

## AFFIDAVIT OF TODD W. BILLE

My name is Todd W. Bille. I am a Director of Special Projects at the Bode Technology Group, Inc. ("Bode"), where I have worked since 2001.

Bode regularly works closely with law enforcement and other governmental agencies. For example, Bode worked closely with the Virginia Department of Forensic Science (the "VDFS") on the recent DNA evidence retesting ordered by the Governor. Bode has also worked with government agencies to identify victims after mass catastrophes in New York, in the wake of the September 11th, and in Louisiana, in the wake of Hurricane Katrina.

I am a forensic DNA analyst, with a Masters Degree in Biology and a Bachelor of Science Degree in Biochemistry, both from Purdue University. During my tenure at Bode, I have managed DNA case work, developed a novel DNA extraction method to assist in identifying remains from the World Trade Center Disaster, worked on-site in Thailand to assist in DNA identification efforts of victims of the Tsunami. In addition, from 2001 through 2005, I was the Acting Technical Leader for the Wyoming State Crime Lab. Prior to working at Bode, I was a forensic DNA analyst for the Indiana State Police Lab for 10 years, and was the supervisor and technical leader for the DNA unit at the time of my departure.

During my career, I have been qualified as an expert in state and federal courts on DNA and serology analysis more than seventy times. I have published a number of articles and have been asked to present my findings at numerous, leading professional conferences. A copy of my curriculum vitae that further expands on my experience and training is attached hereto as Exhibit 1.

Before preparing this Affidavit, I reviewed a substantial amount of record material which provides a sound basis for me to provide a reliable opinion on DNA analysis related to the rape and murder of Michelle Moore-Bosko ("Ms. Bosko"), including VDFS Certificates of Analysis, Forensic Investigation Reports, Latent Print Examinations, Testimony of Jerry Sellers and Robert Scanlon of the VDFS in the trials of Derek Tice, statements of Danial Williams, Joseph Dick, Jr., Eric Wilson, and Derek Tice, and other trial testimony. The type of testing performed on the genetic material recovered from the crime scene was state-of-the-art at the time and is highly reliable and sufficient to include or exclude any contributors of DNA material recovered from the crime scene.

Below are the key facts that were significant to my analysis of this case and the resulting conclusions.

1. A sufficient amount of semen was recovered from a vaginal/cervical swab of the victim, Ms. Bosko, to develop a DNA profile.
  - The DNA profile detected is consistent with a mixture of Ms. Bosko and one other individual.
  - Due to the number of alleles at each locus, there is no evidence that more than one individual contributed to this mixture, other than Ms. Bosko, indicating only one person contributed to this mixture, other than Ms. Bosko.
  - Danial Williams, Joseph Dick, Derek Tice and Eric Wilson are each excluded as being a contributor to this DNA profile.
  - The DNA evidence indicates that Omar Ballard is the only contributor, other than Ms. Bosko, to this DNA profile. Specifically, Omar Ballard is not excluded as being a contributor to this mixture. As stated in the VDFS Certificate of Analysis, dated May 6, 1999, the foreign DNA (i.e., the portion of the DNA that is not consistent with Ms. Bosko) is:
    - “23 million times more likely to have originated from O. Ballard than from an unknown individual in the Caucasian population.”
    - “20 million times more likely to have originated from O. Ballard than from an unknown individual in the Black population.”
2. A sufficient amount of semen was recovered from the white blanket at the crime scene covering Ms. Bosko’s body to develop a DNA profile.
  - The stain on the blanket is semen.
  - The DNA profile obtained from the semen stain is consistent with a single contributor.
  - Danial Williams, Joseph Dick, Derek Tice and Eric Wilson are each excluded as being the contributor to the DNA profile from this semen stain.
  - The DNA evidence indicates that Omar Ballard is the only contributor to the DNA profile in this semen stain. Specifically, Omar Ballard cannot be excluded as being the contributor to the DNA profile in this

semen stain. As stated in the VDFS Certificate of Analysis, dated May 6, 1999, the DNA profile is:

- “21 billion times more likely to have originated from O. Ballard than from an unknown individual in the Caucasian population.”
- “4.6 billion times more likely to have originated from O. Ballard than from an unknown individual in the Black population.”

3. A sufficient amount of cellular material was recovered from underneath Ms. Bosko’s left fingernail to develop a DNA profile.

- The DNA profile detected is consistent with a mixture of Ms. Bosko and one other individual.
- The DNA from the cellular material underneath Ms. Bosko’s left fingernail that is foreign to Ms. Bosko is consistent with Omar Ballard’s DNA. Therefore, Omar Ballard cannot be excluded as being a contributor to this mixture.
- Danial Williams, Joseph Dick, Derek Tice and Eric Wilson are each excluded as being a contributor to this DNA profile.
- Due to the number of alleles at each locus, there is no evidence that more than one individual contributed to this mixture, other than Ms. Bosko, indicating only one person contributed to this mixture, other than Ms. Bosko.

4. The pubic swab from Danial Williams, taken soon after the crime, did not demonstrate the presence of any foreign DNA (i.e., DNA other than his own). Moreover, the DNA that was detected on Mr. Williams’ underwear demonstrated the presence of a mixture from which Ms. Bosko can be excluded.

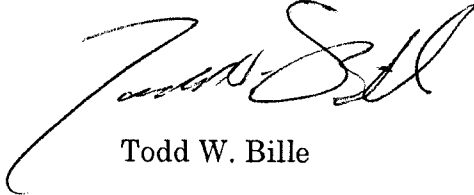
Based on the facts set forth above, my training, experience, and expertise, and the materials I reviewed in connection with this case, I set forth the following conclusions:

- It is my opinion that only one individual other than Ms. Bosko can be linked to the crime by the DNA analysis, and that individual is Omar Ballard.
- It is my opinion that there is no DNA evidence linking Danial Williams, Joseph Dick, Derek Tice or Eric Wilson to this crime.

- If the statements introduced by the prosecution that anywhere from five-to-eight individuals participated in the rape and murder of Ms. Bosko were true, it is my opinion that:
  - I would expect the DNA evidence from the crime scene to include DNA profiles (other than from Ms. Bosko) from more than a single individual.
  - It is extremely unlikely that DNA from at least one of these four men would not have been detected on evidence from the crime scene.
  - It is extremely unlikely that the foreign DNA detected on multiple items at the crime scene was consistent only with Omar Ballard. All of the DNA obtained from the crime scene – from the vaginal/cervical swab, the white blanket and under Ms. Bosko’s left fingernail – is consistent with a single individual, Omar Ballard.
- The forensic testing of Danial Williams in the hours after the crime strongly suggests that he was not involved in the rape of Ms. Bosko. The pubic swab from Danial Williams, taken soon after the crime, did not demonstrate the presence of any foreign DNA (i.e., DNA other than his own). Based on my experience and expertise, I would have expected foreign DNA to be present after a sexual contact, particularly given the close proximity in time to the crime, the fact that Mr. Williams was wearing the same underwear from the timeframe of the crime, and that the record contains no indication that he had bathed since before the timeframe of the crime. Moreover, the DNA that was detected on Mr. Williams’ underwear demonstrated the presence of a mixture from which Ms. Bosko can be excluded.
- It is my ultimate opinion that the records I reviewed that are identified above, including all of the DNA evidence gathered and tested in this case, suggest that there was only one perpetrator of the crime, Omar Ballard, and that the absence of any DNA evidence connecting Danial Williams, Joseph Dick, Derek Tice or Eric Wilson to the crime scene makes it overwhelmingly likely that these four men did not participate in the rape and murder of Ms. Bosko.

I hereby declare under the penalty of perjury, that the foregoing is true and correct.

Submitted,



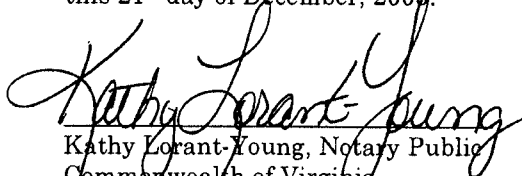
Todd W. Bille

On this 21<sup>st</sup> day of December, 2005  
before me personally appeared

**Todd W. Bille**

To me known to be the person who  
executed the foregoing instrument, and  
acknowledged that he executed the  
same as his free act and deed.

Sworn and subscribed to before me  
this 21<sup>st</sup> day of December, 2005.



Kathy Lorant-Young, Notary Public  
Commonwealth of Virginia  
My Commission Expires: September 30, 2006

# **EXHIBIT 1**

**TODD W. BILLE**  
**THE BODE TECHNOLOGY GROUP, INC.**

**Phone: (703) 644-1200**

**Fax: (703) 644-7730**

**EDUCATION:**

Purdue University, Bachelor of Science degree in Biochemistry, Honors Curriculum,  
West Lafayette, IN. Graduated: May 1990.

Purdue University at Indianapolis, Masters of Science in Biology, Indianapolis, IN.  
Graduated: May, 1998.

**EXPERIENCE:**

Method/Instrument Experience: Microscopic Sperm Identification, Phenolphthalein, Acid Phosphatase, Luminol, ABACard Hematrace, ABACard P30, QuantiBlot, Organic/EtOH precipitation DNA extraction, Organic/Microcon DNA extraction, DNA IQ extraction, Qiagen DNA extraction, PowerPlex 1.1, PowerPlex 2.1, Profiler Plus, Cofiler, PowerPlex 16, Hitachi FMBio II, ABI 3100, GeneScan, Genotyper, FMBio Analysis.

Court Room Experience: >70 court appearances, including admissability hearings (Frye/Daubert), State and Federal Courts

**WORK HISTORY:**

The Bode Technology Group:

June, 2004 – Present: Director, Special Projects: Responsible for assisting in the management of forensic casework, technical performance, development and implementation of new methodologies and court-related presentations of forensic casework and identity testing results. Special Projects include: development of a high throughput novel extraction method for skeletal remains recovered from the World Trade Center Disaster (>15,000 remains analyzed), on-site Thailand tsunami DNA identification efforts, and assisting in DOD and other government agency related research projects.

May 29, 2001-June,2004: Assistant Laboratory Director. Responsible for assisting in the management of all forensic casework, technical performance, financial performance, scheduling, reporting, and court-related presentations of forensic casework and identity testing results.

Acting Technical Leader for the Wyoming State Crime Laboratory DNA Unit, July 15, 2001 – Present.

Indiana State Police Laboratory:

September 1999-June 2001: Employed as a Chemist Supervisor IV/Technical Leader of the DNA Unit. Supervisor of the DNA Unit-South Zone. Responsible for evaluating all methods used by the laboratory, proposing new methods, technical problem solving, oversight of training, quality assurance, safety, and proficiency testing along with processing criminal investigation cases using the PCR-based methods for analysis of

STR's, communicating with the contributing agencies and testifying to the results of my examination in a court of law. Methods validated include Polymarker, D1S80 and PowerPlex 1.1.

May 1993-September 1999: Employed as a Chemist II in the DNA Unit.  
Technical Leader as of June 8, 1998.

Responsible for evaluating all methods used by the laboratory, proposing new methods, technical problem solving, oversight of training, quality assurance, safety, and proficiency testing along with processing criminal investigation cases using the PCR-based methods for analysis of STR's, communicating with the contributing agencies and testifying to the results of my examination in a court of law,

August 1991-May 1993: Employed as a Chemist II in the Serology Unit.  
Responsible for processing criminal investigation cases using conventional serological techniques, communication with the contributing agencies and testifying to the results of my examination in a court of law.

May 1991-August 1991: Employed as a Chemist II in the Microanalysis Unit.  
Trained in fiber analysis before being transferred to Serology Unit.

EMS Laboratory:

August 1990-May 1991: Employed as a chemist in the Organic Section.  
Responsible for organic extractions, screening samples on a GC/FID and developing new methods for extractions and screening.

**SPECIALIZED TRAINING MEETINGS ATTENDED:**

- PCR Workshop sponsored by MAFS in Kansas City, MO. October 9-11, 1991..
- Introduction to Serology sponsored by MAFS in Indianapolis, IN. April 27-29, 1992.
- Forensic Serology School at the FBI Training Academy in Quantico, VA. July 6-10, 1992.
- AmpliType HLA DQ $\alpha$  Forensic DNA Amplification and Typing Workshop at Roche Molecular Systems in Alameda, CA. November 30-December 9, 1992.
- Statistical and Genetic Considerations for Forensic Analysis sponsored by MAFS at Drake University in Des Moines, IO. April 13-15, 1994.
- DNA Testimony Workshop-Views from the Prosecution and the Defense sponsored by MAFS in Cleveland, OH. October 11, 1994.
- Immunostaining of Spermatozoa Workshop sponsored by MAFS in Cleveland, OH. October 12, 1994.
- Statistical Interpretation of DNA Data at the American Academy of Forensic Sciences in Seattle, WA. February 13, 1995.
- Implementation and Consequences of New DNA Technologies at the American Academy of Forensic Sciences in Seattle, WA. February 14, 1995.



- Attended the Sixth Annual Human Identification Symposium in Scottsdale, AZ. October 1995.
- Advanced DNA Technologies Workshop at the American Academy of Forensic Sciences in Nashville, TN. February 20, 1996.
- Attended the Cambridge Symposia, DNA Forensics: Science, Practice and Future in Santa Fe, NM. April 21-27, 1996.
- Forensic Applications of the Polymerase Chain Reaction Workshop at the MAFS meeting in Dayton, OH. October 7 and 8, 1996.
- DNA Typing with STRs, Fluorescent Detection by Promega Corporation and Hitachi Software Engineering in Madison, WI. May 13 and 14, 1997.
- "Statistics Workshop" at the Eighth International Symposium on Human Identification in Scottsdale, AZ. September 15-16, 1997.
- Attended the Eighth International Symposium on Human Identification in Scottsdale, AZ, September 17-20, 1997.
- "FMBio Software Test Study 1997," by Hitachi Software, San Francisco, CA. November 9-11, 1997.
- Attended the "DNA Databanks and Repositories" seminar by the Armed Forces Institute of Pathology, Chicago, IL. December 7-10, 1997.
- "Advanced Fluorescent-STR MegaPlex Technology Workshop," by Bode Technology Group, Hitachi Software and Promega Corporation, Hilton Head, SC. January 11-13, 1998.
- "FMBIO Advanced Users Training Course" by Hitachi Software, Indianapolis, IN. May 26-29, 1998.
- Attended the TWGDAM meeting held October 5, 1998 in Orlando, FL.
- "Expert Witness Testimony" workshop held October 6, 1998 in Orlando, FL.
- Attended the Ninth International Symposium on Human Identification in Orlando, FL, October 7-10, 1998.
- Attended the "Advanced Fluorescent-STR Megaplex Technology Workshop" in Hilton Head, SC, March 21-24, 1999.
- Attended the "International Symposium on Setting Quality Standards for the Forensic Science Community" in San Antonio, TX, hosted by the FBI and the Texas Department of Public Safety, May 3-7, 1999.
- "Tools for the STR Typing Laboratory" workshop held in Los Angeles, CA, August 23, 1999, International Association of Forensic Sciences.
- Attended the "Tenth International Symposium on Human Identification" in Orlando, FL, September 29-October 2, 1999.
- Attended the "Third Annual Fluorescent STR MegaPlex Technology Workshop" at Hilton Head Island, SC, March 12-17, 2000.
- Attended the "Casework Guidelines and Complex Mixture Interpretation Workshop" in Biloxi, Mississippi, October 9, 2000.
- Attended the "11<sup>th</sup> International Symposium on Human Identification" in Biloxi, Mississippi, October 10-13, 2000.
- Attended the "Fourth Annual Fluorescent STR MegaPlex Technology Workshop" in Hilton Head, SC, March 11-16, 2001.

- Attended the "Fifth Annual Fluorescent STR MegaPlex Technology Workshop" in Hilton Head, SC, March 11-15, 2002.
- Attended the "First Annual Advanced DNA Technology Workshop" in Duck Key, FL, May 20-23, 2002.
- Attended Cambridge Healthtech Institute's Fifth Annual "DNA Forensics" meeting in Washington, D.C., June 27-28, 2002.
- Attended the "13<sup>th</sup> International Symposium on Human Identification" in Phoenix, AZ, October 7-10, 2002.
- Attended the "6<sup>th</sup> Annual MegaPlex and Research Technology Workshop" in Virginia Beach, VA, March 27-30, 2003.
- Attended the "Kenyon International Disaster Management 1<sup>st</sup> Annual Training Symposium", Houston, TX, October 8-10, 2003.
- Attended the "Seventh Annual STR Megaplex Advanced Research and Training Workshop" in Virginia Beach, VA, March 28-April 1, 2004.
- Attended the "15<sup>th</sup> International Symposium on Human Identification" in Phoenix, AZ, October 4-7, 2004.
- Attended "The Annual Conference on Criminal Justice Research and Evaluation" NIJ/DOJ meeting in Washington, DC, July 18-20, 2005.

#### **PUBLICATIONS AND PRESENTATIONS:**

- Presented "AmpliType PM Validation and Population Study for Indiana" paper at MAFS meeting in Cleveland, OH. October 14, 1994.
- Presented "AmpliType PM Validation and Population Study for Indiana" poster at American Academy of Forensic Sciences in Seattle, WA. February 17, 1995.
- Bille, T.W., Epperson, K.S., Sobieralski, C.A., Mayer, S.F., "AmpliType PM Validation and Population Study for Indiana." *Proceedings of the American Academy of Forensic Sciences*, Vol. 1, Feb. 13-18, 1995, p. 45. (Abstract)
- Presented "AmpliFLP D1S80 Validation and Population Study for Indiana" poster at the Sixth International Symposium on Human Identification in Scottsdale, AZ. October 12, 1995.
- Bille, T.W., Epperson, K.S., Sobieralski, C.A., Steinbruck, J.M., Mayer, S.F., Hertle, G.E., and Conley, R.S. "Validation Studies on the PM System and Population Database for Indiana," *Crime Laboratory Digest*, Vol. 22, No. 4, October 1995, pp. 116-122.
- Presented "AmpliFLP D1S80 Validation and Population Studies for Indiana" paper at the MAFS meeting in Dayton, OH. October 10, 1996.
- Guest speaker at the Annual Judicial Conference of Indiana, "DNA Evidence." September 18, 1998, Merrillville, IN.
- Speaker at the "Advanced Fluorescent-STR Megaplex Technology Workshop" in Hilton Head, SC, March 21-24, 1999, topic: QA/QC.
- Speaker at the "First International Symposium of Human Identification through DNA at Rio de Janeiro" in Rio de Janeiro, Brazil, June 7, 1999, topic: "Use of STR's to Investigate Two Similar Brutal Sexual Assaults."

- Speaker at the “Second Latin American Symposium on Human Identification” in Belo Horizonte, Brazil, June 10-12, 1999, topics: “Use of STR’s to Investigate Two Similar Brutal Sexual Assaults” and “Isolation of DNA from Crime Scene Material.”
- Speaker at the “Tools for the STR Typing Laboratory” workshop held in Los Angeles, CA, August 23, 1999, International Association of Forensic Sciences.
- Bille, T.W., “DNA Analysis: A Powerful Investigative Tool,” *Profiles in DNA*, Vol. 3, No. 2, Sept. 1999, pp. 8-9.
- Speaker at the Tenth International Symposium on Human Identification held in Orlando, FL, October 1, 1999. Topics: “Case Studies” and “Databasing Efforts Underway in Indiana.”
- Speaker at the Indiana Prosecuting Attorney’s Council Annual Meeting held in Merrillville, Indiana, July 6, 2000. Topic: “DNA Update/CODIS.”
- Speaker at the “Casework Guidelines and Complex Mixture Interpretation Workshop” in Biloxi, Mississippi, October 9, 2000.
- Speaker at the “DNA: Witness to the Truth” seminar organized by the National District Attorneys Association held in Tucson, AZ, October 27-30, 2000.
- Speaker at the “DNA: Witness to the Truth” seminar organized by the National District Attorneys Association at the National Advocacy Center in Durham, North Carolina, June 4-6, 2001.
- Speaker at the “DNA: Witness to the Truth” seminar organized by the National District Attorneys Association in Cleveland, Ohio, September 10-14, 2001.
- Speaker at the “Fifth Annual Fluorescent STR MegaPlex Technology Workshop” in Hilton Head, SC, March 12, 2001. Topic: DNA Identification of World Trade Center Victims.
- Speaker at the “First Annual Advanced DNA Technology Workshop” in Duck Key, FL, May 22, 2002. Topic: “Advances in Bone Extraction Techniques.”
- Speaker at the Cambridge Healthtech Institute’s Fifth Annual “DNA Forensics” meeting in Washington, D.C., June 27, 2002. Topic: “DNA Identification Efforts on Victims of the World Trade Center Disaster.”
- Holland, M.M., Cave, C.A., Holland, C.A., Bille, T.W., “Development of a Quality, High Throughput DNA Analysis Procedure for Skeletal Samples to Assist with the Identification of Victims from the World Trade Center Attacks.” *Croatian Medical Journal*: 44(3):264-272, 2003.
- Speaker at the “Advanced Techniques in Forensic DNA Evidence” seminar organized by the National District Attorneys Association at the National Advocacy Center in Columbia, SC, August 18-22, 2003. Topics: “STR-PCR Review”, “SNP’s”, and Moot Defense Expert Cross-Examinations.
- Speaker at the “Understanding DNA” workshop for the Houston Criminal Justice Community, November 6-7, 2003, Houston, TX. Topics: “DNA Basics” and “Current DNA Typing Procedures-PCR/STR”.
- Speaker at the “DNA: Justice Speaks” work shop organized by the American Prosecutors Research Institute in Arlington, VA, November 20-22, 2003. Topic: “Resource Allocation and Evidence Management.”

- Speaker at the "Seventh Annual STR Megaplex Advanced Research and Training Workshop" in Virginia Beach, VA, March 30, 2004. Topic: "Comparison of Data Review Systems."
- Speaker at the "Medicolegal Investigation of Death" seminar organized by Wayne State University in Dearborn, MI, April 22, 2004. Topic: "DNA Specimens- Basic to Advanced".
- Speaker at the "Prosecuting Sexual Assault Cases" workshop organized by the Trial Counsel Assistance Program, United States Army Legal Services Agency, January 12, 2005 in Turtle Bay, Hawaii. Topic: "Evidence Collection and DNA Science."

**PROFESSIONAL MEMBERSHIPS, CERTIFICATIONS AND AWARDS:**

American Board of Criminalistics Technical Specialist Certification

Biology Section Coordinator for MAFS, 1997.

"Outstanding Young Scientist Award" from the Midwestern Association of Forensic Scientists. Presented October 19, 1995.