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Forensic Report Sent from Toby Wolson to Dean Boland

Toby Wolson

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ACADEMIC ENDEAVORS

Noslow Forensic Consultations

January 7, 2000

To: Dean Boland
Assistant Prosecuting Attorney
Cuyahoga County Prosecutor's Office

Case: Sheppard Civil Lawsuit
Victim: Marilyn Sheppard
Suspect: Sam Sheppard

Evidence Received:

The following items, received from Mr. Dean Boland on August 23, 1999, were reviewed:

- 1) Offense Report: Bay Police Department, serial #: 54-195 (9 pages)
- 2) Report of Autopsy: Marilyn Sheppard, Case #: 76629, 7/4/54 (10 pages)
- 3) Cuyahoga County Coroner's Laboratories - Trace Evidence Department Report, Case #: 76629 (28 pages)
- 4) Preliminary draft of trace evidence report (29 pages)
- 5) Vital Statistics Report, Case #: 76629 (7 pages)
- 6) Indianapolis - Marion County Forensic Services Agency - Laboratory Examination Report, Case #: 76629, 2/3/97 (2 pages)
- 7) Indianapolis - Marion County Forensic Services Agency - Laboratory Examination Report, Case #: 76629, 4/21/99 (3 pages)

The following item, received from Mr. Eric J. Weiss on November 8, 1999, was reviewed:

- 8) Trial transcript of the testimony of Dr. Paul Kirk (108 pages)

The following items, received from Mr. Dean Boland on November 15, 1999, were reviewed:

- 9) Photographs of Sam Sheppard's watch (8 photographs)
- 10) Photograph of Marilyn Sheppard's watch (1 photograph)

The following items, received from Mr. Eric J. Weiss on November 26, 1999, were reviewed:

- 11) Document describing the examination of State's exhibit 26A (4 pages)
- 12) CD labeled 76629-02; containing scanned images of the crime scene photographs and items of evidence (51 images)

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Evidence Received: (cont.)

- 13) Computer printout of the images on CD 76629-02 (3 pages)
- 14) CD labeled 76629-04; containing scanned images of the crime scene photographs and items of evidence (50 images)
- 15) Computer printout of the images on CD 76629-04 (3 pages)
- 16) Photographs taken at the crime scene and of items of evidence (51 photographs)

The following item, received from Mr. Dean Boland on November 30, 1999, was reviewed:

- 17) Report written by Mr. Barton Epstein (6 pages)

The following item, received from Mr. Dean Boland on December 6, 1999, was reviewed:

- 18) Report written by Mr. Barton Epstein (6 pages)

The following items, received from Mr. Andy Nichol on December 17, 1999, were reviewed:

- 19) Trial transcript of the testimony of Mary Cowan in the first trial (169 pages)
- 20) Trial transcript of the testimony of Mary Cowan in the second trial (119 pages)

The following item, was reviewed on December 28, 1999:

- 21) "The Killer's Trail" a documentary which was broadcast on public television

The following items, received from Mr. Dean Boland on December 29, 1999, were reviewed:

- 22) Computer printout images of the HLA DQ-alpha and polymarker DNA test strips (8 pages)
- 23) Cuyahoga County Coroner's Office Photography Department Report (10 pages)

Observations and Opinions:

A) Position of Marilyn Sheppard's body:

Examination of the crime scene photographs showing Marilyn Sheppard's body in relation to the bloodstains on the bed and the surrounding areas are consistent with Marilyn Sheppard being struck where she lay.

B) Position of Assailant during Bloodshed:

Examination of the crime scene photographs which show the Sheppards' bedroom as well as a review of Dr. Paul Kirk's notes and testimony reveal that the walls in the northeast corner of the bedroom, by the foot of Marilyn Sheppard's bed, exhibited a bloodstain void. The notes, testimony, and photographs indicate that bloodspatter was present on all the walls of the bedroom as well as the surrounding furniture.

Observations and Opinions: (cont.)

Assuming the notes, testimony, and photographs are accurate, the void is consistent with the presence of an intermediate target for the bloodspatter, which was removed after bloodshed ceased. If the assailant was standing at the foot of the bed while striking Marilyn Sheppard's head, obstructing access of the blood to the walls in the northeast corner of the bedroom, this would result in the observed bloodstain void.

C) Right or Left Handed Assailant:

The bloodstain patterns that were present on the walls and the furniture in the Sheppards' bedroom are consistent with being impact bloodstain patterns. No evidence was observed which would indicate if the assailant held the murder weapon with their left hand or right hand while striking Marilyn Sheppard.

D) Bloodstains on the Closet Door:

Two bloodstains that had an appearance different from the bloodstains that were surrounding them were present on the closet door in the Sheppards' bedroom. The majority of the bloodstains that were present on the closet door are consistent with impact bloodstain patterns. The two larger oval bloodstains do not appear to be consistent with the appearance of the surrounding impact bloodstain patterns, indicating that these bloodstains were deposited on the closet door by some other mechanism than forceful impacts of the murder weapon into the blood source. No evidence was observed which would indicate the origin or mechanism by which the two bloodstains were deposited on the closet door. The theory that the two bloodstains are from injuries to Marilyn Sheppard's assailant can not be excluded.

E) Bloodstain Patterns on the Pillow:

Photographs of the pillow that was present on Marilyn Sheppard's bed revealed impact bloodstain patterns on both sides which are consistent with the position of the pillow being changed during bloodshed. Present on both sides of the pillow were large bloodstains that are consistent with the pillow having been in direct contact with a liquid blood source. The source of the transfer patterns could not be identified with the documentation that was provided.

F) Bloodstain Patterns on Sam Sheppard's Pants:

No photographic documentation was provided of Sam Sheppard's pants. Review of Mary Cowan's analysis report and testimony from both trials revealed the presence of a large bloodstain on the left front of the pants by the knee. Mary Cowan's testimony in the second trial revealed that she treated the pants with luminol to determine if trace amounts of blood may have been present on the pants. The luminol revealed luminescence on: the right front between the pocket and the midpoint, left front, right side slightly toward the back, back of the left leg, and on the right leg cuff. Microscopic examination of these areas revealed reddish brown stains, many of which appeared as streaks. Testing of these areas with benzidine reagent resulted in negative test results. A review of the forensic literature concerning the sensitivities of benzidine reagent and luminol for the detection of trace quantities of blood revealed that luminol is more sensitive than benzidine reagent for the detection of trace amounts of blood.

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Observations and Opinions: (cont.)

Mary Cowan's examination of Sam Sheppard's pants indicates that trace amounts of blood may have been present on the right front between the pocket and the midpoint, left front, right side slightly toward the back, back of the left leg, and on the right leg cuff.

G) Bloodstain Patterns on Sam Sheppard's Watch:

The photographs and scanned images of Sam Sheppard's watch revealed several areas of contact bloodstains. Also present on the watch were several small diameter bloodstains consistent with the watch being a target for impact spatter, which was caused by high force impacts into the blood source.

H) Bloodstains Deposited around the Sheppard's House:

Present in the Sheppards' house were numerous bloodstains consistent with being a blood trail. Blood trails result when blood drips from a surface or object as it moves in a horizontal motion through the crime scene. Two common causes of blood trails are blood dripping from an injury while the person moves through the crime scene, or blood dripping off a blood saturated surface such as the murder weapon. The blood trails that result from injuries can be very long trails because the dripping blood can be replenished until the bleeding is stopped. Blood trails that are the result of blood dripping from a saturated surface tend to be shorter in length because the quantity of blood is limited to that which is on the object. The length of the apparent blood trail in the Sheppard house is long, which is consistent with a trail due to injury. It is not possible to exclude beyond reasonable scientific certainty that the trail was not caused by blood dripping off the murder weapon. Blood dripping off the murder weapon as the cause of the blood trail cannot be excluded because: 1) the murder weapon was never identified or recovered and its surface characteristics are unknown, 2) Mary Cowan's description of the bloodstains in the trail as having diameters of .25 inches and less, and 3) the apparent absence of blood in any of the drawers which were opened and dumped on the floors in rooms around the house.

I) DNA Analysis of Evidence Samples:

The photographs of the HLA DQ-alpha and polymarker DNA analysis test strips were examined and compared to Dr. Mohammad Tahir's reports dated February 3, 1997, and April 21, 1999. Not all of the evidence that was analyzed by Dr. Tahir appeared to be present in the photographs. The DNA test strip labels were not always clear as to which evidence sample they represented. It is noted that very weak dot development may not be visible in the photographs of the DNA test strips.

The bloodstain from the closet door (1-C) appeared to correspond to the DNA test strips labeled "76629 1-C". The "C" dot on the HLA DQ-alpha strip and the "S" dot on the polymarker strip were both missing. When the control dots fail the DNA results cannot be interpreted.

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Observations and Opinions: (cont.)

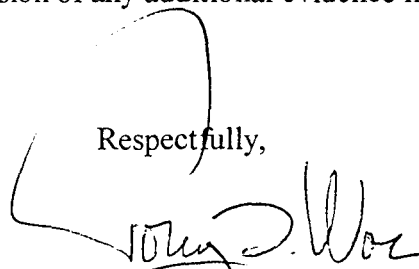
The bloodstain on Sam Sheppard's pants (b-3-b-1) appeared to correspond to the DNA test strips labeled "b-3-b-1." The DNA profile of the bloodstain on the pants is consistent with being a mixture of DNA types. If the analysis by Dr. Tahir is correct concerning the DNA types of Sam Sheppard and Marilyn Sheppard, their DNA types are excluded from the mixture. If the analysis by Dr. Tahir is correct concerning the DNA type of Richard Eberling, his DNA type cannot be excluded as a constituent of the mixture. In addition, the DNA mixture exhibits DNA types that do not match the DNA types of Sam Sheppard, Marilyn Sheppard, and Richard Eberling.

The bloodstain on the wood chip (3) appeared to correspond to DNA test strips labeled "3 (wood chip)." The "C" dot on the HLA DQ-alpha strip and the "S" dot on the polymarker strip were both missing. When the control dots fail, the DNA results cannot be interpreted.

The apparent semen sample from the vaginal smear (A-59-1) appeared to correspond to the DNA test strips labeled "vag m-f." The "C" dot on the HLA DQ-alpha strip and the "S" dot on the polymarker strip were both missing. When the control dots fail, the DNA results cannot be interpreted.

The observations and opinions expressed in this report are based on the evidence that was reviewed through January 7, 2000. The submission of any additional evidence may affect these observations and opinions.

Respectfully,



Toby L. Wolson, M.S.
Forensic Biologist