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Supplemental Forensic Case Report
January 25, 2007

To: John Philipsborn
John Philipsborn Law Offices
Civic Center Building, Suite 250
507 Polk Street
San Francisco, CA 94102

BodeCase # 2S04-114
Agency ID# 1993-WVS-05716;
93-05-0666

Victim: Not specified

List of Evidence Received on October 12, 2006 for possible mitochondrial DNA analysis:
(Evidence received and evaluated, but not isolated for possible DNA analysis is listed in the kit inventory.)

<u>BODE Sample #</u>	<u>Agency ID</u>	<u>Agency Description</u>
2S04-114-37	N/A	"reference buccal swabs (ECHOLS)"
2S04-114-38	N/A	"reference buccal swabs (MISSKELLEY)"
2S04-114-39	N/A	"reference buccal swabs (BALDWIN)"

Reported range for all samples for HV1 is 16024 -- 18365, and for HV2 is 73 -- 340. The mtDNA haplotypes reported in this case were determined by procedures that have been validated according to standards established by the Scientific Working Group on DNA Analysis Methods (SWGDM) and adopted as Federal Standards.

RESULTS:

1. The mtDNA haplotype for reference items 37, 38, and 39 produced separate mtDNA haplotypes that are summarized below in Table 1.
2. The mtDNA haplotypes for case 2S04-114 samples 37, 38, and 39 are **NOT CONSISTENT** with any of the mtDNA haplotypes summarized in Table 2, below, which were reported by Bode on December 30, 2005.
3. Bode concludes that the individuals who contributed the mtDNA haplotypes for samples 37, 38 and 39 can be **EXCLUDED** as possible contributors of all of the mtDNA haplotypes listed in Table 2, below.

Notes:

1. Mitochondrial DNA (mtDNA) is found in sub-cellular organelles called mitochondria. A specific, non-coding region of the mitochondrial genome called the D-loop, or hyper-variable control region, is known to have variability within the human population. Multiple copies of this region of mtDNA are generated using the polymerase chain reaction (PCR). The base composition, or sequence, is then determined using automated DNA sequencing.
2. The DNA extracts and submitted evidence will be retained temporarily by BODE until review of the data is completed by the law firm, at which time the evidence and extracts will be returned to the Arkansas State Crime Lab.

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Bode Case # 2S04-114
Report submitted by,

1/25/07


John Crews
Forensic mtDNA Analyst


Ed Huffine
Vice President

BODE Case #: 2S04-114
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Date: January 25, 2007

Table 1: mtDNA haplotypes for samples 37, 38, and 39 for case 2S04-114

2S04-114-37 reference buccal swabs (ECHOLS)	16239 G Confirmed Region: 16024-16365	152 C 263 G 309.1 C 315.1 C Confirmed Region: 73-340
2S04-114-38 reference buccal swabs (MISSKELLEY)	16189 N 16256 T 16270 T Confirmed Region: 16024-16365	73 G 263 G 309.1 C 315.1 C Confirmed Region: 73-340
2S04-114-39 reference buccal swabs (BALDWIN)	No differences from the CRS Confirmed Region: 16024-16365	204 C 263 G 315.1 C Confirmed Region: 73-340

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Table 2: Summary of mtDNA haplotypes for case 2S04-114, reported December 30, 2005

<p>2S04-114-03Aa Hair from ligature (Moore)</p>	<p>16221 T Confirmed Region: 15998-16390</p>	<p>263 G 309.1 C 315.1 C Confirmed Region: 35-361</p>
<p>2S04-114-03B Hair from ligature (Moore)</p>	<p>16069 T 16126 C 16193 T 16195 C 16242 A 16357 C Confirmed Region: 15998-16390</p>	<p>73 G 150 T 152 C 263 G 295 T 309.1 C 315.1 C Confirmed Region: 35-361</p>
<p>2S04-114-08A Hair (Branch)</p>	<p>16069 T 16126 C 16145 A 16186 T 16231 C 16261 T Confirmed Region: 15998-16390</p>	<p>73 G 75 A 150 T 152 C 195 C 215 G 263 G 295 T 309.1 C 315.1 C 319 C Confirmed Region: 35-361</p>
<p>2S04-114-08Ba Hair (Branch)</p>	<p>16069 T 16126 C 16145 A 16186 T 16231 C 16261 T Confirmed Region: 15998-16390</p>	<p>73 G 75 A 150 T 152 C 195 C 215 G 263 G 295 T 309.1 C 315.1 C 319 C Confirmed Region: 35-361</p>

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<p>2S04-114-09Bb</p> <p>Hair (Branch)</p>	<p>18089 T 18126 C 18145 A 18188 T 18231 C 18261 T</p> <p>Confirmed Region: 15998-16390</p>	<p>73 G 75 A 150 T 152 C 195 C 215 G 263 G 295 T 309.1 C 315.1 C 319 C</p> <p>Confirmed Region: 35-381</p>
<p>2S04-114-11B</p> <p>Hair from body (Byers)</p>	<p>16089 T 16126 C 16145 A 16172 C 16222 T 16261 T</p> <p>Confirmed Region: 15998-16390</p>	<p>73 G 242 T 263 G 295 T 315.1 C</p> <p>Confirmed Region: 49-361</p>
<p>2S04-114-11C</p> <p>Hair from body (Byers)</p>	<p>16089 T 16126 C 16145 A 16172 C 16222 T 16261 T</p> <p>Confirmed Region: 15998-16390</p>	<p>73 G 242 T 263 G 295 T 315.1 C</p> <p>Confirmed Region: 35-381</p>
<p>2S04-114-11P</p> <p>Hair from body (Byers)</p>	<p>16089 T 16126 C 16145 A 16172 C 16222 T 16261 T</p> <p>Confirmed Region: 15998-16390</p>	<p>73 G 242 T 263 G 295 T 315.1 C</p> <p>Confirmed Region: 35-381</p>
<p>2S04-114-11Q</p> <p>Hair from body (Byers)</p>	<p>16089 T 16126 C 16145 A 16172 C 16222 T 16261 T</p> <p>Confirmed Region: 15998-16390</p>	<p>73 G 242 T 263 G 295 T 315.1 C</p> <p>Confirmed Region: 49-361</p>

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2S04-114-11V Hair from body (Byers)	16069 T 16126 C 16145 A 16172 C 16222 T 16261 T Confirmed Region: 15998-16390	73 G 242 T 263 G 295 T 315.1 C Confirmed Region: 35-361
2S04-114-11Z Hair from body (Byers)	16069 T 16126 C 16145 A 16172 C 16222 T 16261 T Confirmed Region: 15998-16390	73 G 242 T 263 G 295 T 315.1 C Confirmed Region: 35-361
2S04-114-14 Hair from lower body (Byers)	16069 T 16126 C 16145 A 16172 C 16222 T 16261 T Confirmed Region: 15998-16390	73 G 242 T 263 G 295 T 315.1 C Confirmed Region: 49-361
2S04-114-15 Hair from ligature (Byers)	16093 C 16192 T 16256 T 16262 T 16270 T Confirmed Region: 15998-16390	73 G 263 G 315.1 C Confirmed Region: 35-361
2S04-114-17 Hair from perineum (Byers)	16222 T 16261 T Confirmed Region: 16210-16390	Not Analyzed

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<p>2S04-114-18A</p> <p>Negroid hair from sheet</p>	<p>16129 A 16183 D 16189 A 16215 G 16223 T 16278 T 16294 T 16311 C 16360 T</p> <p>Confirmed Region: 15998-16390</p>	<p>73 G 151 T 152 C 182 T 186 A 189 C 247 A 263 G 315.1 C 316 A</p> <p>Confirmed Region: 35-361</p>
<p>2S04-114-18B</p> <p>Hair from sheet</p>	<p>16069 T 16126 C 16145 A 16172 C 16222 T 16261 T</p> <p>Confirmed Region: 15998-16390</p>	<p>73 G 242 T 263 G 295 T 315.1 C</p> <p>Confirmed Region: 35-361</p>
<p>2S04-114-18C</p> <p>Hair from sheet</p>	<p>16069 T 16126 C 16145 A 16172 C 16222 T 16261 T</p> <p>Confirmed Region: 15998-16390</p>	<p>73 G 242 T 263 G 295 T 315.1 C</p> <p>Confirmed Region: 35-361</p>
<p>2S04-114-18D</p> <p>Hair from sheet</p>	<p>16069 T 16126 C 16145 A 16172 C 16222 T 16261 T</p> <p>Confirmed Region: 15998-16390</p>	<p>73 G 242 T 263 G 295 T 315.1 C</p> <p>Confirmed Region: 35-361</p>
<p>2S04-114-18E</p> <p>Hair from sheet</p>	<p>16069 T 16126 C 16145 A 16172 C 16222 T 16261 T</p> <p>Confirmed Region: 15998-16390</p>	<p>73 G 242 T 263 G 295 T 315.1 C</p> <p>Confirmed Region: 35-361</p>

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<p>2S04-114-18F</p> <p>Hair from sheet</p>	<p>16069 T 16126 C 16145 A 16172 C 16222 T 16261 T</p> <p>Confirmed Region: 15998-16390</p>	<p>73 G 242 T 263 G 295 T 315.1 C</p> <p>Confirmed Region: 35-361</p>
<p>2S04-114-18H</p> <p>Hair from sheet</p>	<p>16069 T 16126 C 16145 A 16172 C 16222 T 16261 T</p> <p>Confirmed Region: 15998-16390</p>	<p>73 G 242 T 263 G 295 T 315.1 C</p> <p>Confirmed Region: 49-361</p>
<p>2S04-114-18I</p> <p>Hair from sheet</p>	<p>16069 T 16126 C 16145 A 16172 C 16222 T 16261 T</p> <p>Confirmed Region: 15998-16390</p>	<p>73 G 242 T 263 G 295 T 315.1 C</p> <p>Confirmed Region: 35-361</p>
<p>2S04-114-20B</p> <p>Hair from E3</p>	<p>16069 T 16126 C 16145 A 16172 C 16222 T 16261 T</p> <p>Confirmed Region: 15998-16390</p>	<p>73 G 242 T 263 G 295 T 315.1 C</p> <p>Confirmed Region: 49-361</p>
<p>2S04-114-21A</p> <p>Hair from scout cap</p>	<p>16069 T 16126 C 16193 T 16195 C 16242 A 16357 C</p> <p>Confirmed Region: 16009-16390</p>	<p>73 G 150 T 152 C 263 G 295 T 309.1 C 315.1 C</p> <p>Confirmed Region: 35-361</p>

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2S04-114-21B Hair from scout cap	16223 T 16278 T 16362 C Confirmed Region: 16210-16390	 Not Reported
2S04-114-23 Hair from scout cap	Anderson Confirmed Region: 16009-16390	263 G 309.1 C 315.1 C Confirmed Region: 35-361
2S04-114-27 Dyed hair from white sheet (Branch)	16261 T Confirmed Region: 15998-16390	263 G 309.1 C 315.1 C Confirmed Region: 49-361

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The following notations may apply:

- a. Transition or transversion polymorphisms as compared to a standard sequence (Anderson, et al. 1981. *Nature* 290:457-465) are designated by the appropriate letter (base).
- b. A deletion is designated by a "D."
- c. An insertion is designated a ".1" for a one base insertion, and a ".2" for a two base insertion.

Note: Polycytosine stretches are often difficult to interpret. A possible cause may be the presence of a mixture of length variants in the mtDNA of an individual. A predominant length species is often apparent; however, the frequency of a particular length species cannot be determined accurately and may vary between maternal relatives. The sequence reported for Hypervariable Region 1 represents the first 10 cytosines observed, beginning at position 16184. The sequence reported for Hypervariable Region 2 represents the number of confirmed cytosines present in the predominant base sequence. When no predominant base sequence is observed, the insertions that could not be confirmed are designated by a "N."

- d. A position that could not be confirmed is designated by a "N."

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