EXHIBIT 46

FORENSIC SCIENCE RESOURCES

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Case No.: FSR2-02
Client: Special Public Defender, Clark Co., Nevada
Dates Specimens Received: 4/30/002 - 5/15/02
Specimens Received From: James Aleman and Gloria Navarro
Specimens Received By: George Schiro
Dates of Analysis: 4/30/02 - 5/15/02
Type of Examination Requested: Crime Scene Reconstruction and Forensic Science Interpretation in State v. Kirstin Lobato, Case No. C177394

Specimens Received:
Documents and photographs relating to the homicide investigation of Duran Bailey

Analytical Procedures:
The documents and photographs were reviewed. The following results and conclusions were obtained and are separated into those not allowed in at trial and those allowed in at trial.

Results and Conclusions (not allowed in at trial):

Bloody shoeprints were photographed and documented at the crime scene. These bloody shoeprints could have only been left by the person concealing Mr. Bailey's body because all of the blood was covered by the trash concealing his body. The cardboard was first used to cover his body, then the trash was used to further conceal his body and the blood. While the body and blood were being concealed with trash, the source of the shoeprints stepped in blood and tracked them out upon exiting the enclosure.

William J. Bodziak's report dated March 27, 2002 states that these shoeprints "...most closely correspond to a U.S. men's size 9 athletic shoe of this type. The American women's size equivalent would be approximately size 10." His report further states "...the length of the LOBATO right foot equates to U.S. men's sizes between 6 to 6 1/2. The American women's size equivalent would be approximately size 7 1/2. The right foot size of KIRSTEN LOBATO would therefore be at least 2 1/2 sizes smaller than the estimated crime scene shoe size." The Las Vegas Metropolitan Police Department (LVMPD) Crime Scene Report dated 07-20-01 by Crime Scene Analyst II, Jenny Carr states that "...a pair of black and white "Nike Air" size 7.5 tennis shoes were recovered, by myself, from the hands of Kirsten Lobato and impounded into evidence." These shoes are the same size of shoes that Mr. Bodziak states Ms. Lobato would normally wear.

Physical evidence can either include or exclude a person as the source of the evidence. Inconclusive results can also be obtained from physical evidence. **Based upon the shoe size of the impressions and the size of the shoes received from Ms. Lobato, Ms. Lobato is excluded as the source of the shoeprints found at the crime scene.**

FSR2-02 Report (continued)

There is no information to indicate that any shoes in Ms. Lobato's possession were size 10 or that they matched the shoeprint found at the scene.

The crime scene shoeprints should be sent to the FBI and entered into the FBI Shoeprint Database. This database could provide investigative information, such as, is the shoe a male or female style shoe; whether the shoe is an expensive, exclusively made shoe or a common, inexpensive shoe; or if the shoe is widely distributed or if it had limited distribution.

According to the August 6, 2001 LVMPD Forensic Laboratory Report of Examination by Criminalist Thomas A. Wahl a "...wad of chewing gum on cardboard with apparent blood recovered from scene" was submitted to him for DNA analysis. The condition of this gum and its location at the crime scene could also provide investigative information as to the source of the gum. None of the reviewed photographs had a close-up view of the gum and the examined reports do not refer to the condition of the gum; however, it was significant enough for the Crime Scene Analysts to collect it and submit it for DNA analysis.

If the gum was deposited on the cardboard after the blood was deposited, then it does not provide any significant information because it could have fallen out of the trash onto the cardboard. If the gum was deposited on the cardboard prior to or at the same time as the blood being deposited on the gum, then the gum could have originated from the mouth of Mr. Bailey's killer. The likelihood of it originating from the killer's mouth would also be increased if the gum was still pliable when recovered. It would be less likely to have originated from the killer's mouth if it was hardened or if it had debris attached to it.

Mr Wahl's report further states "The chewing gum appeared to have been chewed. It was also stained with apparent blood." And "A DNA mixture was indicated. Duran Bailey cannot be excluded as the major DNA component of the mixture. Kirsten Lobato is **excluded** as the minor DNA component of the mixture." **Based upon this information, Ms. Lobato is excluded as the source of the chewing gum found at the crime scene.**

Efforts should be made to determine the condition of the gum at the time it was collected and if there are any close-up photographs of the chewing gum at the crime scene.

Two photographs of Ms. Lobato's hands were taken approximately 12 days after the discovery of Mr. Bailey's body. The reason investigators photograph suspect's hands is to document any evidence of injuries to the hands that can occur during beating and stabbing homicides.

According to the July 9, 2001Autopsy Report by Lary Simms, Mr. Bailey had "...an apparent fracture on the left side of the head...", an "...apparent rib fracture/incised wound at the left costal margin...", "On the left side of the face and head is a confluent area of multiple abrasions and contusions...", " On the right side of the face and head is a confluent area of multiple abrasions and contusions...", "Located on the anterolateral right

forehead is a stab wound...", "Located on the left chin is a stab wound...", "Located above the right eye is an incised wound...", "The anterior maxillary and mandibular dental arches demonstrate multiple fractures and avulsions of the teeth.", "Located on the chin is an incised wound...", and "Located on the back of the right hand is a incised wound group...". These areas are all bony areas and indicate that the beating and stabbing were carried out forcefully. As a result of striking these bony areas with a knife, the killer's hand might have been cut from slipping onto the knife blade as the knife handle accumulated more blood. The killer's hand could have been bruised from the knife or the forceful nature of the beating. The surfaces surrounding the crime scene were abrasive and could have also caused abrasions on the killer's hands. **No cuts, abrasions, broken fingernails, or healing bruises can be seen in the photographs of Ms. Lobato's hands.**

Photographs of Ms. Lobato taken approximately 12 days after the discovery of Mr. Bailey's body show that Ms. Lobato had bleached blonde hair. Her hair had lines of demarcation at the root ends of the hair shafts indicating that it had been several weeks since her last bleach treatment. During a beating and stabbing homicide, the killer can lose hair at the scene either by having it forcibly removed or through the natural hair shedding process. Bleached caucasian hairs found at the crime scene or associated with Mr. Bailey's body would have been significant. **There is no information indicating that any bleached blonde hairs were observed or collected from the crime scene or Mr. Bailey's body.**

The photographs demonstrate numerous blood spatter patterns. There is no documentation of blood spatter above a height of 12 inches on any of the surrounding crime scene surfaces. **This indicates that Mr. Bailey received his bleeding injuries while lying on the ground.** The photographs of his pants also do not indicate the presence of any vertically dripped blood. **This indicates that he did not receive any bleeding injuries while in a standing position.**

When a person is bleeding and repeatedly beaten with a long object, such as a baseball bat or a tire iron, or is repeatedly stabbed using an arcing motion, then cast-off blood spatters corresponding to the arc of the swing are produced. There is no documentation of any cast-off blood spatters on the surrounding surfaces. This indicates that arcing motions were not used in the homicide of Mr. Bailey. **The confined space of the crime scene enclosure and the lack of cast-off indicate that a baseball bat was not used to beat Mr. Bailey.** The beating was more likely due to a pounding or punching type motion.

Crime scene reconstruction:

1. The killer enters the enclosure.
2. Mr. Bailey is lying on the ground, possibly sleeping.
3. (These events cannot be sequenced. They all happened at some point, but not necessarily in the order listed. His pants could have been down prior to the stabbing or

they could have come down sometime during the stabbing but prior to the scrotum wound. He might have been masturbating prior to getting killed. This could explain the
presence of the adult magazines at the crime scene. He may also have fallen asleep with his pants down.) The killer stabs the victim in the face, head, scrotum, and possibly the abdomen. At some point, Mr. Bailey's pants come down. Mr. Bailey manages to use his hands and arms in an effort to defend himself. His left carotid artery is cut while he is on the ground. Mr. Bailey is also beaten forcefully about the head with a blunt object most likely using a pounding or punching type motion or his head is slammed forcefully against the surrounding concrete.

4. Mr. Bailey's anus was then lacerated.
5. Mr. Bailey's body was turned over.
6. The killer stabs Mr. Bailey in the abdomen and severs his penis.
7. Mr. Bailey is covered with the cardboard.
8. Trash is deposited on Mr. Bailey and the blood.
9. The killer exits the enclosure.

Results and Conclusions (allowed in at trial):

Louise D. Renhard's Crime Scene Report dated 07-22-01 states "Luminol, a presumptive test for the presence of blood, was applied and a positive reaction occurred and was photographed on the left front seat slip cover, the left front seat and floor, and the left interior door panel. A Phenolphthalein presumptive test for the presence of blood was conducted for the shoes in the trunk, the baseball bat, the multi tool, and the keys with negative results on all." Mr. Wahl's August 6, 2001 report states "Examination of the vehicle slip cover (TAW8 item 5) and the interior left door panel (TAW9) yielded weak positive presumptive tests for the presence of blood in one area of each item. Human blood could not be confirmed from either item. Human DNA was not detected in extracts prepared from swabbings collected from both items."

The luminol reaction and the phenolphthalein reaction are both catalytic tests. Their reactions are essentially the same for blood, except one produces a pink color (phenolphthalein) and the other luminesces (luminol). Luminol is the more sensitive test, but it also produces more false positives. Phenolphthalein is less sensitive, but it has fewer false positives. The categories of substances that will produce false positives are the same for both tests, but luminol probably reacts to lesser amounts of these substances than phenolphthalein. The tests can be designed to reduce the number of false positives, but not totally eliminate them. Both tests can cause reactions with the enzymes catalase and peroxidase, cytochromes, strong oxidizing agents, and metallic salts.
Some of the false reactions include:

Chemical oxidants and catalysts: Copper and nickel salts, rust, formalin (used for preserving tissues), potassium permanganate (found in some dyes), potassium dichromate, bleaches, iodine, and lead oxides. Some of these items could be found anywhere, including tap water, dirt, and blue jeans. Phenolphthalein gives positive results with copper,

potassium ferricyanide, nickel and cobalt nitrates, and some sulfocyanates. Luminol reacts with copper compounds, cobalt, iron, potassium permanganate, and bleach (source Forensic Science Handbook, edited by Richard Saferstein, page 275). In tests done at the FBI Basic Serology course at the FBI Academy in Quantico, VA, phenolphthalein has been shown to react with iodine, potassium permanganate, and copper nitrate.

Plant sources: Vegetable peroxidases. Phenolphthalein might react with apple, apricot, bean, blackberry, Jerusalem artichoke, horseradish, potato, turnip, cabbage, onion, and dandelion root (source Forensic Science Handbook, edited by Richard Saferstein, page 275). In tests done at the FBI Basic Serology course at the FBI Academy in Quantico, VA, phenolphthalein has been shown to react with cabbage, carrot, cucumbers, celery, corn, and horseradish.

Animal origin: pus, bone marrow leukocytes, brain tissues, spinal fluid, intestine, lung ,saliva, and mucous (source Forensic Science Handbook, edited by Richard Saferstein, page 275). In tests done at the FBI Basic Serology course at the FBI Academy in Quantico, VA, phenolphthalein has been shown to react with saliva. Bacteria can also cause false positive reactions.

The HemaTrace test used to confirm human blood is more sensitive than the phenolphthalein test. As a result, had the phenolphthalein been reacting to human blood, then the HemaTrace test should have also given a positive result for human hemoglobin. In validation studies conducted at the Louisiana State Police Crime Lab, phenolphthalein could detect a 1/1,000,000 dilution of blood and the HemaTrace card could detect a 1/100,000,000 dilution of blood. This makes the HemaTrace card 100 times more sensitive than the phenolphthalein test.

The test to quantify human DNA is also very sensitive. The QuantiBlot kit using Chromogen:TMB can detect as little as 160 picograms of human DNA. Some human DNA quantification systems can detect down to 20 picograms of human DNA. **Based on the results of the phenolphthalein, luminol, human hemoglobin, and human DNA quantification analyses, the substance detected in Ms. Lobato's vehicle is not human blood.**

Ms. Renhard's 07-22-01 Crime Scene Report states "...latent prints were recovered from the left door threshold, the interior and exterior left door window, the interior right door window, the exterior of the trunk and front hood." Her report indicates that a minimum of six latent lifts were recovered from the vehicle. The report does not indicate the number of smudges, partial prints, overlaid prints, etc. that were not collected.

When dusting for prints, the powder on the brush adheres to the moisture contained in the print. The main factors in determining if a person will leave behind a print are the person's individual physiology and habits, the surface, and the environment. Any one or more of these factors can contribute to the lack of fingerprints. People with drier skin will not leave prints as readily as a person with oily or sweaty skin. Rough surfaces are not conducive to recovering dusted prints because of the surface texture. Moisture and

oils in fingerprints will evaporate more rapidly in hot, arid environments than in cooler, more humid environments. **The lack of Ms. Lobato's prints in her own vehicle would not be considered unusual and it is not necessarily a sign that her vehicle was cleaned.**

FINAL CONCLUSION:

There is no physical evidence associating Kirsten Lobato with Duran Bailey or the crime scene. Ms. Lobato is also excluded as the source of physical evidence found at the crime scene.

George Schiro
Forensic Scientist