III. Conclusions

 Swab/scrapings from interior cuffs and interior rear tag area of sweatshirt – 46 Burr Street [Item 7-3.3.1]:

The DNA profile obtained from this item is a complex mixture indicating the presence of DNA from at least four individuals. Tamik Jamir Kirkland matched the major profile in this DNA mixture. Darryl B. King is excluded as the source of this major profile. Due to the complexity of the mixture, no comparisons will be made to the minor DNA profiles.

On the basis of the above results, the following conclusions may be drawn:

A. Tamik Jamir Kirkland (Item 10-1.1) could have been the source of the major male DNA identified on this item. Results were obtained for the genetic loci D8S1179, D21S11, D7S820, CSF1PO, D3S1358, TH01, D13S317, D16S539, D2S1338, D19S433, vWA, TPOX, D18S51, Amelogenin, D5S818 and FGA. (Note: Amelogenin, D2S1338 and D19S433 are not utilized in the statistical calculation of probability.) The probability of a randomly selected unrelated individual having a DNA profile matching that obtained from this item is approximately:

<u> </u>		
Caucasian	1 in 8,006,000,000,000,000,000,000	1 in 8.006 sextillion
African American	1 in 2,157,000,000,000,000,000	1 in 2.157 quintillion
Hispanic	1 in 3,917,000,000,000,000,000,000	1 in 3.917 sextillion
Asian	1 in 10,280,000,000,000,000,000,000	1 in 10.28 sextillion

- B. Darryl B. King (Item 8-1.1) could not have been the source of the major male DNA identified on this item.
- 2. Swab/scrapings from interior of gloves 46 Burr Street [Item 7-4.2.1]:

The DNA profile obtained from this item is a complex mixture indicating the presence of DNA from at least four individuals. Tamik Jamir Kirkland matched the major profile in this DNA mixture. Darryl B. King is excluded as the source of this major profile. Due to the complexity of the mixture, no comparisons will be made to the minor DNA profiles.

On the basis of the above results, the following conclusions may be drawn:

A. Tamik Jamir Kirkland (Item 10-1.1) could have been the source of the major male DNA identified on this item. Results were obtained for the genetic loci D8S1179, D21S11, D7S820, CSF1PO, D3S1358, TH01, D16S539, D2S1338, D19S433, vWA, and D5S818. (Note: D2S1338 and D19S433 are not utilized in the statistical calculation of probability.) The probability of a randomly selected unrelated individual having a DNA profile matching that obtained from this item is approximately:

Pepulation		
Caucasian	1 in 458,500,000,000,000	1 in 458.5 trillion
African American	1 in 916,600,000,000	1 in 916.6 billion
Hispanic	1 in 226,600,000,000,000	1 in 226.6 trillion
Asian	1 in 253,400,000,000,000	1 in 253.4 trillion

B. Darryl B. King (Item 8-1.1) could not have been the source of the major male DNA identified on this item.

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IV. Additional Comments

- 1. The probability estimates were calculated using the Federal Bureau of Investigation's published databases:
 - A. (Budowle B, Moretti TR, Baumstark AL, Defenbaugh DA, Keys KM. Population data on the thirteen CODIS core short tandem repeat loci in African Americans, U.S. Caucasians, Hispanics, Bahamians, Jamaicans, and Trinidadians. J Forensic Sci 1999;44(6):1277-1286). (African American and Caucasian)
 - B. (Budowle B, Shea B, Niezgoda S, Chakraborty, R. CODIS STR loci data from 41 sample populations. J Forensic Sci 2001:46;(3):453-489). (Southeast Hispanic and General Asian)
- Point estimates were calculated using Recommendation 4.1 contained within <u>The Evaluation of Forensic DNA</u> <u>Evidence</u>, National Research Council, 1996. For these calculations, the value of theta is 0.03.
- 3. The questioned DNA profile (Item 7-3.3.1 Major Profile) generated in this case will be searched against the Convicted Offender Index and/or uploaded to a searchable DNA profile database (SDIS State DNA Index System and NDIS National DNA Index System). The MSP Crime Laboratory will make contact with the District Attorney's Office and Investigator in the event of a profile match to a database profile.
- 4. Extraneous DNA may be present on common articles such as clothing, shoes, etc. This extraneous DNA often manifests itself as a low level minor contributor in a DNA result, and may have no probative value in a case. For such samples, only the major contributor may be interpreted.
- At least 50% of the raw material has been retained for independent analysis, unless the laboratory received written authorization for exhaustive testing. DNA extracts will be retained at the laboratory.
- 6. If further analysis is required, please contact the Case Management Unit at (978) 451-3440.

Note: Further comparative analysis requires the submission of the appropriate standards.

V. Signature

This report reflects the test results, conclusions, interpretations, and/or the findings of the analyst as indicated by the signature below.

Assigned DNA Analyst Elisse R. Coronado

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