of shoes was recovered from a newspaper delivery person whose route includes the affected neighborhood. The shoes appear to have been washed. Investigators are asking you to compare the imprints recovered at the scenes with photographs of the shoe soles and known imprints made with the shoes. The recovered shoes are manufactured by Tom's, and the shoe tag reads: US - 7.5, UK - 5.5, EU - 38, CM - 24.5, 10006142.

Shoes and known imprints have been labeled with "L" and "R" to indicate "Left" and "Right" shoes. The inked imprints in images Kld and Kle were made by rolling the toe and heel areas separately onto paper. The inked imprints in images Klf and Klg were made by having the owner wear the shoe and walk across a sheet of paper.

## Items Submitted (Sample Pack IIEP):

Kla: Photograph of the soles of the recovered shoes, lighted from above.
K1b-K1c: Two oblique lighted images of the soles of the recovered shoes, light direction indicated by arrows.
Kld-Klg: Known imprints made with the recovered shoes.
Q1-Q4: Questioned imprints found in the kitchen of house \#1 (vinyl tile).
Q5-Q8: Questioned imprints found in the foyer of house \#2 (vinyl tile).
1.) Indicate the results of your comparisons of the recovered shoes with the questioned imprints by placing a mark in the appropriate box.
If an identification is made, indicate whether the imprint is identified to the right or left suspect shoe.
*Should an impression(s) be marked "Inconclusive", please document the reason in the Conclusions section of this data sheet.

| Kitchen (House \#1) |  |  |  |  | Foyer (House \#2) |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |
|  | L | R | Elim | Inc* |  | L | R | Elim | Inc* |
| Q1 |  |  |  |  | Q5 |  |  |  |  |
| Q2 |  |  |  |  | Q6 |  |  |  |  |
| Q3 |  |  |  |  | Q7 |  |  |  |  |
| Q4 |  |  |  |  | Q8 |  |  |  | ] |

Participant Code: WebCode:

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

## 3.) Additional Comments

Return Instructions: Data must be received via online data entry, fax (please include a cover sheet),
or mail by May 23, 2016 to be included in the report. Emailed data sheets are not accepted.

## QUESTIONS?

TEL: $\quad+1-571-434-1925$ ( $8 \mathrm{am}-4: 30 \mathrm{pm}$ EST)
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Collaborative Testing Services ~Forensic Testing Program

## RELEASE OF DATA TO ACCREDITATION BODIES

The following Accreditation Releases will apply only to:
Participant Code: WebCode:
for Test No. 16-533: Imprint Impression Evidence

This release page must be completed and received by May 23, 2016 to have this participant's submitted data included in the reports forwarded to the respective Accreditation Bodies.

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

ASCLD/LAB Certificate No. $\qquad$

ANAB Certificate No. $\qquad$

A2LA Certificate No. $\qquad$

Step 2: Complete the Laboratory Identifying Information in its entirety

Signature and Title

Laboratory Name

Location (City/State)

## Accreditation Release

## Return Instructions

Please submit the completed Accreditation Release at the same time as your full data sheet. See Data Sheet Return Instructions on the previous page.

Questions? Contact us 8 am-4:30 pm EST
Telephone: +1-571-434-1925 email: forensics@cts-interlab.com


[^0]:    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.

