Texas Forensic Science Commission

Justice Through Science

FINAL REPORT ON COMPLAINT BY THE HARRIS COUNTY PUBLIC DEFENDER'S OFFICE AGAINST THE HARRIS COUNTY INSTITUTE OF FORENSIC SCIENCES, HARRIS COUNTY SHERIFF'S OFFICE AND HOUSON POLICE DEPARTMENT

February 2, 2018

EXHIBIT INDEX

A. Complaint filed by attorney Sarah V. Wood of the Harris County Public Defender's Office; attachments to complaint:

1. Closing arguments from Norma Clark murder trial

2. Testimony of William Davis, Director of Physical Evidence at the Harris County Institute of Forensic Sciences (Gunshot Residue)

3. Testimony of David Rossi, Harris County Sheriff's Office, CSI (Blood Spatter)

4. Testimony of Chris Duncan, Houston Police Department, CSI (Blood Spatter)

5. Testimony of Katie Welch, Harris County Institute of Forensic Sciences

B. The Commission's questions to bloodstain pattern analysis expert Bob Henderson related to the analysis performed by HPD analyst Chris Duncan in this case, and Mr. Henderson's responses.

C. Report and PowerPoint presentation by Dr. Cliff Spiegelman, Distinguished Professor of Statistics, Texas A&M University.

I. SUMMARY OF APPLICABLE STATUTORY AUTHORITY

A. Legislative Background and Jurisdiction

The Texas Legislature created the Texas Forensic Science Commission ("Commission") during the 79th Legislative Session by passing House Bill 1068 (the "Act"). The Act amended the Texas Code of Criminal Procedure to add Article 38.01, which describes the composition and authority of the Commission.[1] During the 83rd and 84th Sessions, the Legislature further amended the Code of Criminal Procedure to clarify the Commission's jurisdictional authority.[2]

The Commission has nine members appointed by the Governor of Texas. Seven commissioners are scientists and two are attorneys (one prosecutor nominated by the Texas District and County Attorney's Association, and one defense attorney nominated by the Texas Criminal Defense Lawyer's Association). The Commission's Presiding Officer is Dr. Jeffrey Barnard, as designated by the Governor.

1. Accreditation Jurisdiction

The Commission is charged with accrediting entities that conduct forensic analyses of physical evidence for use in criminal proceedings.[3] The Commission's decision to recognize a particular entity as accredited is based upon the entity's accreditation status with certain approved national accrediting bodies.[4] Texas law exempts some forensic disciplines from the accreditation requirement—either by statute, by administrative rule, or by determination of the Commission.[5]

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[1] *See* Act of May 30, 2005, 79th Leg., R.S., ch. 1224, § 1, 2005.
[2] *See* Acts 2013, 83rd Leg., ch. 782 (S.B.1238), §§ 1 to 4, eff. June 14, 2013; Acts 2015, 84th Leg., ch. 1276 (S.B.1287), §§ 1 to 7, eff. September 1, 2015, (except TEX. CODE CRIM. PROC. art. 38.01 § 4-a(b) which takes effect January 1, 2019).
[3] TEX. CODE CRIM. PROC. art. 38.01 § 4-d(b).
[4] *See* 37 TEX. ADMIN. CODE Pt. 15 § 651.4
[5] *See* TEX. CODE CRIM. PROC. art. 38.35 § (a)(4); 37 TEX. ADMIN. CODE §§ 651.5 - 651.7; and TEX. CODE CRIM. PROC. art. 38.01 § 4-d(c).

Unless a forensic analysis is accredited or falls under an exemption, the evidence is not admissible in a criminal action in Texas courts.[6]

2. Investigative Jurisdiction

Accredited Disciplines: Texas law requires the Commission to "investigate, in a timely manner, any allegation of professional negligence or professional misconduct that would substantially affect the integrity of the results of a forensic analysis conducted by an accredited laboratory, facility or entity." TEX. CODE CRIM. PROC. art. 38.01 § 4(a)(3). The Act also requires the Commission to: (1) implement a reporting system through which accredited laboratories, facilities or entities may report professional negligence or professional misconduct; *and* (2) require all laboratories, facilities or entities that conduct forensic analyses to report professional negligence or misconduct to the Commission. *Id.* at § 4. For disciplines subject to the accreditation requirement, the statute requires the Commission to issue a finding regarding whether professional negligence or misconduct was committed in the forensic analysis subject to investigation. The Commission may also make observations regarding the integrity and reliability of the forensic analysis, issue best practices or make any other recommendations the Commission deems relevant.

Disciplines Not Subject to Accreditation: The Commission is also authorized to investigate allegations of professional negligence and misconduct for forensic disciplines that are *not currently subject to accreditation*. TEX. CODE CRIM. PROC. art. 38.01 § 4(b-1). However, for cases involving forensic disciplines not subject to accreditation, the Commission's reports do not consider professional negligence or misconduct and are limited to the following three areas:

- Observations regarding the integrity and reliability of the forensic analysis conducted;

[6] *See* TEX. CODE CRIM. PROC. art. 38.35 § (d)(1).

- Best practices identified by the Commission during the course of the investigation; and

- Other recommendations deemed relevant by the Commission. *Id.*

Disciplines Under Review in this Case: This investigation involved two forensic disciplines: bloodstain pattern analysis and gunshot residue analysis. In the case of bloodstain pattern analysis, the work was performed by a police officer outside of an accredited entity. In the case of the gunshot residue analysis, the work was performed by an accredited laboratory (Harris County Institute of Forensic Sciences) in the laboratory setting. There is no question that gunshot residue analysis is subject to the accreditation requirement set forth under Tex. Code Crim. Proc. 38.35. However, with respect to bloodstain pattern analysis, there is some ambiguity in the accreditation requirement that the Commission was required to resolve (*See* Section III below).

Bloodstain pattern analysis undoubtedly fits the definition of "forensic analysis" under the statute, which is defined as "a medical, chemical, toxicologic, ballistic, or other expert examination or test performed on physical evidence, including DNA evidence, for the purpose of determining the connection of the evidence to a criminal action."[7] Because bloodstain pattern analysis falls within this definition, Texas law requires the work to be performed by an accredited laboratory unless certain exemptions apply.[8] The first would be an express exemption by statute, and no such exemption currently exists.[9] The second would be an exemption by administrative rule.[10] The administrative rules related to accreditation exemptions were originally established by the Texas Department of Public Safety ("DPS") because DPS served as the state's accreditation oversight body until that responsibility was shifted to the Commission during the 84th Legislative session.

[7] *Id.* § (a)(4).
[8] *Id.* § (d)(1).
[9] *Id.* § (a)(4)(D).
[10] *Id.*

The Commission transferred all rules from DPS. The rule exemption most closely related to bloodstain pattern analysis falls under crime scene investigation, as follows:

> The act of locating, identifying, collecting, or preserving physical evidence by laboratory or investigative personnel (crime scene search team) *unless the activity is integral to an expert examination or test.*[11] [emphasis added]

Because the language of this rule exemption includes the caveat, "unless the activity is integral to an expert examination or test," it is possible a court reviewing the language would conclude bloodstain pattern analysis does not fall within the crime scene exemption. This means that based on the current language in Texas law, bloodstain pattern analysis may be subject to the accreditation requirement, and indeed may have been subject since the accreditation requirement was first adopted in 2003. Because there is no published case law addressing this question and different courts have made different decisions regarding the admissibility of bloodstain pattern analysis, the Commission recognized during the course of this investigation that the language is ripe for revision.

The practical reality is that bloodstain pattern analysis is being performed by law enforcement agencies throughout the state without any form of accreditation and the analysis is being admitted in criminal cases. Though Commission staff does not have the ability to identify with any certainty the number of bloodstain pattern analysts statewide, it is clear stakeholders in the criminal justice system use bloodstain pattern analysis performed by the Texas Rangers, local law enforcement (sheriff and police agencies) and other experts. Indeed, more than one prosecutor's office has contacted the Commission with questions regarding the admissibility of bloodstain pattern analysis under Section 38.35 of the Texas Code of Criminal Procedure.

[11] 37 Tex. Admin. Code § 651.7(c)(4) (2010) (Tex. Forensic Sci. Comm., Forensic Disciplines and Procedures Exempt from Accreditation Requirements by Administrative Rule).

1. Important Limitations on the Commission's Authority

The Commission's authority contains important statutory limitations. For example, no finding by the Commission constitutes a comment upon the guilt or innocence of any individual.[12] The Commission's written reports are not admissible in civil or criminal actions.[13] The Commission also does not have the authority to issue fines or administrative penalties against any individual, laboratory or entity. The information the Commission receives during the course of any investigation is dependent upon the willingness of stakeholders to submit relevant documents and respond to questions posed. The information gathered in this report has ***not*** been subjected to the standards for admission of evidence in a courtroom. For example, no individual testified under oath, was limited by either the Texas or Federal Rules of Evidence (*e.g.,* against the admission of hearsay) or was subjected to cross-examination under a judge's supervision.

II. CASE BACKGROUND

A. Investigative Background

This report contains observations and recommendations of the Commission regarding bloodstain pattern and gunshot residue analyses performed in a Harris County murder case concerning defendant Norma Clark ("Clark"). The observations are the result of work performed by a Commission investigative panel ("Panel") that included Commissioners D. Pat Johnson (Chair), Dr. Sheree Hughes-Stamm and District Attorney Jarvis Parsons.

On June 24, 2016, the Commission received a complaint from the Harris County Public Defender's Office asking the Commission to evaluate the forensic conclusions and interpretations related to bloodstain patterns and the probabilities expressed related to gunshot residue ("GSR") evidence provided at Clark's 2010 trial. (**Exhibit A)**. Panel members retained expert Bob

[12] *See* TEX. CODE CRIM. PROC. 38.01 at § 4(g).
[13] *Id*. at § 11.

Henderson ("Henderson") to evaluate the bloodstain pattern testimony, and statistics advisor Dr. Cliff Spiegelman ("Spiegelman") to evaluate the testimony given at trial related to gunshot residue analysis with a particular focus on testimony containing probabilities or other statements of statistical weight.

B. Clark Case Background

In 1987, Clark was investigated for the murder of her husband Ed Clark ("Ed") who was shot and killed in his sleep. A grand jury failed to indict Clark in 1987. In 2010, cold case investigators in Houston reported they "observed microscopic stains" on an old nightgown Clark allegedly wore the night of the murder. Investigators believed they saw "high velocity impact blood spatter" that placed Clark in proximity of Ed when he was shot even though all but one of the stains on the nightgown tested negative for blood. The theory arose after Harris County Institute of Forensic Sciences ("HCIFS") DNA analyst Katie Welch ("Welch") tested 8 spots on the nightgown where the blood "mist" allegedly sprayed. Welch found that no spots were positive for phenolphthalein result, but one had a positive hematrace (blood) result. Clark was then charged with murder and extradited from Tennessee. At Clark's 2010 trial, experts David Rossi ("Rossi") and Chris Duncan ("Duncan") from the Houston Police Department ("HPD") testified with regard to the microscopic stains thought to be blood spatter. Welch also provided testimony with regard to the alleged bloodstains.[14]

The State also presented evidence that consisted of two particles of GSR on the nightgown Clark allegedly wore the evening of the murder. Dr. William Davis from HCIFS stated at trial that he detected two particles of GSR even though the reported result was classified as "inconclusive"

[14] Copies of trial transcripts for the testimony of Chris Duncan, Katie Welch, and William Davis may be found as attachments to Exhibit A, the complaint filed by the Harris County Public Defender's Office.

under the laboratory's three particle minimum threshold; Davis also testified there is only a "1 in 10,000" chance of these results for a non-shooter.

III. SUBJECT MATTER EXPERT EVALUATIONS OF THE INTEGRITY AND RELIABILITY OF THE FORENSIC ANALYSES IN THE CLARK CASE

A. Bloodstain Pattern Evaluation

The Commission posed a series of questions to expert Bob Henderson related to the bloodstain pattern analysis performed by HPD analyst Duncan in this case. Those questions and answers are attached to this report as **Exhibit B**.

Henderson explained that the starting point in any blood analysis case is to establish that the pattern in question is blood. When asked by the panel what level of positive testing is required to establish blood, Henderson explained his view that the standard is one positive presumptive test which is species-specific (*i.e.,* human blood). Henderson asserted a single positive presumptive test would be accepted by a court but admitted there is no definitive standard in the community for what level of positive testing is required. Panel Chairman Johnson and Commission staff researched the bloodstain pattern Scientific Working Group ("SWGSTAIN") and Organization of Scientific Area Committees ("OSAC") documents but did not identify any standards or guidelines addressing the question of what level of testing is required to establish the presence of blood before an analyst may proceed to perform a pattern analysis.

With respect to the Clark case, Henderson opined that Duncan, the analyst who testified, did establish one stain within the pattern to be blood due to the positive hematrace finding. Henderson further concluded that Duncan used accepted practices within the bloodstain discipline:

> Mr. Duncan gathered information about the evidence. He photographed the clothing using different techniques and documented the suspected stains on the clothing. He confirmed the presence of blood in one of the stains which would allow him to include other like-sized and colored stains as part of the pattern. He allowed for the pattern to possibly be a

contact or transfer stain. His final decision was impact spatter. I believe Mr. Duncan followed a sound procedure for a very difficult case.

Henderson did recommend to the Commission that all bloodstain analysis reports be peer reviewed. Because bloodstain pattern analysis is typically performed outside the accredited laboratory setting, the checks and balances inherent in the quality system of a laboratory are not necessarily present. Henderson observed that "a local officer or a lab person becomes the "go-to guy" on bloodstain analysis and his work is never questioned."

The panel accepted the conclusions of Henderson related to the analysis performed by Duncan as an accurate representation of the state of the discipline. However, Commissioners had the following concerns regarding bloodstain pattern analysis generally:

1. The conclusion that one presumptive test for blood is acceptable to proceed with analysis of an entire stain pattern appears to be the result of what courts have allowed historically; there are currently no published scientific standards or guidelines governing the issue.

2. Bloodstain pattern analysis is typically not subject to any type of peer or technical review because it is not performed in the laboratory setting under the quality system of a laboratory.

3. Analysts are also not subject to any type of competency or proficiency testing because the work is being performed outside the laboratory quality system.

4. It is possible for an individual to be considered an "expert" by a court with very limited training. A 40-hour course has been considered sufficient for an individual to become qualified in some courts in some cases.

5. The 2009 National Academy of Sciences Report raised concerns about the reliability and validity of bloodstain pattern analysis along with a list of subject areas that analysts must have expertise in to perform the discipline.[15] There is little indication that any significant developments have occurred to address this critique since the report was issued in 2009.

[15] The NAS Report listed seven minimum requirements for an analyst to be able to interpret and integrate bloodstain patterns into a crime scene reconstruction: (1) an appropriate scientific education; (2) knowledge of the terminology employed (e.g., angle of impact, arterial spurting, back spatter, castoff pattern); (3) an understanding of the limitations of the measurement tools used to make bloodstain pattern measurements (e.g., calculators, software, lasers, protractors); (4) an understanding of applied mathematics and the use of significant figures; (5) an understanding of the physics of fluid transfer; (6) an understanding of pathology of wounds; (7) an understanding of the general patterns blood makes after leaving the human body.

Thus, while the practical reality is that bloodstain pattern analysis is being performed and admitted into Texas courts despite the language in Section 38.35 of the Texas Code of Criminal Procedure and related rule, questions regarding the developmental validity and quality systems governing the discipline remain. As a result, the Commission held a hearing on bloodstain pattern analysis in January 2018 to discuss foundational validity as well as current practices in Texas criminal courts, and to determine whether the discipline should be subject to accreditation. Though the Commission does not have the authority to reach conclusions regarding reliability and validity in the same way as a court does under applicable evidentiary rules, concerns regarding foundational issues may help inform Commission rulemaking and policy decisions regarding the appropriateness of accreditation for a given discipline. Following is a summary of the conclusions reached by the Commission as a result of the hearing and the staff's review of relevant literature:

- The Commission concluded that bloodstain pattern analysis should be subject to accreditation due to its scientific complexity, as the analysis of bloodstain patterns involves trigonometry, physics, fluid dynamics, etc. The discipline is as complex (if not more so) than many of the trace analysis disciplines currently subject to accreditation.

- Examples of the benefits of accreditation for bloodstain pattern analysis include but are not limited to the following:

    - Competency testing before an analyst is signed off to do independent casework;
    - Technical review/verification of results by a second qualified analyst;
    - Periodic proficiency testing;
    - Periodic courtroom testimony monitoring;
    - A framework for addressing nonconformities;
    - Standard operating procedures for analyzing evidence and reporting results;
    - Annual assessment by the accrediting body.

- To afford interested entities some time to become accredited, the Commission will expressly exempt the discipline from the accreditation requirement until May 1, 2019 to allow entities performing bloodstain pattern analysis to become accredited and to avoid any impact on pending cases.

- The Commission will form a working group with interested stakeholders to assess what form of accreditation makes the most sense for entities performing bloodstain pattern analysis, and to assist entities that wish to become accredited.

- The traditional accreditation process takes time and effort and thus the Commission will work with the main national accrediting body (ANAB) to help entities that wish to become accredited under this model. ANAB has an existing specific accreditation sub-discipline of bloodstain pattern analysis under ISO standards.

B. Gunshot Residue Analysis

The complaint also raised concerns regarding the testimony of Dr. William Davis from HCIFS regarding gunshot residue analysis with particular respect to the statistical probabilities offered by Davis at trial. No questions were raised regarding the integrity of the chemical analysis itself. The State presented evidence that two particles of GSR were found on the nightgown worn by the defendant the night of the murder. Davis stated that he detected two particles of GSR despite the fact that anything below three particles was classified as "inconclusive" under the laboratory's internal policy. Relying on a published study by Cardinetti et. al.,[16] Davis also testified there is only a "1 in 10,000" probability of 2 GSR particles being found on a non-shooter. The complainant asserts that Davis should not have provided a statistical probability assessment for a result that was deemed inconclusive under the laboratory's internal policy. It should be noted that not all laboratories have minimum thresholds for calling GSR particles conclusive or inconclusive; many laboratories will simply report the number of particles found without any form of threshold governing the reporting.

After briefly describing the Cardinetti study during testimony, Dr. Davis responded to the following line of questioning:

Q. (By Ms. Logan) All right. And based on your familiarity with that study and its results,

[16] "A Proposal for Statistical Evaluation of the Detection of Gunshot Residues on a Suspect," B. Cardinetti, C. Ciampini, S. Abate, C. Marchetti, F. Ferrari, D. DiTullio, C. Donofrio, G. Orlando, L. Gravina, L. Torresi, and G. Saporita, *Scanning* 28 (2006), p. 142-147.

can you tell us what the statistical probability is of a person having one particle of gunshot residue on their person?

[Defense objection]

A. One particle is 1 in 81.

Q. (By Ms. Logan) 1 in 81 persons?

A. Yes.

Q. All right. What about two particles?

A. Two would be about 1 in 10,000.

Q. And three particles?

A. About 1 in a million.

After reviewing the testimony and referenced studies, the Commission sought the assistance of Dr. Cliff Spiegelman from Texas A&M University to analyze the statistical inferences in the GSR testimony. Dr. Spiegelman made numerous observations, and his report and PowerPoint presentation are provided as **Exhibit C**. In sum, Dr. Spiegelman concluded that while Dr. Davis did not commit professional misconduct or professional negligence, the testimony he provided regarding the probability of two GSR particles being found on a non-shooter was unreliable. Dr. Spiegelman concluded that neither Dr. Davis nor any other GSR analyst should offer any statistical probabilities or likelihoods because the existing published data is simply insufficient to support that type of testimony in criminal casework. Dr. Spiegelman observed that Dr. Davis is clearly an expert in chemistry and chemical analysis, but he is not an expert statistician. Dr. Spiegelman recommended that all Texas laboratories seek the assistance of an expert statistician for issues such as those raised in this complaint. It should be noted that HCIFS has retained a full-time expert statistician since the filing of this complaint.

With respect to the specific testimony offered, Dr. Spiegelman pointed out that there are no comprehensive or meaningful studies of GSR on nightgowns, so there is no way to interpret the identification of two GSR particles on Norma Clark's nightgown. The Cardinetti paper relied upon by Dr. Davis only studied GSR on hands and thus should not have been used to extrapolate conclusions for GSR found on clothing. In Dr. Spiegelman's assessment, Dr. Davis should have simply stated "there is no comprehensive or meaningful literature to interpret the GSR particles on nightgowns." He should have said nothing else about interpretation of the two GSR particles in this case.

Similarly, Dr. Spiegelman pointed out that there are no comprehensive or meaningful studies of secondary GSR transfer in homes with many guns, such as the home in the Clark case. In a June 30, 2017 memo written by Dr. Davis to Dr. Roger Kahn, Dr. Davis pointed out that: "At the end of the testimony in this particular case, defense counsel (paraphrasing) asked whether these averages or probabilities can be applied to the environment of the defendant's home. I replied that this particular model could not be applied since the baseline average for that scenario had not been established." Spiegelman concluded that in recognition of this limitation, Davis should not have given any statistical testimony at all or only stated that as an examiner he does not know how to interpret the 2 GSR particles found *nor does anyone else*. Providing any probabilistic testimony was misleading to the trier of fact under the circumstances.

Dr. Spiegelman further observed that Davis' probability calculations were problematic, not in the sense that the mathematical calculations were performed incorrectly but rather in terms of the model Davis chose to perform the analysis, the Poisson distribution. Dr. Spiegelman observed that the Poisson model is not nearly as good overall for GSR as the negative binomial distribution. Indeed, at the OSAC GSR subcommittee meeting in January 2017 in Virginia,

significant time was spent discussing a statistical model for GSR analysis and a consensus emerged that the Poisson model is often seriously lacking. It should be noted that this consensus position has not been published and thus communication of the information discussed during OSAC meetings does not necessarily filter down to laboratories performing the analytical work. Additionally, one of the published papers heavily cited in Dr. Spiegelman's report (Kaplan et. al.)[17] which criticized the paper on which Dr. Davis relied (Cardinetti et. al.) was published after the testimony in the Clark case.

Dr. Spiegelman raised an additional key point regarding Davis' testimony which is that Davis provided a statistical assessment without using any confidence intervals. Even setting aside the question of whether Poisson was the appropriate statistical model and using only the data in the Cardinetti paper on which Davis relied, Spiegelman concluded there was a 95% confidence interval for the probability of a non-shooter as [0.00000150953, 0.00351836]. The upper end of the confidence interval was approximately 1 in 285 which is very different than the 1 in 10,000 statistic Davis testified to at trial. For additional detail regarding the various statistical issues identified by Dr. Spiegelman, see his report and PowerPoint at **Exhibit C**.

Dr. Spiegelman's ultimate conclusion was that neither Dr. Davis nor any other GSR analyst should give any testimony regarding probabilities or statistical interpretation in light of the existing gaps in research and data in the discipline. Spiegelman also recommended that each forensic discipline work with a statistician to provide a foundation for statistics-related testimony. What may be acceptable to forensic fields operating within the adversarial setting would not necessarily be acceptable under the scrutiny of the broader scientific and statistical

[17] "Calculation of Likelihood Ratios for Gunshot Residue Evidence—Statistical Aspects," Naomi, Kaplan, Damary, Micha, Mandel, Nadav, Levin, Elad, Izraeli, *Law, Probability and Risk*, Vol. 15, Issue 2, 1 June 2016, Pages 107–125, https://doi.org/10.1093/lpr/mgw001. Pub: 19 April 2016

community. Spiegelman further highlighted concerns raised by the OSAC Statisticians Task Group that many forensic fields lack a statistical foundation including but not limited to GSR, glass analysis, and blood spatter.

During the panel meeting on August 2, 2017 in Bryan, Texas, there was lengthy discussion about the trial transcript and whether or not Dr. Davis actually intended to offer the 1 in 10,000 statistic for two GSR particles with respect to the Clark case itself, or whether he was discussing the non-shooter data in the Cardinetti paper as a way to support the laboratory's choice of three GSR particles as a cutoff for a conclusive (vs. inconclusive) determination. Davis explained that he was trying to illustrate under direct and cross-examination why the laboratory found two GSR particles to be "inconclusive." Though the Cardinetti paper had not yet been published when the laboratory established its threshold policy, Davis felt the paper supported the laboratory's threshold and thus used it as support for the lab's policy during direct and cross-examination. While the panel understood Davis' point regarding the discussion around the establishment of the threshold, members also felt there was no question the trier of fact would have heard the 1 in 10,000 probability statement as being applicable to the criminal case itself, not just as an explanation of the laboratory's threshold policy.

IV. OBSERVATIONS, BEST PRACTICES AND OTHER RELEVANT RECOMMENDATIONS

The Commission offers the following observations in the area of bloodstain pattern analysis:

1. Entities that perform bloodstain pattern analysis will be exempt from the accreditation requirements set forth in art. 38.35 Tex. Code Crim. Proc. until May 2019, at which point the discipline will be subject to accreditation requirements. The Commission will convene a working group of interested stakeholders to facilitate the transition to accreditation.

2. Bloodstain pattern analysts in Texas should comply with the standards and guidelines issued by the OSAC. In the interim, they should comply with the guidelines previously issued by SWGSTAIN.

3. The OSAC should establish minimum requirements for determining when a stain is considered blood such that a stain pattern interpretation would be appropriate.

4. All bloodstain pattern analysts should subject their work to peer review before issuing reports or testifying in court.

5. Bloodstain pattern analysts should endeavor to participate in proficiency testing offered by third-party providers.

6. Bloodstain pattern analysis training should be robust and comprehensive and should take into consideration the educational recommendations set forth in the 2009 NAS Report. The OSAC should specifically set forth these educational requirements in a standard or guideline to be published on the Registry of Standards and Guidelines.

The Commission offers the following observations in the area of gunshot residue analysis:

1. Insufficient data currently exists to allow statistical methods to be applied to gunshot residue analysis. Analysts should avoid assigning statistical weight or using other statements of probability or likelihood unless and until data is present to support the use of the methods.

2. Laboratories should consult with expert statisticians in determining whether and to what extent statistical models are appropriate for use in the GSR sub-discipline as well as all other relevant forensic disciplines.

3. Laboratories and analysts should follow the work of the OSAC closely to assess progress in both analytical areas of the discipline as well as the statistical methodologies to which the analysis may be subject.

1. PERSON COMPLETING THIS FORM

Name: Sarah V. Wood / Harris County Public Defender's Office
Address: 1201 Franklin, 13th Floor
City: Houston
State: TX Zip Code: 77002
Home Phone:
Work Phone: 713.368.0016
Email Address *(if any)*: Sarah.Wood@pdo.hctx.net

2. SUBJECT OF COMPLAINT

List the full name, address of the laboratory, facility or individual that is the subject of this disclosure:

Individual/Laboratory: Various, see below
Address:
City:
State: Zip Code:
Date of Examination, Analysis, or Report:
Type of forensic analysis:
Laboratory Case Number *(if known)*:

Is the forensic analysis associated with any law enforcement investigation, prosecution or criminal litigation?
Yes ☒ No ☐

* If you answered "Yes" above, provide the following information *(if possible)*:

* Name of Defendant: Norma Clark

* Case Number/Cause Number: 1295757
(if unknown, leave blank)

* Nature of Case: Murder
(e.g burglary, murder, etc.)

* The county where case was investigated, prosecuted or filed: Harris County

* The Court: 228th

* The Outcome of Case:

Found guilty at trial and sentenced to 25 years incarceration

* Names of attorneys in case on both sides *(if known)*:

Defense Attys: E. Dee McWilliams & Neal Davis, III - ADAs: Donna Logan & Katherine McDaniel

Your relationship with the defendant:

Self	☐	Family Member	☐
Parent	☐	Friend Attorney	☐
None	☐	Other *(please specify)*:	

Harris County Public Defender on Direct Appeal

If you are not the defendant, please provide us with the following information regarding the defendant:
Name: Norma Clark
Address *(if known)*: Carol Young Complex; #01867069; 5509 Attwater Ave.; Dickinson, TX 77539
Home Phone:
Work Phone:

3. WITNESSES

Provide the following about any person with factual knowledge or expertise regarding the facts of the disclosure. Attach separate sheet(s), if necessary.

First Witness *(if any)*:
Name:
Address:
Daytime Phone:
Evening Phone:
Fax:
Email Address:

Second Witness *(if any)*:
Name:
Address:
Daytime Phone:
Evening Phone:
Fax:
Email Address:

Third Witness *(if any)*:
Name:
Address:
Daytime Phone:
Evening Phone:
Fax:
Email Address:

4. DESCRIPTION OF COMPLAINT

Please write a brief statement of the event(s), acts or omissions that are the subject of the disclosure.

Due to the unique nature of this case, the State relied on unusual interpretations of forensic evidence at trial. Further examination may be warranted as to whether or not it strained the present capabilities of forensic science. Two general questions are posed:

1. Is it scientifically appropriate to ask a jury to conclude that stains comprise "high velocity impact blood spatter" even when they test negative for blood and no DNA can be found? Or could they have performed further testing that would have provided more reliable results?

2. Is it scientifically appropriate for a jury to consider general probabilities of a person having gunshot residue on them? For example, that the chance of having two particles on you is 1 in 10,000.

CASE BACKGROUND

This is a "cold case" murder from 1987 where Norma Clark's husband Ed was shot and killed in his sleep while Norma slept in another room. She was investigated but a grand jury declined to bring charges.

In 2010, cold case investigators observed microscopic stains on the well-used old nightgown Norma allegedly wore that night. Believing they saw "high velocity impact blood spatter" putting her in proximity of Ed when he was shot, Norma was charged with murder and extradited from Tennessee where she had lived quietly for the past 20 years. However, all but one of the stains tested negative for blood.

Besides the "blood spatter," the State's evidence consisted of two particles of GSR on the nightgown and various circumstantial evidence that was already known in 1987 such as: the alarm didn't go off; Norma ran through the woods to the neighbor's house but nobody saw mud on her feet; she hired a lawyer; some of her statements seemed inconsistent; she withdrew money from their account after he died, and they had marriage problems. Defense evidence included the fact that police failed to investigate a series of bizarre threats against Ed including a severe act of vandalism accompanied by a written threat, an assault by an unknown attacker, and a death threat left on Ed's answering machine days before he was killed.

BLOOD SPATTER THAT WAS NEGATIVE FOR BLOOD

The State's main theory was that the stains on the nightgown were "mist from the blood that this woman caused when she shot that .38 caliber snub-nose at close range into the back of her husband's head." "Well, folks, you know it's blood. You know it is." (Closing Argument at 286, 329).

Expert Katie Welch tested at least 8 spots on the nighgown. No spots had positive phenolphthalein results. One had a positive Hematrace result. She was unable to detect any DNA. Welch testified about various reasons the negative results did not mean that it was not really blood. A visible stain on a sheet onto which the deceased bled also tested negative for blood, although different testing methods were performed.

Experts David Rossi and Chris Duncan gave opinions that the microscopic stains were blood spatter despite the negative results. They gave different reasons why it could have tested negative even though it appeared to them to be actual blood.

GUNSHOT RESIDUE PROBABILITIES

Expert William Davis testified that he detected two particle of GSR after going over the nightgown twice and even though the result was classified as "inconclusive," there is only a 1 in 10,000 chance of that result.

5. EXHIBITS AND ATTACHMENT(S)

Whenever possible, disclosures should be accompanied by readable copies **(NO ORIGINALS)** of any laboratory reports, relevant witness testimony, affidavits of experts about the forensic analysis, or other documents related to your disclosure. Please list and attach any documents that might assist the Commission in evaluating the complaint. Documents provided will **NOT** be returned. List of attachments:

1. Closing argument from trial (to put the forensic evidence in context)
2. Testimony of William Davis, Director of Physical Evidence at the Harris County Institute of Forensic Sciences (Gunshot Residue)
3. Testimony of David Rossi, Harris County Sheriff's Office, CSI (Blood Spatter)
4. Testimony of Chris Duncan, Houston Police Department, CSI (Blood Spatter)
5. Testimony of Katie Welch, Harris County Institute of Forensic Sciences (Negative Blood and DNA Tests)

More available upon request.

6. YOUR SIGNATURE AND VERIFICATION

By signing below, I certify that the statements made by me in this disclosure are true. I also certify that any documents or exhibits attached are true and correct copies, to the best of my knowledge.

Signature: Digitally signed by sarah.wood@hc.hctx.net
DN: cn=sarah.wood@hc.hctx.net
Date: 2016.06.24 19:31:55 -05'00'

Date Signed:

1 MS. LOGAN: A brief opening.
2 THE COURT: A brief opening. Okay. You
3 may proceed. Yes, ma'am.
4 **CLOSING ARGUMENT BY**
5 MS. LOGAN: Thank you, Judge. Good
6 afternoon, ladies and gentlemen. I want to take a
7 few minutes to talk with you about the charge, the
8 document that the Judge just read to you. I want to
9 talk to you about the evidence that you have in this
10 case. I also want to take a moment to speak with you
11 about the things that you don't get.
12 Now, as you know, all the items that were
13 admitted into evidence here during the trial are
14 items that you can request for your review during
15 your deliberations. But you also heard us talk about
16 things like witness statements and offense reports,
17 many of which were not admitted into evidence. And
18 what you need to know is that nobody is trying to
19 hide anything from you. It's just that the rules of
20 evidence don't permit us to put those sorts of things
21 into evidence. Instead, it's our job to call those
22 witnesses here in court, have them take an oath to
23 tell the truth, the whole truth, and nothing but the
24 truth, and then testify in front of each and every
25 one of you and subject themselves to

1 cross-examination and confront the defendant, Norma
2 Jean Clark, about what they are saying about what she
3 did on April 22nd of 1987.
4 The other thing I want to remind you about
5 is that the testimony that you heard that was taken
6 down by our court reporter during this trial, that is
7 evidence. But what you need to know is that if you
8 have a dispute as to some of the testimony in this
9 case, you have the option of requesting that
10 testimony. But there are some rules that you have to
11 follow before you can do that.
12 Those rules are that there has to be a
13 written request. It's got to tell us what your
14 dispute pertains to, which witness was on the stand.
15 We'd like for you to let us know which lawyer was
16 questioning the witness and what the dispute is about
17 so that we can find that testimony for you and
18 provide it to you. It's not as simple as just
19 providing you with the entire document of what
20 everyone has said over the last two weeks. All
21 right?
22 Now, the other thing that you're going to
23 have, as you begin your deliberations in this case,
24 is a copy of the charge that the Judge just read to
25 you. And I want to take a few minutes to go through

1 that document with you and explain to you what you
2 are looking at. You will remember during jury
3 selection we talked about elements of an offense.
4 Right? And they included in the indictment. And
5 that tells the State and the defense what it is that
6 must be proven beyond a reasonable doubt before a
7 conviction can be had.
8 Now, what you will find on the first page
9 of the charge document is the offense of murder,
10 which is what we know that Norma Jean Clark is
11 charged with. You'll also see, beginning about
12 halfway down the page, that there are definitions
13 included. Those are some of the things that we
14 talked about during jury selection, definition of
15 intentionally and knowingly and how do you know what
16 somebody intended. So, if you have a question about
17 the definition, this is where you're going to want to
18 look in the charge, the first and second pages.
19 Just after the definitions, you'll see a
20 paragraph there that talks about being able to
21 consider all of the relevant facts surrounding the
22 conduct of the defendant and the relationship between
23 the parties.
24 Now, you'll remember early on during jury
25 selection we talked about motive, and we talked about

1 the fact that that's not an element that has to be
2 proven and some of the reasons for that. But what
3 you also know, after you've heard all of the
4 testimony and the evidence in this case, is that this
5 is what we're talking about. When we get down to
6 motive and we talk about why Norma Jean Clark
7 executed her husband in his bed while he was
8 sleeping, all of the relevant facts about the
9 relationship between the two of them and her motive
10 for killing him in his sleep becomes pretty
11 important.
12 You see just under that the application
13 paragraph. That just tells you if you believe beyond
14 a reasonable doubt that Norma Jean Clark is guilty of
15 murder, then you find her guilty of murder.
16 You'll see on the fifth page the Fifth
17 Amendment. We talked about this during jury
18 selection as well. You-all promised, and I believe
19 that you will honor her right not to take the stand
20 to testify because that's what's fair. This is just
21 the part of the charge that we talked about during
22 jury selection. It tells you what your instructions
23 are about the Fifth Amendment.
24 Following that, we have the boilerplate
25 language. All right? This is the general language

1 that's going to be in every criminal charge in a
2 felony case that juries just like you have gotten.
3 And it tells you about the grand jury process, and
4 the indictment, and what it is you are to consider
5 when you are deciding whether or not a person is
6 guilty of a crime.
7 And the last page you're going to see is
8 the verdict page. This is the page where the
9 foreman, which is the person that you-all select once
10 you have begun your deliberations, where the foreman
11 is to sign to indicate what your verdict is in this
12 case. And I'm telling you, you sign that second
13 line.
14 I want to talk to you briefly about the
15 experts in this case. And I'm going to start with
16 Tom Bevel. What I want you to do when you begin your
17 deliberations is I want you to take that report. I
18 want you to take the report, State's Exhibit 248,
19 that contains the opinions and the lack of
20 information that that man came in here and took the
21 stand and testified to you about. I want you to read
22 this, and I want you to remember what he said. And
23 then I want you to know why he did it. Remember for
24 whom he works.
25 You heard Chris Duncan tell you, when he

1 was on that stand, his job is to come in here and
2 speak for the truth, to tell you what his opinion is
3 based on what he saw. And he's not going to half-ass
4 it. He's not go to guess it. He's going to look at
5 what he has, and he is going to limit his opinion to
6 the things he can see. You-all were not afforded
7 that kind of respect from the testimony of Tom Bevel
8 when he took the stand in this courtroom.
9 Let's talk about Dr. Davis. The
10 information that Dr. Davis provided to you with
11 respect to the gunshot residue testing is important
12 for a couple of reasons. One of which is after 26
13 years, after all kinds of handling and all kinds of
14 testing of State's Exhibit No. 81, there still remain
15 two particles of gunshot residue on that item. I'm
16 not suggesting that you find Norma Jean Clark guilty
17 of murder because of two particles of gunshot
18 residue, but you don't ignore it either.
19 The other thing that's important about
20 what he talked to you about has to do with the other
21 methods of testing. We're not telling you about the
22 Griess method and the other ways that were used in
23 1987 to test for gunshot residue because we want you
24 to guess about anything. But it's only fair to
25 provide you with every bit of information that we

1 have and that we can get about this evidence so that
2 you can understand the results that were brought to
3 you. That's only fair.
4 When you talk about Katie Welch, what did
5 she tell us? She tells us stain 1-A --
6 (Brief pause.)
7 THE COURT: You may proceed.
8 MS. LOGAN: Katie Welch tells us that
9 stain 1-A is blood. When you combine Katie Welch's
10 testimony with the information that was provided to
11 you by Chris Duncan of the Houston Police Department,
12 you know that stain 1-A is consistent in every manner
13 with the other stains that are on State's Exhibit No.
14 81. Same color, same size, same pattern. All
15 consistent with mist. You know that consumption is
16 an issue when you're testing that kind of evidence,
17 but when you combine the testimony of Katie Welch and
18 Chris Duncan, you know what you see on State's
19 Exhibit No. 81. It's mist from the blood that this
20 woman caused when she shot that .38 caliber snub-nose
21 at close range into the back of her husband's head.
22 Now, I anticipate that the defense counsel
23 will talk to you at length about who else could have
24 done this. All right? That's going to be their
25 argument. There are so many other possible people

1 out there that could have disliked Ed, they could
2 have hated Ed, they could have threatened Ed. There
3 are so many other people that could have done this,
4 but the evidence tells you that nobody else did this.
5 The one person who is responsible for what happened
6 to that man, and what this family has lived with for
7 the last 26 years, is sitting right there.
8 They want to talk about an Asian male
9 helper that may have worked with Billy Salyers. How
10 many times did they allude to Billy Salyers as being
11 the person responsible for this? How many times was
12 Michael Todaro brought up?
13 But what you've got to remember is that
14 your doubt has to be reasonable. If you're going to
15 tell that woman she did not kill Ed Clark, your doubt
16 has to be reasonable. There's nothing reasonable
17 about this story about Michael Todaro just because he
18 bought a gun in 1978. There's nothing reasonable
19 about Billy Salyers as a suspect in this case because
20 he was in Florida when Ed was murdered.
21 There's nothing reasonable about some
22 person who came in and did a criminal mischief in
23 1983 at a completely different location that has
24 nothing to do with the murder of Ed Clark. Don't let
25 them fool you. Thank you.

1 THE COURT: All right. Eleven minutes. I
2 gave you a minute back. Okay? Just so you know.
3 MS. LOGAN: Okay.
4 THE COURT: You may proceed when you are
5 ready, sir.
6 **CLOSING ARGUMENT BY**
7 MR. McWILLIAMS: Thank you, Your Honor.
8 May it please the Court? Ms. McDaniel, Ms. Logan.
9 Ladies and gentlemen, we have been here a long time.
10 We've been doing this and now we're coming down to
11 the end of it. And I've got to talk to you about
12 some things.
13 I know my personality, I know who I am,
14 and I know some of you may not relate to that
15 completely. You shouldn't put that on Norma. Trust
16 me that I would never, ever intend to waste anyone's
17 time. Every question I asked, I had a purpose. I am
18 responsible for her life. Get it? I will do
19 everything within the bounds of my ethics and the law
20 to prevent her from being grist with this mill.
21 Neil and I came to you in voir dire.
22 Think back all those days ago. We're both ex-law
23 enforcement. I told you I grew up in a criminal
24 courthouse my entire life. In 1987, I was 14 years
25 old, and I was making three-dimensional crime scene

1 models for my father's capital murder cases. Maybe
2 I've just got more skin in the game, but what happens
3 here is important to me. It is important to what my
4 life's devotion has been.
5 So, when we saw this, Neil and Dena and
6 myself volunteered our time to be here to do this to
7 protect the system, to protect what we believe is
8 going on in this case, and maybe -- please -- to save
9 this lady's life, to get these people out of it.
10 So, if I get emotional about it, it's
11 because I mean it. I believe it, and I wouldn't be
12 putting it out here in front of you if I didn't. I
13 couldn't look my father in the face if I did that.
14 Ms. Logan tells you nobody is hiding
15 anything here. B. S. That is bull. Ms. Logan
16 herself -- it is a mistake, and I'll give her that,
17 but Ms. Logan herself trotted around these medical
18 examiner photos with her pointing out bone fragments
19 with an expert witness, David Rossi, who, quite
20 frankly, is a joke. And every other expert in here
21 thinks that. She trotted those photos out here and
22 pointed out spots on there, pointed out those bone
23 fragments to you, and told you -- had David Rossi
24 testify to you that those were blood spots on that --
25 MS. LOGAN: I object. That's a

1 mischaracterization of the evidence.
2 THE COURT: It's overruled. You will
3 determine the evidence.
4 MR. McWILLIAMS: I fully invite you to go
5 back there and find the number on this exhibit that's
6 bone fragments, and look up that piece of testimony
7 when she's questioning David Rossi if that's not
8 exactly what happened. Because I almost came flying
9 out of my seat about it. I don't think Ms. Logan is
10 doing that on purpose. It's a mistake, but that's
11 how innocent people go to prison, folks.
12 Every one of you said, I believe during
13 voir dire, that, yes, there are innocent people
14 sitting in prison right now. You know what? That
15 Friday, last Friday when we were in this trial -- it
16 was the day we had off, actually. That day, a
17 sitting state court district judge in Williamson
18 County, Texas --
19 MS. LOGAN: Judge, I have to object.
20 That's outside the record. It's improper argument.
21 THE COURT: It's argument.
22 MS. LOGAN: It's outside the record. My
23 objection is it's outside the record.
24 THE COURT: It's argument. You may
25 proceed.

1 MR. McWILLIAMS: -- was charged with
2 perjury because 25 years ago he mishandled evidence
3 and put an innocent guy in prison, and according to
4 the inquiry, when he was a prosecutor Now, he's --
5 now he's a state court district judge, except for
6 he's posted a bond and he's awaiting trial for
7 contempt.
8 And Michael Moore spent the vast majority
9 of his life behind bars for beating his wife to
10 death, and it never happened. It wasn't true. The
11 12 people, like you, found him guilty because the
12 State misled them. Whether it was on purpose,
13 accident, does it really matter to the Michael Moores
14 of the world? No. That's why me and Neil and Dena
15 are here. That's why I'm mad as all get-out about
16 this case.
17 I have nothing but respect for law
18 enforcement. It is the people that I have called my
19 family for forever. But these guys, look at them.
20 Dean Holtke and Eric Clegg did a terrible job on
21 this. This case didn't need CSI. What it needed was
22 a gum-shoe detective to go out and find this
23 information. There is a very big problem when it is
24 the defense of the case that brings you the relevant
25 evidence. There is a very big problem whenever -- if

1 I didn't have this offense report, if I didn't have
2 those pictures, would that have ever made it in front
3 of you, ever? They never looked at it. Never, never
4 once crossed their mind because they had their
5 suspect, and the fact -- I don't care what they tell
6 you -- the only thing they were ever going to do was
7 see if they could hang this up on Norma. That's all
8 there ever was going to be. They can tell you
9 whatever they want to about that trip to Tennessee.
10 They were on the phone with Ms. McDaniel and the rest
11 of them going out there. They knew they were going
12 to arrest her.
13 Here's the deal. If you arrest somebody,
14 the rules for taking a statement after that are a
15 whole lot different than if you arrest them after
16 they give the statement. They knew they were going
17 to arrest her when they knocked on the door. But
18 what did they do? Twenty-five years later, they jerk
19 the lady out of bed. Eric Clegg said: Well, she
20 sounded like she was asleep. Really? Did it look
21 like she was pretending that she was asleep and sick?
22 Did it really look like that?
23 And you may be critical about -- look, I
24 don't have any explanations for this. Sometimes
25 people don't strike people very -- the right way. I

1 mean, there are people that could tell me the sky is
2 blue and I would have to go check just because I'm
3 not so sure about them, you know.
4 All I know is Norma Clark didn't say
5 anything, anything inconsistent with anything that
6 was part of her version of events back then. All
7 this inconsistency stuff, yeah, she didn't say -- she
8 didn't tell them what they wanted her to. Yeah, she
9 told Judy Manack she was shooting guns and talking
10 about GSR. She didn't tell them that. You know why?
11 Because that didn't happen. Did that make any sense
12 to you, that this woman -- I'm going to come to the
13 State's witnesses in a minute, but that one strikes
14 me as just absolute malarkey, that the woman -- this
15 is not a heat of the passion, my husband told me he
16 was leaving me, or was having an affair and I flipped
17 out and I shot him. This is, I waited till he went
18 to slept and he was lying there in bed and I executed
19 him. All right?
20 This woman has never been charged with any
21 criminal offense in her life until those two guys
22 went out there February 16th of 2011, and never has
23 been since. There's nothing in her background,
24 before or after, that would suggest to you that she's
25 that kind of person. Not one thing. Not one iota of

1 evidence, but that's what they say she did.
2 You're expecting me to believe that that
3 person, who, by the way, is so clever about the whole
4 thing that she's gotten away with it for 28 years --
5 but -- I don't know -- four or five hours after she's
6 done it and she's working her cover story, her
7 get-away story, working that alibi, she's sitting on
8 Judy Manack's couch telling her: Yes, I fired guns.
9 Let's talk about GSR. I probably have GSR on my
10 hands. That's malarkey. That is bull. That is
11 stuff that Judy Manack got in her head after the fact
12 when Norma -- that happened that morning. Norma goes
13 off to the hospital. And in those couple of days,
14 everybody is talking. Judy, John, talking to Dr.
15 Aubert back at the office. And isn't it kind of
16 funny that Judy says, I heard her say the exact same
17 thing, but in two totally separate conversations that
18 George Aubert said he heard her say? That is easily
19 identifiable as rumor that came up at the office and
20 in the community and in that little circle of friends
21 afterwards because there isn't anything in the world
22 that makes any sense about that lady in that
23 circumstance, in that situation having that
24 conversation.
25 If she hired a defense attorney, she hired

1 a criminal defense attorney and had conversations
2 with them. Does it really make any sense to you
3 whatsoever that she would relay those conversations
4 to other people if she knew she was guilty, or would
5 you just not say anything? That's why you've got the
6 lawyer. You tell him and you don't say nothing. If
7 she was guilty, does it make any sense to you that
8 knowing she's guilty, and knowing her story, that she
9 would bring the clothes to Judy and say: Hey, I know
10 these are the clothes I was wearing that night, but
11 you need to wash those. Like that wasn't going to be
12 incredibly suspicious. If she's trying to get away
13 with it, I mean, that's about as stupid a thing a
14 person could do. That makes absolutely no sense,
15 none.
16 But it doesn't really matter because Judy
17 Manack is all over the board about how she got those
18 clothes. Judy Manack has told about 47 different
19 stories. Here in front of you, she told at least
20 three. She's not sure, either Norma brought them to
21 her, maybe it was Tammy that brought them to her, it
22 was either because she needed to get them washed or
23 because she wanted to take them up to the hospital.
24 There are so many different versions of Judy Manack's
25 story on that particular subject it just completely

1 defies any credibility. The other thing about it is,
2 it doesn't really matter because Judy didn't wash
3 anything, and the next day Rossi picked it up and we
4 got it. So, it doesn't really matter.
5 But another thing. Everybody is so damn
6 suspicious about her not having anything on her feet,
7 or sticker burrs on her because she went through the
8 woods. How does it matter how she got to the
9 Manacks? What benefit to lie about that was it to
10 her? What did she achieve? What was the point to
11 gain by doing that?
12 Eric Clegg tells you: Well, it just seems
13 like a better story. That's what happened. My God,
14 even if she did shoot him and wanted to say: I ran
15 through the woods, why wouldn't she just run through
16 the woods? I mean, what sense does that make? What
17 on earth does that have to do with the price of tea
18 in China? And if everybody was so damn suspicious of
19 it, why didn't they take a picture?
20 These people ought to be ashamed about
21 trying to convict this woman on explanations of why
22 they don't have evidence. That's why I'm here.
23 That's why we are volunteering our time to do this.
24 That's absurd. Their burden of proof is beyond a
25 reasonable doubt. You could take children away from

1 parents for less of a burden of proof. But what they
2 bring you is: Well, we ought to have this evidence
3 and if we still had it, I'm sure it would show you
4 what we want it to show you, but either we lost --
5 and it really isn't our fault. I'm sorry it
6 happened. It's gone. Nothing we can do about that,
7 but if we had it, I'm sure it would support our
8 theory. Or, well, we destroyed the DNA because of
9 our processes. Nobody can tell me what actually was
10 done to it because none of that is documented. Rossi
11 can't tell you that they used the Griess method. He
12 has no idea if that's what they did or not. Nobody
13 knows if they ran an iron over it. Nobody --
14 nothing, nothing. It's just, well, if we had it, I'm
15 sure it would show you what we want it to show you.
16 You know, I talked about my dad a couple
17 of times. One of my dad's things -- and it took me a
18 long time to understand what it was -- all the time
19 -- and now this case reminds me of it so much. He
20 used to say all the time: If we had some ham, we
21 could have a ham sandwich if we had some bread. That
22 is the State's case here. Nobody is hiding anything.
23 Witnesses tell the whole truth. That's what Ms.
24 Logan tells you. All they want to do is bring
25 witnesses in here to tell you the whole truth.

1 Well, they brought Judy Manack in here to
2 tell you -- to talk about how she lawyered up, and
3 Tony Rossi talked about how she lawyered up and how
4 vicious that was. Why wouldn't she try and help them
5 figure out who killed her husband? Why did she
6 lawyer up? Judy Manack was part of that story, up
7 until we get to cross-examination when we confront
8 her with her actual recorded statement that she's got
9 where she's the one who tells them: Actually, I told
10 her she needed to call a lawyer. I told Tammy.
11 Tammy gave me the card, and it had her friend, who is
12 a civil attorney's name on it, and I told her she
13 needed to talk to a lawyer.
14 But if they are going to run that out here
15 and Eric Clegg is going to tell you that was Norma
16 Jean Clark being suspicious lawyering up. Judy
17 Manack wasn't telling you the whole truth until we
18 pulled it out of her and said: You better say what
19 you said to Dean Holtke. You are the one that told
20 her that. You suggested her to do it.
21 And you know what else? Same thing with
22 Paul Parris. Same thing. Paul Parris didn't come in
23 here and tell you the whole truth last week. Now,
24 Paul is a good guy. He's doing the best he can, but
25 Ed is his friend and Linda is his friend. And his --

1 Linda and Ed's children have been with them for all
2 of these years since then. And, by the way, don't
3 you know Ed and Kelly have been here hearing this
4 story about Norma all that time?
5 THE COURT: Seventeen minutes.
6 MR. McWILLIAMS: Thank you, Judge. Paul
7 Parris said last week that, you know, Ed is stern,
8 but not that big of a deal. There are disagreements
9 here and there. He expected a job to get done, but
10 it's not that bad. And it was -- the most suspicious
11 things about the whole deal was how she wanted to go
12 to the bank the next day. In retrospect, why did she
13 need to go to the bank that morning? Was that the
14 whole truth? We had to bring Paul Parris back here.
15 And, you know, the rules are the rules are the rules.
16 I really wish that we would have been able -- we
17 could have just -- I wish that all these people had
18 all their statements, all the recordings they had so
19 you could listen to them.
20 But the fact is when confronted, we bring
21 Paul Parris back here today. Ed wasn't just -- Ed
22 wasn't just, do the job or I'll fire you. Ed was, do
23 the job or I'll fire you and I'll keep your tools and
24 I'll -- I will hunt you down as you go to other jobs
25 and I will keep you from getting those jobs. That

1 pisses people off.
2 I'm not here to solve this crime, folks.
3 That was their job. I'm just saying, can somebody
4 please look at this? Tony Rossi listened to the
5 threatening message on the voicemail. He told you
6 that he knew about it and he listened --
7 MS. LOGAN: That's a misstatement of the
8 evidence, Judge. That's --
9 THE COURT: You recall the evidence. If
10 there's any questions, we can -- I'll give you an
11 instruction.
12 MR. McWILLIAMS: Judy Manack told you she
13 heard the message. She told you it was a
14 high-pitched male voice. And I'm going to be
15 perfectly honest with you. We always thought -- we
16 always thought high-pitched male voice kind of sounds
17 like maybe a 19-year-old Mark Allen right up until
18 Billy Salyers got on the stand and told you he had
19 threatened Ed's life three or four days before he
20 found -- turned up dead.
21 Now, let's talk about hiding evidence.
22 That was in the State's rebuttal of the case. Now,
23 would you want to know as jurors that someone
24 threatened the complainant's life three days before
25 he turned up dead? Wouldn't you expect the -- even

1 if they think -- they want to prove that's not the
2 case, shouldn't they put that evidence on in front of
3 you and let you know about it? Is that really not
4 hiding the ball? They should be ashamed of that.
5 The fact is, anybody ever hear Dean Holtke
6 or Eric Clegg tell you they ever interviewed Billy
7 Salyers? No. Because they didn't. Now, think about
8 that. Tony Rossi never interviewed Billy Salyers.
9 And you can maybe give Tony a pass on it because
10 everything that was going on in Florida, there was
11 discussion about it, and we knew some things about
12 it, and there was talk about a plumber and what was
13 going on there. And these are the pieces that we've
14 been putting together for the past few months, by the
15 way. And it was all kind of out there. And Tony
16 never got really to the heart of it. He never did.
17 But that story and those points were much more out
18 there by the time Dean Holtke and Eric Clegg picked
19 that case up. And they never once, never once even
20 made an attempt to talk to Billy.
21 Now, you can say whatever you want to
22 about Michael Todaro. All right? They have acted
23 like that's the most cockamamie, silliest thing
24 they've ever heard in their life. Well, I don't
25 know. I do know that that gun, the only person that

1 we can say for sure ever owned that gun was Michael
2 Todaro. All right? That's the only person that ever
3 owned that gun. And what did -- I want you to think
4 about what Ms. Phillips told you.
5 THE COURT: Twenty-two minutes.
6 MR. McWILLIAMS: I remember that guy. I
7 was scared of him. My husband told me to stay away
8 from him. And what did Bert Diaz tell you? Bert is
9 an old soul. He's been around here. He's done it.
10 Whatever these guys have done, Bert has done 10 times
11 that much. Okay? He tells you: I went out and
12 talked to Larry. And as soon as we started talking
13 about that subject, he knew exactly who I was talking
14 about, and that cigarette smoking started getting
15 faster, and he's lighting one after the other, and
16 that foot started going so fast it was distracting.
17 And I take it from that that guy was scared. He
18 didn't want any part of this. He didn't want to talk
19 about this, and he didn't want to be here. Okay?
20 But ain't nobody ever talk to him. We did. This
21 case didn't even need CSI. It needed a gumshoe
22 detective. It needed somebody to do some damn work.
23 The scientific evidence here, I've been
24 dealing with this, and I cannot believe what has been
25 put out in front of you. There is not any DNA,

1 period. And I don't even think the State is going to
2 disagree with that. What they will do is get up
3 there and tell you why -- give you an explanation for
4 why we don't have that evidence. It was there at
5 some point in time, but it just isn't there anymore.
6 All right? I have no idea what universe that is
7 sufficient to convict somebody. I've never heard of
8 that. And, frankly, they should be ashamed.
9 The attack on Tom Bevel by Ms. Logan in
10 her opening -- or her closing is reprehensible and
11 it's ridiculous. Tom Bevel and Chris Duncan can
12 disagree, but they certainly respect one another.
13 And Chris Duncan sat here and he told you Tom is not
14 shading his opinion. He's doing his job. He's doing
15 what he's got to do. Talking about who he works for.
16 I didn't pay him. Norma didn't pay him. The Court
17 did. He works to bring you the truth. And, by the
18 way, he is the foremost expert in the world.
19 At the end of the day, if the reasonable
20 -- if reasonable experts can differ about it -- and I
21 wanted to tell you. On the deal is that a transfer
22 or not -- and by the way, if you take that one out of
23 the equation, that's a big deal. That's a very big
24 deal. If you take that one out of the equation, it's
25 a very big deal because then there is no blood on

1 that. The transfer blood will not tell you anything.
2 They can disagree with it. But if two reasonable
3 experts can disagree with it, is that proof beyond a
4 reasonable doubt of anything? My God, of course,
5 it's not. Do you really want to be a tie-break?
6 That's not proof beyond a reasonable doubt. That's
7 how innocent people go to prison, folks.
8 You know, I have to fight like hell for
9 two weeks to get a note in that says, "What goes
10 around comes around, mother-fucker." Everybody in
11 this courtroom knows that that's a legitimate
12 incident, it actually happened, it's actually
13 recorded in an offense report, it's actually booked
14 into evidence at the property room. It's like
15 pulling out teeth to get past them to just tell you
16 that that happened. Is that honest? Is that not
17 hiding anything?
18 My God, folks, as jurors, don't you just
19 want to have all of the information? Don't you just
20 want to have all of the best evidence out there for
21 you so you can make a decision and not shaded
22 evidence, not spun evidence? I don't know -- I don't
23 know if Michael Todaro killed him. I don't. And it
24 ain't my job to prove that. But damn it, somebody
25 ought to have looked at it. And I've been hard, but

1 to their credit, you know what? That did dawn on
2 those guys. And they did go look for Michael Todaro.
3 And it wasn't some, well, we just checked on it. It
4 wasn't no big deal. They tried for several weeks to
5 get it done. They ended up having to send sheriff's
6 deputies from the county in California out to his
7 family a couple of times to find those folks and
8 visit with them. What do you find out? We are
9 estranged from him and he's moved to Vietnam. I
10 don't know if he killed him, but somebody should have
11 looked at it.
12 Why did nobody run that gun back in 1987?
13 How come nobody tried to figure out who the owner was
14 back then? That's a problem. Because maybe if they
15 had done that in 1987, somebody would have caught
16 Michael Todaro before he hit Vietnam, but they
17 didn't. So, it's kind of like that comforter, right?
18 I'm dying for that comforter.
19 THE COURT: You've used 38 minutes.
20 MR. McWILLIAMS: I understand, Judge.
21 That comforter, damn it. Both Chris Duncan and Tom
22 Bevel, there is no question that they agree, if there
23 isn't any blood spatter on the comforter -- now, Tom
24 tells you the pillowcase, it needs to be on the
25 pillowcase. Chris -- if we need to go back and forth

about that, but Chris is going to tell you: Well, I'm not all that totally surprised that it's not on the pillowcase. But everybody says: Yes -- damn skippy -- if it's all over the front of the nightgown, it's got to be on the comforter. They lost it. We have nothing to do -- I can't do anything about that. They lost it. That could very well absolve her of all of it. And we'll never know because they don't have it. There isn't anything I can do about that, not one thing.

But Chris Duncan and these people got the gall to criticize Tom Bevel for at least making an effort on it. Seriously? Is that -- is that legitimate? Is that really a criticism of Tom Bevel? Hey, that's a critical ass piece of evidence, man. Let's see if we can take a look at it. And Tom has done this a thousand, upon a thousand, upon a thousand times. He took all those photographs, he looks at them, and he tells you: Ma'am, I cannot locate anything on there.

And it is not -- both of them tell you, both of them have told you that there is nothing about a .38 gunshot wound to the head that says there has to be back spatter, or even should -- more likely than not would cause back spatter. It might happen,

it might not. You know that. That's what they've told you, both of them. It could happen, it might not, but there isn't anything on that comforter, nothing.

Chris won't say -- he said -- they'll say: I never got to see it. I don't think the photos are good enough, so I can't say that there's nothing on there. So, she goes to prison. Maybe there's nothing on there, but I can't say that, so she goes to prison. Bullshit.

That comforter -- I don't know what to do with this, folks. They've lost tons of our evidence. Whether it's -- you know, I'm not saying that they did it on purpose, but how do you answer these questions? How are you going to do that? This case is just beyond the pale to me, folks. I really don't understand. This is reasonable doubt to drive a freaking truck through. I would never bring that to you.

Again, we've got them telling you things are blood. We lost this, but we've got an explanation. If we have it, I'm sure it will support what we said about it. And I know all our tests came back inconclusive, but that's probably because it happened this way or that, or this process destroyed

1 that. You know, what is that? That sounds like
2 things that I'm usually arguing to juries for
3 reasonable doubt. I have never heard that kind of
4 thing come from a prosecutor, ever.
5 I'm scared to death standing here, folks.
6 I don't know what to tell you, because I don't know
7 if I can convey to you, or convince to you what I
8 know is right. I hope that you can see that I
9 believe it and I feel it from the very bottom of my
10 feet.
11 You get back there, and some of you may
12 disagree, and that's your prerogative. And I'm going
13 to respect whatever you decide. It's part of being a
14 criminal defense attorney.
15 All I'm going to ask you is this: Y'all
16 remember Juror No. 35 in voir dire who said, "Yeah, I
17 was on a jury one time. We found that guy guilty,
18 but I was young at the time and I had questions about
19 it;" y'all remember that? Y'all remember that juror
20 talking about that? I had questions about it. And
21 it's been on my mind from time to time ever since
22 then. I imagine last Friday that there were some
23 jurors that had Michael Moore on their minds. That's
24 how innocent people go to prison, folks, it is. You
25 wonder about it. He just voiced it. Don't be Juror

1 No. 35. Don't be Juror No. 35.
2 If they haven't proven it to you beyond a
3 reasonable doubt, then your verdict, your oath
4 demands one thing, a verdict of not guilty. And that
5 is the only, only verdict that is remotely just, or
6 right, or fair in this case, and, by the way, it's
7 the truth.
8 MR. DAVIS: May it please the Court?
9 THE COURT: Yes, sir. You've got about
10 ten minutes.
11 MR. DAVIS: Thank you.
12 **CLOSING ARGUMENT BY**
13 MR. DAVIS: I will speak to you briefly in
14 three different parts. I'm going to try to get this
15 evidence together because I only have a brief amount
16 of time. I'm the last person who gets to talk on
17 behalf of Norma Clark. So, I've got -- I've got a
18 lot to cover, and I hope I can cover it all.
19 I think you've seen over the last couple
20 of weeks the dynamics of the courtroom. My partner
21 is incredibly passionate. And I've probably been
22 seen as the nice guy, maybe a little bit calmer,
23 whatever, but I want you to understand just at this
24 juncture -- and I know I don't have a whole lot of
25 time, but I want you to understand that my passion is

1 just the same.
2 Two things concern me about this. It
3 started with Ms. Logan. She was telling you about
4 the jury charge. And in the jury charge it says,
5 "You have to consider all the relevant facts."
6 That's true. That's absolutely true. You do have to
7 consider all the relevant facts. And I'm going to
8 talk about what the State is inferring as far as what
9 relevant facts are.
10 It starts with when I started talking to
11 Sergeant Holtke. We talked about the 1987
12 investigation, all right, and what was -- what was
13 obtained from the 1987 investigation. You heard
14 Detective Rossi talk. I'm going to tell you this:
15 As a police officer, one of the things you have to
16 consider are all the relevant facts and circumstances
17 behind there. You have to consider the motive, and
18 the motive in this case was divorce; uncooperative.
19 She hired an attorney; no scratches; the alarm; the
20 conflicting statements about the gunshots; her being
21 sick; and the bank. That's what they had in 1987.
22 They had the pistol, but it had no prints. We had
23 the comforter, which is missing. And the only thing
24 that we have concerning the comforter, or any
25 evidence about the comforter is State's Exhibit 17,

1 the investigator's report where he said he saw no
2 blood splatter on the comforter, the wall, any
3 projectiles, or anything. I will talk a little bit
4 about that in just a second. And the bank. Okay?
5 And the bed sheets and the gowns. Okay?
6 That's what we had in 1987. And in 1987,
7 there was not enough evidence to charge anybody.
8 Here's my concern: The relevant facts, the motive,
9 the whys. Everybody is talking about this. This is
10 the grits for the rumor mill. And that's what's run
11 this thing. As a police officer, you're going to
12 look at that, absolutely going to look at that.
13 But Detective Rossi, Sergeant Holtke, and
14 Sergeant Clegg all three said that Norma was in our
15 sights. Do you remember the question I asked you?
16 It's dangerous to tunnel vision your investigation to
17 one person. I only have a few minutes. And I'd love
18 to go over this stuff for like an hour. It's
19 dangerous to tunnel vision your investigation. Why?
20 Because there could be something there. There could
21 be something missing. There could be another
22 explanation.
23 Michael Todaro. I'm going to tell you who
24 Michael Todaro was. Michael Todaro is a rabbit
25 trail. All right? The guy who hit Ed Clark on the

1 head. Rabbit trail. Mark Allen, rabbit trail.
2 Whoever trashed their house, another rabbit trail.
3 Rabbit trail by the defense. Usually, it's the
4 defense that spins the evidence. And that's what we
5 are doing. The rabbit trails. No, that's
6 investigation.
7 My first instinct -- and, you know, my
8 first instincts when I get a murder -- and I do lots
9 of murders. When I get a murder, I want to solve
10 that thing. When I got this murder, I want to solve
11 it. I want to solve it. We found Michael Todaro.
12 Interesting because nobody ever really considered
13 Michael Todaro. Took it for granted. You run the
14 gun, and it comes back to Michael Todaro that was
15 bought in 1978. Do an investigation and see if there
16 is any connection. We brought to you evidence that
17 there could have been a connection.
18 Leah Phillips gets up here and testifies.
19 The first time I showed that picture to her, I never
20 mentioned a word about Michael Todaro. Do you know
21 this guy? That's the guy who works for Billy
22 Salyers. Maybe -- I'm not saying -- we're not saying
23 that's who killed him. We're not saying Billy
24 Salyers killed him. We're not saying the person who
25 hit him over the head killed him. We're not saying

1 the person who trashed his house killed him. We're
2 not saying Mark Allen killed him.
3 What we're saying to you is what you
4 needed to focus on, and that's the investigation and
5 the physical evidence that proves beyond a reasonable
6 doubt that she did this. So, let's talk about the
7 physical evidence now.
8 THE COURT: I'll give you five more
9 minutes.
10 MR. DAVIS: Thank you, Your Honor. The
11 physical evidence that we have now. Because what we
12 are going to do, like I said, as I coordinate, what
13 Sergeant Holtke had to do was he had to re-interview
14 witnesses. We got nothing new out of that, right?
15 Except for the Manacks told Sergeant Holtke that the
16 gowns were brought to her to wash. There was even a
17 flip-flop in that story. Everybody thought, until we
18 got to trial, that Norma brought the gowns over. The
19 gowns were folded. Norma is going to the hospital.
20 Reasonable explanation, she needs some gowns.
21 We've got -- we re-interviewed Norma
22 Clark. They went up there. Two hours later they
23 arrested her. Re-interviewed the family. Really
24 nothing new, other than there's Kelly that heard
25 threatening messages. That's something else to pop

1 up in the new investigation to generate any other new
2 suspects. We'll talk a little bit about that. We
3 retested the pistol.
4 Let's start with the pistol. The pistol
5 was, obviously, the gun that shot Edmund Clark. No
6 prints on the pistol. We've got the ballistics.
7 We're worried about the gunshot residue. We'll talk
8 about that later, but the pistol offers nothing new.
9 Nothing new whatsoever.
10 The comforter. We'd love to have the
11 comforter. The comforter goes into the blood
12 spatter. I'll talk about that in just a second. The
13 bed sheets and the pillowcase, another good thing to
14 look at because we're talking about the experts.
15 We're going to talk about spot 1-A.
16 Now, I'm not sure Ms. Logan impugned the
17 integrity of Tom Bevel. It's her job to say
18 something about our hired gun. He's not a hired gun.
19 It's not my job to impugn Chris Duncan. And I'm not
20 going to. And I'm not going to impugn Sergeant
21 Holtke or Eric Clegg. I only impugn officers when
22 they need impugning, when they need to be talked
23 down. It's the investigation in this case that needs
24 to be impugned. It's the investigation in this case
25 that needs to be questioned. It all centers around

1 this because we have no DNA. Look through the
2 reports. None. One spot tests Hematrace for blood,
3 and that's in 1-A.
4 Bigger picture in 1-A. In 1-A, it's these
5 red spots right here on the middle. That's what's
6 tested for Hematrace. The argument was between Mr.
7 Bevel and Officer Duncan concerning whether or not
8 it's a transfer stain. Because if it's a transfer
9 stain, that doesn't work. The only difference
10 between the 1987 investigation and the time when she
11 is arrested was high velocity impact blood spatter,
12 or mist spatter, whatever you want to call it. That
13 puts her at the scene. Gunshot residue doesn't.
14 Gunshot residue in this case doesn't because there
15 isn't any. There are two particles, and the State
16 wants to spin it as if they were there at one point.
17 Maybe the DNA was there one point, maybe the blood
18 was there at one point. The blood is not there. The
19 GSR is not there. It's all about 1-A, this little
20 red spot in their trace. All these other little
21 spots that Officer Duncan talked about fit the
22 profile of high velocity impact spatter. The problem
23 is they're not the right color, and that's not what
24 tested for blood. We have a whole lot of spots that
25 may fit the definition, the size of high velocity

1 impact blood spatter, but they didn't come back with
2 blood.
3 So, what do we have? All-in-all, what do
4 we have? Before I end, I would like for you to take
5 a look at these pictures, too. I think they are
6 important. Fluorescent pictures that Chris Duncan
7 took. Look for a pattern. Look for a pattern. All
8 right?
9 I also want you to take a look at these
10 comforters. Okay? Mr. McWilliams mentioned about
11 how these were -- when they were shown to David Rossi
12 -- I'm not going to go into David Rossi, but when he
13 was shown these pictures, he told you that they were
14 blood spatter.
15 So, Sergeant Holtke's confirmation of high
16 velocity impact blood spatter, when he goes to arrest
17 Norma Clark, is based on David Rossi's examination
18 and conclusion that he saw high velocity impact
19 spatter on that nightgown. He also said these two
20 pieces were blood spatter. These two pieces. These
21 two pictures show bone fragment, skull fragments on
22 the calves on top of the comforter. And look at that
23 dress and that robe. What was she wearing? We don't
24 know.
25 Your Honor, how much time do I have?

1 THE COURT: All right. You need to wrap
2 it up.
3 MR. DAVIS: I'll wrap it up. I wish I had
4 more time to go over all of this evidence. There's
5 lots of evidence. And I invite you, I beg you,
6 please, take the time to take a look at the evidence,
7 but beyond a reasonable doubt. And I don't have a
8 whole lot of time, but I'm going to tell you this
9 about beyond a reasonable doubt. We talked about it
10 a little bit in voir dire.
11 Most likely happened is clear and
12 convincing evidence. Remember we talked about that?
13 Most likely is clear and convincing evidence. When
14 you have rumors going around everywhere that she most
15 likely did it, which is how this investigation was
16 tailored, that's clear and convincing evidence.
17 Beyond a reasonable doubt is that gut feeling that
18 you may get that we've all had.
19 I want to go to a baseball game with my
20 friend up at Arlington. He comes and picks me up.
21 He drives up in the driveway. I get into the car.
22 And my family is still asleep, and we get into the
23 car and we drive away, and I'm thinking: Oh, my God,
24 did I lock the door? I'm not sure I locked the door.
25 And I get the gut feeling that I'm not sure if I

1 locked the door. I want to lock the door because I
2 care about my wife and my kids. And I ask my friend:
3 Hey, did I lock the door? He said: I wasn't paying
4 attention. I was text-messaging. We get down the
5 block, I say: No, I've got to go back. I've got to
6 check to see if that door is locked.
7 He turns around, he gets in the driveway,
8 I pull up, I go up to the door. It's not until I put
9 that key in the lock and turn it do I know for sure
10 whether I -- whether or not I locked that door. It's
11 that gut feeling that we've all had. That's a
12 reasonable doubt. And if you have that reasonable
13 doubt that this investigation wasn't conducted
14 properly, and there's not enough physical evidence,
15 and that you are relying on the testimony of a bunch
16 of people whose rumor mill said that she was a liar,
17 that she was no good, that she had all kinds of
18 motive, and that never, ever, ever committed a crime
19 in her life, decided to shoot Ed Clark twice because
20 of an affair that just came up at the last minute, or
21 because of money, or because of a divorce that he
22 wasn't going home to tell her about --
23 THE COURT: You need to wrap up.
24 MR. DAVIS: -- that's clear and
25 convincing. That's not beyond a reasonable doubt.

She is not guilty. I think it's clear. Please go back and deliberate and look at everything that you have. I'm the last word. I hope I've covered everything. Thank you.

THE COURT: Thank you, sir. All right. What says the State?

CLOSING ARGUMENT BY

MS. McDANIEL: You know, I sit here, and I know y'all are tired, and I think about what can I say to y'all to impart to you what is on my mind, right? Because we get to see the lawyers cry and carry on and talk about how they are doing this for free. Well, guess what? These two detectives came into my office two years ago and talked to me about what everyone in that neighborhood knew happened in 1987.

What does a killer look like? Does it look like a gangster with an SKS rifle? Does it look like a guy at a 7-11 pointing a gun at a clerk? Or does it look like a woman who wasn't going to be scorned again?

They want you to forget what you know. They want you to think the police didn't do enough. And I'm going to tell you right now, thank you, Sergeant Holtke. Thank you for standing up for this

1 case. Because in 1987, if he had come to me and I
2 was even a lawyer, I would have filed the case, but
3 that's not what this is about. This is about you
4 saying: It's your time. It's time for you to say to
5 Ed Clark and to Linda Reynolds -- God bless her for
6 coming every day -- that Norma will be found guilty
7 for what she did to him, for killing a man in his
8 sleep in his own bed.
9 You know, I have to tell you, sitting
10 there listening to my integrity being impugned over
11 and over again, and striking over my shoulders at
12 these homicide detectives who give every day and
13 every minute to what they think is right, and talking
14 about how they are sloppy, or lazy, or that somebody
15 didn't take a picture of Norma Jean Clark's legs
16 without dirt on them at five o'clock in the morning
17 in 1987. When, by the way, back in those days,
18 people believed a police officer when he got up on
19 the stand and said: I didn't see any debris. I
20 didn't see any dirt. Now, Sergeant Holtke and Eric
21 Clegg have to go back and take pictures of that stuff
22 because nobody wants to believe a cop anymore.
23 What about Judy Manack? Why would she
24 lie? That was one of her best friends. What sense
25 does that make? You know, I sit here and I've

1 thought about all the things that I want to talk to
2 you about, and all the inconsistencies and all the
3 things that should make it be so clear. And even
4 just when you think about Judy Manack, you think
5 about all the lies Norma Jean Clark told over the
6 last 26 years. Don't you know that on that day in
7 February of 2011, it all came crashing down. Don't
8 you know day after day she was wondering: Is today
9 the day that they are coming for me? Don't you know?
10 Because she knows what she did. And don't you know
11 when she told Sergeant Holtke: I don't remember. I
12 don't remember who my next-door neighbor was. I was
13 afraid of that dog. Until you hear that she fed that
14 dog next door. Right? Think about all the people
15 that she manipulated and over what course of time she
16 did it.
17 You know, based on her best friend coming
18 in here and telling you that she started having an
19 affair with Ed Clark on Linda Reynolds. So, they get
20 together and they immediately start having discord,
21 for whatever reason. It's not going to work out. Ed
22 starts having another affair and she knows. And she
23 tells Judy: I'm not going to be left out again. I
24 was screwed over the last time and I'm not going to
25 do it again.

1 So, she starts to think. And don't you
2 know that she planned it. Maybe she didn't plan the
3 day to be April 22nd, but don't you know that what's
4 happened is Ed came home and he said: That's it.
5 I'm leaving tomorrow for Miami and when I get back,
6 you are gone. And everybody said Ed was stern. Ed
7 said what he meant and meant what he said. She knew
8 it was over. She knew by the time he left it was
9 over. She knew she had to take action.
10 She'd already been setting it up. Oh, Dr.
11 Aubert, we have so much trouble at home. Oh, Dr.
12 Aubert, he won't give me any money for food. He's
13 such a jerk. He's so mean to me. But then she tells
14 Sergeant Holtke there's no trouble in the marriage.
15 How many inconsistencies does there have to be before
16 you have the right suspect? How many times do you
17 have to hear the lies?
18 You know, we heard a lot of talk about the
19 path to the Manacks' house. And why is that
20 important? It's just a path. It's a lie. It is a
21 big lie. You know what? We have all assumed, as we
22 sat here, that Norma told the truth even as to the
23 time of death of Ed. Right? We know from Judy
24 Manack that she came over to the house around 4:30 in
25 the morning.

1 MR. McWILLIAMS: I object to that. Judge,
2 that's a mischaracterization.
3 THE COURT: It's overruled.
4 MS. McDANIEL: We know that's when she
5 said it had happened, but do we know if it happened
6 at midnight? We don't know. It was in the woods.
7 Do we know if she shot and killed Ed and sat there
8 and thought about, what do I do? And called Tammy to
9 come get her. Because wouldn't it make more sense to
10 you that the way that she got to the Manacks is for
11 someone to drive her? And wouldn't it make more
12 sense to you that that's why she didn't have debris
13 on her clothing?
14 No one is saying that this was a well
15 planned-out crime by Norma Jean Clark. The State is
16 asserting that she did it and not well. Because when
17 you think about everything from Judy Manack, and as
18 they are sitting there -- and by the way, yet another
19 inconsistency from Norma Jean Clark is: I wasn't
20 very good friends with those people who lived behind
21 us, the Manacks. I don't remember their name. She
22 lists Judy Manack as her emergency contact. She's
23 going into business with Mr. Manack, and suddenly she
24 doesn't remember these people. I mean, were they
25 friends or were they not friends? Because it seems

1 like it goes back and forth to whatever serves her
2 needs at the time.
3 So, whether or not there's gunshot residue
4 on that nightgown is important, yes; but what's more
5 important is her stupid lie. Remember, Judy Manack
6 said: You should get your hands tested. What's the
7 big deal? Dr. Aubert said: What's the big deal?
8 Get your hands tested. And she said: But I shot a
9 gun. I'm deathly ill with bronchitis, but I've been
10 shooting a gun in my backyard. But yet, when
11 Sergeant Holtke goes and talks to her, she said: No
12 one told me about a gunshot residue test. I would
13 have gladly taken it if only I were given the
14 opportunity. It's the lying that tells you she's
15 guilty. It's the repeated lies.
16 You think about, why is it important about
17 the alarm? What's important about that? It's
18 important because you know, first of all, that her
19 friend didn't know what she was talking about because
20 everyone testified conclusively that Ed was a fanatic
21 about the alarm. What's the point of having an alarm
22 if you don't set it? Don't you know that from their
23 own witness that Norma knew there wasn't a chime on
24 that back door of the house. Don't you know it?
25 Don't you know that's why she passed the front door?

1 Don't you know?
2 Don't you know that when Judy said her
3 first concern did not seem to be that Ed was dead.
4 She was concerned about the money. She was concerned
5 about getting to a hospital for her bronchitis. And,
6 again, when you talk about the lies, why are they so
7 important?
8 Don't convict her because she's a liar.
9 Convict her because she's a killer, but the lies tell
10 you that she did it. Why lie about something like
11 cancer? I don't know. But how horrible, how
12 horrible --
13 MR. McWILLIAMS: Judge, I'm going to
14 object. That's arguing outside the record.
15 THE COURT: It's overruled.
16 MS. McDANIEL: How horrible to lie about
17 something like a disease like that. How horrible to
18 use that to manipulate Dr. Aubert into giving her a
19 job.
20 MR. McWILLIAMS: Judge, I'm objecting to
21 that being outside the record. No witness testified
22 to that at all.
23 THE COURT: Overruled. I let you argue
24 your case. I will let the State argue their case.
25 You may proceed.

1 MS. McDANIEL: Don't you know she did
2 everything she could to get whatever money she could
3 from Dr. Aubert, from Neil Block, from Paul Parris,
4 whoever she could manipulate. But Ed was the love of
5 her life, right? Ed was the love of her life, yet
6 she cremated him before his son could say goodbye.
7 What sense does that make?
8 MR. McWILLIAMS: I'm going to object to
9 that as being wildly outside the record.
10 THE COURT: It's overruled.
11 MS. McDANIEL: Dr. Aubert told you over
12 and over again: She told so many different stories,
13 I didn't know what to believe. I didn't understand.
14 I was pro Norma. I was her friend. I was her -- I
15 was her boss. We all believed that Ed was a jerk
16 because that's what Norma said.
17 But don't you know that as that day
18 started to progress on April 22nd of 1987, just like
19 Paul Parris, just like Neil Block, and just like Judy
20 Manack, Dr. Aubert started to think: Wait a minute.
21 I have this feeling in my gut. And the feeling is
22 that Norma Jean Clark killed her husband in cold
23 blood.
24 And when you look at the pictures, folks,
25 think about the scene, think about that house. It's

1 not just that there's no forced entry, not just that
2 Norma Jean Clark would have the code for the alarm,
3 not just that nothing, absolutely nothing is in
4 disarray, not just that she clearly wasn't sleeping
5 in the bed that night. Think about the fact, think
6 about the level of degradation to a man in his home
7 asleep in his bed whose children have been told, but
8 the day before, that they are not welcome, shot with
9 his own gun in the back of his head like an animal.
10 She didn't even have the decency to walk into the
11 bedroom and cover up his head. She didn't even have
12 the decency to make up a lie better than she did.
13 She didn't even have the decency to allow his
14 children to say goodbye to him.
15 And you know I have to tell y'all, we talk
16 a lot about the defendant's rights, and I believe in
17 them because I believe in the Constitution of the
18 United States, but don't forget there is somebody
19 who's not sitting here. There is a man. There's a
20 man who is missed, a man who is loved, and don't
21 discount that. Don't discount the fact that everyone
22 did everything they could.
23 And when you talk about the science, I
24 know the science was overwhelming, and I know it can
25 be difficult to listen to and pay attention to

because it can get so convoluted. And I'll leave it at this, primarily: Tom Bevel did a shoddy job. He knew it and you knew it. We all knew it. He is well-respected in his field, and he just flubbed this one up. I don't know why he did it, but he did. He got irritated with me, but you had a right to know. You saw all of those crime scene detectives in here listening to him talk about a piece of evidence he never saw. I submit to you, you just throw that out. You listened to it. You find it not credible, that's it.

Chris Duncan came in here and he talked to you about what he did see. Katie Welch came in here and talked about what she did see, what they viewed with their eyes, with their expertise, not out of laziness.

When Bill Davis tells you that there are two particles of gunshot residue on this nightgown, do you think for one minute that man would testify if it weren't there? He talked to you about the process. You think he's going to risk his reputation in the community, the scientific community for that, or Chris Duncan or Katie Welch? You know why there's not DNA there? We had to leave stuff available in case anyone else ever wanted to retest it. You know

1 that DNA -- think about this.
2 Would it surprise you, would it surprise
3 anyone if a husband's skin cells were on his wife's
4 nightgown? What would you have thought of me if I
5 had said: Katie, go ahead and consume all of that
6 stuff. Don't worry about the blood, if that DNA is
7 there. Because don't you know then the argument
8 would be: Well, of course it was there. They are
9 husband and wife. Because DNA is not necessarily
10 blood, folks. It's saliva, it's skin cells, it's a
11 million different things. Don't you know if there
12 was DNA, there would be a different answer? And
13 don't you know that the answer would be: Where is
14 the blood? Well, folks, you know it's blood. You
15 know it is.
16 I wanted to go through very quickly,
17 because I know y'all are tired. There were a few
18 things that I wrote down as I was listening to the
19 defendant's statement that she gave to Sergeant
20 Holtke and Sergeant Clegg back in 2011. And there
21 were some things that were said that I thought were
22 so incredibly pertinent and so inconsistent with
23 things she had ever said before. Just another lie.
24 Because you know what, for any of you who have been
25 in a traumatic event, whether it's like me and you

1 had a knife put to your throat, or whether it's like
2 Edmund Clark finding out that his dad was killed, I
3 don't care if it's been 25 years or 25 minutes, you
4 remember if the front door was open and you could
5 have run out that way if there was an intruder
6 inside. I mean, are you kidding me?
7 I don't know who did it or why they did
8 it. And she kept saying over and over again: I
9 didn't hear anything. If she didn't hear anything,
10 why did she come downstairs? She came downstairs
11 because she killed Ed.
12 At the end of the day, folks, what you
13 have is a woman who lied about everything, who lied
14 about where she was, what her job was, what her
15 education was, how many brothers and sisters she had.
16 But I'm not asking you to convict because she's a
17 pathological liar. It is your duty as jurors to
18 convict her because she killed him. She killed him
19 and the evidence tells you.
20 You heard ridiculous stories about Billy
21 Salyers, and then you met him. You heard ridiculous
22 conversations about Michael Todaro, and then you
23 found out. So, what I'd ask you to do is go back
24 into that jury room, and I want you to do what should
25 have been done 26 years ago. I want you to speak for

1 Ed and for Kelly, and I want you to tell Norma Jean
2 Clark that it might be years later, but the day has
3 come, and you are guilty.
4 Stand up for Ed and don't let her walk.
5 It's the right thing to do. Thank you.
6 THE COURT: Thank you, ma'am. All right.
7 Ladies and gentlemen, that concludes argument. What
8 I'm going to order you to do now is to go back and
9 begin your deliberations. It's late, so this is what
10 I'm going to do because we all have to get home. So,
11 I want you to go back there, you need to determine
12 who the foreman is. When you've done that, buzz me
13 and then I will give you instructions, the same
14 instructions I give you every night, and that is not
15 to discuss the testimony with anybody.
16 The other thing is, you know when you
17 leave here, you're going to leave as a jury. You'll
18 leave here. You have -- you cannot discuss anything.
19 And then even as you're back there talking as a jury,
20 if somebody needs to take a break, then everybody has
21 to stop. The only time you talk about the case is
22 when you're all together. All right?
23 So, tonight I just expect you to decide
24 who your foreman will be. Once that's decided, buzz
25 me and I will send you home and you will return

1 witness and then we'll take a break.
2 If you need to stand up and stretch, you
3 may stand up and stretch.
4 MS. MCDANIEL: Judge, I'm sorry. May Dr.
5 Milton be excused?
6 MR. DAVIS: Yes, Your Honor.
7 THE COURT: Yes. Go ahead and call your
8 next witness.
9 MS. MCDANIEL: The State calls Dr. Davis.
10 THE BAILIFF: The witness needs to be
11 sworn in, Judge.
12 THE COURT: Come forward, sir. I'll swear
13 you in.
14 (Whereupon the witness is sworn in
15 by the Court.)
16 THE COURT: Ms. Logan, your witness?
17 MS. LOGAN: Yes, sir. Thank you, Judge.
18 May I proceed?
19 THE COURT: Yes, ma'am.
20 **DR. WILLIAM DAVIS,**
21 having been first duly sworn, testified as follows:
22 **DIRECT EXAMINATION**
23 BY MS. LOGAN:
24 Q. Dr. Davis, would you please introduce yourself
25 to the folks on the jury?

1 A. Yes. Good afternoon. My name is William
2 Davis. I'm the Director of Physical Evidence at the
3 Harris County Institute of Forensic Sciences.
4 Q. How long have you been employed there?
5 A. A little under seven years.
6 Q. Okay. Can you give us the benefit of your
7 education and experience that qualifies you to hold that
8 position?
9 A. Sure. I have a degree in chemistry, a
10 bachelor's degree from Syracuse University, and a Ph.D.
11 from Columbia University.
12 Q. So, you're not from these parts?
13 A. No, ma'am.
14 Q. And can you tell us what sorts of work you do
15 there at the Harris County Institute of Forensic Sciences?
16 A. We perform a couple of services in our
17 laboratory, which is the trace evidence laboratory, which
18 is under my supervision. One of them is something called
19 gunshot residue and another one is ignitable liquid
20 residue.
21 Q. So, the ignitable liquid, that would be arson
22 cases?
23 A. Suspicious fires, yes.
24 Q. Okay. And then, specifically, what you are
25 here to talk about today is your work with the gunshot

1 residue testing, right?
2 A. Yes, sir.
3 Q. Okay. Now, do you recall having meetings with
4 Ms. McDaniel and myself regarding evidence in this case
5 from 1987?
6 A. Yes.
7 Q. All right. And during those meetings did we
8 discuss the potential for collecting gunshot residue from
9 some items that had been in evidence in this case?
10 A. Yes, we did.
11 Q. Okay. Now, before we get into your testing in
12 this case, can you go ahead and tell the ladies and
13 gentlemen of the jury what gunshot residue is?
14 A. Sure. When the trace evidence examiner speaks
15 of gunshot residue, we're talking about small particles
16 that have been deposited as a result of the discharge of a
17 piece of ammunition that has a specific primer
18 composition. So, it's the primer residue. It's not
19 gunpowder residue. It has nothing to do with the
20 cartridge casing or bullet material. It's specifically we
21 focus on the primer.
22 Q. And why is it important just to focus on the
23 primer?
24 A. Well, the primer is comprised of chemical
25 components that allow us to get signatures based on the

1 elemental composition of the particular residue, which are
2 characteristic of this type of residue. It would be
3 gunshot residue and no other environmental source to speak
4 of.
5 Q. So, in other words, the particles that you're
6 looking for when you are doing gunshot residue testing or
7 SEM testing are particular to gunshot residue only?
8 A. Yes.
9 Q. Okay. So, it's not like you are looking for
10 something that could just be out in the environment by
11 itself and have nothing to do with the firing of a gun?
12 A. That's correct.
13 Q. Okay. Can you tell us what specific type of
14 particle it is you're looking for when we're talking about
15 doing this SEM testing?
16 A. Sure. Like I said, it has to be small and
17 round. When I say small, I mean on the order of what we
18 call 10 microns or less; 10 microns would be about a
19 quarter -- a tenth of a human hair. Pretty small,
20 probably invisible to the naked eye.
21 Round has to do with the environment in which it
22 originated, which was hot, molten in fact. And it has to
23 contain three specific chemical elements. And those
24 chemical elements are lead, barium, and antimony.
25 Q. All right. And, so, is there a process by

1 which you are able to look at these particles under a
2 microscope?
3 A. Yes.
4 Q. I feel like I must be doing a bad job because
5 you hesitated.
6 A. Well, it's -- we don't look. It's a special
7 microscope.
8 Q. Okay. Explain that process for them.
9 A. It's a scanning electron microscope, which is
10 -- it doesn't have the eyepieces a normal microscope would
11 have. That's why I said we don't look at them. We image
12 them with these microscopes. And the microscope itself is
13 capable of seeing small features, like I just mentioned,
14 and at the same time give us the information necessary to
15 say that it's round and give us that elemental
16 composition. So, it's the ultimate instrument for this
17 type of analysis.
18 Q. All right. Now, are you aware of what kind of
19 gunshot residue testing was being done back in the 1980s?
20 A. Yes.
21 Q. Specifically around 1987, tell us what methods
22 you knew of that were being used in law enforcement.
23 A. The methods that were used back then were --
24 any particles were collected in mass or as much as you
25 could on a swab --

1 MR. McWILLIAMS: I object. It's
2 nonresponsive. I think the question was: What were
3 the tests that were being used?
4 THE COURT: It's sustained. What were the
5 tests that were used?
6 A. It was called atomic absorption.
7 Q. (By Ms. Logan) All right. Can you explain to
8 the ladies and gentlemen of the jury how that test
9 differed from what we do today?
10 A. Atomic absorption is of a bulk technique. It
11 would pick up -- it would do the analysis for barium,
12 lead, and antimony, but it would be based on bulk
13 recovery. So, if there were a lot of lead from another
14 source other than, say, gunshot residue, car battery, it
15 would still show up as lead. The SEM testing is based on
16 the particles themselves.
17 Q. Are you also familiar with a method known as
18 the Griess method?
19 A. Yes.
20 Q. Can you tell us what you know about the Griess
21 method?
22 A. The Griess method is a chemical test to test
23 for the presence of lead.
24 Q. So, does it test for that specific particle
25 like you're talking about with the lead, antimony, and

1 barium, or does it just test for lead?
2 A. Lead only.
3 Q. Lead only. Okay. And am I correct in my
4 understanding of that test that it requires a chemical to
5 be placed on the surface that we're testing for gunshot
6 residue, right?
7 A. Yes, ma'am.
8 Q. And then heat is also applied to that surface?
9 A. Yes, ma'am.
10 Q. Are you aware whether or not that was also a
11 test that was available in the late 1980s when folks were
12 looking for the presence of lead?
13 A. Yes, it was.
14 Q. Now, with respect to your examinations in this
15 case, you were provided with some garments, correct?
16 A. Yes, ma'am.
17 Q. And you were also provided with some packaging
18 --
19 A. Yes, ma'am.
20 Q. -- for garments? Can you explain to us what
21 the process is that you used to attempt to collect
22 particles for examination as to whether or not there is
23 gunshot residue present or not?
24 A. Yes. The procedure that we follow is that we
25 take the garment and lay it out, and then we simply sample

1 it using a piece of tape. It's a special piece of tape
2 that's designed to be used in the scanning electron
3 microscope. And then we scan it at random. As I
4 mentioned, it's invisible. You have to use either
5 instructions of where to sample, or you just sample -- try
6 to cover as much as you can with the sampling.
7 Q. Okay. With respect to the lab that you work
8 in, is it accredited?
9 A. Yes, it is.
10 Q. And it's certified and you-all are capable of
11 performing gunshot residue testing?
12 A. Yes, ma'am.
13 Q. Are there any safeguards in place to ensure
14 that there's not contamination or transfer of evidence
15 from one case to another?
16 A. Yes.
17 Q. Tell us about those.
18 A. Well, I mean, specifically, we do not sample
19 for gunshot residue in the trace laboratory simply because
20 there is the potential for items coming into the
21 laboratory to have gunshot residue and can be transferred.
22 So, we do the sampling in one of the DNA serology rooms
23 that provides a much better control. We sample surfaces
24 within that environment to make sure that the -- there is
25 no gunshot residue prior to sampling the items of

clothing.

Q. Now, is gunshot residue easily transferable?

A. Yes, it is.

Q. Okay. Tell us what that means.

A. What it means is if there's gunshot residue on a surface, if that surface comes into contact with another surface, you will transfer it to that -- the second surface, and that transfer will continue until there's nothing left to transfer. So, with each transfer, there's undoubtedly loss just to gravity.

Q. Now, can you tell us -- I believe on y'all's report you list four factors that affect the presence, or lack thereof, of gunshot residue on a particular item or location.

A. Yes.

Q. Can you tell the ladies and gentlemen of the jury what those four factors are?

A. Well, essentially, it has to do with the time between the event and the collection of the evidence. Environmental factors, such as was it raining, because rain could -- and wind -- can affect the deposition and the longevity of this particular residue. Any kind of protection that may have been near the surface. Say, the surface were a hand, but it's known that the hand was gloved. So, sampling the hand may result in a negative,

1 whereas the actual particles could be on the glove. So,
2 that type of protection activity. Washing, washing the
3 surface will -- is probably the best most effective way of
4 reducing this residue.
5 Q. All right. And did you have an opportunity to
6 perform testing on some evidence from this case at your
7 lab?
8 A. Yes, I did.
9 MS. LOGAN: May I approach the witness,
10 Judge?
11 THE COURT: Yes, ma'am.
12 Q. (By Ms. Logan) Let me show you what I've marked
13 for identification purposes as State's Exhibits 139, 140,
14 and 141. Do you recognize those documents?
15 A. Yes, I do.
16 Q. Okay. And is that the report that you
17 generated as a result of your testing in this case?
18 A. Yes, ma'am.
19 Q. Three reports, rather?
20 A. That's correct, three.
21 Q. All right. And now let me show you State's
22 Exhibit 172. Do you recognize that?
23 A. I do.
24 Q. State's Exhibit 171, do you recognize that?
25 A. Yes, I do.

1 Q. And State's Exhibit 170?
2 A. Yes, I do.
3 Q. All right. Are State's Exhibits 170, 171, and
4 172 the actual testing stubs that you used to perform your
5 analysis on the evidence in this case?
6 A. Yes, ma'am.
7 MS. LOGAN: I offer into evidence State's
8 Exhibits 170 through 172. I'll tender to defense
9 counsel.
10 (State's Exhibit Nos. 170 through
11 172 offered)
12 MR. McWILLIAMS: No objection.
13 THE COURT: What were those numbers again?
14 MS. LOGAN: 170, 171, and 172.
15 THE COURT: No objection. They are
16 admitted.
17 (Whereupon State's Exhibit Nos.
18 170-172 are admitted into evidence.)
19 MS. LOGAN: May I show these items to the
20 jury, Judge?
21 THE COURT: Yes, ma'am.
22 Q. (By Ms. Logan) So, when you talk about
23 collecting potential samples for use in your lab, I'll
24 show you State's Exhibit 170 here. We can see that
25 there's like a plastic -- kind of orange plastic bottom

with a clear plastic top on top; is that right?

A. That's correct.

Q. Okay. Tell the ladies and gentlemen what you do with an item like this as it pertains to your testing.

A. Well, that device is simply -- if you grasp it by the brown-orange bottom and lift the top off, it exposes that piece of tape that I just spoke of. And you just take that device and you dab the surface until it's perceptively no longer sticky.

Q. And I'm showing you State's Exhibit 81 in this case. Does this item look familiar to you?

A. Yes.

Q. All right. And is this one of the garments that you were asked to test?

A. Yes, it is.

Q. State's Exhibit 82-A, does that, likewise, look familiar to you?

A. Yes, it does.

Q. Is that another item you were asked to test?

A. Yes.

Q. And State's Exhibit 148-A.

A. Yes.

Q. Does that look familiar to you?

A. Yes, it does.

Q. Okay. So, in your report, when you refer to

1 three nightgown items in original packaging, are you
2 referring to those items that we just spoke about?
3 A. Yes, ma'am.
4 Q. Okay. Now, you tested the original packaging
5 for the nightgown from when it was collected back in 1987.
6 Why would you do something like that?
7 A. Well, the request was, obviously, made, but I
8 mean, with time, if there's gunshot residue on a surface,
9 it can become dislodged and find its way on to another.
10 In this case, it would have been the packaging. So, the
11 packaging was important to the sample as well.
12 Q. All right. Now, does your lab issue a specific
13 number for a case so that, internally, you can make sure
14 that the correct documents are associated with that case?
15 A. Yes.
16 Q. And on your documents, do you also reference
17 the unique case number that the police agency gives to the
18 incident?
19 A. Yes, we do.
20 Q. Okay. And so, in State's Exhibits 139, 140,
21 and 141, can you just read into the record your laboratory
22 number, please?
23 A. JAJ-10-00962.
24 Q. Okay. And then can you also read into the
25 record the incident report number that your examinations

1 in this case pertained to?
2 A. There is 87-069676 and 10-122344.
3 Q. Okay. And those numbers are from the police
4 department, in this case, the Harris County Sheriff's
5 Office?
6 A. Yes. It's provided to us by them.
7 Q. All right. Now, you've reviewed the contents
8 of State's Exhibits 139, 140, and 141, right?
9 A. Yes.
10 Q. And do those documents fairly and accurately
11 reflect the report that you generated in this case with
12 respect to your findings?
13 A. Yes, ma'am.
14 Q. And are you a custodian of these types of
15 records?
16 A. Yes.
17 Q. Did you create the report close in time to
18 actually examining the evidence?
19 A. Yes, ma'am.
20 Q. And they haven't been altered or tampered with
21 in any way?
22 A. No.
23 MS. LOGAN: I offer into evidence State's
24 Exhibits 139, 140, and 141. I'm tendering to defense
25 counsel for inspection.

1 (State's Exhibit Nos. 139 through
2 141 Offered)
3 MR. McWILLIAMS: I have no objection to
4 State's Exhibits 139, 141, and 142 {sic}.
5 THE COURT: 139, 140, 141?
6 MS. LOGAN: Yes, sir, Judge, 139, 140,
7 141.
8 THE COURT: Okay. They are admitted.
9 (Whereupon State's Exhibit Nos.
10 139-141 are admitted into evidence.)
11 MS. LOGAN: May we publish to the jury,
12 Judge?
13 THE COURT: Yes, ma'am.
14 Q. (By Ms. Logan) Dr. Davis, I'm showing you
15 State's Exhibit 139 on the document camera. This is the
16 report you made, right?
17 A. Yes, ma'am.
18 Q. Can you tell us what the analysis date was?
19 A. The analysis date was April 12th, 2011.
20 Q. Okay. And what item was submitted for your
21 review?
22 A. This was described as a nightgown.
23 Q. Okay. Is that State's Exhibit No. 81, the
24 sleeveless number that we've looked at?
25 A. The first one you held up, yes.

1 Q. Okay. The sleeveless nightgown. All right.
2 And who with the sheriff's office submitted this for your
3 review?
4 A. Rossi.
5 Q. That would have been David Rossi, D. Rossi?
6 A. D. Rossi, yes.
7 Q. Okay. Do you actually have conversations with
8 the person that submits the evidence?
9 A. Not as a rule.
10 Q. Okay. Do you recall having a conversation with
11 him in this case?
12 A. Very briefly at the beginning when the request
13 was made.
14 Q. Okay. All right. And earlier we talked about
15 those factors that can affect the presence of gunshot
16 residue on an item, right?
17 A. Yes, ma'am.
18 Q. And that's what we see here listed here 1
19 through 4, right?
20 A. Yes, ma'am.
21 Q. Okay. And if we turn the page to the second
22 page of your report, there is a little sort of chart
23 there, right?
24 A. Yes.
25 Q. Okay. So, can you tell us -- interpret for us

1 what the results were of your first test of State's
2 Exhibit No. 81, the blue nightgown in this case?
3 A. Well, we found one particle that is
4 characteristic of gunshot residue. That's that first
5 column there that says Pb-Ba-Sb. One particle, as I said,
6 that's gunshot residue, but it's a small quantity. We
7 call that an inconclusive result in our wording.
8 Q. All right. I'll get back to that in a moment.
9 Let's talk about how many particles of lead were located
10 based on that first testing of the nightgown.
11 A. There were nine.
12 Q. Okay. Now, lead alone does not mean that a
13 person was in proximity to a firearm being shot, right?
14 A. No.
15 Q. The only thing that tells us anything with
16 certainty about proximity to a firearm would be that first
17 column where we're talking about lead, barium, and
18 antimony together?
19 A. That's correct.
20 Q. Okay. Now, you said that it is not conclusive
21 when you see one particle of gunshot residue on an item.
22 Now, is it conclusive that there is gunshot residue
23 present?
24 A. Yes.
25 Q. Okay. Tell us what you mean when you say

1 inconclusive with respect to that result.
2 A. The inconclusiveness has to do with whether we
3 can say with any certainty that the presence of this most
4 likely came from being near a discharged weapon or near a
5 weapon at discharge. And when I say most likely, this is
6 the primary event. As I said, as time goes by, or as
7 contact between surfaces occurs, these particle numbers
8 diminish. So, that when they get into this range of one
9 or two, it's not as clear statistically whether or not
10 this is a primary association. This could be a secondary
11 accidental --
12 MR. McWILLIAMS: Judge, I'm going to
13 object then to the relevance of this. I'd ask to
14 take the witness on voir dive.
15 THE COURT: It's overruled. I will let
16 him finish his explanation and then I will let you
17 take him on voir dire.
18 MR. MCWILLIAMS: Thank you, Judge.
19 THE COURT: Okay. You may continue and
20 then you'll have an opportunity. Go ahead, sir.
21 A. The line is blurred. The analyst can no longer
22 statistically, based on the number, say with any kind of
23 certainty that this was a primary transfer of gunshot
24 residue.
25 THE COURT: You may.

1 MR. McWILLIAMS: I renew the objection and
2 I'll --
3 THE COURT: Do you want to take him on
4 voir dire?
5 MR. McWILLIAMS: Yes, Judge.
6 THE COURT: You may.
7 **VOIR DIRE EXAMINATION**
8 BY MR. MCWILLIAMS:
9 Q. Sir, if I understand what you're saying is you
10 have -- in your determination, you located one particle?
11 A. On the sampling.
12 Q. That's what we're talking about. This whole
13 thing about whether it's inconclusive or whatever, let's
14 talk about this one particle that you have.
15 A. Yes, sir.
16 Q. But that particle, it's only important to
17 this -- this trial that we're talking about here, right?
18 If it was deposited by -- because the person was standing
19 next to the firearm when it was fired that killed Ed
20 Clark, right?
21 A. I can't answer to that, sir.
22 Q. Well, that's what you're talking about a --
23 when you're talking about the primary event and what the
24 distinction here is, that's what you're talking about,
25 right?

1 A. I'm speaking of a statistical model.
2 Q. Okay. What I'm saying is, your -- the point
3 being, you're not -- with regard to -- let me say it this
4 way. You know that we're trying a murder case here,
5 right?
6 MS. LOGAN: Judge, I object at this point.
7 He has an opportunity for cross-examination. I'm not
8 sure what the voir dire point is.
9 MR. McWILLIAMS: I'm struggling to get to
10 it, Judge, but I think --
11 THE COURT: I will give him an opportunity
12 to get around to it; otherwise, he will have to wait
13 until cross-examination.
14 MR. McWILLIAMS: I'm trying to get to it
15 real quick.
16 Q. (By Mr. McWilliams) The only thing -- it is
17 important -- and I assume that you've had some discussion
18 with the State about this before you came and testified
19 today, right?
20 MS. LOGAN: Again, Judge, this is
21 cross-examination.
22 THE COURT: I will let him -- give him
23 some room.
24 Go ahead.
25 Q. (By Mr. McWilliams) You've talked about this

1 with them before you came?
2 A. Yes.
3 Q. And you know, because you've testified before,
4 right?
5 A. Yes.
6 Q. Many times?
7 A. Yes, sir.
8 Q. About gunshot residue?
9 A. Yes, sir.
10 Q. Isn't the idea to be able to put the shooter at
11 the scene with the gun firing, the killing bullet?
12 A. This is a misunderstanding of what gunshot -- I
13 wish I could answer that "yes" or "no, sir, but if I may,
14 gunshot residue does not --
15 MR. McWILLIAMS: Judge, I object. That's
16 nonresponsive.
17 THE COURT: Well, he can't answer the
18 question the way you asked it. And I believe it's
19 voir dire -- I mean, cross-examination and not
20 necessarily voir dire that I thought you were going
21 to do.
22 So, go ahead and continue direct and you
23 will have a chance to do cross-examination.
24 MR. McWILLIAMS: I appreciate it, Judge.
25 THE COURT: All right.

1 **DIRECT EXAMINATION CONTINUED**
2 BY MS. LOGAN:
3 Q. All right. So, when we're talking about a
4 primary deposit or a primary event, tell the folks on the
5 jury what it is you mean when you say that.
6 A. I mean the primary event could be being in the
7 proximity of a weapon when it went off, discharging a
8 weapon, or picking up a weapon shortly after discharge.
9 Q. So, when you talk about secondary deposits or
10 secondary events, tell us what you mean by that.
11 A. Those are inadvertent events. If the person
12 had picked up a weapon soon after discharge and then
13 handled money and handed it to you, you have no knowledge
14 of the event, but, yet, you may have small amounts of
15 gunshot residue.
16 Q. Okay. Doctor, if a person were to take a
17 garment, such as this, and shake it out several times
18 before the garment got submitted to you for testing, would
19 you expect that behavior to affect the presence of gunshot
20 residue if it was ever there?
21 A. It could, yes.
22 Q. Let me show you State's Exhibit 141. This is a
23 secondary report that you completed in this case, correct?
24 A. Yes, ma'am.
25 Q. We're talking about the same case numbers --

1 I'm sorry. I meant to put 140 up there.
2 Okay. What was the analysis date on this lab,
3 State's Exhibit 140?
4 A. This was April 9th, 2011.
5 Q. Okay. All right. And what are we looking at
6 on April 9th?
7 A. Again, a nightgown.
8 Q. Okay. So, why is there a second lab report for
9 that same nightgown?
10 A. It was a second request.
11 Q. Okay. What was that request?
12 A. The request was to reexamine, take additional
13 samples.
14 Q. Okay. Why would that be a possibility?
15 A. As I said, when we sample clothing, it doesn't
16 -- we don't sample the entire surface. It's not a
17 vacuum-type technique. It's actual dabbing, and we just
18 dab at random, essentially.
19 Q. All right. And, so, with this second request,
20 is the idea that you would cover more of the garment or
21 maybe different portions of the garment than you covered
22 the first time you did the test?
23 A. We certainly tried to cover more of the garment
24 than we did the first time.
25 Q. Okay. When you did that, same type of report,

1 right?
2 A. Yes, ma'am.
3 Q. And we go to the chart here on the second page,
4 and what did we find?
5 A. In this case, I actually used two sample stubs
6 to continue the sampling of this. And, again, I found one
7 particle on one of those stubs.
8 Q. And one particle of gunshot residue?
9 A. Yeah, one characteristic particle on one of the
10 stubs.
11 Q. All right. And we can see there that you
12 delineate between nightgown A and nightgown B.
13 A. Yes. Two specific stubs were used.
14 Q. Okay. So, it's not different nightgowns?
15 A. No.
16 Q. Okay. All right. And, so, how many total
17 particles of gunshot residue -- based on your testing of
18 State's Exhibit 81, that blue nightgown, how many
19 particles of gunshot residue were present on that item?
20 A. There were a total of two.
21 Q. And State's Exhibit No. 141. It looks like you
22 did this analysis on May 9th, 2011, right?
23 A. Correct.
24 Q. What did you test?
25 A. This was a packaging and then two additional

1 pieces of garment.
2 Q. Okay. Those are the ones that we looked at
3 earlier, right?
4 A. Yes, ma'am.
5 Q. Okay. And on the four, I guess, stubs or
6 samples that you took on this date, did you locate any
7 gunshot residue on those items?
8 A. There were no characteristic particles.
9 Q. Okay. When you talk about having a conclusive
10 result for the presence of gunshot residue, how many
11 particles does your laboratory require to be present
12 before you can get up on the stand and say conclusively we
13 have gunshot residue?
14 A. Three.
15 Q. And in this case we only have two, right?
16 A. Yes, ma'am.
17 Q. Okay. So, what does that mean that you can
18 tell the jury as far as the presence of gunshot residue on
19 State's Exhibit No. 81, the blue nightgown?
20 A. My interpretation of the two particles is that
21 there remains a statistical probability that these --
22 MR. McWILLIAMS: Judge, I'm going to
23 object and ask that we approach.
24 THE COURT: All right.
25 (Whereupon counsel approached the

1 bench out of the hearing of the
2 jury.)
3 THE COURT: Your objection, sir?
4 MR. McWILLIAMS: My objection is going to
5 be relevance. And that's going to be a 403 objection
6 to follow that. I think he's about to say that he
7 can't call this conclusively gunshot residue, but he
8 thinks there's a statistical probability that it was
9 there and got flaked off at some point in time. That
10 prejudicial effect seriously outweighs --
11 (Whereupon the following proceeding
12 is held in the hearing of the jury.)
13 THE COURT: Okay. Let's go ahead and take
14 our break.
15 (Whereupon the following proceeding
16 is held outside the presence of the
17 jury.)
18 THE COURT: So, the answer was that you
19 need three spots, or whatever it is, to conclusively
20 say that it's gunshot residue; is that right?
21 THE WITNESS: The three is where our
22 reports become --
23 THE COURT: Hold on just a second. All
24 right. Go ahead.
25 THE WITNESS: The three has to do with

1 whether or not the likelihood of the primary
2 association is now outweighing the secondary transfer
3 probabilities.
4 THE COURT: Okay. So, if it's less than
5 three, you still have -- there's still a probability,
6 but it doesn't outweigh the transfer or the potential
7 for a transfer?
8 THE WITNESS: Right.
9 THE COURT: So, it's the same? So, you
10 can't say it's more than the other? I mean, is it
11 more likely or less, or you just can't say?
12 THE WITNESS: As the number increases, the
13 probability that it is no longer an accidental
14 transfer goes down.
15 THE COURT: Okay. That makes sense.
16 THE WITNESS: But we draw the line. At
17 three, the chance of someone that has never been near
18 a weapon -- all right --
19 THE COURT: Yes.
20 THE WITNESS: -- turning up with three --
21 THE COURT: Right.
22 THE WITNESS: -- is about one in a
23 million.
24 THE COURT: Okay. But we don't have that
25 situation here because we have two. So, what was

1 your -- so, I'm trying to get what your question
2 would be -- or your answer would be regarding
3 probabilities now.
4 THE WITNESS: 1 in 10,000.
5 THE COURT: So, it's 1 -- what is -- all
6 right. I'll let you voir dire on that.
7 MR. McWILLIAMS: Judge, I would object --
8 THE COURT: Wait a minute. I will let you
9 voir dire on how he attained that number.
10 MR. McWILLIAMS: The 1 in 10,000?
11 THE COURT: Yes.
12 MR. McWILLIAMS: I'm not sure that I want
13 to voir dire on that in front of the jury, Judge.
14 THE COURT: No, we're not in front of the
15 jury.
16 MR. McWILLIAMS: Okay.
17 **VOIR DIRE EXAMINATION**
18 BY MR. MCWILLIAMS:
19 Q. Let me ask you: How did you get to 1 in
20 10,000?
21 A. Based on a published study.
22 THE COURT: Okay. Let me put the mic on.
23 Go ahead, sir.
24 Q. (By Mr. McWilliams) How did you arrive at the 1
25 in 10,000?

1 A. There are statistical models, sir. We call it
2 the Poisson probability.
3 Q. Okay. Let me ask you. Before we went on the
4 record here, we were having kind of an introductory
5 discussion about this, the Court and myself and you, and
6 you made the comment that for a person who's never handled
7 or been around a gun to wind up with three things -- three
8 particles would be astronomically high, you said --
9 A. 1 in 1 million.
10 Q. 1 in 1 million. And that changes as we either
11 have more particles or less particles, and, obviously,
12 that affects those numbers one way or the other, right?
13 A. You can query the probability based on a target
14 number of particles.
15 MR. McWILLIAMS: I'm sorry. I'm going to
16 object as nonresponsive.
17 Q. (By Mr. McWilliams) You're about to tell me
18 something that's away from where I'm at.
19 When you -- the point that was important was when you
20 said a person who's never around a gun, or had anything to
21 do with a gun to have that on them. Is that an assumption
22 that is built into whatever you're saying, whether it's 1
23 in 10 million or 1 in 10,000, is the assumption that the
24 person wasn't around any guns, didn't have anything to do
25 with any guns, never in any contact with any guns before

1 that?
2 A. It's based on a study of people --
3 Q. Doctor, I'm asking you is that -- does what
4 you're telling the Court here, is it based on an
5 assumption that the person has no contact with firearms?
6 A. Yes.
7 Q. So, let me show you -- I'm going to show you
8 this in pictures. I'm showing you what's been marked as
9 State's Exhibit 19. I'm going to show you another picture
10 from the house.
11 I'm going to show you -- put up there for you State's
12 Exhibit 146 because I can't -- I'm looking for the picture
13 right now. I'm going to talk to you about some of these
14 things.
15 So, you've got State's Exhibit 19, State's Exhibit
16 146, and State's Exhibit 20, right?
17 A. Yes, sir.
18 Q. If I represent to you that all of these things
19 are -- well, the pictures are pictures of things that were
20 contained in the room at the scene of Edmund Clark's
21 death.
22 A. Okay.
23 Q. You accept that that's true?
24 A. I will.
25 Q. Those pictures, they contain pictures --

1 there's multiple weapons there, correct?
2 A. Yes.
3 Q. And there's also shotgun shells laid out on the
4 nightstand, right?
5 A. Yes, sir.
6 Q. Now, let me ask you. If I told you that that
7 was the marital bedroom of a couple, and you don't know
8 when those things were laid out there and when the shotgun
9 was put there, or this gun, or any of that, is that the
10 kind of potential for accidental transfer? Has that
11 environment got potential for an accidental transfer in
12 it?
13 A. The environment has GSR in it most likely, yes.
14 Q. So, there's a strong potential for an
15 accidental transfer, just looking at that crime scene
16 room, if the person has ever been in that room when those
17 things are in there?
18 A. Without having tested any of these weapons,
19 yes. Obviously --
20 Q. If I told you --
21 THE COURT: Let him finish his answer. Go
22 ahead.
23 A. I mean, anytime you're in a GSR environment,
24 there's a chance for GSR to be transferred.
25 Q. (By Mr. McWilliams) And that is an environment

1 that you're looking at saying: Yes, there's a much better
2 opportunity for GSR transfer there than if I'm in my
3 bathroom at home and there are no guns there?
4 A. Right.
5 Q. So --
6 THE COURT: Okay. I think -- let me
7 interrupt real quick.
8 All right. My understanding there's --
9 the question -- and I understand the danger that
10 you're afraid of here -- is when you give this
11 statistical probability, it has to be clear that that
12 assumption assumes that the person has never been
13 around guns or in a GSR environment. Would that be
14 correct?
15 THE WITNESS: If I may point out --
16 THE COURT: Please.
17 THE WITNESS: -- we're trying to make a
18 statement about the population in general.
19 THE COURT: Yes, sir.
20 THE WITNESS: All right. And it's based
21 on a sampling. That sampling happened to be police
22 officers who had been assigned desk duty and did not
23 fire or discharge any of their weapons, whether it
24 was their service or personal weapons. All right?
25 So, they're in a GSR environment. I am saying that

1 this is a total false-negative, meaning that a person
2 --
3 THE COURT: What do you mean by that?
4 THE WITNESS: False-positive. I'm sorry.
5 THE COURT: Okay.
6 THE WITNESS: A total false-positive.
7 Granted, the sampling was done in a GSR environment.
8 I am taking that, which is very favorable to the
9 person that has never fired a gun, and applying it to
10 the person that's never fired a gun. I cannot talk
11 to the environment where there's GSR. Because if I
12 do that, then I have to consider every possible
13 environment. If I live next to a marine base, my
14 home would probably have a lot more GSR than the
15 average home, even though I have no weapon. So, a
16 home that has weapons, I can't talk to what the
17 baseline is in that. I can't. I just simply can't.
18 MR. McWILLIAMS: Judge, may I ask one
19 follow-up question?
20 THE COURT: Sure.
21 Q. (By Mr. McWilliams) Just to get to the real
22 nitty-gritty about it, in all of these things, in all the
23 testing -- did you review any of the testing that had been
24 done in '87?
25 A. No, I did not.

1 Q. In all your testing, are you able to tell me,
2 or the jury, or anyone within a reasonable degree of
3 scientific certainty that any of those pieces of clothing
4 were anywhere near this weapon, or some other weapon at
5 the time it was fired into Ed Clark's brain?
6 A. No.
7 MR. McWILLIAMS: I ask that the testimony
8 be stricken. It's irrelevant.
9 THE COURT: All right. Well, I mean, it's
10 -- I disagree with you.
11 MR. McWILLIAMS: I would ask that anything
12 with regard to the finding of gunshot residue
13 particles, and all the things we've been talking
14 about leading up to this probability deal, before we
15 kind of saw where we were going, that that stuff --
16 that the jury be asked to disregard that because
17 they've already got some of that in their minds,
18 Judge.
19 THE COURT: The only question I have now
20 is still regarding the numbers and probability. And
21 I think before we get there, I think you need to lay
22 a foundation as to whether or not, you know, this is
23 something that's standard in the field, like --
24 MS. LOGAN: Sure, Judge. You want us to
25 go into the study? That would be helpful?

1 THE COURT: Please.
2 MS. LOGAN: Okay. Yes, absolutely.
3 MR. McWILLIAMS: While we're still outside
4 the presence of the jury, at this time I want to
5 renew my objection -- I want to -- because I know
6 that was the deal, I would like to object to -- I'm
7 sorry, Judge. I'm okay.
8 THE COURT: All right. Thank you.
9 MR. McWILLIAMS: I have an objection to
10 any of this testimony as being irrelevant at this
11 point because he cannot say -- he can't answer that
12 question.
13 THE COURT: You made that objection.
14 MR. McWILLIAMS: If it's not that, then
15 it's only -- then I would make a 403 argument that
16 it's only prejudicial without -- with zero probative
17 probability.
18 THE COURT: All right. Thank you. I've
19 ruled on your objection, but at this point I still --
20 before I let in some statistical analysis, there has
21 to be some foundation for the reliability of such
22 statistical analysis coming before the jury.
23 So, at this point, what I want the State
24 to do, if they can, is prove up the reliability of
25 such a statistical analysis.

1 MS. LOGAN: Yes, sir.

2 **VOIR DIRE EXAMINATION**

3 BY MS. LOGAN:

4 Q. What is that study called?

5 A. The study was published in a journal called
6 "Scanning" in 2005 by an Italian group. As I mentioned,
7 the sampling came from a group of police officers who had
8 not fired their weapons in over a month. It was actually
9 a two-part study. There was a study in which they looked
10 at people that had fired their weapons, and then they
11 looked at a time, how time affected the numbers, but that
12 was not the part that I picked up on.

13 I personally am involved in studying the
14 false-positive. So, this is -- I have a grant from the
15 NIJ to do this, but based on this study, there is -- of
16 police officers, they found one particle. That provides
17 us with an average, 1 in 81.

18 Our analysis, when we get past all the SEM, when we
19 get past all the energy dispersive stuff that we do, at
20 the end of the day, we're counting particles. There is a
21 branch of statistics called the Poisson probability. And
22 that has to do with counting things. So, if you sat and
23 count red cars going through an intersection, you would
24 apply this. Red cars with Texas plates in Arkansas, you
25 could apply this and you would get a probability and you

1 could apply it. And that's what this is doing.
2 And based on that average, we extrapolate out to
3 various values of what we count, and we can calculate the
4 probability either cumulatively, up to and including that
5 point, or that point in particular.
6 So, when I said there's 1 in a million, that means
7 essentially that 99.9999 percent of the population is
8 walking around with two or less. All right?
9 So, that's where the three is important to us -- the
10 non-shooting population, I should say; people that are not
11 necessarily, you know, in GSR environments, even though
12 the sampling was a GS -- a fairly risky GSR environment.
13 But we're applying it to the general population. So, it's
14 sort of -- it's beneficial to them that we use a GSR
15 environment.
16 Now, we could have gone further. Like I said, if I
17 had used a Marine base, now our threshold would be
18 probably on the order of 20 to 25, but that's a little
19 less --
20 Q. Common.
21 A. -- common. So, that's where this statistical
22 analysis comes from.
23 THE COURT: I've had a lot of cases with
24 -- where there was testimony regarding gunshot
25 residue, but I cannot recall a case where they

1 discussed probabilities in gunshot residue.
2 THE WITNESS: I have.
3 THE COURT: It's either present or not
4 present. Is that something you commonly do?
5 THE WITNESS: I have done it in a number
6 of cases. I don't know the exact number.
7 THE COURT: Okay. Go ahead. I'll let you
8 continue.
9 MS. LOGAN: I guess, just what I would
10 want to make clear for the Court, it sounds like is
11 the rug here, is that this witness is not making the
12 assertion that the two particles of gunshot residue
13 that he located on the garment are because the wearer
14 shot the gun that killed Ed Clark --
15 THE COURT: Right.
16 MS. LOGAN: But there has been an
17 impression left in front of this jury that there is
18 an absence of gunshot residue on any of the items in
19 evidence. And that's not accurate. There is gunshot
20 residue present. We can't -- because of the limits
21 of how long it's been, what's happened to the
22 evidence, and the testing procedures, we can't say
23 that it's that 1-in-a-million situation where we have
24 three or more. Okay?
25 THE COURT: All you can say is what you

1 have.
2 MS. LOGAN: Right, Judge.
3 THE COURT: You can't say -- but we can't
4 say why that is. It's just what it is.
5 MS. LOGAN: And I was not attempting -- if
6 there's a misunderstanding about what I was trying to
7 get the witness to say, I was not trying to elicit
8 that.
9 THE COURT: No, I understood that.
10 MS. LOGAN: Okay.
11 THE COURT: I understood that. I just had
12 some hesitation when we got to the numbers and
13 probability because I noticed -- I'm trying to recall
14 when I got into probabilities regarding gunshot
15 residue. Typically, what I can recall is the
16 presence of being there or not.
17 So, are there any other studies regarding
18 probabilities, or is that the only study you are
19 aware of?
20 THE WITNESS: There are studies that have
21 looked at persistence of GSR in various environments.
22 THE COURT: Okay. What do those studies
23 say?
24 THE WITNESS: Those studies are more
25 geared towards objects, police department interview

1 rooms, police department squad cars.
2 THE COURT: Would there be like some
3 transfer as a result --
4 THE WITNESS: Yeah.
5 THE COURT: -- in any of these
6 environments?
7 THE WITNESS: Much, much less controlled.
8 THE COURT: Okay. Yes, sir.
9 MR. McWILLIAMS: Judge, I believe he just
10 testified in that exchange that 99.9 percent of all
11 of the walking population is walking around with two
12 or less particles on them.
13 THE COURT: Okay.
14 MR. McWILLIAMS: And the testimony about
15 these garments is that he's found two particles on
16 them. That differentiates -- that differentiates
17 those items and, consequently, Mrs. Clark from
18 exactly .9 percent of the population, according to
19 his testimony right now. That is not --
20 THE COURT: My question to you now is:
21 Why are you opposing his testimony?
22 MR. McWILLIAMS: Well, because, Judge, it
23 should have never --
24 THE COURT: This is where we are. And,
25 so, this is where we are, and we've got into this,

1 but I think as long as you make that clear to the
2 jury, then I don't think that there's any kind of
3 prejudicial effect. Now, we're just talking about
4 what exists. And, so, I'm okay with it at this
5 point.
6 Let's go ahead and take five minutes,
7 guys. And I'm going to overrule you. Okay? All
8 right. And then we will go forward.
9 Let's take five minutes. Okay? Did I say
10 something wrong?
11 THE WITNESS: I just want to point out
12 that at no point would a GSR examiner say that --
13 THE COURT: Right. We know that. We know
14 you're not going to go there.
15 All right. Let's go ahead and take
16 another five minutes, and then we will bring the jury
17 in here.
18 (Whereupon the Court stood in a
19 brief recess.)
20 (Whereupon the following proceeding
21 is held in the presence of the
22 jury.)
23 THE COURT: Let's pick up where we left
24 off.
25 MS. LOGAN: Thank you, Judge.

1 **DIRECT EXAMINATION CONTINUED**
2 BY MS. LOGAN:
3 Q. Dr. Davis, I believe before be took the break,
4 you were testifying about your knowledge as an expert in
5 the field of gunshot residue testing, concerning your
6 knowledge of statistics and studies that have been
7 performed that form your opinion as to how many particles
8 you would need to see before you could say conclusively
9 that it is a primary transfer of gunshot residue onto an
10 item; is that correct?
11 A. With high probability.
12 Q. Okay.
13 A. Not conclusively.
14 Q. Okay. Conclusively is the terminology that you
15 use in your report, right?
16 A. Right. It would be not inconclusive. I'm
17 sorry. That's the way it would -- we would lose that
18 word, that phrase.
19 Q. All right. So, just so we are clear here, so I
20 don't mess us up, we either have an inconclusive result,
21 right?
22 A. Yes.
23 Q. Or what's the other option?
24 A. The other option is where that phrase is
25 removed and we say "most likely."

1 Q. And the reason that that's the kind of wording
2 and phraseology that we have to use is because gunshot
3 residue is something that's easily transferable, right?
4 A. Yes.
5 Q. And it is in our environment in certain
6 locations, right?
7 A. Yes.
8 Q. Now, let's talk about the study that you were
9 referencing when we were talking about probabilities and
10 statistics. Can you give the ladies and gentlemen of the
11 jury a brief overview of the --
12 MR. McWILLIAMS: Judge, I'm going to
13 object to that because that's what we delved into,
14 the statistical assumptions of the study to talk
15 about those things. That's precisely what we were
16 discussing.
17 THE COURT: All right. It's overruled.
18 You may proceed.
19 Q. (By Ms. Logan) Can you give us a brief overview
20 of the study for which you are familiar that forms your
21 expert opinion in this case?
22 A. The study that I refer to has to do with police
23 officers that were sampled at various times during their
24 shift with one caveat; that these police officers had not
25 fired their weapon, their service weapon, nor any personal

1 weapon within 30 days. So, they were essentially assigned
2 to desk duty, but were reporting to work.
3 MR. McWILLIAMS: Judge, I'm going to
4 object to the discussion about another hypothetical
5 experiment that has no relevance to this particular
6 event. I mean, he's talking about an experiment that
7 was done on some other thing. There's no foundation
8 for what that -- how that relates to this.
9 THE COURT: It's overruled.
10 Q. (By Ms. Logan) All right. And based on your
11 familiarity with that study and its results, can you tell
12 us what the statistical probability is of a person having
13 one particle of gunshot residue on their person?
14 MR. McWILLIAMS: Just for the record, I've
15 got to object. I'd ask that this be a running
16 objection with regard to any probabilities or
17 statistical analysis.
18 THE COURT: You may. I will give you a
19 running objection to this line of questioning, sir.
20 MR. McWILLIAMS: Thank you.
21 THE COURT: All right.
22 A. One particle is 1 in 81.
23 Q. (By Ms. Logan) 1 in 81 persons?
24 A. Yes.
25 Q. All right. What about two particles?

1 A. Two would be about 1 in 10,000.
2 Q. And three particles?
3 A. About 1 in a million.
4 Q. Now, with respect to gunshot residue particles,
5 is it possible for an item that has many gunshot residue
6 particles on it to lose some of those particles over time?
7 A. Yes.
8 Q. Can you tell the ladies and gentlemen of the
9 jury what sorts of activities would be consistent with the
10 loss of particles?
11 A. These particles are --
12 MR. McWILLIAMS: I object to relevance
13 unless there is some indication of some specific
14 event.
15 THE COURT: It's overruled.
16 A. These particles are very, very susceptible to
17 dislodging by agitation.
18 Q. (By Ms. Logan) Okay. So, for example, would --
19 hypothetically, we're talking about a shirt. If that
20 shirt had particles of gunshot residue on it, would an
21 activity such as folding it, could it contribute to the
22 loss of particles?
23 A. Yes.
24 Q. What about changing out of a shirt, assuming it
25 had gunshot residue present on it, would that activity

1 potentially cause the loss of particles?
2 A. Yes.
3 Q. We spoke earlier about the Griess method of
4 testing for lead that was used in 1987. Can you tell us
5 whether --
6 MR. McWILLIAMS: Judge, I object that that
7 assumes facts not in evidence, although it may just
8 need clarification.
9 THE COURT: You have to restate that
10 because I believe he testified about two kinds of
11 tests that were done.
12 MS. LOGAN: May I ask about them
13 separately, Judge?
14 THE COURT: Yes, ma'am, you may.
15 Q. (By Ms. Logan) With respect to the Griess
16 method of testing, would that procedure, in your opinion,
17 cause a possible loss of particles were they present on an
18 item?
19 A. Yes.
20 Q. What about the -- what was the other test? I'm
21 sorry.
22 A. The atomic absorption.
23 Q. Okay. Would the performance of the atomic
24 absorption test, could that possibly contribute to a loss
25 of particles on an item?

1 A. Yes.
2 Q. And, finally, the passage of time. Let's say,
3 hypothetically, decades. Would the passage of time, in
4 your opinion, affect the presence of particles or
5 contribute possibly to the loss of particles from an item?
6 A. No.
7 Q. Why not?
8 A. Chemically, they are inert. So, like I said,
9 agitation is going to do it. If they are contained -- any
10 particle should be contained. It's like sand.
11 Q. All right.
12 MS. LOGAN: I'll pass the witness.
13 THE COURT: Cross?
14 **CROSS-EXAMINATION**
15 BY MR. MCWILLIAMS:
16 Q. Doctor, I just want to talk to you a little
17 bit, but there's a lot going on there with the 1 in
18 10,000, and two particles, and all this.
19 You're making a distinction, are you not, between
20 gunshot residue being left by a primary event versus
21 gunshot residue being left accidentally or inadvertently?
22 A. Yes, sir.
23 Q. When you're saying 1 in 10,000, 1 in 1 million,
24 are you distinguishing that as a primary event, or are we
25 just talking about any gunshot residue?

A. That is any gunshot residue on a surface that's not associated with the event.

Q. Okay. Let me ask you: True or false, 99.9 percent of everybody walking around on the street today, including the jury, these folks out here, will have two or less particles on them?

A. False. You left out a 9. 99.99 percent.

Q. It's 9 point six other 9s, right?

A. Well, when you say two, do you mean -- let's just say less than three. Right? That would mean -- when you say two, it's less than three.

Q. Well, I'm just repeating what you told me in another proceeding.

A. Let me clarify then. It's two, one, or zero. If I take the sum of those three probabilities, I have 99.9999 percent. So, that's --

Q. And that's why you guys won't tell these guys that you have a conclusive gunshot residue test unless you have three or more?

A. Correct.

Q. Because you can't say -- because the fact is, unless you have three or more, it is more probable that they got there by an accidental transfer?

A. No, sir.

Q. Is that not what you just told me two minutes

1 ago?
2 A. To me, it's a matter of, again, the
3 probabilities. And for some people, long probabilities --
4 long odds are okay to take. In our laboratory, we don't
5 like long odds, so we have this cut-off.
6 Q. Right. But the idea --
7 A. That's an interpretation.
8 Q. Let's talk about it, Doctor. Did you and I not
9 have this discussion about how the cut-off is where your
10 lab has determined the cut-off to be in order to
11 distinguish things that are more than likely -- or within
12 a statistical analysis more than likely to result from a
13 secondary transfer versus a primary transfer? I mean,
14 that's the whole point of the thing, isn't it?
15 A. The probability has to do with at what point
16 does our laboratory say that we're not comfortable with
17 this possibility, no matter how remote it may seem on
18 paper, no matter how remote --
19 Q. Go ahead.
20 A. At what point does our laboratory say we are --
21 we're not comfortable in saying that was a primary. It's
22 not to say that the secondary is more likely, as you're
23 leading me to think. That's not the case.
24 Q. You don't think that's exactly what you told me
25 on the break?

1 A. I do not believe that.
2 Q. Well, let me say that -- let me ask it this
3 way.
4 A. Okay.
5 Q. You see all this evidence here?
6 A. Uh-huh.
7 Q. You tested all that? You tested it?
8 A. I sampled as much of it --
9 Q. How many times did you test it?
10 A. One of the items I sampled twice.
11 Q. And another one you sampled once?
12 A. Once.
13 Q. So, you did three tests. Do you know what
14 tests were done on it in 1987?
15 A. I do not.
16 Q. If I told you that there were, does your
17 analysis depend in any way on that?
18 A. It's not going to change the results that I
19 found.
20 Q. It wouldn't change your results, but might it
21 make you ask questions? If they got a different result
22 than you got, would you kind of want to see that?
23 A. That's not my position to do that.
24 Q. Here's what I'm going to ask you. Can you say
25 within a reasonable degree of scientific or medical

1 certainty that this garment was within close proximity to
2 this gun or some other .38 revolver when it was fired into
3 Ed Clark's brain?
4 A. No.
5 Q. I'm sorry, Doctor?
6 A. No, sir.
7 Q. You cannot say that?
8 A. No, I cannot.
9 Q. During that break, I showed you some photos and
10 stuff from the house on the day Ed Clark was killed. The
11 scene of the crime, right? You saw that?
12 A. Yes, sir. I'm still looking at it.
13 Q. High danger of accidental transfer of gunshot
14 residue in that environment?
15 A. There are weapons in the environment;
16 therefore, there would be GSR in the environment.
17 Q. Enough for two particles to land on a
18 nightgown?
19 A. I can't speak to that.
20 Q. You can't speak to that?
21 A. I have no study to suggest how much would be
22 there, sir.
23 Q. Now, in all that business about 1 in 10,000 or
24 1 in a million, that assumes that the person had no
25 contact with GSR, right, or had no contact with a weapon?

A. Yes.

Q. And we know that's actually not the case in this situation, right?

A. I see weapons in these photographs, is what I --

Q. Well, if I told you that was their marital bedroom and that was the stuff -- or people say that's the stuff she was wearing that night, I mean, and if I told you there were other weapons found in the house, there's clearly GSR in the environment, right?

A. Yes.

Q. That's clearly a distinction when you're talking about 1 in a million and 1 in 10,000. Those samples, those things assume that the person didn't have any contact with those things, right?

A. That's correct.

Q. So, those 1 in 10,000, 1 in a million don't have a hill of beans to do with that nightgown of Norma Clark and that pistol, do they?

A. It falls outside of the realm of the study.

MR. McWILLIAMS: I'll pass the witness.

THE COURT: Any redirect, ma'am?

MS. LOGAN: No, sir.

THE COURT: All right. Thank you, sir. You may step down. Thank you.

1 THE COURT: All right. Come forward.
2 Please raise your right hand.
3 (Whereupon the witness is sworn by
4 the Court.)
5 THE COURT: You may take the stand. Your
6 witness, Ms. Logan?
7 MS. LOGAN: Yes, sir. May I proceed?
8 THE COURT: Yes, ma'am.
9 **DAVID ROSSI,**
10 having been first duly sworn, testified as follows:
11 **DIRECT EXAMINATION**
12 BY MS. LOGAN:
13 Q. Sir, would you please introduce yourself to the
14 ladies and gentlemen --
15 THE COURT: Oh, wait. I'm sorry. Did we
16 lose somebody?
17 MR. McWILLIAMS: Yes.
18 THE COURT: All right. You may proceed.
19 MR. McWILLIAMS: Just as a housekeeping
20 matter, is it possible -- could we move the boxes
21 just so that we have a clear view to the jury?
22 THE COURT: If you can just -- you can set
23 them down on the other side, on the inside.
24 Let's proceed. Thank you.
25 Q. (By Ms. Logan) Sir, would you please introduce

1 yourself to the ladies and gentlemen of our jury?
2 A. Good morning. I'm David Rossi.
3 Q. Mr. Rossi, what do you do for a living?
4 A. Currently, semiretired.
5 Q. All right. Where do you live?
6 A. Currently in Boardman, Ohio.
7 Q. Where did you used to live?
8 A. In Houston.
9 Q. And what did you do for a living when you
10 resided in Houston?
11 A. I was employed with the Harris County Sheriff's
12 Office.
13 Q. In what capacity?
14 A. I was a crime scene investigator.
15 Q. All right. And to be a crime scene
16 investigator -- we've already heard from Lieutenant
17 Overstreet -- does that mean that you are a certified
18 peace officer in the state of Texas?
19 A. Yes.
20 Q. How many years were you a Crime Scene Unit for
21 the Harris County Sheriff's Officer?
22 A. Approximately 28 years.
23 Q. What year did you retire from the S.O.?
24 A. 2011, I believe.
25 Q. I want to talk to you a little bit about your

1 training and experience that qualifies you as a crime
2 scene investigator. Can you give the ladies and gentlemen
3 of the jury the benefit of your training and experience in
4 that area?
5 A. A little rusty. It's been a couple of years
6 since I've discussed this, but kind of the Readers Digest
7 version of it. I had well over 2,000 hours training
8 through the University of Houston, Houston Community
9 College, Texas Department of Public Safety, Federal Bureau
10 of Investigations, John Jakes College in Albany, New York,
11 University of Wisconsin, Georgia Tech, just various other
12 institutions around.
13 Q. All right. Tell us some of the specific fields
14 in crime scene investigation that you have an expertise
15 in.
16 A. Basically, trauma death investigations,
17 photography, advanced photography, chemical analysis of
18 blood substances, blood spatter investigation, various
19 types of shooting investigations, sexual assault
20 investigations. Pretty much anything that would relate to
21 any field in the -- or any areas in the field when you go
22 out to investigate a crime scene on how to collect
23 evidence and present that in court.
24 Q. Does that include DNA, fingerprinting, those
25 sorts of expertise?

1 A. Yes, ma'am. I was -- with DNA, I was appointed
2 to the -- under President George Bush as part of his DNA
3 initiative in the country. I was one of 32 people chosen
4 under that. So, I traveled quite a bit teaching other
5 police officers and lab people how to do DNA processing.
6 And later on, I believe it was 2001, possibly, I created a
7 chemical that develops latent blood, blood that's been
8 cleaned up off of crime scenes. And that chemical process
9 is now being used worldwide. So, definitely very
10 effective.
11 Q. Now, have you been published with respect to
12 your studies and training in crime scene investigations?
13 A. Yes. About the only one I can think of right
14 offhand, it's a book called "Practical Homicide
15 Investigation," which was written by Vernon Geberth, who
16 with this book -- it's basically the Bible for crime scene
17 investigation. And I was published in that. And right
18 offhand, I can't think of any other publications that I've
19 appeared.
20 Q. Can you tell the ladies and gentlemen of the
21 jury whether or not you have taught in the field of crime
22 scene investigation?
23 A. Yeah. My last, probably 10 years of -- with
24 the department, as far as teaching, I've taught everywhere
25 from -- I can't even think of it. It's down in Galveston,

1 College of the Mainlands, Rice University, Cal State
2 University, West Virginia University. So, been traveling
3 quite extensively my last several years with the
4 department training other officers.
5 Q. Now, I want to take your attention back -- let
6 me ask you this first. Have you testified as an expert in
7 the field of crime scene investigations, specifically
8 blood spatter analysis before?
9 A. Yes, ma'am.
10 Q. Have you done that on few or many occasions?
11 A. Many occasions.
12 Q. And have you done that here in Harris County,
13 Texas?
14 A. Yes, I have.
15 Q. Let me turn your attention back to June 12th of
16 2008. Were you working for the sheriff's office back
17 then?
18 A. I was.
19 Q. Were you working as a crime scene investigator
20 like you've described?
21 A. I was.
22 Q. Did you receive an assignment with respect to a
23 cold case?
24 A. I did.
25 Q. Tell the ladies and gentlemen of the jury what

1 a cold case is, how you come to be assigned to it, and
2 what you do.
3 A. When a case becomes cold, you know, pretty much
4 run out of avenues of investigation. I mean, to me it
5 really never goes cold. It just kind of gets pushed aside
6 a little bit. But in this particular case, a captain I
7 had with the department was retiring and asked me to
8 review this case. He had been sitting on it for years,
9 since I believe 1987. I'm not sure of the exact date, but
10 he knew my work that I had done before as far as what I
11 performed analytically on the evidence, and he wanted me
12 to look at it. So, he asked me to look at the case and
13 see what I could do with it.
14 Q. So, what's the first thing that you do when you
15 get an assignment like that?
16 A. The first thing I did on this was read over as
17 much of the report as possible to see what I was working
18 with and what had transpired way back when.
19 Q. And to your knowledge, at this point, had cold
20 case detectives with the sheriff's office become involved
21 in any way?
22 A. No.
23 Q. Okay. So, your involvement was before them
24 picking up the file?
25 A. Correct.

1 Q. All right. At the same time that you'd been
2 asked to look over this cold case, are you still receiving
3 assignments of live and pending cases?
4 A. Absolutely, just one after another.
5 Q. So, they didn't let you, like, take time away
6 from what you were supposed to be doing just to focus on
7 this case?
8 A. No. This case, when I had spare time in
9 between active cases, I would examine what I needed to do
10 on it.
11 Q. All right. Did you at some point request some
12 evidence with respect to the case that we're here about
13 today?
14 A. Yes, I did.
15 Q. Okay. Can you tell us what evidence it was
16 that you requested to examine?
17 A. It was a three-piece nightgown set, I believe;
18 like a robe and nightgown.
19 Q. And where did you request that those items be
20 located?
21 A. They were in the sheriff's office property
22 room, I believe.
23 Q. And can you tell us, based on your review of
24 the case file and the evidence that you were looking at,
25 what -- what sort of evidence were you going to try to

1 find on the garment?
2 A. Basically, any biological material, such as
3 blood or bone fragments, skin fragments, things like that.
4 Q. And based on your investigation in this case,
5 who did you believe the garments that you collected were
6 worn by at the time of the murder?
7 A. The victim's wife at that point.
8 Q. Now, let's talk a little bit about blood impact
9 spatter. Are you considered an expert in that field?
10 A. Yes, ma'am.
11 Q. Now, tell the ladies and gentlemen of the jury
12 how many types of impact spatter there are.
13 A. As far as impact spatter, there are three
14 types: Low velocity, medium velocity, and high velocity
15 impact spatter.
16 Q. Can you please give us an example of each of
17 those types of impact spatter?
18 A. Well, the low velocity impact spatter, that
19 would be like if you cut your hand and it's just passive
20 bleeding, just blood fall, free-falling blood. Medium
21 velocity impact spatter would be caused by somewhat of a
22 mechanical means. Like a beating, or, you know,
23 bludgeoning type of crime. And high velocity impact
24 spatter is spatter that's -- basically, the size of the
25 spatter would be a millimeter or less as far as size and

1 it would be caused by some type of mechanical means, such
2 as gunshot wounds, if you would walk into the propeller on
3 a plane, something like that, something that's traveling
4 at either -- approximately 70 miles-an-hour --
5 miles-per-hour or more would cause that type of spatter.
6 Q. Now, before you began your testing in this
7 case, did you make inquiry as to the types of testing that
8 had already been conducted on these items?
9 A. Yes, I did.
10 Q. Why would you do that?
11 A. Because if I was going to do any chemical
12 analysis further on down the line through my process, I
13 wanted to make sure that anything I would use would not
14 interfere, destroy, or explode on me if somebody else had
15 used chemicals prior to myself.
16 MS. LOGAN: May I approach the witness,
17 Your Honor?
18 THE COURT: Yes.
19 Q. (By Ms. Logan) Mr. Rossi, I'm going to show you
20 what has been marked for identification purposes as
21 State's Exhibits 154, 155, 156, and 157. Would you take a
22 look at those items and tell me whether or not you
23 recognize them?
24 A. Yes, I do.
25 Q. Do those items fairly and accurately depict the

1 internal documentation of the property concerning this
2 case involving the shooting death of Edmund Clark?
3 A. Yes.
4 MS. LOGAN: I will offer these items into
5 evidence, State's Exhibits 154 through 157.
6 Tendering to defense counsel for inspection.
7 (State's Exhibit Nos. 154 through
8 157 offered)
9 MR. McWILLIAMS: Judge, can we have just a
10 moment, please?
11 THE COURT: Yes, sir.
12 (Brief pause.)
13 MR. McWILLIAMS: Judge --
14 THE COURT: Yes, sir.
15 MR. McWILLIAMS: -- I have no objection to
16 State's Exhibit 154 or 155. I ask that we can
17 approach on 156 and 157. I'm not sure I have an
18 objection, but just some clarifications. No
19 objections to 154 or 155.
20 THE COURT: All right. 154 and 155 are
21 admitted.
22 (Whereupon State's Exhibit Nos. 154
23 and 155 are admitted into evidence.)
24 (Whereupon counsel approached the
25 bench out of the hearing of the

1 jury.)
2 THE COURT: Okay. Go ahead and state your
3 objection, or you don't know --
4 MR. McWILLIAMS: I'm trying to --
5 THE COURT: Okay.
6 (Whereupon discussion was held off
7 the record.)
8 MR. McWILLIAMS: I have no objection to
9 156 and 157.
10 (Whereupon the following proceeding
11 is held in the hearing of the jury.)
12 THE COURT: 156 and 157 are admitted.
13 (Whereupon State's Exhibit Nos. 156
14 and 157 are admitted into evidence.)
15 MS. LOGAN: May they be published to the
16 jury, Your Honor?
17 THE COURT: Yes, ma'am.
18 Q. (By Ms. Logan) I'm going to show you State's
19 Exhibit 154 here on the document camera. Can you tell us
20 what this document is?
21 A. It's a lab submission form for the Texas
22 Department of Public Safety lab in Austin, Texas.
23 Q. All right. How do you know that it pertains to
24 the case involving the shooting death of Edmund Clark?
25 A. The case number on the item and the items that

1 were submitted.
2 Q. Okay. And you found those numbers to match?
3 A. Yes.
4 Q. All right. Can you tell us what date the
5 evidence that this document pertains to was submitted to
6 DPS?
7 A. It's showing a submission date of April 24th,
8 1987.
9 Q. Can you tell us what deputy submitted these
10 items to DPS for testing?
11 A. That would have been Detective Tony Rossi.
12 Q. And, to your knowledge, was he the homicide
13 investigator in this case?
14 A. To my knowledge, yes.
15 Q. All right. Now, if we go down a little bit
16 further on the document here, can you tell us which items
17 it appears were submitted to DPS?
18 A. A long gown, robe, short robe, and a short
19 gown.
20 Q. Okay. And can you tell us what, if any,
21 testing was requested?
22 A. They were requesting primer gunshot residue on
23 the items.
24 Q. Okay. Now, back in 1987, I believe April of
25 1987, can you tell us, did we have a local lab here in

1 Harris County that was responsible for performing gunshot
2 residue tests?
3 A. I'm not sure if HPD would have done it. And I
4 know the local DPS lab wouldn't have done it. It would
5 have gone to Austin to have the analysis.
6 Q. Okay. So, that was a common occurrence back in
7 1987, for items of evidence to be taken to Austin for
8 testing?
9 A. Yes.
10 Q. All right. Did you conduct research with
11 respect to the types of gunshot residue or primer residue
12 tests that were in use back in 1987?
13 A. Yes, I did.
14 Q. Okay. Can you tell the ladies and gentlemen of
15 the jury what the name of the test that was in use at that
16 time was?
17 A. The test that they used back then for gunshot
18 and primer residue was referred to as the Griess test.
19 Q. And explain to us what the procedure was to
20 employ the Griess test.
21 A. Basically, they would lay the item out on the
22 table. It was treated with a few different chemicals.
23 From there, they would take a piece of photo paper,
24 unexposed photo paper, lay it over the garment and go over
25 it with a very hot iron in hopes of transferring

1 phosphates from the gunpowder or primer residue onto that
2 photo paper.
3 Q. Based on your understanding of that test and
4 the chemicals that are used in that test, can you tell us
5 what sort of effect that might have on blood were it
6 present on the garment?
7 A. The chemicals were fairly harsh, so they would
8 have been destructive to blood. And on top of the
9 chemicals, you would have used heat, which is also
10 destructive to blood. So, it could have had a very
11 adverse effect on any blood testing at that point.
12 Q. Okay. Based on your knowledge of the field of
13 DNA --
14 MR. McWILLIAMS: Judge, I'm going to
15 object to this. It's a little late in the deal, but
16 I'm going to object to that as calling for
17 speculation and relevance if he can't say that it
18 destroyed blood or did that in this particular case.
19 THE COURT: All right. Restate your
20 question so he can be clear on the answer.
21 Q. (By Ms. Logan) Based on your understanding of
22 the chemicals used and the process by which these items
23 were tested, what would you expect the effect to be on
24 blood were it present on the garment?
25 MR. McWILLIAMS: Judge, I'm going to

1 object.
2 THE COURT: This is based on his
3 expertise. I will allow it.
4 MR. McWILLIAMS: My objection is relevance
5 to this issue because it has not been determined that
6 that actually occurred in this case. And a brief
7 opportunity for voir dire might clear that up with
8 him.
9 THE COURT: All right. Well, we will let
10 him answer the question first and then you can voir
11 dire.
12 A. The process would have be destructive to the
13 blood because of the chemicals and the heat.
14 THE COURT: All right. Now you may voir
15 dire.
16 VOIR DIRE EXAMINATION
17 BY MR. McWILLIAMS:
18 Q. Mr. Rossi, with respect to -- with respect to
19 these items, do you know for certain whether those
20 chemicals were used on these items?
21 A. I believe there was a report published by DPS
22 --
23 MR. McWILLIAMS: I will object. It's
24 nonresponsive.
25 Q. (By Mr. McWilliams) I want to know if you know

1 or you don't know.
2 A. I was not present when the testing was done,
3 no.
4 Q. Is there anything that says what chemicals were
5 used on that particular garment?
6 A. I believe -- well, I don't recall.
7 Q. Basically, you don't have any personal
8 knowledge of that. You're just speculating what you think
9 back in 1987, with the types of processes that you think
10 were available then, that's probably what they might have
11 done?
12 A. That's all they did back then was that test.
13 Q. And you weren't working for HCSO in '87?
14 A. Yes, sir.
15 Q. You were?
16 A. Yes.
17 Q. But you didn't have anything to do with this in
18 '87?
19 A. No.
20 Q. And you didn't perform any of that testing?
21 A. No.
22 Q. And there's no record of what specific
23 chemicals were used on that, is there?
24 A. I don't recall.
25 Q. So, you have absolutely no way to tell this

1 jury that there were chemicals put on that that destroyed
2 blood evidence?
3 A. I would have to go through the case folder. I
4 saw it somewhere and I referred it to our firearms lab.
5 MR. McWILLIAMS: Judge, I renew the
6 objection. I ask that the previous testimony be
7 stricken.
8 THE COURT: Let me have the lawyers here
9 real quick.
10 (Whereupon counsel approached the
11 bench out of the hearing of the
12 jury.)
13 THE COURT: At this point, it is
14 speculation unless there is something in the record
15 that can prove that up, that --
16 MS. LOGAN: There is.
17 THE COURT: What is that?
18 MS. LOGAN: This is the lab report that he
19 reviewed. And then he called and asked what tests
20 they did, and they told him what tests they did.
21 THE COURT: Okay. Well, before I let it
22 in then, what I want you to do is publish this
23 foundation.
24 MR. McWILLIAMS: I'm -- I'm not objecting
25 to this report. I'm objecting to him -- the point

1 is, he's telling us and he's telling the jury that
2 they put chemicals that destroyed blood.
3 (Whereupon the following proceeding
4 is held in the hearing of the jury.)
5 THE COURT: Let me take the jury out real
6 quick because this is going to take a minute. It's
7 important.
8 (Whereupon the following proceeding
9 is held in outside the presence of
10 the jury.)
11 THE COURT: I want to take my time because
12 I need to make sure I get this right because this is
13 -- the point that the defense is making is that
14 because he wasn't there and he didn't participate --
15 MR. McWILLIAMS: And there's no record
16 specifically of that.
17 THE COURT: And that there's no what?
18 MR. McWILLIAMS: That there's no record
19 specifically of what chemicals, if any, were used.
20 THE COURT: And there's no record of --
21 now, is there no record or is he saying that he
22 didn't -- see, this is my confusion.
23 Is there no record or is he saying -- is
24 that what he's saying or is he saying that he didn't
25 see it?

1 MR. McWILLIAMS: I don't believe that
2 there is any record of what chemicals were used, if
3 any, on that piece of evidence.
4 THE COURT: Okay.
5 MR. McWILLIAMS: And he doesn't -- the
6 report can speak for itself that they did gunshot
7 residue analysis and didn't get any gunshot residue,
8 but for him -- what he is trying to testify -- what
9 the State is trying to use him for right here, the
10 purpose of that testimony. And what he's saying is
11 they put certain chemicals on this evidence in 1987
12 that destroyed blood. And because what's going to
13 happen is, Kenny Wells is going to get up here later,
14 and they are going to argue that, well, we would have
15 been able to prove to you that these things were
16 actually blood -- because they know that they can't
17 do that. We would have been able to do that if they
18 hadn't put these chemicals on it back in 1987 and
19 destroyed the evidence.
20 Now, this all has to be taken into context
21 too, Judge. This evidence that we're talking about
22 here, one, is the garment -- part of it is missing
23 and is no longer -- the sleeves are no longer
24 available for us to retest or do anything with. We
25 are dealing with missing evidence that's all part of

1 this chain of thing.
2 Again, now you're asking him to explain,
3 without having any personal knowledge or any record
4 of actual chemicals being used on that, that there
5 was some evidence on here that was destroyed by that
6 process.
7 THE COURT: Okay. Before you lose me, let
8 me hear the State's response.
9 MS. LOGAN: Okay, Judge. What I was
10 attempting to do, and maybe I did it poorly, was have
11 the witness testify, based on his review of the
12 documents in the case file, and based on his
13 expertise, and based on his conversations with people
14 at the DPS lab, to testify about the procedures that
15 were used in 1987 for the detection of primer
16 residue.
17 My understanding is that was the only
18 procedure in use at the time. We're not asking him
19 to testify that that -- that he knows that it
20 happened, just that somebody tested the garment, that
21 is the only way it was being tested back then, and
22 then to explain to the jury if there was the presence
23 of those chemicals on these garments that could have
24 -- not that it did, but that it could have been
25 destructive to any blood that may have been present

1 on the garments.
2 So, it's not -- he's not testifying that
3 it did destroy blood. He's saying that it's a
4 possibility. Hypothetically, if we had a garment
5 that had blood on it and it was treated in this
6 fashion, the way that he believed it to have been
7 treated, and we have the lab report for, then it is
8 possible that the blood, or any evidence on that
9 garment could have been degraded because of the use
10 of the chemicals.
11 MR. McWILLIAMS: Judge, the best way I can
12 respond to that is, my father, when I was a kid, all
13 the time said: If I this, I could do this. If I had
14 a ham sandwich, we could -- if we had some ham, we
15 could have a ham sandwich if we had some bread.
16 Bottom line is, Mr. Rossi doesn't have any
17 idea what kind -- the fact that he thinks that that
18 was the only thing being used back then does not
19 speak to whether or not it actually occurred --
20 THE COURT: Okay, let me ask a question.
21 Is there evidence -- is there evidence or
22 documentation that that procedure was used on these
23 garments?
24 MS. LOGAN: The documentation that we have
25 is the lab report that indicates that the items were

1 tested on -- the completion date was May 1st of 1987.
2 My understanding is -- please correct me if I'm wrong
3 -- is that Detective Rossi contacted the DPS lab to
4 inquire as to what chemicals or procedure was used to
5 conduct this test. And based on his expertise and
6 his investigation in this case, he knew it could be
7 the Griess method, that that was the only testing
8 method they had back then.
9 THE COURT: All right. So, his
10 information was the result of a conversation he had
11 with DPS about what they did in '87?
12 MS. LOGAN: I think so. May I ask him so
13 that we can get it straight?
14 THE COURT: Yes.
15 VOIR DIRE EXAMINATION
16 BY MS. LOGAN:
17 Q. Detective Rossi, who did you speak with --
18 MR. McWILLIAMS: Judge --
19 THE COURT: Wait. Go ahead.
20 Q. (By Ms. Logan) Who did you speak to to
21 determine what kind of testing may have been performed on
22 the garments in this case?
23 A. Specifically, the DPS lab. I don't recall, but
24 when I inquired about the effectiveness of the chemicals,
25 I spoke to Brad Brawns with the sheriff's office firearms

1 lab, and he confirmed that they were acidic and would have
2 caused damage.
3 Q. Did you have any information that indicated to
4 you that there might be a different test that was used on
5 these garments back in 1987?
6 A. All I was advised was that's the test that they
7 were currently using.
8 THE COURT: All right. What says the
9 defense?
10 MR. McWILLIAMS: Judge, still there's no
11 -- he can't say that that was the method that was
12 used. Nobody he talked to is the analyst who
13 actually did that. And it is incredibly speculative.
14 It's going to be used to say that that destroyed
15 evidence.
16 THE COURT: All right. This is the
17 problem that I have, is that it would be different if
18 the State had the person that conducted the test that
19 said: This is the method that I used. But I'm going
20 to rule that, at this point, it's -- that testimony
21 is based on hearsay and speculation. And I just
22 can't give it -- I can't let that testimony in.
23 Okay?
24 MR. McWILLIAMS: Judge, when the jury
25 comes back, I'm going to ask that the Court make an

1 instruction for the jury to disregard the testimony
2 about destroying -- the previous testimony.
3 THE COURT: I will give the jury an
4 instruction of what I said.
5 Okay. Go ahead and bring the jury in. I
6 have one more thing that I need to say, because I
7 want to make sure this is right. Your testimony is
8 -- you know, I'm not allowing it in because I believe
9 it's based on hearsay and speculation.
10 THE WITNESS: Oh, I understand.
11 THE COURT: But I will permit him to
12 testify that there were methods that were used to
13 examine --
14 MS. LOGAN: Primer residue.
15 THE COURT: Yes, primer residue that would
16 be destructive to other evidence on the product, on
17 whatever it is that they're inspecting. That would
18 be based on his expertise and knowledge. That's not
19 -- that's not saying that that happened in this
20 particular case. Okay?
21 So, he can't say that there was -- you
22 know, that this method was done on this day at this
23 time with this product, but he can say that he's
24 familiar with the method that was done at that time
25 that would be destructive to evidence.

1 MR. McWILLIAMS: So, Judge, just then my
2 objection in that is both -- the same as it was,
3 speculative and whatever I've already said.
4 THE COURT: Yeah.
5 MR. McWILLIAMS: And in that regard, I
6 would object to it under 402 as relevance because if
7 it's not specific to this case, then I think its
8 relevance is diminished. It's not relevant, or if it
9 is, its relevance is diminished to the point that 403
10 says it's probative value is --
11 THE COURT: Okay. Well, I think -- is
12 your objection -- you got it all out?
13 MR. McWILLIAMS: I got it all out, Judge.
14 THE COURT: Okay. Your objection is to
15 relevance, and I believe that there -- that there is
16 some relevance to that testimony.
17 MR. McWILLIAMS: And then the 403 -- I
18 object under 403 that if there is any, that it's
19 substantially outweighed by the probative value.
20 THE COURT: All right. That's denied.
21 Okay. Let's bring them in.
22 (Whereupon the following proceeding
23 is held in the presence of the
24 jury.)
25 THE COURT: I need to give you a brief

1 instruction that in this -- in Mr. Rossi's testimony,
2 the statement that a particular method was used to
3 test this garment, I've ruled as a result of -- it
4 would be speculation and hearsay. So, it's not
5 permitted, but I will permit Mr. Rossi to discuss the
6 method that he's familiar with in his expertise on
7 how that would affect, you know, other, I guess,
8 products on the market.
9 You may proceed.
10 MS. LOGAN: Thank you, Judge.
11 DIRECT EXAMINATION CONTINUED
12 BY MS. LOGAN:
13 Q. So, Mr. Rossi, I'm going to put State's Exhibit
14 156 up here on the document camera. Can you tell us which
15 agency issued this lab report?
16 A. It was the Texas Department of Public Safety,
17 DPS lab.
18 Q. Okay. And if we compare that to State's
19 Exhibit 154, the submission form, those appear to be the
20 same entity, correct?
21 A. Yes, ma'am.
22 Q. Okay. And, so, as a part of your expertise and
23 investigation in this case, did you review State's Exhibit
24 156, the crime lab report --
25 A. Yes.

1 Q. -- that I'm showing?
2 A. Yes.
3 Q. Okay. Can you tell us which items of evidence
4 were tested?
5 A. Again, the long robe or gown, the shorter one,
6 and a waltz length robe, I guess.
7 Q. Do you know what that means?
8 A. No, I don't.
9 Q. All right. Can you tell us the completion date
10 of the testing that was performed that generated this lab
11 report; what date it was completed on?
12 A. That would have been May 1st of 1987.
13 Q. Okay. And based on your review of this
14 document, what kind of testing did they perform?
15 A. Saying that they were checking for lead,
16 barium, and antimony, and they were checking for gunshot
17 residue or primer residue.
18 Q. Okay. And the results of that test as it was
19 conducted -- and you weren't present for that test, were
20 you?
21 A. No.
22 Q. Okay. You didn't work in the DPS lab at the
23 time that this took place?
24 A. No, ma'am.
25 Q. Can you tell us what it appears their results

1 were for the garments?
2 A. No lead or barium was detected on the front of
3 the sleeves on Items 1 and 2 or on the front of Item No.
4 3.
5 Q. All right. Now, being you weren't present at
6 the time these items were tested back in May of 1987, did
7 you, nonetheless, conduct some research to form your
8 expert opinion about the evidence that you were asked to
9 look at in this case?
10 A. Yes.
11 Q. All right. Who did you speak with and what was
12 the nature of your inquiry?
13 A. I spoke with an individual at the DPS lab. It
14 could have been a clerk or someone. They pulled the
15 records and indicated that that's what --
16 MR. McWILLIAMS: Judge, I'm going to
17 object to hearsay.
18 THE COURT: Sustained.
19 Q. (By Ms. Logan) Okay. And without telling us
20 what they said, did you gain the understanding as to what
21 types of testing for the presence of gunshot residue or
22 primer residue were in use at that time?
23 MR. McWILLIAMS: Judge, same objection.
24 That's hearsay.
25 THE COURT: That would be speculative. I

1 will permit him to discuss his knowledge of a
2 particular method that was used and the effect it
3 would have, and not to say that that was used in this
4 case. All right? That's the danger. I don't want
5 the jury -- you know, not to say it was done in this
6 case. But I will permit him to discuss a particular
7 method that if it was used, the effect it would have
8 on other evidence or potential evidence.
9 Q. (By Ms. Logan) The information that you
10 received with respect to primer residue testing back in
11 1987, did you use that to base and form your expert
12 opinion in this case?
13 A. Expert opinion on my outcome or what was done
14 on the analysis that DPS had performed?
15 Q. Well --
16 MR. McWILLIAMS: Judge, I object. That's
17 nonresponsive. I think the answer to that question
18 is "no."
19 MS. LOGAN: I would object to your
20 side-bar.
21 THE COURT: Okay. The objection is
22 nonresponsive. I think you need to just clarify your
23 question.
24 MS. LOGAN: Thank you, Judge.
25 THE COURT: All right.

1 Q. (By Ms. Logan) All right. So, what procedures
2 do you know to have been in use in 1987 for the detection
3 of gunshot residue, primer residue?
4 A. The only one I knew at the time was the Griess
5 method.
6 Q. All right. And we've talked a little bit about
7 the Griess method. I believe that you said it is a
8 situation where chemicals are -- how do chemicals come to
9 be on the garment, if that's what they were put on?
10 A. The method was typically to spray them on with
11 a mister or atomizer.
12 Q. Okay. And based on your knowledge and
13 experience in this field, is that a uniformed method of
14 application, or does it result in a non-uniformed
15 application of the chemicals?
16 A. I'm going to say non-uniformed because you may
17 have some heavy areas from the sprayer or light areas from
18 the sprayer.
19 Q. So, if you were to compare a situation in which
20 an item were dipped in a solution versus a situation where
21 an item was sprayed with a solution, can you tell us what
22 the differences would be with respect to those
23 applications?
24 A. Dipping something in a solution, you -- I mean,
25 you're going to become more uniformed, but, unfortunately,

1 there's a possibility of any evidence getting washed off
2 once you pull that out. So, that's why the spray canister
3 method was used.
4 Q. And what is your understanding of the effect of
5 the chemicals used in the Griess method on the presence of
6 blood?
7 A. That they could be destructive to blood.
8 Q. What is your understanding as to the possible
9 effect of heat, such as an iron, to the presence of blood?
10 A. Heat is very destructive to blood.
11 Q. I'm going to put State's Exhibit 155 up on the
12 document camera. Can you tell us where this document came
13 from?
14 A. That was a submission form for the Harris
15 County Medical Examiner's Office.
16 Q. Okay. And does this, likewise, pertain to the
17 evidence that we've been discussing, the three portions of
18 a robe?
19 A. Yes, it does.
20 Q. Okay. Can you tell us what date it appears to
21 have been submitted?
22 A. May 1st, 1987.
23 Q. Okay. So, we have a DPS lab report from May
24 1st, 1987, and then we can see a submission form to the
25 Harris County Forensic Center on that same day; is that

1 correct?
2 A. Correct.
3 Q. Okay. Based on your experience with the
4 sheriff's office and the forensic center, what do you
5 believe that means as far as where this evidence went?
6 A. It went directly from the DPS lab in Austin to
7 the medical examiner's lab here in Harris County.
8 Q. All right. And now let me show you State's
9 Exhibit 157. Does this appear to be a lab report
10 pertaining to those same three items of evidence?
11 A. Yes, it does.
12 Q. Okay. And can you tell us what testing it
13 appears was conducted on these items at that time?
14 A. It looks to appear that a request for gunshot
15 residue was submitted again.
16 Q. Okay. And was it with respect to a specific
17 portion of the evidence?
18 A. The cuffs of the nightgown.
19 Q. All right. And can you tell us what date of
20 analysis we see here?
21 A. That would have been 7-1 of 1987.
22 Q. All right. And what were the results?
23 A. No conclusion. Gunshot --
24 MR. McWILLIAMS: Judge, I object and ask
25 that we approach.

1 THE COURT: Okay.
2 (Whereupon counsel approached the
3 bench out of the hearing of the
4 jury.)
5 THE COURT: What's your objection, sir?
6 MR. McWILLIAMS: We're talking about the
7 specific analysis -- you can't hear?
8 THE COURT: Use the mic.
9 MR. McWILLIAMS: What I'm understanding is
10 that he can't testify about gunshot residue on the
11 cuffs. Nobody knows where they are now and don't
12 exist. I will object to that. They don't have it.
13 We can't come back and do anything with it. We can't
14 look at it. We can't have Mr. Bevel go over it, or
15 look at it. They've lost it.
16 THE COURT: What is the -- I can't read
17 it. Can I see --
18 MS. McDANIEL: I'll get it.
19 THE COURT: Thank you, ma'am.
20 MR. McWILLIAMS: It's the same as the
21 comforter.
22 THE COURT: Thank you, ma'am.
23 MS. McDANIEL: It's already been admitted,
24 Judge.
25 THE COURT: Okay. And, so, your objection

1 is that the evidence no longer exists, so, therefore,
2 you can't --
3 MR. McWILLIAMS: It's that --
4 THE REPORTER: I'm having trouble hearing
5 Mr. McWilliams.
6 MR. McWILLIAMS: I've lost my train of
7 thought.
8 THE COURT: Okay. Your objection is that
9 it no longer exists. Is that why it's not --
10 MR. McWILLIAMS: It doesn't talk about
11 cuffs of a nightgown the way she's couched this
12 question.
13 THE COURT: That's what it says.
14 MS. LOGAN: And it's in evidence.
15 THE COURT: Yeah. Okay?
16 MR. McWILLIAMS: Well, then I wish I had
17 objected to that going into evidence.
18 THE COURT: Okay. It's overruled.
19 (Whereupon the following proceeding
20 is held in the hearing of the jury.)
21 Q. (By Ms. Logan) All right. So, Mr. Rossi, no
22 conclusion could be reached based on that testing, right?
23 A. Right.
24 MS. LOGAN: May I approach the witness,
25 Judge?

1 THE COURT: Yes, ma'am.
2 Q. (By Ms. Logan) I'm going to show you what's
3 been marked for identification purposes as State's Exhibit
4 No. 81. Can you tell us whether or not you recognize the
5 contents of State's Exhibit No. 81?
6 A. Yes, ma'am.
7 Q. How do you recognize it?
8 A. It's the garment I was working on. My little
9 stickers are put all over it.
10 Q. And is this the nightgown portion of the
11 three-robe set that was evidence in the cold case you were
12 assigned to investigate by your supervisor in 2008?
13 A. Yes, ma'am.
14 Q. Is this an item of evidence that you retrieved
15 from the property room?
16 A. Yes, it is.
17 Q. And what case number, if you recall, did you
18 find that item to be under?
19 A. It was the '87 case number, I believe.
20 Q. During your examination of the garment in this
21 case, how did you view it? Did you view it with the naked
22 eye or did you use magnification?
23 A. Originally, I did look at it with the naked
24 eye, and then I went through and looked over it with a
25 magnifying glass, and from there we went to microscope.

1 Q. All right. And after you completed your
2 analysis on this item, what did you do with the evidence?
3 A. It was submitted to the Medical Examiner's
4 Office after that.
5 Q. So, from the time that you checked it out of
6 the property room to the time that you submitted it to the
7 Harris County Institute of Forensic Sciences for testing,
8 was it ever unsecured or out of your possession?
9 A. Never.
10 MS. LOGAN: I offer into evidence State's
11 Exhibit No. 81.
12 (State's Exhibit No. 81 offered)
13 MR. McWILLIAMS: No objection to State's
14 Exhibit 81.
15 THE COURT: Did you say no objection?
16 MR. McWILLIAMS: Yes, Your Honor.
17 THE COURT: Okay. It's admitted.
18 (Whereupon State's Exhibit No. 81 is
19 admitted into evidence.)
20 Q. (By Ms. Logan) I'm going to show you State's
21 Exhibit No. 152. Do you recognize what is depicted in
22 State's Exhibit 152?
23 A. It's a photograph of the nightgown.
24 Q. Is it a fair and accurate depiction of that
25 nightgown?

A. Yes, ma'am.

MS. LOGAN: I offer into evidence State's Exhibit 152.

(State's Exhibit No. 152 offered)

MR. McWILLIAMS: No objection to 152.

THE COURT: 152 is admitted. What was the number of the other item?

(Whereupon State's Exhibit No. 152 is admitted into evidence.)

MS. LOGAN: 81.

THE COURT: 81?

MS. LOGAN: Yes, sir.

THE COURT: Thank you. 81 is admitted.

Q. (By Ms. Logan) Mr. Rossi, I'm showing you what's been marked as 82-A, State's Exhibit 82-A. Do you recognize this garment?

A. Yes, ma'am. That's an additional piece of nightgown, or part of a robe, or whatever it is.

Q. Okay. Part of the three-piece set that you examined as evidence in this case?

A. Yes.

Q. All right. And did you obtain this evidence in a similar fashion as to what we've discussed with State's Exhibit No. 81?

A. Yes, ma'am.

1 MS. LOGAN: I offer State's Exhibit 82-A
2 into evidence.
3 (State's Exhibit No. 82-A offered)
4 MR. McWILLIAMS: No objection to State's
5 Exhibit 82-A.
6 THE COURT: All right. It's admitted.
7 (Whereupon State's Exhibit No. 82-A
8 is admitted into evidence.)
9 Q. (By Ms. Logan) And likewise with State's
10 Exhibit No. 148-A, do you recognize this item?
11 A. Yes, ma'am. Again, that's an item that I
12 recovered from the property room.
13 Q. And did you get it in the same fashion, along
14 with the other two pieces we've already discussed?
15 A. Yes, ma'am.
16 Q. And it was in your possession until you
17 submitted it to the Institute of Forensic Sciences?
18 A. Correct.
19 MS. LOGAN: Offer State's Exhibit 148-A
20 into evidence as well.
21 (State's Exhibit No. 148-A offered)
22 MR. McWILLIAMS: No objection to 148-A.
23 THE COURT: It's admitted.
24 (Whereupon State's Exhibit No. 148-A
25 is admitted into evidence.)

1 Q. (By Ms. Logan) I want to talk to you a little
2 bit about high velocity impact spatter. Is there an easy
3 demonstration that you can do here in the courtroom that
4 would demonstrate for the ladies and gentlemen of the jury
5 the concept behind high velocity impact spatter?
6 A. Just using a simple spray bottle, or if someone
7 wants to volunteer to get shot.
8 Q. I don't think we're going to get any
9 volunteers.
10 A. So, using a spray bottle.
11 Q. All right. And do you believe a demonstration
12 with a spray bottle would be helpful to the jury in
13 understanding your testimony with respect to high velocity
14 impact spatter?
15 A. Oh, I'm sure they would be able to see, I mean,
16 just the fine mist of, you know, what I would have to look
17 at under the microscope to actually see what type of
18 misting is coming from that. A spray bottle creates
19 almost the same type mist as a gunshot or a high impact
20 injury would cause.
21 Q. All right.
22 MS. LOGAN: At this time, Your Honor, we
23 with ask the Court's permission to perform a
24 demonstrative procedure. I'm handing the witness
25 what I've marked simply for identification and

1 demonstrative purposes as State's Exhibit 153.
2 Q. (By Ms. Logan) Would you describe for the
3 ladies and gentlemen of the jury and the record what we
4 have here, State's Exhibit 153?
5 A. It's just a standard garden sprayer type spray
6 bottle with water in it.
7 Q. All right. Now, can you please explain to the
8 ladies and gentlemen of the jury, and demonstrate using
9 State's 153, the concept behind high velocity impact
10 spatter?
11 A. Typically, with high velocity impact spatter,
12 it's not going to travel that far, a minimum of 4 feet or
13 less. Because it is so small, the drops turn spherical,
14 almost dry. They dry pretty quick and they just don't --
15 you know, they run out of gas, basically. And I know
16 you've also seen whenever you spray -- whenever you spray
17 a spray bottle, I mean, all that fine mist, no matter how
18 hard you pull, it's only going to go so far. But if you
19 can imagine this actually being blood and those fine mist
20 particles falling on the floor, you wouldn't be able to
21 see them with the naked eye. So, that's why we have to
22 use the microscope to go over the garments to actually
23 find that type of impact spatter.
24 Q. Okay. Now, let's talk about the magnification
25 that -- that you used in conducting your analysis on

1 State's Exhibit No. 81 in this case. Tell us -- tell us
2 what kind of magnification it was that you were using.
3 A. When I was doing the initial search over the
4 garment, I had the microscope set at about 200 times, 200
5 power. When I would find an area of interest, then I
6 would bump it up to about 400 magnification and I'd take a
7 photograph of it.
8 Q. All right. Now, when you are examining items
9 for the possible presence of high velocity, or impact
10 spatter of any sort, would it be important for you to
11 personally and physically examine the actual item?
12 A. Oh, absolutely.
13 Q. Would you be able to do this sort of an
14 analysis from a photograph?
15 A. I would say no.
16 Q. Okay. And with respect to photographs, would
17 it be even less likely for you to be able to appropriately
18 conduct an investigation on a photograph from 1987?
19 A. The quality of the cameras back then, I would
20 say absolutely not.
21 Q. All right.
22 MS. LOGAN: May I approach the witness,
23 Judge?
24 THE COURT: Yes, ma'am.
25 Q. (By Ms. Logan) I'm going to show you what I've

1 marked as State's Exhibits 83 through 95, and ask you to
2 take a look at those items.
3 A. (Witness complies.)
4 Q. Do you recognize those items?
5 A. Yes, I do.
6 Q. Do they fairly and accurately depict the
7 photographs -- or are they the photographs that you took
8 of the evidence, State's Exhibit No. 81, in this case?
9 A. They are.
10 MS. LOGAN: I'd offer into evidence
11 State's Exhibits 83 through 95 and tender to defense
12 counsel for inspection.
13 (State's Exhibit Nos. 83 through 95
14 offered)
15 MR. McWILLIAMS: May we approach, Your
16 Honor?
17 THE COURT: Yes, sir.
18 (Whereupon counsel approached the
19 bench out of the hearing of the
20 jury.)
21 MR. McWILLIAMS: Judge, I've just never
22 seen these photographs before. I've never seen those
23 photographs. I've never seen these.
24 THE COURT: Okay.
25 MR. DAVIS: Judge, we've never seen these.

1 We have never seen those photographs before.
2 MR. McWILLIAMS: Can we take like our
3 bathroom break?
4 THE COURT: Yes. It's near time.
5 (Whereupon the following proceeding
6 is held in the presence of the
7 jury.)
8 THE COURT: What we will do is we will
9 take our morning break and give them an opportunity
10 to go through those photographs. All right.
11 (Whereupon the following proceeding
12 is held outside the presence of the
13 jury.)
14 MR. McWILLIAMS: Judge, our objection is
15 going to be surprise. We have not seen those
16 photographs. The way -- from a photography
17 standpoint, our discovery process with the District
18 Attorney's Office, they gave us three CDs that
19 contained crime scene photographs, the photographs of
20 the testing and what we believed were all the
21 photographs. Apparently, there were -- those are
22 3-X-5s that's taken off of -- there are some 3-X-5s
23 of this particular stuff that they had that we didn't
24 receive in the discovery packet of information. So,
25 those particular photographs we have not seen, nor

1 has our expert seen, which is the nature of our
2 objection.
3 THE COURT: I mean, I'll give your expert
4 time to review them, but I'm going to -- I hear your
5 objection and overrule your objection, and we'll move
6 forward. Your expert will have an opportunity to
7 look at the photographs.
8 MR. McWILLIAMS: I would argue that --
9 MS. LOGAN: Judge, might I just put
10 something on the record that I'd ask the Court to
11 take judicial notice?
12 THE COURT: Sure.
13 MS. McDANIEL: In reviewing one of the
14 many, many defense motions for further discovery,
15 there's a note, which I believe to be in the Court's
16 handwriting, which may pertain to some of this
17 material that I'd like to just put on the record.
18 THE COURT: That does look like my
19 handwriting.
20 MS. McDANIEL: I thought so. I thought it
21 was. I'm not a detective. It says, "Discussion at
22 the bench. The Court orders State to have their
23 witness, police officers, preserve their notes. No
24 order to release them to defense at this time. The
25 State agreed to permit defense to make copies of

1 photographs and evidence at defense's expense. Not
2 all blood was tested. No ruling on that matter yet."
3 So, what I perceive from that would be
4 that certainly we made available and made copies of
5 things at the defense's expense, but I just want to
6 put on the record that the Court did handle this
7 matter in a certain context.
8 THE COURT: Okay.
9 MR. McWILLIAMS: Yes, they did. They put
10 together a discovery packet and they gave it to us,
11 and that stuff wasn't in there. And it's a violation
12 of both the Court's discovery order and our request
13 in that regard.
14 THE COURT: Okay. I'm going to give your
15 expert an opportunity to review it, and, you know, we
16 will go from there. Your objection is on the record.
17 If for some reason you have not had an opportunity,
18 or your expert needs to do something, then we will
19 just deal with that when we get to it.
20 MR. DAVIS: Your Honor, if it would be
21 okay, could we get these photographs in digital form
22 because our expert is in Oklahoma City? If I get
23 them in digital form, I can at least e-mail them to
24 him and he can at least look at them tonight.
25 MS. McDANIEL: Judge, I can speak from the

1 State's experience dealing with some of -- we don't
2 have this in jpeg-format. My understanding --
3 limited understanding of the photographic technology
4 is that the jpeg is a very large size file. I can
5 certainly make inquiries about what that takes. I
6 can tell you that, in my conversations with the DNA
7 laboratory regarding some of the testimony that we
8 anticipate later, that they did not even -- that they
9 don't like to release jpegs, which are more clear
10 than a pdf, a pdf being, what you might be familiar
11 with, me scanning in and send you a document that I
12 signed. And a jpeg being the actual photograph.
13 Because a jpeg can be altered in some form. So, an
14 easy way to say it is the jpeg -- this is what
15 they've given to us.
16 THE COURT: Well, I mean, but the same is
17 true for them. That would be true for the defense.
18 MS. McDANIEL: I'm just saying I don't
19 know that we can ever get it from them in a digital
20 format. That's all I'm saying.
21 THE COURT: All right.
22 MS. McDANIEL: I can certainly make
23 inquiries, but that's been their reluctance to
24 providing it to anyone else outside of their
25 laboratory.

1 THE COURT: Okay. This is what I'd like
2 you to do, if possible -- just because it will move
3 the trial along and because they said they haven't
4 had a chance to see it, most likely won't be putting
5 their witnesses on till next week.
6 MS. McDANIEL: Yes, sir.
7 THE COURT: And, so, if it's possible to
8 get that done, it would be great because their expert
9 would have the weekend to look at it. And then there
10 wouldn't be, in my opinion, any kind of harm, or
11 damage, or argument --
12 MS. McDANIEL: Yes, sir.
13 THE COURT: -- you know what I mean, in
14 the future?
15 MS. McDANIEL: Yes, sir.
16 THE COURT: Well, there would still be
17 argument, but I don't think it will carry much
18 weight.
19 Do you see where I'm going?
20 MS. McDANIEL: Yes, sir. Could I ask for
21 logistic purposes, if I cannot get it in a digital
22 format, which is what I'm predicting based on my
23 other problems, if we can get them in that context
24 and FedEx them to that person, I would only ask that
25 -- I'm paying for these, me -- that the defense be

1 asked to pay for those copies and also for the
2 transmission via FedEx.
3 THE COURT: Yes. You are ordered to pay
4 for it and the transportation.
5 MR. DAVIS: Okay, Your Honor. I
6 understand. That's fine. Doing this pro bono.
7 That's fine, Judge. I will take care of that.
8 MS. McDANIEL: You and me both.
9 MR. DAVIS: Your Honor, a big issue has
10 come up. We talked about Mr. Parris.
11 MS. McDANIEL: Just --
12 MR. DAVIS: I want to take care of it now
13 before we start doing this, Judge, to set this up.
14 MS. McDANIEL: Your Honor --
15 THE COURT: We are on the record, so one
16 at a time.
17 MR. DAVIS: We were told yesterday that
18 Detective Rossi, David Rossi, was going to testify
19 first and Paul Parris was going to testify second.
20 Well, Mr. Parris fell this morning and they changed
21 the witness order.
22 THE COURT: Okay.
23 MR. DAVIS: Mr. Parris was Dena Fisher's
24 witness, who was familiar with everything with Mr.
25 Parris. And Dena --

1 MS. FISHER: Your Honor, I was taking care
2 of some other court matters this morning. I
3 apologize I was late. However, I would like to say
4 that we have to recross this witness. And I know
5 it's unusual, but I'm asking to be allowed to recross
6 the witness. And the reason we're asking that is
7 because there are -- there are things that were
8 misrepresented by this witness that need to be --
9 first of all, they have to be covered or we're
10 ineffective, per se.
11 Second, it was my witness. It's my fault
12 that I'm late, and he's ill, as far as I understand.
13 And our only alternative, if I'm not allowed to cross
14 him or redirect him, I'm sorry, is to have him come
15 back during our case-in-chief. And we can certainly
16 do that, but I'm understanding he is from out of
17 state and his health is not well. So, we are asking
18 to be allowed to do something out of the ordinary and
19 let me take my witness.
20 THE COURT: What say the State?
21 MS. McDANIEL: Judge, my conversations
22 with Mr. Davis were very specific. And I think
23 that's improper. Ms. Fisher was not here. She was
24 not present for the testimony of this witness. So,
25 to then rehash all that Mr. Parris has testified to,

1 both, from the State and from cross-examination by
2 Mr. Davis, I don't feel it's appropriate. I feel
3 it's fine what I discussed with Mr. Davis, that we
4 are happy to keep Mr. Parris here. He said we would
5 be able to do that possibly after lunch, even if
6 that's out of order for Detective Rossi.
7 But what my position is, is that it's
8 inappropriate to have another counsel come in and do
9 another cross all of a sudden.
10 THE COURT: And I agree. All right?
11 MR. DAVIS: Well, then, Your Honor, just
12 in that case, then we will not ask to recross him,
13 but we would ask that Mr. Parris be made available in
14 our case-in-chief and we will have to call him back
15 in our case-in-chief.
16 THE COURT: There you go. So, state your
17 objection and I just need to rule on their admission
18 and we can go forward with --
19 MS. LOGAN: Would you like me to reoffer
20 them when the jury comes in?
21 THE COURT: Yes. That's a good idea.
22 MS. LOGAN: All right.
23 (Whereupon the following proceeding
24 is held in the presence of the
25 jury.)

1 THE COURT: A couple of things. Because
2 the weather is uncertain, we've ordered in. Is that
3 right, Deputy Walker?
4 THE BAILIFF: Yes, sir.
5 THE COURT: Okay. We will continue the
6 trial until lunch gets here. Once lunch gets here,
7 then we will take our lunch break.
8 You may proceed.
9 MS. LOGAN: Thank you, Judge. I believe
10 just prior to the break, we had identified State's
11 Exhibits 83 through 95. And I would, at this time,
12 offer those items into evidence. I've tendered them
13 to defense counsel for inspection.
14 MR. McWILLIAMS: The defense has no
15 objection to State's Exhibits 83 through 95, Your
16 Honor.
17 THE COURT: Okay. Well, you have no
18 objection or you have --
19 MR. McWILLIAMS: We have no objection.
20 THE COURT: Okay. They're admitted then.
21 (State's Exhibit No. 83 through 95
22 Admitted)
23 (Whereupon State's Exhibit Nos.
24 83-95 are admitted into evidence.)
25 Q. (By Ms. Logan) All right. So, Mr. Rossi, first

1 of all, let me clear up one thing. Is there any relation
2 between you and Anthony, or Tony Rossi who was the
3 homicide detective in this case?
4 A. No, ma'am.
5 Q. When you put your initials on items of evidence
6 to log them into your custody, tell us how you do that.
7 A. I typically scribe my initials D.V.R. and
8 usually my badge number, which would have been 1011.
9 Q. Okay. All right. Now, I want to back up a
10 little bit because of the break and talk to you about high
11 velocity impact spatter. You've told us that is a
12 situation in which an item that is moving in excess of
13 miles-per-hour comes into contact with a blood source; is
14 that correct?
15 A. Correct.
16 Q. All right. Would you tell -- would you say
17 that, based on your training and experience, a gunshot
18 wound would be consistent with a scenario in which high
19 velocity impact spatter would be generated?
20 A. Absolutely.
21 Q. All right. And now tell us how many feet you
22 would expect the impact spatter or the stains to reach
23 away from the source of the stain or the blood?
24 A. With atomized blood, like I showed you with the
25 water sprayer, you're looking at 4 feet or less.

1 Q. So, the most distance it would cover from the
2 source away from it would be 48 inches or less?
3 A. Correct.
4 Q. Now, you mentioned that you have been involved
5 in investigations involving deaths or homicides on many
6 occasions, correct?
7 A. Yes, ma'am.
8 Q. Can you tell the ladies and gentlemen of the
9 jury why it is important and helpful to conduct analyses
10 for the presence of high velocity impact spatter?
11 A. Each case that we investigate, we -- say, for
12 example, you are called out on a suicide. Even if it's a
13 suicide, I mean everything indicates it's a suicide, we
14 still investigate it as a homicide until we're satisfied
15 that there's no other explanations, then we investigate it
16 that way. For example, with blood spatter, if an
17 individual were to put a gun to his head, you would have
18 blood spatter in a certain area. Of course, the crook of
19 the arm where it was bent, there would be a void of any
20 blood spatter there, but on the other hand, if the
21 person's arm was straight out or up like this, you're
22 going to have a different type of -- of spatter pattern on
23 that person.
24 Q. Okay. And I believe you mentioned earlier that
25 the size of the stains that you would expect to see in a

high velocity impact spatter situation are 1 millimeter or less; is that correct?

A. Correct, about the size of the head of a pin.

Q. Okay. When it comes to examining and testing stains of that size, do you have any concerns about consumption?

A. Consumption as far as --

Q. For instance, if you were to perform any kind of testing on a sample that is 1 millimeter in size or less, would you expect that testing to consume the sample?

A. For like DNA analysis?

Q. Correct.

A. Yes, that definitely would be a concern. Because if you have a limited amount, there's just less to work with. So, you've got to be very careful with what you do with that sample.

Q. All right. And when we talk about a pattern that is consistent with high velocity impact spatter, can you explain to us what it is you're looking for, what sorts of characteristics a stain like that would have?

A. Typically -- you're referring to like on a garment or something like that?

Q. Yes, sir.

A. Typically, on a garment, you would see several different characteristics. One, like I mentioned before,

1 when the blood is in flight it kind of starts to dry. So,
2 in a lot of cases, you will just see it sitting there, a
3 little circular ball sitting on a piece of fiber. Some of
4 it is still kind of damp and traveling at a pretty good
5 rate of speed and you could see it on the fiber where it
6 just clings to it, kind of like a raindrop hanging off of
7 a spiderweb, something similar to that. Then again
8 there's some traveling even a little bit faster that will
9 actually penetrate the fibers of a garment.
10 Q. And all of those scenarios that you just
11 described are consistent with high velocity impact
12 spatter?
13 A. Yes, ma'am.
14 Q. All right. Now, you conducted your examination
15 in this case in 2008, correct?
16 A. Correct.
17 Q. Back in 1987, are you aware whether or not the
18 microscopes in use and available at that time, were they
19 different than the microscopes you had at your disposal in
20 2008?
21 A. I'm really not familiar with what they used
22 back in '87. Our department, the Crime Scene Unit, didn't
23 have a microscope available at the time.
24 Q. Okay. But in 2008, had there been advancements
25 in microscopes, to your knowledge?

A. Yes, ma'am.

Q. Okay. And, at some point, did you actually write a grant for the sheriff's office to get high-powered microscopes at the Crime Scene Unit?

A. I did.

Q. Now, we spoke earlier about State's Exhibit No. 81 here, which is the nightgown that you examined in this case, right?

A. Correct.

Q. And you told us that you viewed this garment under magnification. When you did that, did you document your findings in any way?

A. Photographs and what I've written in my supplement report, yes.

Q. All right. And the photographs that you took at magnification, are those the items that have been entered into evidence as State's Exhibits 83 through 95?

A. Yes, they are.

Q. All right. If I showed you State's Exhibit No. 83 on the document camera, can you tell us -- what are we looking at in this photograph?

A. That's actually a photograph of the fibers on the nightgown. And if you can see the area, there's a couple different areas where it appears to be blood-like substance.

1 Q. And State's Exhibit No. 84 -- can you clear
2 that screen for me?
3 A. (Witness complies.)
4 Q. All right. What are we looking at here, and
5 why do you find these, I guess, stains to be relevant to
6 your investigation in this case?
7 A. It's the same garment. And on this one, I
8 explained before where you may have blood traveling a
9 little bit faster. And that's what we are seeing here.
10 It actually penetrated the fibers of the garment.
11 Q. How do you know that?
12 A. Seeing how it's saturated down into the -- you
13 can't really tell on a photograph like this, but when
14 you're looking under the microscope, it's almost a
15 three-dimensional image and you can see the penetrating
16 levels of the blood.
17 MR. McWILLIAMS: Judge, I object to the
18 characterization of that as blood. That's not been
19 -- the photograph speaks for itself, but there isn't
20 -- I don't believe there's been any testimony --
21 MS. LOGAN: I object to the side-bar at
22 this point.
23 MR. McWILLIAMS: -- that that's blood.
24 THE COURT: Okay.
25 MR. McWILLIAMS: Assuming facts not in

1 evidence that that is blood.
2 THE COURT: All right. It's sustained.
3 You need to lay some kind of foundation or something
4 before we can -- you know, because it assumes --
5 again, it does assume that's blood and we don't have
6 that evidence in yet.
7 MS. LOGAN: Okay.
8 Q. (By Ms. Logan) Mr. Rossi, did you retrieve one
9 of the stains that appear to be on the surface of State's
10 Exhibit No. 81 during your analysis?
11 A. Yes.
12 Q. What did you do with that stain?
13 A. It was a small spherical area, and I collected
14 it with a damp swab, damp sterile swab, and performed a
15 phenolphthalein test on it.
16 Q. What is a phenolphthalein test?
17 A. Phenolphthalein is a blood-presumptive
18 chemical. If you've ever watched CSI on TV, you see where
19 they use the chemicals and it turns a purple color. That
20 would be phenolphthalein.
21 Q. All right. And did you obtain results based on
22 your review of that sample that you collected?
23 A. Yes, I did.
24 Q. Tell the ladies and gentlemen what you saw.
25 MR. McWILLIAMS: Judge, I'm going to

1 object to that. I'd ask for an opportunity to take
2 the witness on voir dire about what he's testifying
3 to here, about whether he can testify that that's
4 blood.
5 MS. LOGAN: He's not going to. He's going
6 to say it's presumptive.
7 THE COURT: I'm sorry. Hang on. Denied.
8 Let's continue.
9 Q. (By Ms. Logan) What results did you observe?
10 A. I got a positive reaction with the
11 phenolphthalein.
12 Q. Now, are you telling this jury that because you
13 got a positive result on a phenolphthalein that you know
14 that that substance is blood?
15 A. No, ma'am.
16 Q. Okay. And is it your job to conduct that kind
17 of testing, as far as a confirmatory test with respect to
18 blood?
19 A. Yes, ma'am. It kind of gives us the direction
20 to travel. If we get a positive reaction, then we further
21 our investigation and get a confirmatory test on it.
22 Q. Okay. And is that what you submitted this
23 garment for testing, further testing at the Harris County
24 Institute of Forensic Sciences?
25 A. Yes, it is.

1 Q. Okay. So, I had to kind of go out of order
2 there, but what I want you to tell the jury is the first
3 thing you're looking for when you're examining this
4 garment is a pattern, right?
5 A. Correct.
6 Q. Okay. And did you identify a pattern on
7 State's Exhibit 81?
8 A. As far as a specific type of pattern, no. I
9 mean, there was a lot of impact spatter on it, but as far
10 as any particular pattern, no, there really wasn't a
11 pattern. It was just kind of widespread.
12 MR. McWILLIAMS: Judge, I'm going to
13 object to the characterization as it being impact
14 spatter, because, again, he cannot say, at this point
15 in his investigation, that it is impact spatter.
16 THE COURT: All right. That's denied.
17 Because based on his presumptive test, he is going
18 through his analysis with the belief that it is. So,
19 I will let him testify.
20 All right. You may continue.
21 Q. (By Ms. Logan) All right. So, once you
22 identified that there were stains on State's Exhibit No.
23 81 that you found to be consistent with high velocity
24 impact spatter, what did you do as far as marking those
25 areas on the garment?

1 A. The areas were I found stains, I had cut little
2 adhesive triangles and placed it next to each one of those
3 stains.
4 Q. And what was your purpose in doing that?
5 A. To relocate the stains later on for whatever
6 type analysis we were going to perform.
7 Q. All right. And, so, these photographs, State's
8 Exhibits 83 through 95, are they the magnified images of
9 the stains from State's Exhibit No. 81 that you were
10 documenting as a portion of your analysis?
11 A. Yes, they are.
12 Q. So, I think you were saying that State's
13 Exhibit No. 84 -- what did you find the stain in this
14 picture, or these stains in this picture to be consistent
15 with?
16 A. It was consistent with high velocity impact
17 spatter. The stain is penetrating into the fiber on this
18 one.
19 Q. All right. And what is it that makes the stain
20 penetrate into the fiber?
21 A. It's just the force of where it's traveling.
22 Q. When you talk about force and high velocity
23 impact spatter, let's say, hypothetically, that you have
24 an individual with a gunshot wound to the head. Can you
25 tell us whether or not in your experience that's a

1 scenario in which you would expect to see high velocity
2 impact spatter?
3 A. Yes, it is.
4 Q. Why?
5 A. Basically, when a weapon is fired and a -- and
6 we'll use a skull for example. When the bullet penetrates
7 the skin to the skull, there's pressure from the bullet
8 traveling inwards, there's pressure from the gases of the
9 gun traveling inwards as well. If you've ever dropped a
10 rock in the water -- and I'm sure everybody has -- you see
11 that little splash that comes out. Well, you've got that
12 splash, plus the fact -- the pressure from the gun, and
13 the bullet also entering in and is putting pressure inside
14 the skull, forcing more blood and material out of the
15 wound.
16 To take that a little bit further, once the gases are
17 expelled from the barrel of that gun, it creates a
18 suction. And a lot of times on -- we'll get what's called
19 blow-back, and it will actually suck blood up into the
20 barrel and even sometimes up into -- as far as the shell
21 casing inside that weapon. So, you've got a spray of
22 blood coming back in the direction that the force was
23 created at.
24 Q. Now, State's Exhibit No. 85, can you explain to
25 us what you were documenting in this photograph?

1 A. Again, it's another stain that was found on the
2 garment.
3 Q. Did you take multiple pictures of the same
4 stain?
5 A. Typically, I just took one photograph,
6 stabilized it, and take a time -- set the timer on the
7 camera and photograph it.
8 Q. Now, State's Exhibit No. 86, can you show the
9 ladies and gentlemen what stain you're documenting here?
10 A. It's this stain right here, another penetrating
11 stain.
12 Q. And when --
13 MR. McWILLIAMS: Judge --
14 Q. (By Ms. Logan) And when you say a penetrating
15 stain, tell us what you mean by that.
16 A. Again, it went through and into the fiber area.
17 Q. And that is different from simply laying atop
18 the fabric, correct?
19 A. Yes, ma'am.
20 Q. Now, State's Exhibit No. 87.
21 A. That one you can actually see a piece of fiber
22 with a material hanging onto the fiber.
23 Q. Now, State's Exhibit No. 88, what were you
24 documenting in this photograph?
25 A. It appeared to me -- this area here and here

appear to be possibly bone fragment. It's consistent with what appeared, you know, on that; just couldn't confirm it.

Q. All right. So, you didn't --

MR. McWILLIAMS: What number is that?

MS. LOGAN: 88.

Q. (By Ms. Logan) You didn't do any confirmatory testing on those items?

A. No. I had no way to do anything like that.

Q. All right. Now, State's Exhibit No. 89, tell us what we are looking at here.

A. Again, we have another penetrating stain in the fiber.

Q. Okay. Is that what you're talking about right here where it's a little bit darker in the fabric?

A. Yes.

Q. State's Exhibit No. 90.

A. Another stain. This one doesn't appear to be penetrating as much. It's kind of just laying on top of the fiber.

Q. And if a stain is laying on top of the fiber, can you tell us what, if any, information that provides to you as far as the speed behind that stain?

A. Well, that particular stain, or whatever was in flight, just lost energy and just kind of landed.

1 Q. All right. And, so, is that similar to your
2 demonstration with the water bottle?
3 A. Yes, it is. If you notices, when I sprayed the
4 bottle, some water started falling out directly from the
5 nozzle and some extended past it. So, you get different
6 speeds.
7 Q. All right. State's Exhibit No. 91. What kind
8 of stain do we have here?
9 A. That's a penetrating stain as well.
10 Q. State's Exhibit No. 92.
11 A. It looks like something impacted the fibers.
12 Q. State's Exhibit No. 93.
13 A. Looks like a sphere. Whatever was flying
14 attracted itself to some of the fibers on -- so, it's an
15 impact stain, basically.
16 Q. Okay. State's Exhibit No. 94.
17 A. We've got a couple of areas. We've got an area
18 here and an area here where it appears something impacted
19 it.
20 Q. And State's Exhibit No. 95.
21 A. Close-up of a fiber with the -- looks like the
22 stain, or whatever hit it, and absorbed into the fiber a
23 little bit.
24 Q. Now, you mentioned that you marked the areas of
25 stains on State's Exhibit No. 81 with small stickers. Can

1 you tell us approximately how many stains you located on
2 State's Exhibit No. 81?
3 A. Guesstimating, I'm thinking maybe a hundred or
4 more.
5 Q. And would each of those stains, those hundred
6 or more stains that you're talking about, they would be
7 visible by the naked eye?
8 A. The stains?
9 Q. Yes.
10 A. No, ma'am.
11 Q. Okay. What is the only way in which a person
12 would be able to view those stains?
13 A. The stains on the garment are only visible by
14 microscopy, looking under the microscope.
15 Q. Now, the color -- we've talked about the size
16 of the stains being consistent with impact spatter. The
17 color of the stains that you observed under the microscope
18 from State's Exhibit No. 81, based on your training and
19 your experience, did you find them to be consistent with
20 blood?
21 A. Yes, they had the appearance.
22 Q. Can you tell us, if you recall, when you sent
23 State's Exhibit No. 81 for further testing at the Medical
24 Examiner's Office?
25 A. Let's see if I've got the dates. Let me refer

1 to my notes real quick. That would have been November
2 8th, 2010.
3 Q. Now, with respect to the deposit of stains on a
4 garment like State's Exhibit 81, would the stains that you
5 observed on the garment be consistent with aspirated
6 blood?
7 A. No, ma'am.
8 Q. Tell the ladies and gentlemen of the jury what
9 aspirated blood means to you.
10 A. Aspirated blood, or expectorated blood,
11 typically when somebody's throat, or mouth, or lungs fill
12 with blood, you can cough and also get a similar pattern
13 to a high velocity effect. Unfortunately, in some cases,
14 it's kind of hard to tell, but in most cases you end up
15 with a multitude of sizes because of the amount of blood.
16 And if you look at it, for example, on a floor with
17 expectorated blood, you get what we call skeletonized
18 stains, which is a bloodstain. It almost looks like a
19 doughnut because what happens is there are air bubbles in
20 it and those bubbles will break and make like a doughnut
21 shape.
22 Q. And, so, in your opinion, based on your
23 observations in State's Exhibit No. 81, the stains, were
24 they or were they not created by aspirated blood?
25 A. Definitely not. They were all -- it's all

1 consistent with high velocity impact spatter.
2 Q. Now, hypothetically, if the wearer of State's
3 Exhibit No. 81 were positioned within 4 feet of an
4 individual and, while wearing State's Exhibit No. 81,
5 fired a firearm causing a head injury, a gunshot wound to
6 the head, would the stains that you documented and
7 observed here be consistent with that scenario?
8 A. Yes, they would.
9 Q. Now, let's talk about the angle of an item in
10 relation to the wound and how that affects the deposit of
11 high velocity impact spatter. If a person or an item, in
12 this case State's Exhibit No. 81, were perpendicular to
13 the wound, would you expect the impact spatter on State's
14 Exhibit No. 81 to be different from any impact spatter
15 that might be present on an item that is parallel with the
16 wound?
17 MR. McWILLIAMS: I'm going to object to
18 the relevance, Judge.
19 THE COURT: It's overruled.
20 A. It would be hard to determine. There could be
21 a lot of factors that affect the flight of blood, but,
22 typically, like I was mentioning, when you fire a weapon,
23 it's coming back towards the source. So, if someone, say,
24 was standing there with a gun extended and shot downward,
25 that blood is going to start coming back towards the

1 source.
2 Q. (By Ms. Logan) And with respect to, for
3 instance, a blanket or covering over the person being
4 shot, would you expect the pattern, if there is one, on
5 that blanket to be different from the pattern that would
6 be created on a garment like State's Exhibit No. 81 that
7 is perpendicular to the source?
8 A. Yes, it would be different.
9 Q. Why?
10 A. You've got a horizontal and a vertical surface.
11 I mean, you've got your vertical surface, blood is coming
12 up, where, you know, from -- it's kind of hard to do
13 without a chalkboard or something, but from the source,
14 it's coming up, you know, towards that energy source to
15 where the gun was fired.
16 Now, down on the flat surface, you know, it's going
17 to come at a different angle. So, you're just going to
18 have two types of angles come out of it. You also may
19 have some arcing of that blood, as well, but you're
20 looking at two different angles on hard surfaces.
21 Q. Aside from your examination with respect to the
22 nightgown, the three pieces of the nightgown in this case,
23 did you examine any other evidence in this case for the
24 presence of high velocity impact spatter?
25 A. No, ma'am.

1 MS. LOGAN: I pass the witness.
2 THE COURT: Cross?
3 MR. McWILLIAMS: Yes, Your Honor. If I
4 might just have a moment.
5 THE COURT: Yes, sir.
6 (Brief pause.)
7 **CROSS-EXAMINATION**
8 BY MR. McWILLIAMS:
9 Q. Something that you said there towards the end
10 of that caught my attention, and I just want to make sure
11 that I'm clear about what you said before I come back to
12 it later on.
13 Did you tell Ms. Logan that high velocity impact
14 spatter would look different if it was deposited on --
15 whether it's deposited on an item that's at degrees versus
16 an item that's parallel, that the impact spatter itself,
17 those drops would appear differently?
18 A. No, not the droplets. No. The pattern type
19 might, but the droplets would be the same.
20 Q. Exactly the same. And with respect to the
21 pattern that you're talking about, I thought in direct
22 examination, when you started looking at State's Exhibit
23 81, did you not testify to Ms. Logan that you didn't
24 really see a consistent pattern?
25 A. It was a random pattern.

1 Q. Is it random or is it a pattern?
2 A. It's random deposits. It's not -- I mean, it's
3 like a pattern, like a target, or things like that.
4 Q. I don't want to be -- I don't want us to be
5 confused. I certainly don't want the jury to be confused.
6 To me, if something happens in a pattern, that has an
7 order to it. If it happens randomly, that's not the same
8 thing. Would you agree with that?
9 A. I agree.
10 Q. So, I'm not sure that I understand, nor could
11 the jury understand what you mean by you saw a random
12 pattern.
13 MS. LOGAN: I object to the side-bar.
14 THE COURT: Okay. No side-bar. Restate
15 your question.
16 Q. (By Mr. McWilliams) What do you mean when you
17 say you saw a random pattern?
18 A. The spatter was throughout the front of the
19 pattern. The areas that I located or observed were all
20 over the front of the nightgown.
21 Q. When we're talking about high velocity impact
22 spatter -- actually, to talk about other types of spatter,
23 too, but let's focus on high velocity impact spatter. It
24 has a consistent pattern as it comes out of the wound,
25 does it not?

1 A. That -- I couldn't answer that because each --
2 the distance of a weapon, where the weapon is fired from
3 -- I mean, there are a lot of factors which would make it
4 not as consistent.
5 Q. Let me ask it this way. Do you expect high
6 velocity impact blood spatter to exit the target and
7 deposit itself in a cone-shaped fashion?
8 A. It could, yes.
9 Q. Actually, isn't that a distinct characteristic
10 of high velocity impact blood spatter?
11 A. It would come out and -- yes.
12 Q. Every single time, it will exit in a conical
13 fashion?
14 A. I can't say that.
15 Q. Let's go to some of your qualifications.
16 THE COURT: This is a good place. Your
17 lunch is here now. So, we'll pick up there after
18 lunch. All right. Same thing, no discussions about
19 the testimony.
20 (Whereupon the Court stood in recess
21 for lunch.)
22 (Whereupon the following proceeding
23 is held outside the presence of the
24 jury.)
25 MS. McDANIEL: Judge, I have those

1 pictures, and I just wanted to put on the record that
2 I was going to give them to defense counsel. --
3 THE COURT: Please do.
4 MS. McDANIEL: Can I just say it, Judge?
5 Is that okay?
6 For the record, I have contacted the
7 Harris County Sheriff's Office, Crime Scene Unit, and
8 I have duplicates of what have been admitted into
9 evidence as State's Exhibits 83 through 95 to provide
10 for defense for their expert to review, and I am
11 giving it to defense.
12 MR. DAVIS: Thank you, Counsel.
13 THE COURT: You just have to pay whatever
14 cost to get it to Oklahoma.
15 MR. DAVIS: Thank you, Judge.
16 THE COURT: Thank you for getting that
17 done.
18 MS. McDANIEL: Yes, sir.
19 (Brief pause.)
20 (Whereupon the following proceeding
21 is held in the presence of the
22 jury.)
23 THE COURT: Let's proceed.
24 MR. McWILLIAMS: Thank you, Your Honor.
25 Q. (By Mr. McWilliams) Sir, before the break on

1 cross-examination, we were discussing your role as a crime
2 scene analyst in the case that we are here on trial about.
3 Fair enough?
4 A. Correct.
5 Q. Let's start with some discussion about gunshot
6 residue. Because as I understand it, you've really talked
7 about two separate sciences that apply to crime scene
8 analysis. You've talked about gunshot residues and you've
9 talked about blood spatter pattern analysis. Is that a
10 fair characterization of your testimony?
11 A. Yes, sir.
12 Q. And those are two separate and distinct
13 sciences within the discipline of crime scene
14 investigation?
15 A. Yes, they are.
16 Q. Talk to me about the gunshot residue just
17 generally. If you were going to give gunshot residue 101
18 to the jury, talk to me about that.
19 A. Primarily, it's referred to as primer residue
20 because what the lab is looking for are items that are in
21 a primer from a fired weapon. Specifically, they are
22 looking for lead, barium, and antimony, which are present
23 in a primer to -- you know, basically, when a hammer comes
24 down on the primer, it ignites the powder. So, basically,
25 what they are looking for is primer residue and not burnt

1 gunpowder, or anything like that.
2 Q. Now, let me -- let's talk about that primer.
3 You named three, the three elements. Am I correct that
4 they're actually elements? They are not chemicals, they
5 are elements?
6 A. Elements, correct.
7 Q. They are heavy metals?
8 A. Correct.
9 Q. Barium, antimony, and lead?
10 A. Yes, sir.
11 Q. Is it fair to say that the science of gunshot
12 residue today, that for you to be able to say that there
13 is gunshot residue or primer cap residue, you have to find
14 all three of those heavy metals present in the same
15 location?
16 A. I believe so today. I'm not sure what it used
17 to be, but today, yes.
18 Q. Okay. Regardless of what the standard was for
19 its accuracy in 1987, obviously, there have been advances,
20 and our science has gotten better, and how we interpret
21 results has gotten better; fair?
22 A. Absolutely.
23 Q. And the testing has gotten better?
24 A. Absolutely.
25 Q. And barium, antimony, or lead are still the

1 same as barium, antimony, and lead have always been?
2 A. Absolutely.
3 Q. And, so, regardless of what we thought about
4 whether or not you could call it gunshot residue in 1987,
5 we know today that it would be inaccurate or dangerous to
6 conclude that something was gunshot residue if you only --
7 if you did not have all three of those particles?
8 A. Yeah, you would probably -- you definitely
9 would have to have all three of those.
10 Q. And that's because of the uniqueness of finding
11 those three elements in the same place at the same time;
12 is that right?
13 A. Correct.
14 Q. Because barium is an extremely common element?
15 A. It is.
16 Q. Every -- the dirt, we pick up a handful of
17 dirt, I've got barium in my hand; is that fair?
18 A. Correct.
19 Q. Lead, probably any of us that have ever bought
20 a house before had to sign a lead-based paint thing as
21 part of the thing, right?
22 A. The older houses, yes.
23 Q. Lead is all over the place in our environment?
24 A. Yes.
25 Q. It is not -- the presence of lead on an item

1 does not in any way, shape, form, or fashion suggest that
2 it's primer cap residue or gunshot residue unless you find
3 the other two items there also?
4 A. Correct.
5 Q. Okay. Was gunshot residue testing performed on
6 all of these articles of clothing that you've talked about
7 today?
8 A. They were submitted for gunshot residue or
9 primer residue. Whether it was done, I don't have
10 personal knowledge.
11 Q. And we have introduced some documents through
12 you during direct examination from the prosecutor that had
13 some results of some of that stuff.
14 A. Yes.
15 Q. So, you saw the report that indicates -- while
16 you personally didn't do the testing, but at least the
17 documents indicates that it was done?
18 A. Correct.
19 Q. Was it done on one occasion or more than one
20 occasion?
21 A. Apparently, looking at the document submission
22 forms, it appears that they were submitted twice.
23 Q. In your review of those documents, let me ask
24 you: The fact, regardless of how many times we've tested
25 them, as we sit here today, no one has ever found gunshot

1 residue on that nightgown; is that fair?
2 MS. LOGAN: I object. That calls for
3 speculation. He says he doesn't know the results of
4 the later testing.
5 THE COURT: All right. He can testify as
6 to his knowledge.
7 Q. (By Mr. McWilliams) To your knowledge, based on
8 everything that you have done, is there any -- have you
9 determined with any degree of scientific accuracy that
10 there's gunshot residue on there?
11 A. Not to my knowledge.
12 Q. As a matter of fact, with all the testing
13 that's been done and what you have reviewed suggests that
14 there is not gunshot residue?
15 A. It appears to be, correct.
16 Q. Because of the way I phrased that, I just want
17 to make sure we're clear. When you say "it appears to
18 be," you're saying it appears that there is not gunshot
19 residue on those items of evidence?
20 A. Correct.
21 Q. Now, part of those items of evidence have been
22 removed, and for whatever, are no longer here and
23 available to us to do anything with?
24 A. Correct.
25 Q. I guess, what I'm talking about specifically is

once they took the cuffs -- after they tested it, once they took the cuffs off of them?

A. Correct.

Q. Those have gone to evidence heaven as far as we know?

A. No clue where they are at.

Q. However, we do have a result of a test that was performed on -- we assume was performed on those cuffs, but we don't know where they are or what's happened to them. And did that test reveal any gunshot residue?

A. Not to my knowledge, no.

MR. McWILLIAMS: May I approach the witness, Your Honor?

THE COURT: Say it again.

MR. McWILLIAMS: May I approach the witness?

THE COURT: Yes, sir.

Q. (By Mr. McWilliams) I'm showing you what has been admitted into evidence already as State's Exhibit No. 75.

A. Okay.

Q. Take a look at that. Does that look like a Charter Arms P .38 revolver?

A. It does.

Q. Now, a couple of questions. We were talking

about gunshot residue. Let's stick with that for a second. Is that gun the type of gun that if a person fired it, it might leave gunshot residue or primer cap residue on the person who shot it or even in the surrounding area?

A. It's possible, yes.

Q. Okay. Back to gunshot residue 101. How far out would we expect -- can you expect to see gunshot residue particles falling?

A. Honestly, I don't have an answer for that.

Q. Is it more than 4 feet?

A. It possibly could be.

Q. Is it more or less than high velocity impact spatter?

A. I honestly don't know.

Q. I'm going to describe something and you tell me if that's fair about gunshot residue. When I fire the gun, every bullet has a little primer cap in it, without going through all that, that has the barium, antimony, and lead?

A. Correct.

Q. And that ignites the gunpowder and causes the bullet to fire when the hammer is dropped on it?

A. Correct.

Q. When the hammer drops on that primer, the

1 primer itself burns and explodes?
2 A. Yes, correct.
3 Q. All those particles go flying out into the air?
4 A. Correct.
5 Q. Into a cloud?
6 A. Correct.
7 Q. Kind of like what we're talking about with the
8 high velocity impact spatter?
9 A. Correct.
10 Q. Except for this time, it's actually -- that is
11 propelled by an explosion, a fueled explosion?
12 A. Correct.
13 Q. So, those projectiles are actually being
14 ejected at a higher velocity than blood would be from a
15 high velocity impact spatter?
16 A. Correct.
17 Q. And is it -- and we're talking about -- these
18 are heavy metals. These are lead -- lead, barium, and
19 antimony?
20 A. Yes.
21 Q. So, they're denser than an item like blood, or
22 water, or liquid?
23 A. Right.
24 Q. And, so, if I propel an -- if I have something
25 that is denser and heavier, and I propel it at a higher

velocity, would I expect that to travel further or shorter than an atomized drop of blood?

A. Probably further.

Q. So, we would expect the gunshot residue cloud to encompass an area bigger than we might expect the high velocity impact spatter to?

A. It's possible depending on the ammunition, yes.

Q. Okay. Let's talk about ammunition. .38, common ammunition. You've got .38 Special ammunition?

A. That's correct.

Q. But there is something called a .38 +P?

A. Correct.

Q. What's that?

A. It's just a higher velocity round. I don't know if they put more powder or how it's actually constructed.

Q. But the idea that it's got more power in it, does that suggest to you that that -- that if it was a +P round that had been fired, it might actually create a bigger gunshot residue cloud?

A. It would make -- probably create a bigger cloud, but the primer size would be the same as a standard .38.

Q. Right, but the cloud would be bigger?

A. It's possible, yes.

1 Q. So, the items that were contaminated, a greater
2 area of space around the fired weapon would be
3 contaminated, we would expect to be contaminated with
4 gunshot residue than perhaps by impact spatter? I'm
5 talking about just the size of the area.
6 A. It's possible, yes.
7 Q. I'm not asking whether it's possible. I'm
8 asking if that's what you would expect based on physics,
9 science, your training, experience, your education. Do
10 you expect that to be true?
11 A. Yes.
12 Q. And the bottom line is, as far as you know,
13 there is no gunshot residue on that?
14 MS. LOGAN: It's been asked and answered.
15 THE COURT: It's overruled.
16 A. Not to my knowledge.
17 Q. (By Mr. McWilliams) I'm going to ask you -
18 let's move to blood for a second. Well, I've got one more
19 question on gunshot residue.
20 They didn't find any barium or antimony -- let's just
21 go ahead and look at it.
22 MR. McWILLIAMS: May I approach the Elmo,
23 Judge?
24 THE COURT: Yes, sir.
25 Q. (By Mr. McWilliams) I'm showing you what's been

1 admitted as State's Exhibit 156. This is the Texas
2 Department of Public Safety's gunshot residue analysis --
3 or their report of their gunshot residue analysis on all
4 of the items that we see here on the table, correct?
5 A. Correct.
6 Q. And it says, "No led or barium was detected on
7 those items"?
8 A. Correct.
9 Q. Now, it leaves out antimony. Now, I'm just
10 asking this to see if I'm on the right page. We've
11 already established that you've got to have all three for
12 it to be gunshot residue?
13 A. Correct.
14 Q. But antimony, that's kind of strange that they
15 didn't look at antimony on there. Let me ask you about
16 antimony. Is antimony a common ingredient in
17 flame-retardant?
18 A. Honestly, I don't know.
19 Q. If it was, would you expect, at least since
20 1984, for nightgowns and sleepwear to have flame-retardant
21 on them?
22 A. I would assume they would, yes.
23 Q. So, if antimony was a common ingredient in
24 flame-retardant that was federally required be placed on
25 sleepwear at the time, you would probably expect to find

1 antimony in there?
2 A. Correct.
3 Q. And you might not test for it?
4 A. It's a possibility.
5 Q. Now, did -- you were asked to take a look at
6 pieces -- at a nightgown set. Were you asked to look at
7 any other items of evidence?
8 A. No, sir.
9 MR. McWILLIAMS: May I approach the
10 witness, Your Honor?
11 THE COURT: You may.
12 Q. (By Mr. McWilliams) I'm going to show you what
13 has been admitted into evidence as Defendant's Exhibit --
14 I'm sorry -- as State's Exhibit No. 14. I'd ask you just
15 take a look at that for a second. Have you seen that
16 picture before?
17 A. Yes, sir.
18 Q. You have seen that picture before?
19 A. Yes, sir.
20 Q. Did you see that picture here recently or did
21 you see it back in 2008 when you were doing your analysis?
22 A. 2008.
23 Q. Okay. Did you have, like, the file from the
24 sheriff's office with the offense report and all of that
25 stuff in it?

1 A. I had a few reports. Not the complete file,
2 correct.
3 Q. But you had some photographs?
4 A. Yes.
5 Q. Did you have some witness statements in there?
6 A. No, no witness statements.
7 Q. But you had the police's offense report. So,
8 what people told them is in there?
9 A. Yes, sir.
10 Q. So, you knew what people -- at least what the
11 police had said people were saying?
12 A. Correct.
13 Q. Okay. Did you look at that stuff before you
14 did this test?
15 A. Yes.
16 MR. McWILLIAMS: I'm going to publish
17 State's Exhibit 14, if that's okay, Judge.
18 THE COURT: All right. Sure.
19 Q. (By Mr. McWilliams) To your knowledge, this is
20 the complainant, the deceased in his bed at the scene of
21 the offense for which we are here talking about?
22 A. Yes.
23 Q. You said you have seen that picture?
24 A. Yes.
25 Q. Now, if the idea is that the shooter was

1 standing within close proximity to Mr. -- and I guess, if
2 we're taking about high velocity impact spatter, we have
3 to say he's standing within 4 feet of Mr. Clark, and I
4 fire that weapon into his back and into his head, would
5 you expect to find gunshot residue on the comforter?
6 A. It's a possibility, yes.
7 Q. Have you ever taken a look at the comforter?
8 A. No.
9 Q. To your knowledge, is the comforter gone to
10 evidence heaven the same as the cuffs of the -- the cuffs
11 of the nightgown?
12 A. After recent -- recently, I did find out, yes,
13 that it's gone.
14 Q. Let me ask you about that. As far as you know,
15 that's not -- Mrs. Clark or her defense team doesn't have
16 anything to do with --
17 MS. LOGAN: I object to the relevance.
18 THE COURT: Well, there's another way to
19 ask the question. All right?
20 MR. McWILLIAMS: Okay.
21 Q. (By Mr. McWilliams) Who lost it? Not to put
22 too fine a point on it, but we've kind of got two sides
23 here.
24 A. Correct.
25 Q. And I'm saying, we ain't got nothing to do with

1 the fact that that's gone, and we can't do anything about
2 it, right?
3 A. Correct.
4 Q. Somewhere -- the lab lost it?
5 A. To my understanding, yes.
6 Q. The cuffs, which already had been tested, but
7 the cuffs are gone?
8 A. Correct.
9 Q. And this comforter -- to your knowledge, has
10 this comforter ever been tested?
11 A. Not to my knowledge.
12 Q. For blood spatter?
13 A. It didn't exist whenever I took over the case.
14 Q. I'm going to go on to some of the blood
15 spatter. Okay? Turning to blood spatter. You weren't
16 here for this, but I'm going to tell you this because it's
17 important to set up this question. I heard your
18 discussion with the prosecutor about what you found. I
19 heard you say that you found a hundred and something spots
20 on this of high velocity impact spatter.
21 A. Estimating, yes.
22 Q. Estimating -- you estimate over a hundred spots
23 of high velocity impact blood spatter?
24 A. No, sir.
25 Q. My partner, during opening statement, argued

1 that you were going to say --
2 MS. LOGAN: Judge, this would be a
3 violation of the Rule.
4 THE COURT: Well, the opening statement is
5 not evidence. And, so, I don't know why you --
6 MR. McWILLIAMS: If I can just finish the
7 question, Your Honor.
8 THE COURT: Well, it would be an
9 objectionable question.
10 Q. (By Mr. McWilliams) My partner said that you
11 would say --
12 MS. LOGAN: Again, I object, Your Honor,
13 to the form of this question.
14 THE COURT: Because it makes your partner
15 a witness somehow.
16 MR. McWILLIAMS: Okay.
17 Q. (By Mr. McWilliams) Bottom line is, you're kind
18 of up there saying there's blood all over this thing.
19 A. Again, that's an estimate. I never actually
20 went through and counted, but by looking at the article,
21 remembering the article when I did examine it, there was
22 -- appeared to be at least a hundred stickers on it.
23 Q. Do we know for sure they're blood?
24 A. No.
25 Q. Can you call it high velocity impact blood

1 spatter if you don't know that it's blood?
2 A. I call it high velocity impact spatter.
3 Q. And it might be mud, whatever?
4 A. Absolutely.
5 Q. You know that there was a review of your work,
6 don't you?
7 A. I do.
8 Q. You know that the -- they did the same tests, I
9 think, that you did, right?
10 A. I'm not sure who you are referring to, but...
11 Q. Let me ask. To your knowledge, has there ever
12 been any DNA collected on those items?
13 A. I believe there was an attempt. I don't know
14 what the results were from it.
15 Q. The bottom line is, you can't say for sure that
16 there's any blood on there at all?
17 A. No, I can't.
18 Q. And not only are we not sure that there's any
19 blood on there at all -- we're not sure if there's any
20 blood on there at all, but we know there's no gunshot
21 residue, right?
22 A. I believe that's been established, yes.
23 Q. Okay. You think it looks like blood, but you
24 can't confirm it?
25 A. I'm not a serologist. No, I can't.

1 Q. Do you know who Chris Duncan is?
2 A. I've heard the name.
3 Q. How have you heard the name Chris Duncan?
4 A. I believe he's employed with the Houston Police
5 Department, the Crime Scene Unit, I believe.
6 Q. He kind of does similar work -- back when you
7 were doing this, you worked for the County, correct?
8 A. Correct.
9 Q. The sheriff's office?
10 A. The sheriff's office.
11 Q. Chris Duncan kind of does what you do, but he's
12 with the Houston Police Department?
13 A. Correct.
14 Q. Right? You're kind of counterparts. He works
15 for the City, you work for the County?
16 A. I'm assuming that's where he works, yes.
17 Q. Would it -- you know that Chris Duncan took a
18 look at your work. You said you had found all these --
19 all this blood all over the thing, and he took a look at
20 it and made some -- did some analysis of that. Are you
21 aware of that?
22 A. I am.
23 Q. Have you seen what his analysis would be? Have
24 you seen his review?
25 A. No, I have not.

1 Q. So, you don't know? You know that he did it,
2 but you don't know the results?
3 A. I know that he did it, but I don't know what
4 his analyses were.
5 Q. And Chris Duncan is HPD's you, for a lack of a
6 better term, right?
7 A. Okay.
8 Q. He works for the police department. And in
9 this situation, he is -- you anticipate he's going to be a
10 witness on the State's side of things, right?
11 A. I'm not sure.
12 Q. He's not the only one that reviewed your work,
13 right?
14 A. Correct.
15 Q. You know somebody else that did some review of
16 that?
17 A. I do.
18 Q. Who was that?
19 A. There was Katie Welch, and I also had a couple
20 of people in my office review it.
21 Q. Okay. How about on our side of things; do you
22 know if an independent -- an independent expert appointed
23 by the Court reviewed your stuff?
24 A. I do.
25 Q. And that independent expert appointed by the

1 Court, who was that?
2 A. Tom Bevel.
3 Q. Is that important to you?
4 A. No.
5 Q. Okay. Can you tell the jury -- you recognize
6 the name Chris Duncan. Do you recognize the name Tom
7 Bevel?
8 A. I do.
9 Q. How do you recognize the name Tom Bevel?
10 A. Tom is -- used to be a captain with, I believe,
11 Oklahoma State Police or Oklahoma City Police. He does a
12 lot of training in blood spatter and does work in blood
13 spatter analysis.
14 MR. McWILLIAMS: May I approach the
15 witness?
16 THE COURT: Yes, sir.
17 Q. (By Mr. McWilliams) Do you recognize this book?
18 A. Yes, sir.
19 Q. Is that a common book for people that do your
20 work to have in their office?
21 A. I believe we have one in our officer, yes, sir,
22 or had one.
23 Q. That's "Bloodstain Pattern Analysis," third
24 edition?
25 A. Yes, sir.

1 Q. Let me go back to what you said before. You
2 were talking during your qualifications that you had done
3 -- you had co-authored something that was the Bible on
4 what?
5 A. It was Practical Crime Scene Investigation or
6 Homicide Investigation by Vernon Geberth. And if I'm not
7 mistaken, Mr. Bevel and Mr. Gardner asked me to publish
8 something in that book, I believe, as well.
9 Q. Okay. Mr. Bevel -- let's cut to the chase.
10 Mr. Bevel is probably the world's foremost expert on blood
11 pattern analysis?
12 A. He's good. There's Herbert McDonald and
13 several others, but he's at the top.
14 Q. With respect to all -- they may all be good,
15 but the bottom line, we are talking these are the guys --
16 if I want a guy -- if I've got all the money in the world
17 and I needed a guy, I've got a really important case, Tom
18 Bevel is the guy?
19 MS. LOGAN: Judge, I object to the defense
20 bolstering their witness with the testimony through
21 this expert.
22 THE COURT: Well, that's sustained. If
23 you are asking him his opinion, you can ask his
24 opinion.
25 Q. (By Mr. McWilliams) In any event, you know that

1 Mr. Bevel and Chris Duncan with HPD both reviewed your
2 work?
3 A. Yes.
4 Q. Don't know what the results are?
5 A. No.
6 Q. If we saw -- if there is blood all over this
7 thing, hundred plus spots, wouldn't we expect there to be
8 more blood, more high velocity impact spatter on the
9 comforter?
10 A. It's a possibility. If I had the opportunity
11 to examine it, it probably would show up there.
12 Q. And let's talk about -- we talked about blood
13 pattern, right? Before the break, I had started in and we
14 had some questions about that. We talked about pattern
15 versus randomness, we talked about the cone that is
16 emitted of mist. Do you recall that, that discussion that
17 we had?
18 A. Yes.
19 Q. Is it fair to say that if the shooter is -- let
20 me ask that a different way.
21 You said -- the fact is when we are looking for high
22 velocity impact spatter, one of the things that we're
23 going to look for to see if that's the kind of spatter it
24 is, if that's, in fact, the classification we're going to
25 give to it is the pattern that it is displayed on, right?

1 A. Basically, what you are looking at --
2 MR. McWILLIAMS: Judge, I'm going to
3 object that that's nonresponsive.
4 THE COURT: Restate your question again.
5 Q. (By Mr. McWilliams) One of the things that I
6 have -- that I need to look at to determine whether
7 something is high velocity impact blood spatter is the
8 shape of the pattern that it leaves as it exits the thing;
9 that's an important thing for you to do?
10 A. True.
11 Q. It was certainly available to be done at some
12 point during this investigation, correct?
13 A. For what to be done? The --
14 Q. If someone had given you that comforter, you
15 could have looked at it and seen that if it was there?
16 A. Yes.
17 Q. But that never happened?
18 A. No.
19 Q. As far as what you see on the nightgown, there
20 is no pattern?
21 A. Correct, just randomness.
22 Q. There might be a pattern of blood spatter on
23 the comforter, but we'll never know, right?
24 A. Correct.
25 Q. There is no pattern on that?

1 A. There are a lot of factors that would go into
2 that.
3 Q. Okay. How about -- there's a lot of different
4 things that we can do to decide if something is a --
5 presumptively is blood, right?
6 A. Correct.
7 Q. Let me ask you something about presuming. Have
8 you testified on few or many occasions?
9 A. Many.
10 Q. You understand that a conviction requires proof
11 beyond a reasonable doubt?
12 A. Absolutely.
13 Q. And as a witness, you're kind of an important
14 part of that equation?
15 A. Yes.
16 Q. Would you assign a presumptive test that level
17 of confidence?
18 MS. LOGAN: I'm going to object. That
19 invades the province of the jury, as far as what
20 beyond a reasonable doubt is.
21 THE COURT: Restate your question.
22 Q. (By Mr. McWilliams) Let me ask you this way.
23 Is a presumptive test for blood in your mind -- if I use a
24 phenolphthalein test and I get a positive result, is that
25 proof beyond a reasonable doubt to you that that is blood?

1 MS. LOGAN: Objection. That invades the
2 province of the jury.
3 THE COURT: It's sustained.
4 Q. (By Mr. McWilliams) Is it proof to a reasonable
5 degree of scientific certainty that it is blood?
6 A. No, it's not. It's a presumptive test.
7 MR. McWILLIAMS: One moment, Your Honor.
8 (Brief pause.)
9 Q. (By Mr. McWilliams) You did this
10 phenolphthalein test?
11 A. Yes.
12 Q. I'm a little confused. Did you do that on one
13 of the spots or all of the spots?
14 A. Just one of the spots.
15 Q. And it was a loose particle of possible blood?
16 A. Correct.
17 Q. You got -- assume with me for a second -- I
18 know we can't say that it is, but assume with me for a
19 second that it's blood.
20 A. Correct.
21 Q. Do you know whose it is?
22 A. No, I don't.
23 Q. If it's not Edmund Clark's blood, it really
24 doesn't make a difference, does it?
25 A. Correct.

1 Q. To your knowledge, if I just give you that it's
2 blood, has anybody, to your knowledge, ever been able to
3 say it's Edmund Clark's blood?
4 A. Not to my knowledge.
5 Q. When we -- how about a black light? Can you
6 use a black light to get a presumptive thing of whether or
7 not something is blood, or to identify whether something
8 might be blood? We see that in crime scene investigators
9 and stuff all the time.
10 A. No. Blood doesn't fluoresce.
11 Q. Blood doesn't fluoresce, right?
12 A. Correct.
13 Q. Other things do?
14 A. Other things do.
15 Q. And, so, if I ran a black light over that
16 thing, and it all lit up like a Christmas tree, that stuff
17 that's lighted up, if it fluoresces, it's not blood?
18 A. Correct.
19 Q. If it fluoresces, it's not blood. And if --
20 and a phenolphthalein test -- I'm going to say it this way
21 and see if you agree with it -- it's far from conclusion
22 that it's actually blood?
23 A. Again, that's a presumptive test.
24 Q. I'm going to use that language, and I'm going
25 to ask you if you would agree with that language or not.

1 Is a phenolphthalein test on a single spot, is it far from
2 conclusive as to whether or not that's human blood?
3 A. Yes.
4 Q. Mr. Rossi, what's the primary -- not
5 necessarily governing body, but the certifying body for
6 individuals such as yourself that testify in things like
7 gunshot residue analysis and blood spatter pattern
8 analysis? Is that the IAI?
9 A. It's the IAI and I believe IAPTA or something.
10 Q. Now, are you a -- are you certified by the IAI
11 to do what you do and testify in front of juries like
12 you're doing?
13 A. No, sir.
14 Q. As a matter of fact, that's been a point of
15 contention between you and the IAI of late?
16 A. I was grand-fathered in years ago, and then
17 they wanted me to take an exam, which I refused to do
18 because I was close to retirement, so I didn't need it.
19 Q. You're still doing this work, though, as a
20 consultant, aren't you?
21 A. No, I'm not.
22 Q. You've got a website?
23 A. Pardon?
24 Q. I'm sorry. Am I wrong? You're not billing
25 yourself out on Linkden as a senior crime scene analyst

1 with all your little things, everybody but the IAI?
2 A. Right. And it's retired. I don't do any type
3 of consulting work whatsoever.
4 Q. The fact is the IAI had to contact you and
5 asked you to stop holding yourself out that way, right?
6 A. Right.
7 Q. That's true?
8 A. It happened, again, right before I retired,
9 yes.
10 Q. It also came up again here about a week ago,
11 right?
12 A. No.
13 Q. You didn't have any conversation with anybody
14 at the IAI?
15 A. Never did.
16 Q. About whether you -- were you testifying the
17 week before last?
18 A. No.
19 MR. McWILLIAMS: I pass the witness.
20 THE COURT: Redirect?
21 MS. LOGAN: Yes. Thank you, Judge.
22 **REDIRECT EXAMINATION**
23 BY MS. LOGAN:
24 Q. Is a certification from the IAI required before
25 you can provide expert testimony?

1 A. No, it's not.
2 Q. All right. And is that just basically a group
3 that they want you to give money to them and maybe attend
4 a seminar once a year?
5 A. That's about it.
6 Q. All right. And, so, did you feel like it was
7 necessary for you to obtain that kind of certification?
8 A. No.
9 Q. Did you believe it would be necessary or
10 essential to your body of knowledge for you to have a
11 piece of paper that says you are certified by the IAI?
12 A. No.
13 Q. Now, back to the questions about black lights.
14 If a stain is illuminated with a black light, what would
15 you expect -- for instance, if the stain is blood, what
16 would you expect it to do under a black light?
17 A. More than likely, the blood is going to absorb
18 light, so you are going to be looking at probably a black
19 area instead --
20 Q. Okay. So --
21 A. -- of fluorescent.
22 Q. I'm sorry to interrupt you. Instead of it
23 glowing white like we see on the TV shows, it would have
24 an effect, it just wouldn't fluoresce?
25 A. Correct.

1 Q. Okay. And why is it, based on your experience,
2 that blood would absorb a black light?
3 A. I'm assuming because of the density of the
4 blood, it will just pull it in. Things do --
5 MR. McWILLIAMS: Judge, I object to
6 anything that he assumes. It's not based on his
7 training and experience.
8 THE COURT: Well, if he's not testifying
9 as to his expertise, then he can just testify to his
10 experience.
11 MS. LOGAN: Sure, Judge.
12 Q. (By Ms. Logan) Do you know why a bloodstain
13 would absorb a black light?
14 A. Just probably because of the --
15 MR. McWILLIAMS: I object that that is
16 speculative.
17 THE COURT: All right. You can answer
18 that if you know why.
19 THE WITNESS: Okay.
20 Q. (By Ms. Logan) Have you seen a black light when
21 it's shown on a bloodstain? Have you seen it to absorb
22 the black light?
23 A. Yes.
24 Q. But you didn't perform any black light testing
25 with respect to the nightgown in this case?

A. No.

Q. Now, if what we truly have on State's Exhibit No. 81, I believe, is mud, would you expect mud to test positive for using a phenolphthalein test?

A. I wouldn't expect it to, no.

Q. What sorts of substances yield a positive result using a phenolphthalein test?

A. Some vegetable products. I believe plants, some plant products, sometimes a motor oil, or bleach, or things along that line.

Q. All right. And just so we are clear, when you requested the evidence in this case for examination in 2008, was the comforter that we see in the photographs located at the property room?

A. No, it was not.

Q. Do you have any personal knowledge of what happened to that item?

A. No.

MS. LOGAN: May I approach the witness, Judge?

THE COURT: Yes, ma'am.

Q. (By Ms. Logan) Mr. Rossi, I'm going to show you what I've marked for identification as State's Exhibits 139, 140, and 141. Can you tell me whether or not you recognize what those documents are?

1 A. They are Harris County Medical Examiner lab
2 submission forms.
3 Q. All right. Do those pertain to testing that
4 you requested in this case on some of the items of
5 evidence?
6 A. Yes.
7 Q. Can you tell us what date you requested that
8 testing?
9 A. The submission date was April 29th, 2011 on
10 Exhibit 141; April 7th, 2011 on Exhibit 140; and April
11 7th, 2011 on 139.
12 Q. All right. And, to your knowledge, was
13 additional gunshot residue testing performed on these
14 items pursuant to these requests?
15 A. Yes.
16 Q. Do you know the results from these tests?
17 A. No, I do not.
18 Q. So, when the defense counsel was asking you to
19 definitively say without question that there is not
20 gunshot residue on that item, are you capable of making
21 that determination?
22 A. No, ma'am.
23 Q. And is that because you haven't reviewed the
24 reports from the testing that was done in 2011?
25 A. Correct.

1 Q. What was your date of retirement?
2 A. I believe it was June of 2011.
3 Q. Now, I want to talk to you about the
4 discussions concerning the conical nature of high velocity
5 impact spatter. Can you tell us what sorts of factors
6 affect the pattern of deposit on an item that is close in
7 proximity to a high velocity wound?
8 A. For one, there would be a void. A person's arm
9 being in the way holding a gun, that's going to create a
10 void of any blood spatter, or any spatter hitting that
11 garment. Two, the garment could be folded in different
12 ways to where, again, it's going to create a void. Or a
13 third item, there might have been another article of
14 clothing over the top of it, which, again, would cause the
15 void of any spatter.
16 Q. All right. Now, so, if we were to have an item
17 such as this folder be perpendicular to the source of a
18 high velocity impact and there were no intervening
19 factors, no variables that would change the deposit of the
20 stain onto the folder, what shape would you expect that
21 stain to take?
22 A. It would probably be a circular pattern.
23 Q. That's what the defense counsel is talking
24 about, right?
25 A. Yes.

1 Q. So, if you have a completely -- if you have a
2 completely flat object, there are no other factors such as
3 the ceiling fan -- would that be something that could
4 affect the deposit of impact spatter?
5 A. It could affect the flight, yes.
6 Q. Okay. What about an intervening target? What
7 if there were a -- like you said, the arm being out, would
8 that affect how the spatter hits that target?
9 A. Very well could, yes.
10 Q. All right. And, for instance, if we're talking
11 here about State's Exhibit No. 81, and a person is wearing
12 this, is it completely flat on their body?
13 A. No, it's not. It's pleated.
14 Q. So, that means it's different from that folder
15 we were just talking about, right?
16 A. Yes.
17 Q. And, then, if somebody is wearing this and they
18 are shooting a gun, are there a number of variables that
19 would affect the way the blood comes to be deposited on
20 that item?
21 A. Yes.
22 Q. Tell us what some of those might be.
23 A. Again, the arm being extended, it's going to
24 create voids. Pleats in the nightgown will create voids.
25 I mean, there's -- could have been something caused by the

1 sheets or some other variable.
2 Q. Let's say, for instance, if I were to fire a
3 weapon in close proximity to a wound creating high
4 velocity impact spatter, if I'm wearing my jacket, would
5 you expect that the spatter would be able to get onto the
6 shirt that's under my jacket?
7 A. It's possible, yes.
8 Q. Okay. But if I were to shoot the weapon
9 without the jacket, would that change whether or not there
10 would be impact spatter on my jacket?
11 A. Yes.
12 Q. So, is there anything in your observation of
13 State's Exhibit No. 81 that you find to be inconsistent
14 with high velocity impact spatter based on the factors we
15 have just discussed?
16 A. No.
17 Q. So, just so we're clear, a blood spatter
18 pattern that you would expect to be uniformed might show
19 up on something like this folder, but not on an item such
20 as State's Exhibit No. 81?
21 A. Correct. If there are no variables, anything
22 interfering, it would be -- should be a pretty good
23 circular pattern.
24 Q. And does the fact that there is not a pretty
25 good circular pattern on State's Exhibit No. 81 mean that

1 that stain is not high velocity impact spatter?
2 A. It's definitely impact -- high velocity impact
3 spatter. So, there were some variables affecting where it
4 went to.
5 Q. Okay. Now, with respect to gunshot residue or
6 primer residue, would you expect gunshot residue or primer
7 residue to absorb into a fabric?
8 A. No. It would -- like the defense had said,
9 it's a heavy metal, so it would probably stick in a
10 fabric, but not absorb into it.
11 Q. Okay. So, that's one way in which the gunshot
12 residue or primer residue would be different from liquid
13 blood?
14 A. Yes.
15 MS. LOGAN: Pass the witness.
16 MR. McWILLIAMS: May I approach the
17 witness?
18 THE COURT: Yes.
19 **RECROSS-EXAMINATION**
20 BY MR. McWILLIAMS:
21 Q. A couple of things that I want to do, but I
22 want to ask you this real quick. If I've got this gun and
23 it's loaded with +P ammunition, and I'm standing right
24 next to somebody, and I don't care what I'm wearing, but
25 we're just in the bedroom and I'm standing within 4 feet,

1 and I put the gun -- this gun up with +P ammunition, and I
2 fire it in the back of his head, is it kind of weird that
3 I would have blood all over me, but there wouldn't be any
4 gunshot residue? Is that weird?
5 A. It is a little bit, yes.
6 Q. You said mud wouldn't be a false -- couldn't be
7 a false-positive under a phenolphthalein test. Do you
8 want to think about that?
9 A. It could be. It just depends on what's present
10 in that mud.
11 Q. Does it depend on what's present in the mud or
12 does it depend on what the pH level of the mud is?
13 A. Sure. I honestly don't know.
14 Q. If I told you that the pH level -- the higher
15 the pH level, the higher the chance of a presumptive
16 positive, would you argue with that?
17 A. No.
18 Q. And if I told -- I want you to think about the
19 area around Lake Conroe. What kind of things are out
20 there? Organic things?
21 MS. LOGAN: I object to the relevance.
22 THE COURT: If he knows.
23 MR. McWILLIAMS: I'll tie it in.
24 A. Lake, trees.
25 Q. (By Mr. McWilliams) What kind of trees?

1 A. I don't know. Never been there.
2 MS. LOGAN: Do you mean Tomball, where the
3 offense took place?
4 MR. McWILLIAMS: Okay. Tomball. North
5 Harris County.
6 MS. LOGAN: Okay.
7 MR. McWILLIAMS: We can look at pictures.
8 Q. (By Mr. McWilliams) If there's a bunch of pine
9 trees out there --
10 A. Okay.
11 Q. -- do pine trees elevate pH level on soil?
12 A. I don't know.
13 Q. You ever taken a sip out of a creek within a
14 pine forest?
15 A. No.
16 Q. Taste that water?
17 A. No.
18 Q. That acid in the water?
19 A. No.
20 Q. All right. Whether it is or whether it isn't,
21 you can't tell this jury that there's any blood on that?
22 A. I cannot.
23 Q. And you can't tell the jury that there's any
24 gunshot residue on there?
25 A. I cannot.

1 Q. It would be awfully weird for the scenario that
2 I just played out to you for there to be no gunshot
3 residue on the clothes and blood all over?
4 A. Probable, but not possible. You could have one
5 without the other.
6 Q. I'm going to assume that you meant that to be
7 possible, but --
8 MS. LOGAN: I'm going to object.
9 Q. (By Mr. McWilliams) -- but not probable?
10 THE COURT: That's overruled. Did you
11 mistake, sir?
12 THE WITNESS: I did.
13 MR. McWILLIAMS: Nothing further.
14 THE COURT: All right. Thank you, sir.
15 You may step down.
16 MS. LOGAN: May he be excused? He's out
17 of state as well.
18 THE COURT: Yes. Any objection?
19 MR. McWILLIAMS: No, Judge.
20 THE COURT: You can go ahead and step
21 down. Let me have the lawyers here real quick.
22 (Whereupon counsel approached the
23 bench out of the hearing of the
24 jury.)
25 THE COURT: You guys don't plan on calling

1 down. Thank you very much. State, call your next
2 witness.
3 MS. LOGAN: I think I'm going to go with
4 Chris Duncan -- Officer Duncan.
5 THE COURT: This is most likely the last
6 witness that we will have today. So, if you have
7 anybody else, go ahead and release them, but tell
8 them to return tomorrow morning; that we'll start at
9 9:00.
10 THE BAILIFF: The witness needs to be sworn
11 in, Judge.
12 THE COURT: All right.
13 (Whereupon the witness is sworn by the
14 Court.)
15 THE COURT: You may take the stand, sir.
16 **OFFICER CHRISTOPHER DUNCAN,**
17 having been first duly sworn, testified as follows:
18 **DIRECT EXAMINATION**
19 BY MS. LOGAN:
20 Q. Sir, please state your name for the record.
21 A. Christopher Duncan.
22 Q. Who do you work for?
23 A. The City of Houston, Houston Police Department.
24 Q. And what is your current assignment with HPD?
25 A. I'm assigned to the Identification Division,

1 Crime Scene Unit.
2 Q. How many years have you been a crime scene
3 unit?
4 A. About 16.
5 Q. And can you give the folks on the jury just a
6 brief overview of your training and experience in the
7 field of crime scene investigations?
8 A. Okay. Well, I've been a police officer 25
9 years. As far as a crime scene unit, I've been there
10 about 16 years, all with the City of Houston. I have --
11 I don't know how detailed you want. You want training as
12 far as my schooling and everything?
13 Q. Yes, but we are leaving at 6:00.
14 A. Well, highlights are that I have a master's
15 degree in criminology as far as crime scene related
16 coursework that I've attained through the department; over
17 1500 hours of training, specializing in the processing,
18 collection, documentation of physical evidence. So, that
19 doesn't even count how to do a traffic stop and write a
20 ticket, all that kind of stuff.
21 I am certified through the International Association
22 for Identification, which I'm a distinguished member as a
23 forensic photographer, as a senior crime scene analysis,
24 and as a bloodstain pattern analysis. Those are the
25 highlights.

1 Q. Have you also been published in the field of
2 crime scene investigation?
3 A. I have, a number of times.
4 Q. And does your expertise include photography?
5 A. Yes, ma'am.
6 Q. You said blood spatter or bloodstain analysis?
7 A. Bloodstain, yes, ma'am.
8 Q. I'm trying to use the right words. And, in
9 fact, have you attended training that was put on by Tom
10 Bevel?
11 A. I have.
12 Q. And we can tell there's, obviously, a
13 relationship, or mutual admiration between the two of you?
14 A. Absolutely.
15 Q. Okay. Now, at some point, were you asked to
16 peer review some evidence as it pertains to this case that
17 we're here about today?
18 A. I was.
19 Q. Can you recall about when it was they asked you
20 to peer review?
21 A. Specifically, I can tell you it was
22 September 25, 2011.
23 Q. Okay. And that request was made by Sergeant
24 Holtke and Sergeant Clegg?
25 A. I spoke more with Sergeant Holtke. So, him

1 specifically, I know.
2 Q. Okay. So, were arrangements made for some
3 evidence to be brought over to you for inspection?
4 A. Yes. Sergeant Holtke brought the evidence to
5 me at our office.
6 Q. And when it came over there, was it packaged in
7 a way that you would have expected it to be packaged?
8 A. It was packaged. I think today we package
9 things a little bit differently; we hope better. But it
10 is what it is. So, it was packaged.
11 Q. Okay. And what was your understanding as far
12 as who the original expert was that had examined the
13 items?
14 A. Well, I now -- I remember the name now, but at
15 that time I had never heard of Mr. Rossi before. I was
16 not familiar with his work or him personally.
17 Q. Okay. And did you later come to know that he
18 was retired and moved out of town from the Sheriff's
19 Office?
20 A. I did.
21 Q. And that led to you peer-reviewing his work,
22 right?
23 A. Yes, I was given information as to what he
24 believed he saw, and then we -- I looked, with Sergeant
25 Holtke, at the evidence that he brought to us.

1 Q. Okay. When you guys were looking at this
2 evidence, were you in a controlled environment?
3 A. Yes, we were.
4 Q. Where were you?
5 A. We have an evidence examination room, and we
6 have full protocol to keep everything nice and clean so
7 there's no cross-contamination. So, that's the
8 environment that it was worked in.
9 Q. Okay. And are you familiar with what impact
10 spatter is?
11 A. I am.
12 Q. Can you tell the ladies and gentlemen of the
13 jury what your knowledge about impact spatter is?
14 A. Okay. I know you've heard a lot of these terms
15 before already a couple of hours ago. But impact spatter
16 is basically blood put into flight from a force. So, it's
17 force acting upon a blood source and put into flight.
18 Q. Okay. Now, I guess we saw you sitting here
19 when Mr. Bevel was testifying. Is that a common thing for
20 experts to be allowed to do when another expert is
21 testifying in their field?
22 A. Yes, as far as expert testimony, it is.
23 Q. Okay. So, we weren't sneaking you in here, or
24 anything like that?
25 A. No.

1 Q. Can you tell us what a transfer pattern is?
2 A. Okay. Basically, it's a blood-bearing surface
3 that comes into contact with another surface. And when
4 one surface comes into contact with another one,
5 especially when one is wet with blood, it would transfer;
6 it would leave part of that blood behind on the second
7 surface.
8 Q. Okay.
9 A. Kind of the easiest way to explain that.
10 Q. How is that transfer pattern different from an
11 impact pattern?
12 A. Impact is more of a dynamic event -- impact
13 spatter is more of a dynamic event versus a transfer,
14 which is more of a passive event. That's another one of
15 those nomenclatures, or ways to classify bloodstains,
16 dynamic and passive, just another way. So, it's more
17 dynamic.
18 In regards to how you look at bloodstains
19 specifically at the level that we are going to look at
20 this nightgown in particular, we're looking about the
21 surface that it comes into contact with. Is it on top or
22 is it embedded? There's other things, as Mr. Bevel spoke
23 about, the shape of it, of the stains as well. But one of
24 the things that he did not address, or that I would
25 address, is where were these stains found in relation to

1 the weave of the fabric on that nightgown?
2 Q. All right. I want to back up just a little bit
3 here and talk to you about whether or not you need one
4 spot, or more than one spot in order to identify a
5 pattern?
6 A. Definitely, one stain does not make a pattern.
7 A pattern is a collection of stains. So, you have
8 individual stains where you can do some math and physical
9 analysis of them and determine where they originated from,
10 not necessarily in this case -- well, not in what I did as
11 far as particular angles, but that is a possibility. But
12 when you look at stains as a whole, the holistic approach,
13 you look at the grouping of the stains. That creates a
14 pattern. So, you have individual stains that tell you
15 information; you have patterns, which are groupings of
16 stains that give you information.
17 Q. All right. Now, when we're talking about a
18 situation where -- involving high velocity impact spatter,
19 and I know that that's not a term that we use anymore,
20 right?
21 A. That is correct.
22 Q. So, high velocity impact spatter and mist,
23 those are the same things?
24 A. Basically, yes. And high velocity was
25 accepted. In fact, when I took my class from Tom Bevel,

1 he taught that. But we both agree now that the proper
2 term is mist, and that has replaced it.
3 Q. So, that's the same thing. When we're talking
4 about a situation involving high velocity impact spatter
5 or mist, is the size of the stain important?
6 A. Extremely.
7 Q. Tell us why.
8 A. Well, the more -- a misting pattern is created
9 by a great deal of force. Now, that force, as we heard
10 before, was high speed machinery, expectorant from the
11 mouth, but energy, a large amount of energy. That
12 creates, on a blood source, small stains. The more
13 energy, the smaller the stain.
14 So, the size of those stains on a pattern, or
15 individual stains, will tell you the mechanism of
16 creation, or at least a classification of the mechanism of
17 creation. The smaller the stain, less than one
18 millimeter, you need a large energy event. And in this
19 case, these stains were extremely small. Micro-droplets
20 is how the SWGSTAIN has classified them, but less than a
21 millimeter. High energy.
22 Q. High energy like a gunshot, right?
23 A. Exactly.
24 Q. Now, we heard Mr. Bevel talk about .25 caliber
25 bullets versus .38 caliber bullets. A gunshot, to include

1 a .38 caliber revolver, would you expect that type of
2 event to generate mist?
3 A. Do I expect it? It definitely is a
4 possibility. There are a lot of intervening factors that
5 can affect it. In the right conditions, absolutely, you
6 would not be surprised by seeing mist. Would I expect it?
7 I would have to know more of that holistic approach. But
8 absolutely, a weapon can create a misting pattern.
9 Forward spatter would be an exit wound, which we're not
10 addressing here. We're talking about back spatter, which
11 is the bloodstain is traveling in the opposite direction
12 of the originating force.
13 Q. Okay.
14 A. So, yes, it's absolutely possible that it will
15 be created; whether you find it depends on the variables
16 of the scene.
17 Q. All right. And just not to get too far out on
18 this. A head wound, right, a gunshot to the back of the
19 head, the skull --
20 A. Yes, ma'am.
21 Q. -- from close range, let's say within
22 48 inches, would you expect an event like that, .38
23 caliber gun, to create mist?
24 A. It absolutely can. I think that's the best
25 answer that I can say. Expecting is -- you can never --

1 well, don't say never. It's hard to predict when it will
2 and will not occur. But, yes, I would expect to see it;
3 and if I do see it, I would not be surprised.
4 Q. All right. Fair enough.
5 A. Okay.
6 Q. Is it possible to identify a stain, or a group
7 of stains as a pattern that is consistent with a certain
8 cause?
9 A. Yes, yes.
10 Q. And you mentioned earlier about embedded
11 stains. Tell us what you mean when you're talking about
12 embedded stains.
13 A. Okay. A transfer being a more passive event,
14 when one surface comes into contact on another surface,
15 it's just a contact. It's just contact with the top layer
16 of whatever material or surface that you are on. An
17 impact stain being a dynamic stain has force behind it
18 that created it, and that tend -- what you see with
19 created exemplars, experimentation, and at the numerous
20 crime scenes that I've seen, it actually -- you find that
21 spatter, and, largely, it's the misting pattern that we're
22 talking about, embedded -- and I mean in the weave of the
23 fabric, because fabric is not a smooth surface. If you
24 look at it with a 10 power loop, or a stereoscopic
25 microscope, you would see the actual thread weaved

1 together to create the garment. And in those weaves, the
2 impact spatter, this dynamic event, would be on different
3 layers of those weaved fibers.
4 MS. LOGAN: May I approach the witness,
5 Judge?
6 THE COURT: Yes, ma'am.
7 Q. (By Ms. Logan) I'm going to show you what I've
8 marked as State's Exhibits 113 through 138, and just ask
9 you to review those and tell me whether you recognize
10 them?
11 A. Yes, ma'am, I do recognize State's Exhibits 113
12 through 138.
13 Q. And are those photographs that you took during
14 your examination of the items in this case?
15 A. Yes, these are the photographs I took.
16 Q. Do they fairly and accurately depict your
17 findings and the condition of the evidence at the time of
18 your examination?
19 A. I believe they do.
20 MS. LOGAN: At this time I offer into
21 evidence State's Exhibits 113 through 138, and I'm
22 tendering to defense counsel.
23 MR. McWILLIAMS: No objection.
24 THE COURT: They are admitted.
25 Q. (By Ms. Logan) Were you -- we know that you did

1 your own examination of the items in this case, but were
2 you also present when Mr. Bevel came and viewed the items
3 of evidence?
4 A. I was.
5 Q. Did you -- were you there the whole time?
6 A. I was physically there, but I did not really
7 take an active part. I didn't take notes or document
8 anything. I just was physically there.
9 Q. Did you observe what he was doing in his
10 examination of the items?
11 A. Yes, yes.
12 Q. Now, can you tell us during your examination of
13 the items did you -- how did you view them?
14 A. Well, we laid them out on our table. I used --
15 my photographs, I used a set of extension tubes which
16 allow me to close-focus and look at individual stains and
17 where they were on the garment. It's not as close as a
18 stereoscopic microscope would get, but I didn't have
19 access to one at that time. But I did photograph them. I
20 also used an ALS, which is an alternate light source, and
21 this has a value to just look at the stains and see if
22 they give -- they lead me in the right direction as far as
23 are they blood, are they not blood.
24 Q. Just to be fair, you did not do any serology
25 testing on this garment, did you?

A. No, I did not.

Q. That's not your job, is it?

A. No, ma'am.

Q. When you observed the way that Mr. Bevel view the evidence, can you tell the folks on the jury what he used to look at it?

A. Well, he just used the light that we had, which was adequate, and just a standard -- and I have one, too, and I'm sure I used it as well to look at the stains because we're trained the same way. So, it's a 10 power loop and it's meant for looking at bloodstains.

Q. So, he used a 10 power loop?

A. Yes.

Q. You used a 10 power loop and what other item?

A. Well, I photographed it with -- and instead of an extension tubes, actually, what I did is about 1.37 power. So, it's not quite as close up as the 10 power loop.

Q. Now, when you observed State's Exhibit No. 81, which is the blue nightgown, were you able to identify a mist pattern?

A. I believe so, yes.

Q. Let's start with these pictures, State's Exhibit 113. Is that the way that you received the evidence?

A. That is.

Q. Why do you take that kind of picture?

A. Simply just to show my progression of looking at the items. It's just showing what I did and how I found it.

Q. Because you've got to take pictures now, right? Nobody believes what a cop says.

A. I take pictures of everything.

Q. State's Exhibit 114, can you tell us -- tell us what we're looking at here.

A. You notice it has an odd color tint to it, and this is a particular wavelength of light, and it's actually 445 nanometers, which is basically a purple light, a violet light, not ultraviolet, but violet. It does have some UV energy in it. That's why we get a little bit of a fluoresced in here. But it's not a white light, it's just a specific wavelength of light that's violet, and it just kind of helps us look at the stains in a couple of manners here.

Q. What, if anything, was relevant about the way that nightgown looked under this particular light?

A. There were, obviously, stains here that were not visible to the naked eye. What those stains were, I can tell you they are not blood because they don't react like blood. Blood in violet light and ultraviolet light

1 turn black. They turn dark. These actually fluoresced.
2 It could be anything from chemicals that had been used to
3 examine the garment to bleach that they used to wash it at
4 some point in time.
5 Q. All right. So, you're talking about these
6 spots on the picture here that are kind of like neon
7 color, right?
8 A. That is correct, and I have circled them with
9 yellow.
10 Q. Okay, perfect. Thank you for doing that.
11 Now, State's Exhibit 115, tell us what you did here.
12 A. It's basically, I bracket my exposures a little
13 bit different, exposure values. More or less light give
14 you a different result. In addition, I took out the
15 color. So, this is just the black and white version.
16 Sometimes the contrast is a little bit better and you can
17 see the reaction more clearly. So, this is basically the
18 same light source with black and white. It might be a
19 slightly different exposure value, but that's the main
20 difference.
21 Q. Okay. State's Exhibit 116 looks like a similar
22 picture.
23 A. Yes, ma'am, bracketed exposure. It just means
24 I've taken it multiple times just varying the -- a
25 variable of intensity of light.

1 Q. Now, if I understand everyone correctly, the
2 spots on the garment that -- some of which have been
3 confirmed blood, others of which have not, those are
4 microscopic, right?
5 MR. McWILLIAMS: I object that it assume
6 facts not in evidence, "some of which have been
7 confirmed." There's only in evidence one spot.
8 THE COURT: All right, let's be specific.
9 Q. (By Ms. Logan) The spots of potential blood on
10 the garment are microscopic, right?
11 A. Well, I don't know -- you don't need a
12 microscope to see it. You could see them with the loop,
13 and that's not really a microscope. So, just to be
14 specific, you don't need a microscope to see it, but it's
15 not clearly visible to the naked eye.
16 Q. That's what I meant.
17 A. Okay.
18 Q. So, naked eye is not going to pick up on those
19 stains, right?
20 A. You could probably -- if you got down very
21 close, and in my case I'm nearsighted, so I take my
22 glasses off, I could probably see a couple of them, but
23 not to the degree -- not with the ease that you would just
24 with the little bloodstain loop that we have.
25 Q. Okay. State's Exhibit 117, another photograph

you took under a --

A. Same wavelength, just black and white, yes, ma'am.

Q. State's Exhibit 118?

A. I changed the wavelength to 350 nanometers. So, this is all UV energy, and the results did not come out as the 445 nanometer wavelength, but I still document what I did. So, this is just something the wavelengths didn't show me anything, but I still photographed it.

Q. Okay. State's Exhibit 119.

A. I believe that's just a visible -- no, that's going to be the UV again. I just don't have it marked. That's the UV.

Q. All right. State's Exhibit 120?

A. Same photograph as the last one, just in color, not the black and white.

Q. State's Exhibit 121?

A. I believe that's going to be same again, that UV energy, but it's a little bit more intense. I extended the exposure and that's why it's a little brighter.

Q. What, if anything, of relevance do we see on this picture?

A. Actually, I'm -- I don't see too much at all. I see where there are marks from the prior examination, but as far as what I can see for myself. I'm not sure I

1 know what you're asking.
2 Q. Let's move on then to State's Exhibit 126.
3 What are you taking a photograph of here?
4 A. Okay, these are the photographs that I took
5 with my camera. So, it's not a stereoscopic microscope,
6 and these are using the UV energy which gives us that
7 black color of the bloodstain. So, if it had fluoresced,
8 basically I'm going to stop and say, there's nothing of
9 value here for me. But it did absorb light as I would
10 expect blood to do. This is the close-up version of the
11 -- we saw the overall where the garments were, and we saw
12 where the prior chemist had put the little markers down.
13 So, I started looking at them close up, and I took more
14 than one obviously. What I'm seeing are small stains that
15 are not on the surface of the fibers, and this is one of
16 those examples.
17 Q. Okay. State's Exhibit 128?
18 A. And this is that purple violet light that shows
19 how it turned black versus any fluorescing, and it's just
20 not black and white color.
21 Q. So, we really zoom in there. We know that that
22 triangle is the sticker?
23 A. Yes.
24 Q. This dot is what you're talking -- or these two
25 dots, I guess, is what you're talking about with the

1 stains?
2 A. Yes.
3 Q. And did those stains behave in a manner under
4 this particular light source that you would have expected
5 blood to behave?
6 A. Yes, it did.
7 Q. So, consistent with blood?
8 A. Consistent with blood.
9 Q. State's Exhibit 129?
10 A. Now, this is just the visible -- this is white
11 light. So, there's no discoloration because of the color
12 of light used to take this image. And you can see it has
13 a little bit of a red tint, but that is exactly what we
14 just looked at but with the white light.
15 Q. Can you tell us just a little bit about the
16 necessity of forensic photographing and why that's
17 important in your field of study?
18 A. Well, a lot of my duty is to document my
19 actions and for supportive information that it's just not
20 my word and what I say, but it supports what I believe.
21 So, a large part of my job is documentation not just
22 photographs. I write reports and that sort of thing, but,
23 clearly, photography is, I think, extremely important.
24 Document what you do. We saw a couple of pictures that
25 didn't really show too much, but I still photograph it and

1 show, look, I did it, and this is what my results were,
2 which were inclusive.
3 Q. All right. Let's take a moment and talk about
4 the stain that was labeled QQ.
5 A. Yes, ma'am.
6 Q. Do you remember stain QQ?
7 A. I do.
8 Q. Tell us why you remember stain QQ.
9 A. All the stains were prior -- labeled prior to
10 my examination, obviously, and this particular -- I was
11 aware that there was no DNA result. And getting DNA is
12 not as easy as we see on TV. And when I was looking at
13 the garment, this one stain was -- had the most molecular
14 weight to it. It appeared to be the largest stain there,
15 and I made a reference to it in my report saying, well, it
16 would be nice to have that analyzed for blood and
17 hopefully have a DNA result. So, that is why I referenced
18 it, not because that one stain told me anything more than
19 any other stain, but because it had the largest size, I
20 was figuring that had the best chance of having a DNA
21 result.
22 Q. Okay. And is that the stain that you took the
23 time to look at using the alternate light source?
24 A. Yes.
25 Q. Okay.

1 A. Yes.
2 Q. So, the picture that we just saw of the dot
3 that changed colors, that's QQ?
4 A. Correct.
5 Q. And what were you your observations about QQ
6 when you looked at it under an alternate light source?
7 A. Well, it reacted consistently with blood. It
8 absorbed energy. We saw in the white -- the picture with
9 the white light, it looked kind of reddish, which is
10 consistent with blood, obviously. And then when we hit it
11 with purple light, violet light, it reacted like you would
12 expect blood to react, which is turn black. So --
13 Q. Now, we heard some talk about DNA testing and
14 presumptive and confirmatory testing for the presence of
15 blood. Are you familiar with those things?
16 A. Yes, ma'am.
17 Q. Now, are you aware of any literature that
18 requires DNA results before you can identify a stain, or a
19 pattern of stains as blood impact spatter?
20 A. There's nothing that I would say mandates that
21 particular requirement.
22 Q. Okay. Sure, it would be nice to have DNA?
23 A. Yes, I would love it, but it's not --
24 Q. I would too.
25 A. But it's not required to have that in each and

1 every case.
2 Q. So, it's not as though there's a checklist out
3 there that says, hey, you got a stain, you better have
4 presumptive, confirmatory and DNA before you can say that
5 that is a blood impact spatter stain?
6 A. You're classifying it as a bloodstain. I would
7 like to at least have a confirmatory test that says it's
8 blood.
9 Q. Which we do, right?
10 A. In this one case we do. So, we have that
11 addressed. It is one stain, but it's a part of an overall
12 pattern. That overall pattern is consistent with coming
13 at the same time, the same event; therefore, it can be
14 applied.
15 Q. Sorry to interrupt you. What makes you say
16 it's consistent with the same event?
17 A. Well, the photographs -- now, I didn't take the
18 photographs of 1A, but the photographs that I saw of the
19 stains from the stereoscopic microscope are also
20 consistent with the stains that I saw that were left
21 behind, not cut out of the garment. Those stains have the
22 same shape and consistency, same article in the same
23 general area, having a consistent pattern of a misting
24 pattern. I'm comfortable in saying that is a bloodstain
25 pattern and it's consistent with a mist pattern.

1 Q. So, DNA is the thing that you need to tell you
2 whose blood it is right.
3 A. Correct.
4 Q. The confirmatory or Hematrace test would be
5 what you need to tell you whether it is blood?
6 A. Yes.
7 Q. Was there anything, based on your examination
8 in this case and all the information that you reviewed to
9 come to your conclusion, that tells you that the multiple
10 stains in the pattern on State's Exhibit No. 81 are not
11 blood?
12 A. No. Make sure I've answered the question
13 correctly. I did not see anything inconsistent with a
14 bloodstain pattern.
15 Q. Okay. Fair enough.
16 A. Yes.
17 Q. All right. Let's talk about the comforter, the
18 sheet and the pillow case.
19 A. Yes, ma'am.
20 Q. Did you look at those items?
21 A. Not the comforter. I saw a picture -- a couple
22 of pictures actually. The pillow case I saw and the sheet
23 that was underneath the comforter. Actually, I didn't see
24 a picture of the sheet at the scene. I can't recall, but
25 I did see a sheet, a pillow case that I did see in a

1 picture at the scene, and I only saw pictures of the bed
2 comforter.
3 Q. All right. So, the comforter was not available
4 to you for examination either?
5 A. No, ma'am.
6 Q. Okay. When we talk about the pillow case, I
7 guess -- have you seen the crime scene photo as to where
8 that pillow case was at the time of that event?
9 A. Yes, I did.
10 Q. It was under his head, right?
11 A. That's correct.
12 Q. Now, based on the positioning of that pillow
13 case at the time of the event, which was the .38 being
14 shot in the back of his head, would you expect to find
15 blood spatter on that item? If I asked a bad question, I
16 apologize. I'm not trying to do this.
17 A. I know. Again, in the orientation that I saw
18 the head, I would say it's less likely that I would not
19 see bloodstains, and there are specific reasons.
20 Q. Time out. Less likely that you would not?
21 A. I would not expect necessarily to find
22 bloodstains in the position -- we're going to assume the
23 head didn't move at all, that the injury was -- the
24 complainant received his injury in the position that we
25 found him in that photograph of the crime scene. The

1 angle of where the injury was in relationship to the
2 pillow case under the head and off to the side, could
3 there have been blood on there, possible. But I believe
4 that the blood is going to go away from the pillow case
5 more than towards it in a cone, and I know Mr. Bevel
6 talked about he recognized that in his book. But it goes
7 out into a cone. There are some intervening factors
8 there, but it's going to go out over -- definitely go out
9 over the bedspread away from the direction of force. But
10 as far as getting to that pillow case, I am not -- I am
11 not shocked, or disturbed, or bothered by the fact that
12 there are no bloodstains consistent with a back spatter
13 pattern or a misting pattern on that pillow case.
14 Q. You're not concerned even though you heard Tom
15 Bevel, the man when it comes to this stuff, say that that
16 concerned him?
17 MR. McWILLIAMS: Judge, I would object to
18 the side-bar.
19 THE COURT: Well, it's argument.
20 MR. McWILLIAMS: I object to the argument.
21 THE COURT: It's argument. Sustained. Ask
22 the question a different way.
23 Q. (By Ms. Logan) Did it concern you that you're
24 not concerned about the lack of spatter on the pillow case
25 when we heard Mr. Bevel up there say that he was concerned

about the lack of spatter on this pillow case?

MR. McWILLIAMS: I object.

THE COURT: It's overruled. You can answer if you understand that. It was a long one.

A. I am always concerned when a peer of his stature says something in contrast with me. However, that doesn't necessarily make him right or me right. Yeah, me right. But for my reason is looking at where the position of the pillow is, where the wound was, higher up and towards the back, I believe that energy is going to go into the wound cavity, the back spatter is going to form, it's going to come out in a cone, which I think he would agree to. Now, whether that cone envelops around the head and falls on the pillow case, and a pillow case, by the way, that was in storage for 27 years, and be present in 2011, no, that does not surprise me. And the fact that, you know, he wanted to say he would expect to see it, that's his opinion. No, it does not change my opinion.

Q. (By Ms. Logan) All right. When we talk about back spatter out of a wound such as the one that was suffered by Edmund Clark of which you've seen pictures, does the fact that he has hair on his head affect the way that the blood is going to travel out of that wound?

A. Absolutely. That's one of those intervening factors that I had in my brain talking and thinking about

1 that. I don't have any hair. If I was injured in my
2 head, back spatter is much more likely to form on the
3 surfaces around where the injury was created. You have
4 long hair. Much different scenario. If we receive the
5 same injury at the same point in our heads, same --
6 everything is the same, just replace our heads, it would
7 look totally different, it really would. So, this
8 individual, the complainant, had hair, not long like
9 yours, but not short like mine, but it is going to affect
10 where the spatter is going. If it comes out in a cone,
11 and there was any that was going to go close by, just wrap
12 around the head, and it gets stopped by an intervening --
13 intermediate surface, such as the hair, that explains why
14 it's not there, as well.
15 Q. All right. Now, do you know of any computer
16 program whereby you can take a photograph from 1987 and
17 blow that thing up and get the ability to see microscopic
18 drops of blood inside that photo?
19 A. I would like to see the negative, but even with
20 the negative there was something in that photograph that
21 bothered me anyway, as far as the lighting, which I would
22 never take a photograph, especially a digitized copy, put
23 it on a laptop computer, and try to work some analysis off
24 of that, that image. If we have the negative and I can go
25 into a dark room, and with wet chemistry play with the

1 contrast a little bit, there might be something there.
2 But as far as seeing stains that are a millimeter or less
3 in size, see stains that are embedded in fabric standing
4 at a height of 5 feet several feet away from -- and I'm
5 saying 5 feet. The average person 5'6", like myself, the
6 camera is held 5 feet up, at an angle with your standard
7 photographic lens that a crime scene uses, 28 to
8 80-millimeter lens, which is a standard lens, no, I would
9 not expect it. You might see a hue, especially near the
10 -- at the time of the incident, but nothing that you would
11 specifically say -- I mean, that really bothers me as far
12 as being able to say that.
13 Is there a program that can enlarge and look at
14 minute details of images, yes. To this degree, less than
15 millimeter size, embedded stains, I have a serious problem
16 with that. No, I don't think that's a reasonable
17 expectation.
18 Q. All right. So, would you personally, okay,
19 base an opinion about whether or not an item has impact
20 spatter on it from doing the kind of review that we just
21 spoke about where you take a picture from 1987 and you put
22 it on your computer and you blow it up; would you ever
23 rely on that to make that kind of decision?
24 A. In the context you just placed it, the answer
25 is no.

1 Q. When we talk about the deposit of mist -- mist,
2 when we talk about that, is the angle of the item where
3 the mist is deposited, is that relevant as far as if the
4 item is perpendicular to the source of the blood versus if
5 the item is parallel to the source of blood?
6 A. Yes, in a couple of manners.
7 Q. Tell me.
8 A. The answer is yes. Being perpendicular to the
9 energy and the direction of flight of a bloodstain, if
10 it's perpendicular to it, it's going to hit it at a
11 90-degree angle, and those stains are going to penetrate
12 that fabric, especially if there's force behind it, or
13 energy behind it. On a parallel plane, the stain will be
14 more elliptical, geometric shape is definitely changed,
15 but also it's not -- you're not going to be able to embed
16 so much, maybe on the side of the fibers, but it's going
17 to be more on the surface. You can still tell a dynamic
18 event from a passive transfer stain, but the appearance of
19 those stains will be different.
20 Q. All right. So, in this case, would you agree
21 with me that it would appear that the comforter -- I'm
22 showing you State's Exhibit No. 16. Would you describe
23 the comforter as parallel or perpendicular to the wound?
24 A. Clearly, it's parallel with it. It's on the
25 same plane as the injury, which is just before where the

1 bedding comes up to the neck.
2 Q. Okay. And if we put me in that picture, and
3 I'm the one holding the gun and shooting Ed Clark in the
4 head, would my outfit, or whatever I'm wearing, is that
5 going to be parallel or perpendicular to the wound?
6 A. Well, that would be more than perpendicular to
7 the injury site, yes.
8 Q. So, when we talk about something that's
9 perpendicular to the wound site, tell us what you would
10 expect to see with respect to those stains; embedded, not
11 embedded?
12 A. I would find them more embedded -- yes,
13 absolutely, because they are coming at a perpendicular
14 angle. It's just kind of physics. They will also be a
15 little bit more rounded in shape, and now clothing will
16 move, and fold, and wrinkle. So, not every single surface
17 will be perpendicular, but the preponderance of those
18 stains, yes, I will find them embedded in the fabric,
19 circular in shape, which is a lot of what we saw.
20 Q. 1A here, I'm showing you State's Exhibit 181.
21 Embedded, right?
22 A. I believe they are.
23 Q. Circular in shape?
24 A. I can't get the last one to come up, but
25 there's one up here. Yes, ma'am, circular in shape, not

on the surface of the weave, embedded into the fabric, consistent with the other stains that we saw in the overall pattern, that leads me to believe it's a misting pattern.

Q. All right. When it comes to blood on a fabric, when -- and especially when we're talking about really small droplets, or stains of blood, do you expect there to be -- or would it surprise you if there was flaking?

A. No, it would not surprise me at all.

Q. In fact, did we experience some of that with this very nightgown, State's exhibit 81?

A. Yes, QQ disappeared.

Q. QQ flaked off?

A. Yes, it did.

Q. And when we talk about bloodstains, as they age, do they change?

A. Well, they do. With my experience, I've seen them become darker, they definitely -- they will dry over time. Smaller stains will dry a little bit quicker than larger stains, obviously, but they will dry. And when they are dry, their cohesive factor to the fabric will change. Over the course of 27 years, I just don't have any experimentation of that amount of time. But how it was received by me, you know, packaged with a good intent back then, not that we would package it the same way now,

1 but the flaking or rubbing off of stains is not a
2 surprise.
3 Q. All right. So, you know, just for argument
4 sake, and I'm not arguing, but if David Rossi says that he
5 saw in excess of hundred stains when he looked at it in
6 2008, and I think that you-all have said that you saw in
7 the realm of 55 stains when you looked at it in 2011 --
8 A. Yes.
9 Q. -- can you think of some reasonable scenarios
10 as to why that might be?
11 A. Well, when we repackaged it, we did very
12 carefully put the -- what we do now is we put the paper on
13 top of the package -- of the garment, so that they don't
14 cross-contaminate or come into contact and move one stain
15 from one point to another. I mean, it's always -- that's
16 always the goal. But opening this up, packaging it as it
17 was originally, and looking at it -- and we looked at it
18 in 2008, then I opened it and looked at it, I repackaged
19 it, and then Mr. Bevel came in and opened it and
20 repackaged it, the fact that we lost stains that were less
21 than a millimeter in size, they are sitting on fibers and
22 they're not -- they are staining, but they are not like
23 dying like you would do a tie-dye shirt. You're not dying
24 the fabric, it's staining the fabric, but it doesn't mean
25 it's absorbed and changing the color of the fibers of that

1 fabric.
2 So, the fact that it falls off, flakes off, and
3 basically goes into the air when you open it up and it's
4 gone, it's not surprising.
5 Q. Okay. When we talk about the stains that you
6 have identified in State's Exhibit No. 81 as being
7 consistent with a misting pattern, talking about those
8 stains that you include that you found to be consistent
9 with a misting pattern, did you find them to be consistent
10 with one another, meaning all of stains were consistent
11 with respect to size?
12 A. Yes, they were all -- you basically need to
13 look at all of them. So, absolutely.
14 Q. Did you find them all to be consistent with
15 respect to color?
16 A. Yes, the color I could see, yes.
17 Q. And did you find them to be consistent in their
18 nature? And what I mean by that is embedded, or on the
19 fabric in such a way as to be consistent with mist?
20 A. Absolutely.
21 THE COURT: We are going to stop there.
22 MS. LOGAN: I have one more, and then I
23 promise you I will pass him.
24 THE COURT: Okay.
25 Q. (By Ms. Logan) Did you make $3,000 to give your

1 opinion about this evidence?
2 A. No, ma'am, I did not.
3 MS. LOGAN: Pass the witness.
4 THE COURT: All right.
5 MR. McWILLIAMS: Can I ask one question,
6 Judge, to start?
7 THE COURT: No. We'll start tomorrow.
8 (Whereupon the Court adjourned for the
9 day.)
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1 (Whereupon the following proceeding
2 is held in the presence of the
3 jury.)
4 THE COURT: Let's proceed.
5 **CHRISTOPHER DUNCAN,**
6 having been first duly sworn, testified as follows:
7 **CROSS-EXAMINATION**
8 BY MR. McWILLIAMS:
9 Q. Good morning, Officer.
10 A. Good morning.
11 Q. You and I have met before, and we've talked
12 significantly about this case; is that fair?
13 A. Yes, we have.
14 Q. Let's just address the last thing that got said
15 to you yesterday and today, talking about whether or not
16 you got paid $3,000 for this like Tom Bevel, right? You
17 didn't get paid $3,000?
18 A. No, sir, I did not.
19 Q. You get paid your salary from HPD just like
20 going to work every other day, right?
21 A. That's correct.
22 Q. And wouldn't you assume Tom Bevel probably gets
23 paid for doing the work that he does?
24 A. I know he does.
25 Q. And you've known Tom for quite some time?

A. Over 10 years.

Q. You've taken a number of classes from him?

A. I've taken several. I've taken like three.

Q. Well, it's fair to say Tom travels all over the world doing this stuff, right?

A. Yes, he does.

Q. And he knows who you are?

A. Yes.

Q. Okay. And -- well, in any event, does it -- it certainly wouldn't change your opinion about whether or not he's shading his testimony or anything because he's got $3,000? If you know, we didn't pay him for anything. He was appointed by the Court. It doesn't change --

A. I don't have a poor opinion of Tom regardless of who pays him.

Q. And, so, you certainly -- just because you are getting paid your salary -- by the way, today is your day off, isn't it?

A. Yes, it is.

Q. So, you're going to get paid overtime pay?

A. Yes, I do.

Q. But you're not going to tell the jury something because you want to get your salary. You're going to tell them what you think based on your training, experience, and your knowledge?

A. I certainly hope so, yes.

Q. And you fully expect that's what Tom Bevel did yesterday?

A. Yes, I do.

Q. Let's talk a little bit about -- we talked a lot about 1-A. Do you remember that spot?

A. Yes.

Q. Now, until yesterday, had you ever seen or considered individually a photograph of 1-A?

A. Considered in what manner?

Q. Well, there were a lot of pictures with blood spatter.

A. Yes, there were a lot of pictures.

Q. And I assume that you've looked at most, if not all, of the pictures that were provided to you.

A. Yes.

Q. And do you recall specifically if a picture of 1-A was one of the pictures that you looked at?

A. I remember the cutting. Specifically, the photograph of the cutting, I don't recall, but that was a year or so ago. And I did not review all of the photographs I was given back then for trial. I saw a number of them in -- from you and from the prosecutor. And, so, I did not review every single photograph that was given to me in 2011. And did I see that one? Not in the

1 past month.
2 Q. Okay. I guess what I'm really trying to ask
3 you, Chris -- I'm sorry -- Officer Duncan, is the first
4 time you ever really were looking at that critically is
5 yesterday?
6 A. Well, no. I do remember seeing -- well, yes.
7 Okay. 1-A, you showed a picture to me -- I know. Okay.
8 I saw the stereoscopic microscope pictures. I do remember
9 seeing those. There was a photo of -- and this was the
10 one that I was believing that you showed me today, at
11 least from that stack there of the cut-out of the whole
12 piece of fabric. And I did not recall seeing that one
13 before. The stereoscopic microscope photograph of 1-A, I
14 did see, I do remember, and did account for my opinion.
15 Q. Okay.
16 A. Okay.
17 Q. So, yesterday -- I want to talk about that
18 because, obviously, you were here, along with a number of
19 your colleagues, to sit in on Mr. Bevel's testimony.
20 A. Yes.
21 Q. You were actually sitting over there by Ms.
22 McDaniel, feeding her information as Tom was testifying,
23 right?
24 A. No, not during his testimony.
25 Q. Not during his testimony because you're

listening.

A. I'm listening.

Q. But that's -- and there's nothing nefarious about this, right? That's what experts do?

A. That is, yes.

Q. You're going to listen to my guy so you can tell her what to ask, right?

A. Yes.

Q. Because we're probably not as experienced or trained in blood spatter and all of this stuff as you guys?

A. That's why you have experts.

Q. We need a little help.

A. Yes, sir.

Q. Now, because of Tom's schedule and everything, he's not here for yours, right?

A. That's true.

Q. And he wasn't here yesterday for yours?

A. That's right. He left earlier, yes.

Q. So, he couldn't sit here and listen to what you said and feed me information in the same way that happened with the State here, right?

A. He could have, but for -- I'm not a part of that decision-making process. So, that option was there.

Q. If he would have stayed, he could have --

1 A. Correct. I don't know -- I know he went home,
2 but that's --
3 Q. Okay.
4 A. I can't answer that question. That's not fair.
5 Q. That's fine. But in all fairness, outside of
6 the presence of the jury, you and I and Tom and the
7 prosecutor -- actually, you and I and Tom, for some time,
8 and the prosecutor, we've had multiple conversations about
9 it, right?
10 A. Yes.
11 Q. We looked at it together?
12 A. Correct.
13 Q. And I invited -- I invited that -- I invited
14 everybody into that conversation, right?
15 A. Yes, sir.
16 Q. I didn't pull anybody away. I didn't say: I
17 need you to talk just to me, or I don't want the State
18 here, or anything like that, right?
19 A. Well, you followed me out the door while I was
20 trying to go home last night.
21 Q. That's a true statement, correct? I've been
22 adamant about wanting to talk to you about this stuff,
23 haven't I?
24 A. Yeah.
25 Q. Okay. I guess the point is, we all had a very

1 professional conversation about comparing 1-A, and you're
2 looking at it, and Tom is looking at it, and you're saying
3 -- Chris, you were saying: Okay. Here's what I'm seeing
4 here, and Tom is saying: I see that, but here's what I'm
5 seeing here. Right?
6 A. That's correct.
7 Q. That's exactly how that went?
8 A. Yes.
9 Q. And the question is: Is 1-A a transfer or is
10 it bloodstain mist, right?
11 A. That is the question at hand.
12 Q. That was the question that I was posing to you
13 and Tom when y'all were looking at that -- tell me what it
14 is -- micrograph --
15 A. Micrograph. I call it stereoscopic microscope.
16 Q. Okay.
17 A. And that's what we would use to take the
18 photograph.
19 Q. That photo?
20 A. Yes.
21 Q. And, so, both you and Tom looked at that. You
22 are exchanging your ideas, right?
23 A. Yes.
24 Q. And, at the end of that conversation, you guys
25 kind of had to agree to disagree, right?

1 A. I think that's a fair statement, yes.
2 Q. Tom is showing you characteristics in that,
3 that absolutely he's right, those are -- those
4 characteristics are -- would be characteristics that would
5 say that's a transfer pattern, right?
6 A. That's what he said.
7 Q. Right?
8 A. Yes.
9 Q. And you saw the characteristics that he's
10 talking about?
11 A. Correct.
12 Q. Just like you said -- pointed out little pieces
13 of it and said: Now, this one looks like what I'm calling
14 mist. And he said: I see what you're saying. Right?
15 A. Yes.
16 Q. And, I guess, what I'm getting to here is when
17 it comes down to that -- looking at those things, at a
18 photograph through a microscope at that bloodstain, at
19 some point it becomes a subjective interpretation?
20 A. We clearly have a difference of opinion. I
21 think there are three specific factors that --
22 MR. McWILLIAMS: I'm going to object that
23 it's nonresponsive, Judge.
24 THE COURT: All right. Sustained.
25 Q. (By Mr. McWilliams) Officer Duncan, I'm sure

1 Ms. Logan is going to come back and let you do that.
2 A. Yes, sir.
3 Q. I've got a direction that I've got to go here
4 or I'm going to lose my train of thought, and that's bad.
5 The fact is, at some point -- I mean, it takes a
6 tremendous amount of experience and training for you to be
7 able to identify the characteristics, and see that, to
8 even have the discussion that you and Tom were having
9 yesterday. Anybody else out here can't have that
10 discussion, right? Fair to say?
11 A. In this half of the courtroom, yes.
12 Q. Okay. You guys have to bring all of your
13 training and stuff together to even have that
14 conversation?
15 A. I agree with that.
16 Q. So, at some point -- and I don't know exactly
17 where that point is, but at some point in that inquiry, or
18 that debate, it really becomes a matter of subjective
19 interpretation how you -- what you think of that evidence
20 versus how he interprets that evidence, right?
21 A. I'm not sure -- I know I can't really go into
22 explanations, but the word "subjective," I understand it's
23 an opinion, but there are reasons for that opinion. And,
24 so, I don't like the word "subjective." Is it -- can you
25 look at this piece of paper and say: Yes, that's a piece

of paper, that's an objective opinion, versus, well -- I'm not sure I'm comfortable with the word "subjective."

Q. Let me say this.

A. Okay.

Q. That stain ain't two things, right? I mean, it's either a transfer or it's mist?

A. Without getting into trouble, I'll say it's not two things, correct.

Q. So, you and Tom can't both be right about it?

A. Not in this context, no.

Q. Are we ever going to be able to resolve that question? I mean, is there a tie-breaker?

A. There's -- yes, I think there might be a tie-breaker.

Q. Okay. What is the -- you tell me, who is the tie-breaker? It's going to have to be somebody else that comes in and says: Here is the tie-breaker?

A. The jury.

Q. Fantastic. Agreed. But the question before the jury is not -- would you agree with me, you've testified many times before? You're a police officer, for goodness sakes.

A. Yes, sir.

Q. You've been here. We know what we're doing. The question for the jury is not whether or not 1-A is a

1 transfer or a bloodstain mist. That's not the question,
2 right?
3 A. Not by itself, but it's certainly playing a
4 role overall.
5 Q. 1-A is going to -- it actually does, because if
6 1-A is a transfer, that makes us ask some other questions;
7 is that fair?
8 A. Yes.
9 Q. So, the -- I get it for purposes of this, to
10 some extent, we're going to agree that maybe the jury is
11 going to be the tie-breaker on that. But reasonable
12 experts will get down to that point. Reasonable experts
13 -- I mean, Tom is not lying that he fully believes that
14 that's a transfer?
15 MS. LOGAN: I'm going to object. That
16 calls for this witness to make a credibility
17 determination about another witness.
18 THE COURT: I missed the question. I
19 apologize.
20 MR. McWILLIAMS: I'll rephrased it, Judge.
21 THE COURT: Thank you.
22 Q. (By Mr. McWilliams) Do you expect that Tom
23 Bevel fully believed, when he told the jury yesterday,
24 that that's a transfer?
25 MS. LOGAN: Again, I object for the same

1 reasons, Judge. That's an improper --
2 THE COURT: Sustained.
3 Q. (By Mr. McWilliams) Reasonable experts disagree
4 about that, right?
5 A. Reasonable experts -- full sentence for me,
6 please.
7 Q. Fair to say as far as 1-A, whether it's a
8 transfer or whether it is bloodstain mist, reasonable
9 experts are going to disagree about that because they
10 already have?
11 A. I agree with that, yes.
12 Q. Now, then, if we're talking about -- these are
13 two opinions. Tom has an opinion and you have an opinion
14 about 1-A, right?
15 A. Yes, sir.
16 Q. You would agree with me, wouldn't you, that we
17 trust some people's opinions more than others because of a
18 number of things, but one of the things that we might look
19 to is the experience and training and education of that
20 person, right?
21 A. I agree with that.
22 Q. And we would -- while it certainly isn't true
23 in every case or anything, as a general rule, you would
24 expect that a person who has significantly more training
25 and experience in a particular subject in which they are

1 giving an opinion, we might tend to give that person more
2 credibility on that opinion than the person with less?
3 MS. LOGAN: Judge, I'm going to object at
4 this point. That's calling into question the
5 credibility, which is the jury's determination.
6 THE COURT: Well, it's argument.
7 MS. LOGAN: Thank you, Judge.
8 THE COURT: It's argument. Okay?
9 Q. (By Mr. McWilliams) Okay. We'll just leave it
10 as you and Tom disagree about whether 1-A is a transfer or
11 a mist?
12 A. Mist.
13 Q. Agree?
14 A. Yes.
15 Q. I want to -- I'm going to show you a couple of
16 photographs. You were talking yesterday about mist.
17 Bloodstain mist is back spatter in this instance, correct?
18 A. In this instance, yes.
19 Q. It could be -- I mean, bloodstains come in all
20 kinds of forms. If you have an exit wound in the front,
21 you might have -- you might have forward spatter?
22 A. We call it forward spatter, yes.
23 Q. But there is no exit wound on this, so, of
24 course, there would not be forward spatter?
25 A. Correct.

1 Q. The only spatter that we could receive out of
2 it would be back spatter?
3 A. Yes.
4 Q. So, we're talking about -- we're talking about
5 back spatter. There are some constants that we know about
6 back spatter, right?
7 A. I believe so.
8 Q. And one of them is the shape in which back
9 spatter exits a wound?
10 A. Correct.
11 Q. We talked some about that yesterday or on
12 direct.
13 A. Yes, I believe I did.
14 Q. A little bit?
15 A. A little bit.
16 Q. It exits in a cone?
17 A. Correct.
18 Q. Can you describe that for the jury? Mist would
19 -- and I may make it a little more -- I want you to talk
20 about mist exiting a wound and how it deposits.
21 A. Okay.
22 Q. In a back spatter situation, this situation.
23 A. Okay. You have the wound, injured site, that
24 has -- is your source of blood. As that blood -- as the
25 energy goes into the wound, there's going to be force

1 coming back, and that creates the back spatter.
2 Q. And that's kind of a basic physics principle,
3 right? For every action, there's an equal and opposite
4 reaction. If I put energy in, there has to be energy
5 coming back out, right?
6 A. Well, there are three laws of physics, but
7 that's one of them.
8 Q. All right. Can you -- could you draw that and
9 demonstrate for the jury if we turned on the little --
10 A. I believe I could.
11 Q. It will just be a bunch -- you can draw with
12 your finger and you can show; or it might be better if I
13 gave you a piece of paper. Can you draw it?
14 MR. McWILLIAMS: Can the witness step
15 down, Judge?
16 THE COURT: Yes, sir.
17 Q. (By Mr. McWilliams) Can you do that for us,
18 Officer Duncan?
19 A. Okay. You will have an injury site. Now, that
20 injury site that we don't have in this case would be
21 forward spatter. So, if our force is traveling in one
22 direction, and if that injury site continued on, or there
23 was an opening of some sort, that force would continue out
24 the other way. However, in this case, we don't have that,
25 so that does not apply.

1 Now, there will be an equal and opposite reaction,
2 and it's not as much as in the forward spatter. If you
3 actually had forward spatter and back spatter, you would
4 expect more forward spatter than back spatter. So, the
5 intensity and the amount of blood that comes backwards
6 towards the direction of force is not as great. But you
7 certainly still expect it in certain circumstances. When
8 that force comes back, or those stains come back, it has
9 to originate out of the blood source, which is very small.
10 It's going to be the size of the wound created at the
11 injury site. And as it comes out, it's not going to
12 mushroom out immediately. It's going to come out in a
13 cone.
14 Now, you have to do experimentation. And I've seen
15 -- you know, I've created these experiments in the past.
16 I've seen them on numerous occasions at crime scenes, but
17 it comes out in a cone. And it just -- all it basically
18 means is as the blood gets further away from its source,
19 it is going to spread.
20 So, immediately at the blood source, you may not see
21 the misting pattern that you would see further back from
22 the source. And, then, as it goes out, it will spread, it
23 will dissipate. And then in this occasion, because the
24 stains are so small, they're only going to go about 4
25 feet. They do not have the mass to go any further. When

1 resistance will -- air resistance will stop this staining
2 and it will fall. And they -- it actually travels like a
3 parabolic arc. So, that's just a little basic.
4 Q. It's crude, but this is physics 101?
5 A. I certainly think that explains what is
6 happening.
7 Q. Okay. I want to talk about, with your diagram,
8 and probably we can turn pages and add more. However you
9 want to do it, but I'd like to see it -- I'd like you to
10 show the jury how it would be deposited if I took it in a
11 linear fashion. What I'm saying is concentration-wise, if
12 we spread out over -- you said the maximum is probably
13 going to be about 4 feet out?
14 A. Yes.
15 Q. Okay. And, so, there's going to be deposits
16 that are going to follow some rule of physics. They are
17 going to be deposited in an even distribution over that
18 4-foot span?
19 A. I think you have a lot of variables there.
20 Q. Okay. We're just doing 101. Generally
21 speaking, how does it work? We're not going to plug in
22 the variable here. If I've got it, what am I expecting to
23 see?
24 A. In a nice, clean environment, laboratory
25 condition, the concentration of stains will be greater

1 towards -- not necessarily right immediate to the source
2 of blood. We're just talking about the back spatter
3 event. We're not talking about any subsequent bleeding or
4 eruption of blood. Okay? Just the back spatter event.
5 So, as it comes out, it's going to have energy. It's
6 going to have force. It's going to be in flight in the
7 air. So, it will not be immediately adjacent to the
8 source of blood, the wound. But as it travels further,
9 the smaller particles would deposit on the surface and
10 they will be more concentrated early. And, then, as it
11 goes further away, they will be spread out and --
12 Q. Less concentrated?
13 A. -- less concentrated. But the actual physical
14 numbers of stains may not alter. So, you can't put a
15 number on it.
16 Q. Well, let's say --
17 A. May I have a seat?
18 Q. Physical stains that we can observe, but you
19 know -- we know from the laws of physics that the spatter
20 is, without question, more concentrated closer to the
21 wound than the further you move away.
22 A. I think it's a fair statement, yes.
23 Q. Okay. I mean, it may not get deposited because
24 of other things. It gets caught by hair, or other
25 objects, or intermediate targets, or whatever, but that is

how it comes out, right?

A. Yes.

Q. I mean, David Rossi did this little experiment where we did a demonstration, right?

A. Exactly.

Q. And there's a lot more at the close site than there is out here.

A. I like that analogy. It's good.

Q. It's good, right? And when I do that, I got mist that's falling here, I mean within less than -- within an inch. Is that fair?

A. Well, now, the one difference you have here -- yes, that's true, but the energy on this air pump is a lot different than the energy from a ballistic missile.

Q. No doubt.

A. Okay.

Q. But it's also not the same energy -- I mean, we're actually propelling this. And I can do it with an aerosol can, too.

A. And the volume on this is greater than in a back spatter pattern.

Q. We're demonstrating the principle of it, right?

A. That's correct.

Q. So, squeeze it for me.

A. Okay.

1 Q. Now we're getting mist that's still hitting
2 here, too, right?
3 A. Yes.
4 Q. Now, I know that the energies are different
5 from this and -- but if I've got a back spatter event, if
6 I've got a blood-filled target here --
7 A. Correct.
8 Q. -- would it be perfectly reasonable to find
9 back spatter along here?
10 A. Depending on -- and in this case, the source of
11 blood is actually quite close to the bed comforter that
12 was on top. And in your example, it could be present,
13 yes.
14 Q. Okay.
15 A. Okay.
16 Q. Okay. I want to show you some photographs, and
17 let's talk about the comforter. Will you agree with me --
18 you will agree with me that if there is blood spatter in
19 this case -- okay?
20 A. Okay.
21 Q. -- if there -- well, bloodstain mist or high
22 velocity impact --
23 A. Spatter.
24 Q. -- back blood spatter, if that exists here --
25 and every time somebody gets shot in the head with a .38,

1 it doesn't necessarily create back spatter, right?
2 A. Absolutely.
3 Q. That would not shock you at all to see a .38
4 wound to the head and it not cause back spatter?
5 A. It doesn't -- yes. If I don't find it, it's
6 not unnerving.
7 Q. Okay. And is it your -- is it your
8 understanding that the only back spatter that has --
9 anyone has ever identified, or called, or pretended --
10 that's a bad way -- I mean characterized in any way as
11 bloodstain -- as bloodstain mist is on State's Exhibit 81,
12 the nightgown?
13 A. Bloodstain mist, yes.
14 Q. Nowhere else at the scene has anyone ever
15 identified any bloodstain mist?
16 A. Bloodstain mist, no. It's only on the
17 nightgown.
18 Q. And bloodstain mist is the only thing that's
19 going to tell us, as far as the evidence in this case that
20 you're aware of, that you worked on, is the only thing
21 that's going to tell us if that nightgown was present at
22 the event that caused the wound?
23 A. I'm not sure I would say the only thing, but in
24 this context, it is the key element that we are looking
25 at.

1 Q. The dead guy's. DNA is not on here. We know
2 that, right?
3 A. Well, as it was sampled 25 years after the
4 fact.
5 Q. Are you aware of any DNA of Edmund Clark on
6 that nightgown?
7 A. No.
8 Q. Do you think it's a little bit dangerous,
9 Chris, to be assuming anything with a jury who's got that
10 woman's life in their hands?
11 MS. LOGAN: I'm going to object on the
12 argument, Judge.
13 THE COURT: It's overruled.
14 A. I'm not making any assumptions, sir.
15 Q. (By Mr. McWilliams) Okay. So, the only -- that
16 if there is any bloodstain mist, the only bloodstain mist
17 that any person, any photograph, any anything has ever
18 identified is on that nightgown?
19 MS. LOGAN: Asked and answered.
20 THE COURT: Sustained.
21 Q. (By Mr. McWilliams) Would you agree with me
22 that if that nightgown is covered in blood spatter --
23 A. Yes, sir.
24 Q. -- and it's covered in blood spatter because it
25 was at that scene at the time that that event occurred,

1 there has to be blood spatter elsewhere; it didn't all
2 land on State's Exhibit 81.
3 A. You're asking in a very specific way that I'm
4 not comfortable in answering. I will do my best, but can
5 you try to ask it again?
6 Q. I'm not trying to trick you. Mr. Duncan, go
7 ahead, tell me.
8 A. I don't want to lie. So, I don't want to give
9 a false impression to the jury. So, I want to answer your
10 question.
11 Q. Go ahead.
12 A. Could you ask it one more time?
13 Q. Okay. If there is bloodstain mist on State's
14 Exhibit 81, which is the -- it's one of three pieces of
15 nightgown that we've got, if it's on State's Exhibit 81 --
16 in fact, there's a hundred -- Rossi says there's over a
17 hundred spots. So, if that's true, if that is true --
18 A. Yes.
19 Q. -- and -- I mean, the theory here is that it
20 was deposited on this when Ed Clark got shot in the head.
21 A. Correct.
22 Q. If that's true, then whether or not anybody
23 observed it, or we photographed it, or we documented it,
24 it has -- there has got to be blood spatter -- that same
25 mist has got to be somewhere else in this scene; it didn't

1 just all miraculously land on State's Exhibit 81.
2 A. Okay. And, yes, it would be there.
3 Q. You agree with the statement that I made?
4 A. Yes.
5 Q. Okay. I want to show you -- let's look at some
6 photographs. Do you think -- have you done the deal where
7 you touch the screen and draw?
8 A. Yes.
9 Q. Are you comfortable like showing me -- drawing
10 a cone of where you would expect to see it?
11 A. Correct, I can do that.
12 Q. I'm going to show you some photographs here.
13 And I'll tell you, if there's one that you think that you
14 would like to do it on, or think it's the best one to show
15 as an example --
16 A. State's Exhibit No. 13 is just fine.
17 Q. Okay. And in a close-up version, 14 might help
18 us, too?
19 A. I can see that, yes.
20 Q. Okay. Is the stain pattern sufficiently blown
21 up? Do you want me to back up? Tell me.
22 A. I believe we can work with this as it is.
23 Q. All right. Draw me a cone.
24 A. You can see the injury site towards the back of
25 the head right above the line of the bed comforter. Now,

1 that cone will adjust to the angle of weapon as it is
2 applied at the skull.
3 Q. Let me ask you about that. You don't exactly
4 know what the angle of the weapon is, right?
5 A. That -- I did not see the autopsy report. Now,
6 the M.E. should give you a nice, clean representation of
7 that.
8 Q. I got you. I guess what we're going to -- what
9 we're saying here is we never -- there weren't any
10 trajectory rods used here. We didn't do any photographic
11 reconstruction to try to determine angles. You're not
12 aware of anybody doing anything like that, right?
13 A. No, I'm not aware of anything that was done
14 like that.
15 Q. That might be a more pertinent discussion in
16 another type of case, but it's not really relevant to us
17 here, right?
18 A. You couldn't do it. You couldn't do a
19 trajectory rod in this case.
20 Q. Right. Okay. So, to some extent, there's
21 always going to be a little question of exactly how he was
22 positioned, or exactly what the angle was. We're never
23 really going to know that.
24 A. Within confines. I mean...
25 Q. Well, for instance, you don't know -- we're

1 going to assume that he didn't move much after he got shot
2 in the back of the head.
3 A. I think that's a fair statement.
4 Q. But you don't if he moved a little bit?
5 A. That's true.
6 Q. And just a little bit of movement changes the
7 angle. It changes where this cone goes, all that stuff?
8 A. Correct.
9 Q. So, there are limitations to what we're doing
10 here. Fair to say?
11 A. Fair to say.
12 Q. But we're going to -- but regardless of the
13 limitations, there is -- if there is back spatter coming
14 out of there, it existed and it's got to be deposited
15 somewhere. Agreed?
16 A. Agree.
17 Q. So, let's do that.
18 A. Okay. That's a simple cone, kind of covers the
19 whole side of the head. It could be a lot finer if you're
20 just talking about a little bit of movement. It gives a
21 little spread of range there.
22 Q. Okay.
23 A. Range of deposit for the stains.
24 Q. You're looking at -- and this is a good
25 explanation for you of why you say you're not necessarily

1 surprised that it's not on the pillowcase?
2 A. Oh, yes, absolutely. I think the pillowcase is
3 out of the question, out of the issue here.
4 Q. Okay. Now, let me ask you about that. You're
5 saying there's no question in your mind that that -- that
6 that event wouldn't leave back spatter on the pillowcase?
7 A. In this -- in this orientation -- and there's
8 another photograph, a close-up that I think you also took
9 up there. It really shows the wound and the pillowcase on
10 different planes and forward of the injury site, and it's
11 back spatter. It's going back towards the source of the
12 force and the pillow is in front of it.
13 Q. Can you do that cone for me again if we come
14 back to it?
15 A. Yes.
16 Q. I kind of want to show you the photo that
17 you're talking about.
18 A. Okay.
19 Q. I'm going to show you this one. I don't think
20 it's the same one, but I think it will get us there. Does
21 that help you?
22 A. Well, now he's been -- at least the cover has
23 been moved.
24 Q. Let's find another one. Is that -- will that
25 help us with this discussion?

A. I believe it will.

Q. Okay. So, let me back out just a little bit. Okay. Talk to me. Tell me what you are describing. Show me the cone on that.

A. So, I've drawn a simple cone which, you know, when blood is coming from a source, it spreads out, and there's an example of what a cone might look like.

Q. Now, Chris, if I told you that the bullet trajectory is straight forward --

A. Okay.

Q. -- it's back to front, does that change anything about this, the cone you draw? Do you want to adapt that at all?

A. I certainly -- I don't really see a need to adapt it right now. Back to front, I can see more of the ear on the left side than the right side --

Q. Wait just a second. When you say "see more of the ear," tell me -- tell me what you're changing.

A. I'm not really changing anything.

Q. Okay. Chris, let me ask you this question. If -- because I'm not -- the medical examiner says the bullet trajectory is directly back to front.

A. Okay.

Q. So, it's straight in, zip.

A. Yes, sir.

1 Q. That means something to you in looking at this
2 photograph, right, and what you would draw on the cone?
3 So, draw the cone knowing that.
4 A. The only thing I'm really going to change is
5 because there might be a little post-shooting motion of
6 the head. And I'll just make it a little bit wider. You
7 know, even as far as that goes.
8 Q. Would you assume that the trauma -- the force
9 of being hit with a bullet is going to cause some movement
10 in his head?
11 A. There's -- yes.
12 Q. We don't know.
13 A. Correct, I was not there.
14 Q. And that's always going to be a question. I
15 mean, unless we were there videotaping it with the
16 stereoscopic microscope, probably have a hard time
17 deciding that, right?
18 A. Correct.
19 Q. So, the cone -- the cone is -- all of us live
20 here in Houston. Have you ever heard of the cone of
21 uncertainty?
22 A. Yes.
23 Q. Do we have a certain amount of uncertainty in
24 our cone?
25 A. There will be a limit because the head can only

1 go so far.
2 Q. Well, but one of the ways that we would be --
3 remove the uncertainty from the cone is when we can see
4 it, right?
5 A. No one is going to -- I'm not sure I follow.
6 What do you mean?
7 Q. Okay. Let me see. If you saw -- I mean, if
8 there was back spatter -- if you had back spatter coming
9 out back down that cone over that comforter, you could
10 say: Well, I do know that he was this way because I can
11 see the pattern coming out from him.
12 A. That is correct, you could.
13 Q. I could see the cone just like you've drawn the
14 lines.
15 A. Correct.
16 Q. But you don't have that?
17 A. Not that we can see. Not that we don't have
18 it.
19 Q. Well, ain't nobody can say that it's there?
20 A. And no one can say it's not.
21 Q. Okay. But do we convict people on evidence
22 that we --
23 MS. LOGAN: I object. That's argument.
24 THE COURT: It's argument.
25 Q. (By Mr. McWilliams) Would you ever testify to

1 the jury that it was on there?
2 A. I would never testify to that particular
3 photograph at all as far as what is or is not there.
4 Q. What I'm asking you, Officer Duncan, is if you
5 don't -- with the evidence you have here, you would never
6 tell this jury that there is certainly back spatter on
7 that comforter?
8 A. Yes, I agree with that.
9 Q. Because you don't know?
10 A. I don't.
11 Q. And either -- somebody in law enforcement lost
12 the comforter, right?
13 A. Somebody lost it. I -- that is outside of my
14 knowledge.
15 Q. Well, Norma Jean Clark didn't lose it. Fair to
16 say that?
17 A. I'm sure she didn't.
18 Q. We didn't go get it out of the evidence, and
19 secret it away and hide it from the State, or anything
20 like that. It went to evidence heaven because people lost
21 it.
22 A. Somewhere it -- it's somewhere and I don't know
23 where.
24 Q. Okay. Now, changing that cone, changing his
25 head a little bit, would it shock you if you had -- would

1 you be surprised to see back spatter on the pillow?
2 A. If we move the head 90 degrees, certainly, it
3 would be in the same direction as the pillow.
4 Q. Let me ask you something else. Draw your cone
5 again.
6 A. (Witness complies.)
7 Q. We're working in two dimensions here, aren't
8 we?
9 A. That's correct. Well, in this photograph.
10 Q. But blood spatter doesn't happen in two
11 dimensions?
12 A. That's correct.
13 Q. It happens in all three?
14 A. That's why we call it a cone and not a
15 triangle.
16 Q. I'm going to show you State's Exhibit 13.
17 Let's do some more cone work here. I'm going to zoom in
18 because I want you to be able to see the wound. He's not
19 face-down on that pillow, is he?
20 A. Well, it does look like it's canted. The head
21 is canted.
22 Q. His head is actually turned to the side and the
23 wound is facing back -- is tilted back towards the
24 dresser?
25 A. I'm sorry?

1 Q. Maybe if I show you 16, it will help you out.
2 A. Yes, sir.
3 Q. His head is turned to the side a little.
4 A. Okay.
5 Q. Right? We're looking at it, right?
6 A. Yes, I think so.
7 Q. He's not face-down on the pillow like this?
8 A. That is true.
9 Q. He's like this, like he was asleep, right?
10 A. Correct.
11 Q. Which shifts our cone back out towards the side
12 a little bit, right?
13 A. Yeah. Yes, yes.
14 Q. So, draw my cone.
15 A. (Witness complies.)
16 Q. Now, a little bit of movement and -- I mean,
17 this is rough, right, Officer Duncan?
18 A. It's very rough.
19 Q. It's very crude, right?
20 A. Yes.
21 Q. But I'm looking at it, and it doesn't take me
22 much to slide over here and get on that pillowcase, does
23 it?
24 A. (Witness draws.) Sliding it over, as I've just
25 done for you, for your example, let's say that happened.

1 It's still just a very small portion of the pillowcase.
2 Would it be present? Again, the pillowcase is still
3 forward of the wound. So, even though it comes out in
4 three dimensions, it's still close to the wound where it's
5 not going to deposit immediately next to the wound cavity.
6 And when it comes out, it will fall, smaller pieces first.
7 And, you know, is there one, two stains on that
8 pillowcase? Possibly. Did we -- could we see them?
9 Could we have missed them over 25 years, falling off,
10 flaked off after it's been opened several times?
11 Possible, too.
12 But having a concentration greater than what's found
13 on the nightgown, even though it's -- but because it was
14 forward and on this extreme edge of the cone, as you would
15 like to see it, you're not going to be finding that heavy
16 concentration that you're expecting.
17 Q. That's fine. Go ahead and draw your cone the
18 way you want to.
19 A. I --
20 Q. I want you to be as comfortable with it as
21 possible. Stop talking about the pillowcase.
22 A. Okay.
23 Q. Obviously, this is another area of disagreement
24 between you and Mr. Bevel; is that fair?
25 A. And specifically to what? Because we agree on

1 quite a bit.
2 Q. No doubt. But Tom says he would expect to see
3 -- he fully would expect to see blood spatter on the
4 pillow looking at everything, the same things that you
5 looked at. You heard him say that yesterday. I think Ms.
6 McDaniel even asked -- like asked him very pointedly, and
7 he said, "Absolutely." Do you remember that?
8 A. Yes, that is what was said.
9 Q. Real quick, I just want to -- I'm going to ask
10 you this question: Do you ever get called to testify for
11 the defense?
12 A. No, sir.
13 Q. You only -- you're a professional witness for
14 the State, yes?
15 A. I don't take money to testify.
16 Q. No doubt.
17 A. If the State, who I work for, asks me to review
18 a case, and my opinion said, no, I do not believe
19 so-and-so did it, or it actually addressed the defense,
20 and I became the defense witness -- because I have --
21 because in my job, I have testified in civil cases.
22 Q. Sure.
23 A. And that isn't the State or -- it's just a
24 civil case. So, I testify to the truth. I'm employed by
25 the State, so they are the ones who address me. You may

1 have never even heard of me until I got here. So, you
2 don't know I exist. I don't advertise myself out there.
3 But if the State had shown me these pictures, and I had an
4 opinion as to transfer, pillowcase, and my opinion was
5 that, that is what I would be testifying to.
6 Q. No doubt. But the State was never asking you
7 questions about transfer or pillowcase.
8 A. They gave me the evidence and told me to make
9 up my own mind.
10 Q. You wouldn't expect them to do that. That's
11 kind of our job is to ask you those questions, right?
12 A. Yes.
13 Q. Let me -- let's look at your picture there and
14 your cone and talk about that nightgown. Now, the theory
15 of this case -- not even the theory. Axiomatic is this:
16 The shooter was standing here on the side of the bed.
17 Whoever the shooter was, they were there?
18 A. I agree with that.
19 Q. Everything about this suggests that.
20 A. I didn't see any ruffled bedding that would
21 indicate there was anyone on the bed when they fired the
22 shot.
23 Q. Okay. So, that's what the expectation is,
24 that's what -- certainly what the State has theorized has
25 happened here. And if State's Exhibit 81 is right over

1 here and it gets -- it's going to get that cone depositing
2 on it, right?
3 A. Correct.
4 Q. And if that happens, I've got to have blood
5 spatter here?
6 A. Yes.
7 Q. And I've got to have more here than I've got
8 here, unless there was something laid out over the top of
9 it that stopped it?
10 A. And with a few possible -- reasonable --
11 Q. Tell me what they are.
12 A. Okay. One blocking factor is the arm that's
13 holding the pistol.
14 Q. Which would mean it's getting deposited on the
15 arm, right?
16 A. Correct.
17 Q. So, that would just be more blood spatter that
18 we would identify on 81?
19 A. Actually, probably, it might be less because as
20 you're blocking -- as you're blocking that pattern, it --
21 and it depends on how you're holding the gun and the
22 angle.
23 Q. I think we missed each other there. When I
24 said more, I'm saying additional, in addition to this.
25 A. Oh, yes.

1 Q. I mean, you would have it on -- not that it
2 would be more concentrated or something like that. I'm
3 saying it's additional to this.
4 A. Yes, there would be more bloodstains --
5 Q. But even if I've got blocking, it's still going
6 to be --
7 A. You're going to have some, yes.
8 Q. And are you aware of any blood spatter found on
9 the sleeves?
10 A. I didn't see any sleeves anyway.
11 Q. Well, are you aware that DPS lost the sleeves?
12 A. Again, I work for HPD. I don't -- I am not
13 aware.
14 Q. Would it shock you if that happened?
15 A. It's unfortunate that it's a 25-year-old case,
16 but, again --
17 MR. McWILLIAMS: May I have just a moment,
18 Your Honor?
19 THE COURT: Yes, sir.
20 (Brief pause.)
21 Q. (By Mr. McWilliams) So, bottom line, Chris, if
22 the State is right about this, this is Ed Clark's
23 bloodstain mist pattern on there. I mean, not skippy,
24 ain't no two ways about it, there is blood spatter on this
25 comforter?

1 A. In 1987, I would expect to find blood spatter
2 on that comforter.
3 Q. And if it isn't on there, we've got a problem?
4 A. Well, it has to be on there. The injury was a
5 close-contact injury --
6 MR. McWILLIAMS: I object. Nonresponsive.
7 THE COURT: Sustained.
8 A. I'm sorry.
9 Q. (By Mr. McWilliams) I'm not trying -- but what
10 you said there I think is right. It's got to be there.
11 You just said, "It's got to be there"?
12 A. Correct.
13 Q. Because if it's not, this don't make sense.
14 There is no way -- there is no way, under the shadow of
15 the sun, that all of the blood from that wound landed on
16 State's Exhibit 81?
17 A. Well, I certainly wouldn't say no way. I can
18 come up with a way, but it's so unlikely I'm sure it
19 didn't happen that way. But never say never.
20 Q. Okay. Never say never?
21 A. Never say never.
22 Q. Okay. Assuming somehow that some outlandish
23 theory didn't occur, that's a big problem for the State's
24 theory. If there isn't any blood spatter on there, this
25 don't make any sense?

1 MS. LOGAN: I'm going to object to the
2 side-bar.
3 THE COURT: All right. The question was
4 if there's no mist on the --
5 MR. McWILLIAMS: Comforter --
6 THE COURT: -- comforter --
7 MR. McWILLIAMS: Then it doesn't make any
8 sense that it's all over the front of the nightgown.
9 A. It does make sense to me for reasons, but if
10 you're asking if I was examining this case in 1987 and
11 this was my scene, yes, I would have a problem with
12 finding bloodstains here and not there. It would have to
13 be explained somehow.
14 Q. (By Mr. McWilliams) Okay. And I want to talk
15 to you about your role. When you were doing your
16 examination --
17 A. Yes.
18 Q. -- were you in direct contact with anybody from
19 the District Attorney's Office?
20 A. No. I think the first time I was contacted was
21 when I received my subpoena from the D.A.'s office.
22 Q. I thought you and I had a conversation
23 yesterday, and you told me that Ms. McDaniel told you that
24 State's Exhibit 81 had Hematrace positive for blood.
25 A. Yes. I guess we met last Wednesday or

1 something. And I received my subpoena a couple of weeks
2 before then.
3 Q. I was just trying to get to that --
4 A. Back in 2011, no.
5 Q. The bottom line is, you're talking about -- and
6 they told you there's -- it's a positive for human blood
7 on the gown, right?
8 A. That's what one person told me, right.
9 Q. And was it Ms. McDaniel or Ms. Logan, or do you
10 know?
11 A. I think --
12 Q. It was an assistant district attorney?
13 A. Yes.
14 THE COURT: One at a time, please.
15 MR. McWILLIAMS: I'm sorry, Judge.
16 Q. (By Mr. McWilliams) It was an assistant
17 district attorney?
18 A. Yes.
19 Q. Did they tell you there were eight Hematrace
20 samples taken and only one of them was positive?
21 A. That is correct.
22 Q. Because when you and I had that conversation
23 yesterday, you told me you didn't -- you had never heard
24 that before.
25 A. Well, I heard there were negatives. And I told

1 you that, but the total count I did not know until a few
2 days ago.
3 Q. Okay. And that comes back to 1-A, right?
4 A. The deposit does, yes.
5 Q. And, so, the only positive for human blood,
6 even with the limitations that are on Hematrace, the only
7 positive for human blood was 1-A, right?
8 A. Correct.
9 Q. But if 1-A is a transfer, that's a problem,
10 right?
11 A. It's a pretty big if. My opinion is it's not a
12 transfer.
13 Q. Right. But you would agree with me Tom Bevel
14 is recognized world-over and --
15 MS. LOGAN: I object to the bolstering and
16 the continued discussion of Tom Bevel.
17 THE COURT: That's sustained.
18 Q. (By Mr. McWilliams) You respectfully disagree
19 with Tom's opinion, right?
20 A. Oh, certainly respect him.
21 Q. But Tom is of the opinion that it is a
22 transfer.
23 A. That's what he said.
24 Q. So, that again -- I mean, if that's the only
25 positive for human blood on there, if 1-A is a transfer,

1 that again -- that takes that piece out of this story,
2 right?
3 A. In your scenario, yes.
4 Q. Well, if Tom Bevel is right, it takes that
5 piece out of this story?
6 A. Just so we can get over it, yes.
7 MR. McWILLIAMS: I object to the
8 nonresponsiveness from the witness.
9 THE COURT: Well, in that theory.
10 A. Yes.
11 THE COURT: Okay.
12 Q. (By Mr. McWilliams) Now, let's talk about the
13 comforter.
14 A. Okay.
15 Q. You didn't like it that Tom used the
16 photographs -- since we don't have a comforter to look at,
17 you didn't like it that Tom used these photographs, as
18 well as other photographs, to look at that comforter to
19 see if he could see any blood spatter on there; you don't
20 like that?
21 A. That concerned me, yes.
22 Q. You're a photography guy, too.
23 A. Yes.
24 Q. Okay. Not -- professionally it plays a real
25 profession, but you're kind of into cameras and

photography, too, right?

A. Yes.

Q. Okay. It's not only vocational, to some degree for you, it's a hobby, too, right?

A. Yes.

Q. When I'm talking to you about photographs, you kind of like speak a different language to me. I don't understand that. Fair?

A. Fair.

Q. So, you're particularly critical of him doing that because of your plethora of knowledge and your kind of experience with photography, right?

A. I think that's fair, yes.

Q. You have a more exacting mind about that, probably. I mean, you don't know what Tom's experience is in that regard, do you?

A. That's true. It's a skill-set that I have.

Q. Is it possible that you're a little more critical than most people would be about that, most experts would be about that?

A. Well, not most experts, but certainly I'm critical of my own work and of work that I see.

Q. Now, Chris, your statement is true, most certainly we can take photographs, even some old photographs, you can take photographs and blow those up,

1 and you can examine them and you can identify millimeter
2 spots on there. And you've actually done that before,
3 right?
4 A. In the right circumstances without -- in the
5 right circumstances, yes.
6 Q. And you've done that in this case?
7 A. I've taken photographs -- now --
8 MR. McWILLIAMS: Objection.
9 Nonresponsive.
10 THE COURT: It's sustained.
11 Q. (By Mr. McWilliams) You've done that very thing
12 in this case?
13 A. I have made photographs, yes.
14 Q. And you've identified spots looking at your
15 photographs?
16 A. Correct.
17 Q. Now, it is always, always better to be there
18 looking at the actual item, right?
19 A. I think that's a fair statement.
20 Q. And you wouldn't want to supplant actual
21 hands-on experience looking at it with just looking at it
22 from a photograph? Between the two, we really want the
23 hands-on?
24 A. That's absolutely true.
25 Q. In the photographs that you received in this

case, some of those photographs were from the medical examiner's investigator, right?

A. I believe -- I know I saw them.

Q. Talk to me a little bit about a medical examiner investigator for the jury. Because you are a Crime Scene Unit yourself, you go out to scenes?

A. Yes, sir.

Q. And you process scenes?

A. Correct.

Q. You're doing investigative work, but you're not the only guy there doing that kind of work?

A. Correct.

Q. And one of the people there doing that kind of work also is the medical examiner investigator?

A. That is correct.

Q. They've got their tools?

A. Yes.

Q. I mean, loops, cameras, stuff to collect evidence, things like that. They have that stuff, too?

A. No.

Q. They don't have cameras?

A. They have cameras.

Q. They don't have -- they don't collect the evidence, right?

A. They do not collect the evidence.

1 Q. You collect the evidence?
2 A. Yes, sir.
3 Q. So, that's -- they do have their own tools for
4 going out there and examining things, and they record it
5 and they document it, but you collect the evidence?
6 A. There -- we have two completely different
7 tasks. They are responsible for assisting the doctor and
8 being -- determining manner and cause of death. They are
9 not responsible for event reconstruction, they are not
10 responsible for identifying who did it.
11 Q. Certainly. That's your work that you do?
12 A. That is -- that is tasked with the
13 investigator.
14 Q. The medical examiner is out there looking at
15 the blood evidence. They are looking at stuff. I mean,
16 we know because the medical examiner is pointing out
17 things, like they are blowing up photos and examining the
18 comforter, and they find little tiny pieces of bone
19 fragment, right?
20 A. Absolutely.
21 Q. So, we know that the medical examiner
22 investigator was looking -- was hands-on on the scene
23 there looking at the comforter, the pillow, the whole
24 scene?
25 A. They were there.

1 Q. We know for certain that they were looking
2 critically at the comforter because they actually pointed
3 out -- they blew up photographs and pointed out little
4 tiny pieces of evidence?
5 A. I'm not -- I can't answer that question. I
6 can't answer that question.
7 Q. You saw the photograph of the little bone
8 fragments that they pointed out?
9 A. I did.
10 Q. So, you know that -- you're just saying you
11 don't know how --
12 A. You categorized it -- or you said it was
13 critical examination. That bone fragment was sitting on
14 top of the comforter, not embedded into the comforter. It
15 was 10 times the size of a mist pattern stain. When
16 you're looking with eyes, that would be an easier object
17 to see. Finding a mist pattern with your eyes is not
18 necessarily an easy task.
19 Q. I will -- I can agree with you that it's
20 probably harder to find a 1 millimeter spot on the
21 comforter than it is to find a larger piece of bone
22 fragment, but there are other things involved in that,
23 too, right? Like blood on a white comforter, it has more
24 contrast than the little piece of white bone on the
25 comforter, correct?

1 A. It can.
2 Q. So, in some instances it actually might be
3 easier to see spots of blood on there than it would be to
4 see the bone fragment?
5 A. But you want me to make that -- okay. I'm
6 sorry.
7 Q. I'm just asking you about my statement. Do you
8 agree that that is a true statement?
9 A. Repeat your statement.
10 Q. That because of the nature of contrast, that it
11 might -- it might be -- it actually might be easier to see
12 specs of blood on the white comforter than it would be to
13 see a very small piece of white bone fragment?
14 A. I would be able to see that contrast, yes.
15 Q. Okay. And we know that it's not just looking
16 at it with a naked eye. They are taking close-up
17 photographs of this comforter, right?
18 A. They are taking photographs of the comforter.
19 Q. And the photographs are blown up?
20 A. What do you mean by "blown up"?
21 Q. Well, the photographs that you've seen -- well,
22 this may be a problem because you're going to be -- you're
23 going to -- it means something to you that I don't know
24 that --
25 A. You have an 8 X 10 print of a full frame

negative. Technically, that's enlarged. Now --

Q. Do you know how much it's enlarged?

A. Well, 24 millimeters by 36 millimeters enlarged to 8 inches by 10 inches. Now, a format of a 24 X 36, you're automatically losing an inch on either side during the enlargement. It's 25 millimeters per inch, times 8. Say about 400. You have 400 millimeters. So, you are enlarging 24 X 400. You're losing 2 inches on each side. I mean, I can do some math. There's your calculation of enlargement.

Q. Is it 10 times or is it less than 10 times enlargement? I don't know.

A. You want me to do the math?

Q. Real quick.

A. It's not going to be real quick.

THE COURT: Here's a calculator.

THE WITNESS: Thank you, sir.

THE COURT: I did not follow that. Did you get it to turn on?

THE WITNESS: Yes, sir.

THE COURT: Okay.

THE WITNESS: The button stopped working.

A. All right. So, 400 divided by 24 is roughly your enlargement. So, let's just round it up to 25. So, about eight times, a power of eight, I would think.

1 Q. (By Mr. McWilliams) And you said your loop that
2 you look for blood stains on --
3 A. Is ten.
4 Q. -- is ten? Could you see it if you had an
5 eight-time loop? It wouldn't be as good, but would you be
6 able to do it?
7 A. Those two factors don't relate, but with an
8 eight-power loop, I can look.
9 Q. Okay. I got a feel that may take us off on --
10 A. No. It's actually very easy.
11 Q. I don't want to -- let me -- I've got something
12 else I want talk about.
13 How many pictures are there of the white bed cover?
14 A. That, I don't have a count.
15 Q. How many of the photos of the white bed cover
16 did you examine on your computer monitor?
17 A. I'd have to -- I was given a disk by Sergeant
18 Holtke that contained images. I reviewed those images. I
19 did not count that I saw this many of the bed comforter.
20 So, the ones we've seen -- I don't know. That's the
21 answer. I'm not sure.
22 Q. Do you know at what enlargement you started
23 seeing that picture pixelate?
24 A. No.
25 Q. Did you -- did you do that? Did you blow it up

1 until it started to pixelate and then come back in on it?
2 A. I do remember going in a little bit on certain
3 pieces of the evidence just to see if I could see some --
4 Q. I want to focus you just on the comforter, on
5 pictures of the comforter in that order. Did you do that
6 work on pictures of the comforter?
7 A. You know, the safest answer is I don't know. I
8 don't remember. I --
9 Q. That's fair.
10 A. Yeah.
11 Q. In any event, Chris -- I'm sorry. Officer
12 Duncan, in any event, it is the -- you would not want to
13 supplant?
14 A. I'm sorry. I don't --
15 Q. You would not want to supplant photograph stuff
16 for hands-on experience with the actual evidence?
17 A. If given a choice, absolutely, the better
18 choice is to have the evidence.
19 Q. Have you reviewed the medical examiner's
20 investigator's report?
21 A. You know, again, I think I was just verbally
22 told what was told, but as far as a report, it doesn't
23 come back to me.
24 MR. McWILLIAMS: May I approach the
25 witness?

1 THE COURT: You may.
2 MR. McWILLIAMS: I believe this would be
3 Defendant's Exhibit 17, Judge.
4 THE COURT: Okay.
5 MS. McDANIEL: Mr. McWilliams, that's my
6 only copy.
7 MR. McWILLIAMS: How about I don't mark it
8 yet and we can make a copy?
9 THE COURT: We can make a copy later.
10 Q. (By Mr. McWilliams) This will be State's
11 Exhibit 17.
12 MS. LOGAN: State or Defense?
13 MR. McWILLIAMS: Defendant's Exhibit 17.
14 Thank you, Ms. Logan.
15 THE COURT: Okay.
16 A. Yes, sir.
17 Q. (By Mr. McWilliams) I'm showing you Defendant's
18 Exhibit 17. And I will tell you that that -- does that
19 appear to be a page or a copy out of the medical
20 examiner's investigator's report?
21 A. Could you just show me who the author -- where
22 the author is? Is it that person right there up at the
23 top?
24 Q. John Brite.
25 A. Okay. Yes.

1 Q. Do you recognize the name John Brite?
2 A. No.
3 Q. But you would assume that was the medical
4 examiner investigator?
5 A. Yes.
6 Q. So, John Brite was out there at the scene
7 looking at this evidence?
8 A. To a degree.
9 Q. I want you to read the --
10 A. Okay. That one sentence?
11 Q. There are a couple of sentences.
12 A. Okay.
13 Q. Just read that to yourself. It's not in
14 evidence.
15 A. (Witness complies.) Okay.
16 MR. McWILLIAMS: Judge, we have to make a
17 copy of it, but at this time, I would like to offer
18 Defendant's Exhibit No. 17 into evidence.
19 (Defense Exhibit No. 17 offered)
20 THE COURT: Okay. We'll have a copy with
21 an exhibit sticker placed on it. Is there any
22 objection to Defendant's Exhibit 17?
23 MS. LOGAN: Well, I do, and it pertains to
24 the issues we have with the autopsy report, Judge.
25 THE COURT: Okay. All right. Come

1 forward real quick so we can figure this out.
2 (Whereupon counsel approached the
3 bench out of the hearing of the
4 jury.)
5 THE COURT: The autopsy report is not in
6 already?
7 MS. LOGAN: It's not.
8 MR. McWILLIAMS: There's not any --
9 MS. LOGAN: Just ask him the questions.
10 He wanted to say that they said there's no blood on
11 the comforter.
12 MR. McWILLIAMS: I want to have a piece of
13 evidence.
14 THE COURT: Well, ask the questions,
15 because if the report is not in, if there's an
16 objection, then we have to go through the business of
17 getting the foundation of getting it in.
18 MR. McWILLIAMS: I'll just ask him the
19 question.
20 THE COURT: Yeah.
21 MS. LOGAN: Just ask him the question.
22 (Whereupon the following proceeding
23 is held in the hearing of the jury.)
24 Q. (By Mr. McWilliams) okay. Rather than just
25 putting it on there, let me ask you this: Is it fair to

1 say that the medical examiner's investigator who was out
2 there looking at that comforter hands-on, and he's taking
3 pictures of evidence on it, and we know he's looking at
4 it, but their finding was there was no blood spattering
5 anywhere near the decedent's head, or on any walls, and no
6 projectile perforation noticed anywhere in the room --
7 A. And the question is?
8 Q. Is that what you understand from the medical
9 examiner?
10 A. Well, that's -- that is what he wrote. Well,
11 that's not what he wrote. You read it wrong, but it is --
12 you were close, but you've misquoted.
13 Q. There was no blood spattering anywhere --
14 A. Stop right there. What's the word, "splatter"?
15 He spelled it wrong. He doesn't know his terminology.
16 Does he have the qualifications to understand what minute
17 stains are and where they can be found?
18 Q. No question about it, Mr. Duncan, all of this
19 is subject to the limitations of the person doing the
20 examination.
21 A. Correct.
22 Q. But do you know where John Brite is 27 years
23 later?
24 A. No, sir, I do not.
25 Q. So, can we just take his word for it that he

1 didn't see any blood spatter?
2 A. Does he know how to look for it?
3 Q. I don't know.
4 A. Me either. So, I'm not going to assume that he
5 knew how to look for it.
6 Q. But the bottom line is that's what he
7 documented was that there wasn't any?
8 A. He also documented that he found pieces of
9 skull on fabric. So, he did document a blow-back effect.
10 Q. And it is not -- it is entirely consistent
11 within the realm of possibility of having bone fragment on
12 there and not having bloodstain mist on there. That
13 certainly can happen?
14 A. In the right environment, it's possible.
15 Q. But you heard Tom Bevel up here yesterday say
16 it doesn't surprise him in the least that there would be
17 bone fragment on there and not bloodstain mist on there?
18 A. I don't think he ever categorized it in the
19 least. And I'd have to see that one read back to me as
20 far as how he worded it.
21 Q. All right. Bottom line, Mr. Duncan --
22 A. Yes.
23 Q. -- are you aware of any evidence of blood
24 spatter, of high velocity impact blood spatter, of
25 bloodstain mist, are you aware of any evidence of that on

1 that comforter?
2 A. No.
3 MR. McWILLIAMS: I'll pass the witness.
4 THE COURT: All right. We'll take a break
5 here.
6 (Whereupon the Court stood in a
7 brief recess.)
8 (Whereupon the following proceeding
9 is held in the presence of the
10 jury.)
11 **REDIRECT EXAMINATION**
12 BY MS. LOGAN:
13 Q. Officer Duncan, I put State's Exhibits 182 up
14 on the document camera. Do you agree with me that's a
15 photograph, a microscopic photograph of stain 1-A, right?
16 A. I do.
17 Q. And during cross-examination, there were
18 questions about the characteristics of 1-A that led to the
19 disagreement between your opinion and the opinion of Mr.
20 Bevel, right?
21 A. Correct.
22 Q. And you wanted to list those characteristics
23 for us. I'd like to give you that opportunity now.
24 Please tell us what three characteristics it was that
25 impacted your opinion and conclusion with respect to stain

1 1-A.
2 A. Okay. Again, the bloodstain that we're looking
3 at has impacted a surface that is textured and rough.
4 We're looking at a stereoscopic microscope on a very small
5 level. Blood travels in a sphere when forced in part on a
6 bloodstain and it's airborne. It travels in a sphere.
7 That gives us the geometric shape of circles -- excuse me
8 -- circulars and elliptical patterns on the impacted
9 target, the surfaces that they land on.
10 But when you have a textured surface that we see in
11 State's Exhibit 182, it is very convoluted. You have
12 threads made up of multiple fibers, and those are getting
13 ridges and valleys all through the target surface. When a
14 bloodstain travels in flight, it will -- and hit a
15 textured surface, it's going to break up. And what we see
16 could be just that breaking up of the bloodstain.
17 So, you have a spherical back spatter event, a
18 spherical ball, sphere of blood traveling, hitting a rough
19 surface, breaking up. And that's why we have multiple
20 pieces to -- multiple stains to this pattern.
21 The second factor is, unfortunately, the age of the
22 item. And blood will clearly dry up over 25 years, but as
23 blood dries, it can dry as a full geometric shape, but
24 what can also happen is that the blood starts to clot and
25 it separates. Blood is made up of 55 percent plasma and

1 the rest is -- 45 percent is red blood cells, and some
2 salts, and acids, and things.
3 So, you have this two -- when blood separates like
4 this, you have these two mixtures. The clotted material
5 is just like it is. It's a clotting material. It's how
6 blood stops from bleeding in a wound. The blood clots and
7 the blood stops running. It happens when it's outside the
8 body as well. So, if this -- these transfer stains that
9 Mr. Bevel believes they are, are just clotted remains of
10 the blood serum. Serum is a yellowish straw colored
11 liquid. It's the plasma. Once it separates, we call it
12 serum. If the serum is this yellow liquid, you may not be
13 able to see it here. Plus, it's 25 years old. So, it's
14 not there, you can't see it, but you still see the clotted
15 mass left behind.
16 So, why I do not believe this is a transfer stain,
17 one, is the surface. That really is important to me. The
18 second thing is that of the age. You've got the clotting
19 mechanism of blood that can leave behind clotted mass.
20 That's what he could have been looking. It could have
21 been a sphere, and over the course of 25 years, it could
22 have flaked off and just fell off and leaving behind an
23 unusual shaped stain.
24 And then the third thing is the preponderance of
25 these stains. When you look at this 1-A single event,

1 it's actually broken down into ten or twelve different
2 stains. And Mr. Bevel pointed at the two larger ones on
3 the top fibers that are -- that he says are consistent
4 with transfer. But the majority of the little stains are
5 elliptical and round in shape. And when you look at this
6 as a whole, in that holistic view, the majority of those
7 stains are -- have a geometric shape consistent with a
8 mist pattern.
9 So, those are three factors that, I think, are
10 important to look at when you're trying to determine a
11 misting pattern versus a transfer pattern.
12 Q. And did it appear to you, based on your
13 observations of Mr. Bevel's testimony, that he was taking
14 those factors into consideration in coming to his
15 conclusion that he believed it was a transfer pattern?
16 A. The only -- I mentioned the textured surface.
17 When we were discussing with Mr. Bevel, I mentioned the
18 textured surface, and he acknowledged that certainly plays
19 a role in the breakup of blood as it impacts the surface,
20 but I did not go further into other factors that I looked
21 at.
22 Q. Now, with respect to the theory that this is a
23 transfer stain, that stain 1-A is a transfer, can you tell
24 the ladies and gentlemen of the jury if you can conceive
25 of a theory that's consistent with a crime scene that you

1 reviewed in this case that would explain the transfer
2 theory?
3 A. Yes, ma'am. Transfer. What is transfer?
4 Transfer is a blood -- an object with a blood-bearing
5 surface. So, an object has blood on it coming into
6 contact with another surface.
7 So, let's assume this is a transfer stain. What
8 transferred it? What was so small, the width of one
9 thread, or maybe two or three? Let's just say three --
10 three threads, which is very small. What is so small to
11 leave a transfer that would not be covering the whole
12 fiber but just a chunk of it? How about the skull
13 fragment? The skull fragments that came out of the injury
14 and were photographed by the death investigator from the
15 Harris County Medical Examiner's Office are small, small
16 pieces. And there's a picture with a pen. So, it's the
17 head of a pen. What if it had more mass, had a little bit
18 larger shape than the individual -- than in this picture
19 that's up now before you, shows that skull fragment.
20 Well, that may not necessarily be the only one, and
21 probably isn't, since the hole created would be certainly
22 larger than that small fragment.
23 So, that fragment, because of a back spatter event,
24 is put into flight. It's a blood-bearing surface. It's
25 small. It comes in contact with the fabric, but because

1 of its mass, falls away. But, technically, it's a
2 transfer because it's a blood-bearing surface coming in
3 contact with the garment, leaving a transfer of such small
4 size that it might be explained.
5 Q. Is that about the only theory that you can come
6 up with based on --
7 MR. McWILLIAMS: I object. That calls for
8 speculation.
9 THE COURT: All right. Well, this is
10 based on his investigation, experience, and
11 experimentation, whatever.
12 All right. You can answer that question.
13 MS. LOGAN: I don't even know that it was
14 a complete question.
15 THE COURT: All right. You were starting
16 to ask it.
17 Q. (By Ms. Logan) I just want to know, can you
18 think -- is that about the only theory that you can come
19 up with that would make sense in this crime scene and
20 explain a transfer stain, if that's what it is, that is
21 that small?
22 A. That is my issue. When Mr. Bevel explained why
23 he thinks it's a transfer, I didn't ask, but my immediate
24 thought was: Okay. What could have caused that transfer?
25 And the only thing small enough in this event, you know,

1 to me was -- were the skull fragments.
2 Now -- and you have small particles of blood around
3 it, and you have them traveling together. So, the
4 transfer is created by a small bone fragment, and the
5 misting pattern is still there. But that stain that was
6 sampled came back positive for human blood. It's
7 consistent with the other stains on the garment. To me,
8 it explains it. It's my best explanation, and that's what
9 I see.
10 Q. There's been talk about the number of stains on
11 State's Exhibit No. 81, the nightgown, whether it be 100,
12 whether it be 55. Would the shear number of 100 stains on
13 that nightgown, would that be outside the realm of what
14 you would expect in a blow-back situation mist pattern?
15 A. It's certainly not outside the parameters.
16 I've seen numerous occasions of back spatter, and those
17 events have -- I've seen more than 100 stains. So, it is
18 definitely within the realm of possibility.
19 Q. Okay. Not too many stains?
20 A. It really isn't, no.
21 Q. And I think that we probably have gone over
22 this too many times, but can you see blood mist stains
23 with the naked eye?
24 A. If you got in close, and they were close to the
25 surface, the weave, possibly, yes. Would I rely on that

1 to examine clothing? No.
2 Q. Now, have you ever, in your experience as a
3 crime scene officer, seen a medical examiner's
4 investigator with a loop?
5 A. I've never seen an examiner from the Medical
6 Examiner's Office use a loop on a crime scene.
7 Q. Okay. Not their job, right?
8 A. It's not their job.
9 Q. And when we talk about the medical examiner's
10 photographs, like -- let's see. That's State's Exhibit
11 105 that's up on the document camera there. Defense
12 counsel made mention of the fact that that is -- that is a
13 magnified photograph. I believe he said eight times.
14 A. Roughly, yes.
15 Q. Tell us -- we need you to explain that for us.
16 A. Okay. Yes, from the view of the negative,
17 enlarging it to an 8 X 10 print, it's about eight times
18 larger, and probably even possibly a little more if my
19 math was incorrect. But the view of what it's looking at,
20 you're covering an entire bed. And one of the pictures
21 even had a little bit of floor, you have the injured
22 person, you have the pillowcases. All of that's included
23 in that small area that is enlarged. It's a lot different
24 than a macro photograph. Just an example, one of my
25 photographs was shown yesterday where my field of view for

1 the camera, the whole capture of that image, was maybe 1
2 square inch versus 4 feet or 48 inches, and probably a
3 little bit more in length versus the width of the image.
4 So, there's a big difference between putting -- and
5 today's technology is digital. When you look at a digital
6 image, and you have pixels that capture the information,
7 you're putting more pixels into a square inch recording
8 detail like you see in the stereoscopic microscope view
9 versus an overall view of the bed, the injury, the
10 pillowcase. And the same number of pixels are recording
11 that information but at a much greater distance, not
12 getting the detail the lens can capture from being 2
13 inches from the subject versus being 4 feet from the
14 subject. Your field of view is different.
15 I mean, just because you say it's eight, ten times
16 enlarged does not mean that a 1 millimeter stain now
17 suddenly becomes 8 millimeters in the view finder. It
18 does not. It's actually the other way. It's actually
19 going smaller and less visible.
20 Q. Okay. That's because you get a loss of
21 resolution, right?
22 A. Absolutely.
23 Q. Okay. I think we're all probably familiar with
24 that.
25 Mr. Bevel has asked you to teach for him?

A. Yes, he has.

Q. Okay. And with respect to the blanket, is it your testimony that you're saying that you can't say that there isn't mist on that blanket? Or say it the right way. Say it better for me.

A. I am certainly not going to make a judgment on whether there is or is not a misting pattern on that blanket from the photographs that I saw.

Q. And why are you not going to do that?

A. One, the photographs were not of sufficient depth, close enough. They were always from a little bit of a distance. The lighting was a little bit sub-par. Don't want to be critical of the photographer. It's an okay picture, but when you're looking at a mist pattern, that is not the photograph to take. It's the first one to take, but then you come in and get much closer. So, because I didn't have those close-up photographs, I'm not comfortable making an opinion on what I see and what I don't see. I can tell you I don't see anything, but that doesn't mean it's not there.

Q. All right. And to be fair, nobody had close-up photographs of that blanket?

A. No, no. I never saw any.

Q. When you test the kinds of stains that are on State's Exhibit 81, they are very small. Do you consume

1 the stain when you test it?
2 A. Yes. We're talking small stains. And if you
3 -- you're going to consume it in your -- in different
4 phases of it, your presumptive test and your DNA tests.
5 So, any subsequent chemical test, you're going to consume
6 that particular stain that you're targeting.
7 Q. All right. Now, without going into too much
8 detail about this -- I don't think anybody would question
9 your expertise with respect to photography, but are you
10 aware of requirements by the SWGIT folks with respect to
11 image analysis documentation?
12 A. Yes. As we learned yesterday, there's SWGIT
13 stains. Yesterday we learned about a scientific working
14 group for bloodstain pattern analysis. There's also one
15 for imaging technologies and it's called SWGIT, S-W-G-I-T,
16 Scientific Working Group For Imaging Technologies. Groups
17 of professionals in the forensic and academic field get
18 together and come up with best practices. In those best
19 practices, they do have guidelines for image analysis and
20 capture.
21 Q. All right. There are requirements when giving
22 a report, or an expert opinion based on image analysis.
23 In other words, there are things you are supposed to
24 include in your report when you do this sort of work,
25 right?

1 A. Yes.
2 Q. Okay. So, in the event that an expert in the
3 field were using image analysis in the way that I think
4 Mr. Bevel described having done in this case, that is
5 absolutely something that should have been disclosed in
6 his report?
7 A. I certainly would have included it in mine.
8 And I'm familiar with the SWGIT guideline. So, yes, I
9 would like to have seen it. Yes.
10 MS. LOGAN: May I approach the witness,
11 Judge?
12 THE COURT: Yes, ma'am.
13 Q. (By Ms. Logan) I'm going to show you State's
14 Exhibit 248, which is a copy of Mr. Bevel's report.
15 Now that you've reviewed the report, can you tell us
16 whether there is any disclosure, or mention in that report
17 concerning image analysis, or the use of photographs to
18 make a determination as to blood -- or misting patterns or
19 the evidence in this case?
20 A. He mentioned early on a listing, but not how he
21 used them. So, he listed photography, but then right
22 before his final opinion section, and he's saying what he
23 examined, nowhere in there does it say he used
24 photographs.
25 MS. LOGAN: I'll pass the witness.

1 THE COURT: Any redirect [sic]?
2 MR. McWILLIAMS: Just a couple of
3 questions.
4 **RECROSS-EXAMINATION**
5 BY MR. McWILLIAMS:
6 Q. Officer Duncan, you did a report in the case,
7 right?
8 A. I did.
9 Q. I'll mark Defendant's Exhibit 18. I'll show it
10 to you. See if that's a copy of your report. Is that a
11 copy of your report?
12 A. Yes, sir, it is.
13 Q. And it appears to be a copy that was disclosed
14 to us because it was stamped "Defense copy," right?
15 A. Yes.
16 MR. McWILLIAMS: At this time, I would
17 offer Defendant's Exhibit 18.
18 (Defense Exhibit No. 18 offered)
19 MS. LOGAN: No objection.
20 THE COURT: It's admitted.
21 (Whereupon Defendant's Exhibit No.
22 18 is admitted into evidence.)
23 Q. (By Mr. McWilliams) You stand by your report?
24 A. I believe I do.
25 Q. Okay. So, we'll put that in evidence.

1 Two-page report, right?
2 A. Yes.
3 Q. Well, not exactly, right?
4 A. Page and a quarter.
5 Q. I want to go to your -- when we talked about
6 1-A, the discussion with Tom. You had three -- there were
7 three things that you wanted to explain to the jury that
8 kind of informed your opinion that it was -- I mean, the
9 business about bone fragment causing it, or whatever, you
10 don't think that happened?
11 A. Well, no, that's not when I'm saying.
12 Q. Because you say that it is not transfer. You
13 say that it's blood mist.
14 A. That's correct.
15 Q. Okay. If you're wrong, then there is, maybe,
16 an explanation, if you want to put it at the crime scene,
17 to cause that?
18 A. Correct.
19 Q. You talked about those characteristics with Mr.
20 Bevel. You talked about some -- you talked about the
21 texture of the fabric?
22 A. I did.
23 Q. You expressed that as a concern to him?
24 A. Yes.
25 Q. And he said: Okay. Yeah, you're right. I'm

1 thinking about that. I still disagree.
2 A. That's what he -- yes.
3 Q. You even talked about the preponderance of the
4 spots. You pointed out all the spots you saw and he
5 pointed out all of the lateral movement he saw.
6 A. That's correct, we did.
7 Q. And the discussion about preponderance of the
8 spots was something that you and Tom discussed together,
9 and he said: No, I still disagree with you?
10 A. Correct.
11 Q. The only part of -- the only one of your three
12 things that we talked about that really wasn't a part of
13 that discussion was the notion of it clotting and losing
14 the serum and that?
15 A. Right, I didn't mention that.
16 Q. We didn't talk about any of that?
17 A. No.
18 Q. Okay. Tom certainly knows that that is a
19 factor, doesn't he?
20 MS. LOGAN: Calls for speculation as to
21 what Mr. Bevel knows.
22 THE COURT: Okay. Restate your question.
23 Q. (By Mr. McWilliams) Well, is that something
24 that he's taught you before?
25 A. Yes, he has.

1 Q. Okay. So, we've got -- I mean, is it a fair
2 assumption to make that he knew that when he was having
3 that discussion with you, that that's a possibility?
4 A. He was -- well, yes. The answer to your
5 question is yes.
6 Q. The business about it being a skull fragment
7 causing it -- that you're wrong and it actually is
8 transfer, right? Your explanation is only a possible
9 explanation for it, right?
10 A. As far as the object, it's -- well, it is an
11 explanation. There's a --
12 Q. It certainly isn't the only explanation?
13 A. I would like to see -- I would like to know
14 what other item could have caused such a small transfer
15 mark.
16 Q. What you are saying is what other item in this
17 crime scene would have caused that, right?
18 A. Correct.
19 Q. But you don't that it was caused in the crime
20 scene. Fair?
21 A. I guess that's fair, but...
22 Q. If we move out of just the crime scene into the
23 world at large -- because transfer doesn't tell us when it
24 occurred or where it occurred, right?
25 A. In this case, though, the prepon -- the stains

1 are similar throughout the garment.
2 Q. I know that's your opinion about that.
3 A. Okay.
4 MS. LOGAN: I object to the side-bar and
5 to argument.
6 THE COURT: All right. You may continue.
7 Q. (By Mr. McWilliams) I'm talking -- I'm just
8 talking about what your -- you're saying, if I'm wrong, if
9 I'm wrong --
10 A. You or me? If I'm wrong --
11 Q. If you're wrong and it is transfer, I mean,
12 that's the assumption that you're making when you are
13 talking about bone fragments?
14 A. Correct.
15 Q. We don't ever talk about bone fragments leaving
16 it unless you're wrong about it being bloodstain mist?
17 A. I'm not sure -- I didn't catch the question.
18 Q. If it's bloodstain mist, which is what your
19 opinion is that it is -- you say 1-A is bloodstain mist?
20 A. The blood, yes.
21 Q. The fact is if you're right about that, then
22 the bone fragment didn't deposit it there because that
23 would be a transfer?
24 A. But the blood -- the fragment -- I'm only
25 calling -- it's still part of the back spatter event

1 because the transfer -- just because of its mass, and it's
2 actually a part of the back spatter event, which includes
3 the mist and it just happens to have a bone fragment in
4 it.
5 Q. I understand, Officer Duncan. I just want you
6 to answer my question. If it's -- that's a way for you to
7 explain it being a transfer and still being part of the
8 pattern. I get that that's how you make it make sense at
9 the scene.
10 A. Okay.
11 Q. But there's -- if you're wrong about it being a
12 transfer, it doesn't have to be at the scene. I mean, it
13 could have gotten there anywhere. We just need to find an
14 explanation for it. And if I move out of the crime scene,
15 there's infinitely more explanations possible than if I'm
16 just confined to the crime scene?
17 A. There was just so much in there --
18 Q. Chris, did the skull fragment make that mark?
19 A. I don't know.
20 Q. And that's an absolute fair answer.
21 A. Let's go with, I don't know.
22 Q. And you don't actually think it did?
23 A. No.
24 Q. You did your report. What was the question you
25 were asked? What did they ask you to do with this? What

1 was the gravamen of it? What were you --
2 A. Sergeant Holtke, basically, asked me to do,
3 really, a peer review. He was informed by -- and now I
4 know his name. At the time, I don't think I was told his
5 name, but Mr. Rossi. Somebody had a belief of what was on
6 this garment, and they wanted me to look and see what I
7 saw. Did he tell me it was a misty pattern, a high
8 velocity event at the time? It may have come out, but...
9 Q. Is it fair to say that what Holtke wanted you
10 to do is confirm that Rossi --
11 A. No.
12 Q. -- that this was impact blood spatter?
13 A. No. That is not how that was portrayed to me.
14 Q. Okay. Then go ahead.
15 A. Look at this clothing of this death scene --
16 and I remember sitting there. We went through the
17 pictures, and then -- okay.
18 Q. I think I understand. It wasn't: Is David
19 Rossi right that this is bloodstain? It's: You look at
20 it and tell me if you think -- or what you think it is?
21 A. Yes.
22 Q. That's a better way to say it?
23 A. Yes.
24 Q. But the overall idea that we're looking at here
25 is this bloodstain mist. At the end of the day, that's

1 really what you are here for, what you are trying to tell
2 the jury?
3 A. That's correct.
4 Q. And you did a report -- you did your work, you
5 did a report. What was your result?
6 A. I believe that that --
7 Q. That's not my question, Chris.
8 A. Okay.
9 Q. You have a result, right?
10 A. Yes.
11 Q. Let me ask you something. Does your lab --
12 when you try and answer a question, you have to write your
13 report. You achieve a result, right?
14 A. Correct.
15 Q. And what are the -- those results are terms of
16 art. They're not just Chris Duncan's words, or Dee
17 McWilliams' words, or whatever. They mean specific
18 things, and you have a protocol for what you are going to
19 say, right?
20 A. Yes.
21 Q. What are the -- what are the potential results?
22 What would the answers be?
23 A. What would the answers be in regards to this
24 particular --
25 Q. Yes. What are the possible results you could

1 have achieved? Not what you did. What's the possible
2 things that could have happened?
3 A. Okay. Possibilities. Misting pattern,
4 transfer pattern, possibilities.
5 Q. Yeah. You could say misting pattern, transfer
6 pattern, not a pattern, right?
7 A. Yeah, you could.
8 Q. Your result -- what you reported, what's in
9 your report, your result, and what you testified to on
10 direct examination yesterday was that your result was
11 inconclusive; isn't that true?
12 A. There are --
13 Q. Officer Duncan, if we need to -- would you like
14 the court reporter to go back to your direct testimony and
15 look up the part where you said your result was
16 inconclusive, or do you agree with me that that's what you
17 said?
18 A. I believe it wasn't a specific question, and
19 you're getting a little bit broader. But let's go -- I
20 cannot say with 100 percent assuredness that the
21 bloodstains -- the stains found on the garment --
22 MR. McWILLIAMS: Judge, I'm going to
23 object as nonresponsive.
24 MS. LOGAN: Judge, he's trying to answer
25 the question. I mean --

1 THE COURT: The objection is sustained.
2 MR. McWILLIAMS: Thank you.
3 Q. (By Mr. McWilliams) Did you just say, and is it
4 in fact the truth, that your result of your analysis, what
5 you told these people, what's in your report, and what you
6 testified to on direct is that the result of your
7 analysis, Officer Duncan, was that it was inconclusive?
8 A. I'm not sure if any report says the word
9 "inconclusive." I do remember stating that word yesterday
10 to a specific question, not an overall -- the overall
11 concept that we're dealing with. So, that's my answer.
12 If you want to have it read back, that will be fine as far
13 as the question and answer. And, you know, I'm trying.
14 MR. McWILLIAMS: I'll pass the witness.
15 THE COURT: You may step down, sir. Call
16 your next witness.
17 MS. LOGAN: The State calls Dr. Aubert.
18 THE COURT: Was this witness called
19 yesterday?
20 MS. LOGAN: Yes, sir. Do you recall --
21 THE COURT: Oh, that's right.
22 THE BAILIFF: Judge, this witness was
23 sworn in yesterday.
24 THE COURT: All right, sir. You are still
25 under oath. You may take the stand. We need just a

1 analysis.
2 THE COURT: Okay. Thank you.
3 (Whereupon the following proceeding is
4 held in the hearing of the jury.)
5 THE COURT: Call your next witness, please.
6 MS. MCDANIEL: The State of Texas calls
7 Katie Welch, Your Honor.
8 THE BAILIFF: The witness needs to be
9 sworn, Judge.
10 THE COURT: Go ahead and set your bag down
11 there. Raise your right hand.
12 (Whereupon the witness is sworn by the
13 Court.)
14 **KATIE WELCH,**
15 having been first duly sworn, testified as follows:
16 **DIRECT EXAMINATION**
17 BY MS. MCDANIEL:
18 Q. Good morning, Ms. Welch.
19 A. Good morning.
20 Q. Can you please introduce yourself to the ladies
21 and gentlemen of the jury?
22 A. My name is Katie Welch.
23 Q. And can you tell us how it is that you're
24 employed?
25 A. I am employed as the assistant director, and

1 also the serology and co-manager at the Harris County
2 Institute of Forensic Sciences - Forensic Genetics
3 Laboratory.
4 Q. That is a very big acronym.
5 A. Yes.
6 Q. I want to talk about your training and
7 education that have allowed you to hold such a position.
8 Can you tell us about your education and training, please?
9 A. I have a master's degree in forensic science
10 from Virginia Commonwealth University, and a bachelor's
11 degree in marine biology from Texas A & M University at
12 Galveston. I started working in the DNA lab, or forensic
13 genetics lab at the Harris County Medical Examiner's
14 Office in 1997. I've received on-the-job training as a
15 DNA analyst there, and I have worked there ever since.
16 Q. In talking about -- we hear terms like DNA and
17 genetics, all that sort of stuff. Can you give us a broad
18 overview -- first of all, you-all just recently changed
19 locations, right?
20 A. That's correct.
21 Q. And tell us about what -- what the new facility
22 is.
23 A. Our new facility is just a new laboratory,
24 basically. We moved to a bigger space to accommodate more
25 analysts and more testing.

1 Q. Prior to that, y'all were housed at the same
2 place where the Medical Examiner's Office is?
3 A. Yes. The crime laboratory for Harris County is
4 actually housed with -- associated with the Harris County
5 Medical Examiner's Office.
6 Q. And when you talk about the Institute of
7 Forensic Sciences, or most of us might think of as the DNA
8 lab, it's not just the DNA lab like you said, right?
9 A. Correct.
10 Q. What other types of laboratories are within the
11 confines of that broader umbrella?
12 A. The crime laboratory also has the laboratory
13 for drug chemistry that tests for control substances, for
14 toxicology testing, for firearms examination, and trace
15 evidence examination.
16 Q. Now, particularly for a lab such as yours, I
17 want to ask you a few things about the various protocols.
18 And are you familiar with the term ASCLD?
19 A. Yes.
20 Q. What is that?
21 A. ASCLD is the American Society of Crime Lab
22 Directors.
23 Q. And is that something that has -- that provides
24 certifications for various laboratories around the United
25 States?

1 A. Well, the American Society of Crime Lab
2 Directors Laboratory Accreditation Board, which is ASCLD
3 Lab, which is actually different than just ASCLD, does
4 accredit laboratories for forensic science.
5 Q. Okay. And does the laboratory of which you are
6 the assistant director have any accreditation?
7 A. Yes, we are accredited by ASCLD Lab.
8 Q. Now, when we hear something like accredited,
9 that sounds good, but what does that actually mean as far
10 as the protocols that y'all have to follow in order to
11 maintain that certification?
12 A. Well, to be accredited, you're actually
13 inspected by the accrediting agency, and they review your
14 procedures to make sure that the procedures that you're
15 following are scientifically valid, as well as accepted in
16 the forensic community. They will come in and check out
17 all of your operations, and then they routinely check --
18 the accreditation cycle is actually a five-year cycle, but
19 they do routinely check every year, or two years to make
20 sure that you're following their guidelines and practices.
21 Q. Now, when we hear something like genetics, the
22 title of the new laboratory in which y'all are operating,
23 does that mean only DNA, or does that mean other types of
24 analysis within that framework?
25 A. Well, in the DNA laboratory, there are

1 basically two processes that we do: The first would be
2 termed serology. And forensic serology is basically,
3 number one, the identification of biological fluids on
4 items of evidence, and also the collection of areas of
5 evidence that need to be tested, which then go on to the
6 second part, which is actually DNA analysis.
7 Q. Okay. In your capacity as the assistant
8 director, have you on many occasions been contacted by the
9 cold case unit at the Sheriff's Department for furtherance
10 of testing with the changes in technology today?
11 A. Yes.
12 Q. Were you contacted at some point by Sergeants
13 Eric Clegg and Dean Holtke regarding the 1987 murder of
14 Edmund Clark?
15 A. Yes.
16 Q. And if you can give the folks on the jury an
17 idea of how that happens. Is it something that's sent to
18 you without you knowing what's coming, or is it a phone
19 conversation, or what goes on?
20 A. Typically, it will be a phone conversation, or
21 perhaps an e-mail conversation. They will kind of give us
22 an outline of the case so that we can check to see,
23 perhaps, if work was done on the case previously, and we
24 will talk about what evidence there is, you know, what the
25 situation was in order to determine the best types of

1 analysis to do.
2 Q. You mentioned that one of the things that y'all
3 try to do is see what types of analyses may have already
4 been done. Is it fair to say that since 1987 --
5 MR. McWILLIAMS: Objection, leading.
6 THE COURT: Do not lead, please.
7 Q. (By Ms. McDaniel) Have there been any advances
8 in technology since 1987, Katie?
9 A. Yes.
10 Q. Would you say there are few or many?
11 A. Many.
12 Q. And in those many changes in technology and
13 advancements, are those things that you have become
14 familiar with during your tenure as the assistant director
15 of the genetics laboratory?
16 A. Yes.
17 Q. Now, you mentioned that you tried to determine
18 whether or not there's been any testing previously done on
19 something. So, what I want to ask you is why that makes a
20 difference?
21 A. The reason that it makes a difference is
22 because we don't necessarily want to repeat something
23 that's already been done if the technology that we're
24 going to be using is the same, or we may want to know how
25 the evidence was handled previously because it may affect

1 what we're going to do now.
2 Q. When you are looking at something, a cold case
3 from 1987, April 22nd of 1987, is there always what you
4 call a smooth chain of custody?
5 A. Not always, no.
6 Q. And for the folks on the jury, what, in
7 layman's terms, is a chain of custody?
8 A. Chain of custody is the documentation of the
9 whereabouts of an item of evidence from the time it was
10 collected originally until -- you know, until now, or
11 until the current time, and it should be documented and
12 written down kind of in the chain.
13 Q. In fact, in this case, as we went through it,
14 there ended up being some things that were logged in and
15 sent off?
16 MR. McWILLIAMS: Objection, leading.
17 THE COURT: Do not lead, please.
18 Q. (By Ms. McDaniel) Was there anything that was
19 missing from your analysis?
20 A. Well, I'm not really sure about missing. I
21 mean, in terms of the chain of custody prior to --
22 MR. McWILLIAMS: Objection, nonresponsive.
23 THE COURT: Restate your question one more
24 time.
25 Q. (By Ms. McDaniel) Was there anything missing?

1 THE COURT: Was there anything missing?
2 MR. McWILLIAMS: I believe that was
3 answered. She said, no, it wasn't missing.
4 THE COURT: All right. You can answer the
5 question, ma'am. Go ahead.
6 Q. (By Ms. McDaniel) Was there anything missing,
7 Ms. Welch?
8 A. I'm not really sure if anything was missing.
9 Q. Would it refresh your recollection as we go
10 through this to review any of your notes, and is that part
11 of what you guys document within the Harris County
12 Institute of Forensic Sciences -- Genetics Forensic
13 Laboratory? Did I say it right?
14 A. Forensic Genetics.
15 Q. Forensic Genetics. I'll get it right. Is that
16 part of what you guys do now to be ASCLD certified to
17 document where things go for additional testing?
18 A. Yes.
19 Q. Back in 1987, do you know whether or not Harris
20 County in and of itself as an entity had the ability to do
21 DNA?
22 A. In 1987, they did not.
23 Q. Do you know whether or not that ability existed
24 in the larger framework of the Texas Department of Public
25 Safety?

1 A. DNA testing anywhere did not really start until
2 1989.
3 Q. Okay.
4 A. Or in the early '90s.
5 Q. In addition, when you talk about receiving some
6 of these cases, I would like to talk about the different
7 things that can affect the viability of any testing you
8 might do. And what I mean by that is the manner in which
9 something is stored. Can that have an ability -- or an
10 impact on the viability of an item?
11 A. It could affect the results, yes.
12 Q. And so if, for example, something is stored in
13 a non-climate control environment, would that affect its
14 viability?
15 A. Yes.
16 Q. How come?
17 A. Well, in terms of DNA testing and serology
18 testing, biological evidence, you know, subject to
19 environmental conditions can ultimately become degraded to
20 the point where nothing would be detected. So, things
21 like heat, sunlight --
22 MR. McWILLIAMS: Judge, I'm going to object
23 to the relevance, and I'd ask for the opportunity to
24 take the witness on voir dire.
25 THE COURT: It's overruled.

1 Q. (By Ms. McDaniel) Heat, light and what else,
2 Ms. Welch?
3 A. Humidity, things packaged so they are sealed up
4 possibly in plastic would, if there's any moisture there,
5 mold growth, bacteria growth, things like that.
6 Q. You take things as you find them?
7 A. Yes.
8 Q. So, what I want to talk with you about is some
9 specific analyses that you did in this particular case,
10 and I'd like to ask first, if when you guys receive
11 evidence, if you assign it a particularized case number
12 for your particular laboratory?
13 A. Yes, we do.
14 Q. Why do you do that?
15 A. We assign it our own particular case number
16 because our testing is independent of any place else that
17 it's been, and it helps us log and track the case and the
18 evidence as it goes through the laboratory.
19 Q. So, if we've heard information about an offense
20 report number at the homicide division, and an offense
21 report -- or another number from Bill Davis over at the
22 gunshot residue lab, and somebody else from firearms, are
23 those all different numbers, typically?
24 A. Well, in terms of the crime lab, one offense
25 report number from a law enforcement agency will have the

1 same laboratory number no matter -- it usually will have
2 the same laboratory number for all labs in the crime lab.
3 So, in this case, we should have the same laboratory
4 number as Dr. Davis.
5 Q. Okay.
6 MS. MCDANIEL: May I approach the witness,
7 Your Honor?
8 THE COURT: Yes, ma'am.
9 Q. (By Ms. McDaniel) In connection with this case,
10 can you tell us what the individualized case number was
11 that y'all assigned to it at the Joseph A. Jachimczyk
12 Forensic Science Center?
13 A. The case number is JAJ-10-00992.
14 Q. What specifically -- what item or items were
15 you asked to analyze initially by Sergeants Holtke and
16 Clegg?
17 A. We were initially asked to analyze a nightgown.
18 Q. Okay. At some point, did you analyze some
19 additional items?
20 A. Yes.
21 Q. Ms. Welch, I'm going to show you what's already
22 been admitted into evidence as 81, as State's Exhibit
23 No. 81, and I'm going to ask you if you recognize this
24 item?
25 A. Yes.

1 Q. How is it that you recognize it?
2 A. That is the nightgown that I tested in this
3 case.
4 Q. Okay. Now, in talking about the nightgown that
5 you have in this case, I see a number of different
6 cuttings, circles and letters. Are those things that you
7 received it in this manner, or are some of these cuttings
8 and things that you placed on here yourself?
9 A. I originally received the item, and the writing
10 that's on the back was there, and also the little white
11 stickers were already there when I received the item.
12 Q. These little triangle things?
13 A. Yes.
14 Q. Going into an examination of something like
15 this nightgown, what type of examination were you
16 initially asked to conduct on A1?
17 A. We were asked to determine if any of the areas
18 that had been located as possible blood spatter by Deputy
19 Rossi, if we could test them for the presence of blood.
20 Q. Okay. Now, let me back up. So, going into
21 this, you know that Deputy Rossi says he believes there
22 may be blood on here?
23 A. Correct.
24 Q. Did you review his report or any of his
25 documentation prior to conducting your own tests?

1 A. I saw -- I think we had a couple of
2 photographs, but as far as a report, no.
3 Q. Okay. Now, when you're going about trying to
4 determine whether or not there is blood on an item such as
5 State's Exhibit No. 81, one of the first things I'd like
6 to ask you is, standing here looking at it, I don't see
7 any blood. Why is that?
8 A. Well, I looked at the item as a whole, and I
9 was originally looking for the possibility of visible
10 bloodstains.
11 Q. When you are looking for the possibility of
12 visible bloodstains, I guess consistent with a recent
13 wound, such as running blood from a wound, right, that
14 would be something that would, obviously, be very visible,
15 right?
16 A. Typically.
17 Q. And, so, if we're talking about something that
18 would be based on what you had learned Deputy Rossi had
19 found, did you think that it may or may not be microscopic
20 in nature?
21 A. I thought that it would possibly be microscopic
22 in nature.
23 Q. Were you able to visualize anything with the
24 naked eye as to State's Exhibit No. 81 for the existence
25 of blood?

1 A. Well, as far as visually, I did note some
2 stains, some dark kind of orange stains that are circled
3 on the item, and did actually test those presumptively for
4 the presence of blood, but those were negative.
5 Q. Okay. Now, let's talk about the testing. Do
6 you know, or is there documentation that you reviewed what
7 chemicals were placed on this specific item prior to your
8 examination of it?
9 A. I'm not aware of what examination was done
10 prior to me receiving the evidence.
11 Q. Do you know whether or not the addition of
12 chemicals to an item such as State's Exhibit 81, or to any
13 item, could affect the results that you might obtain?
14 MR. McWILLIAMS: Your Honor, I object to
15 relevance.
16 THE COURT: Sustained. She's testified
17 she's not aware of what tests, if any, were done
18 before.
19 Q. (By Ms. McDaniel) In looking at that item, you
20 talk about the fact that you couldn't visualize anything.
21 I want you to explain to the folks on the jury what a
22 presumptive test is first.
23 A. Okay. A presumptive test is a test that we do,
24 a chemical test, that indicates the possible presence of a
25 substance or a biological fluid on an item. So, it's not

1 necessarily specific, but it gives us an idea that, you
2 know, possibly that substance might be there.
3 Q. And is that Phenolphthalein?
4 A. Yes, the presumptive test that we use for blood
5 is a chemical known as Phenolphthalein.
6 Q. Now, do you know how long the Phenolphthalein
7 presumptive test has been in existence, roughly?
8 A. I don't know exactly the number of years, but
9 it's been a very long time.
10 Q. Prior to 1987?
11 A. Yes.
12 Q. Now, when you talked to the folks on the jury,
13 you said that you could not with the naked eye visualize
14 any of the spots that had previously been marked. What is
15 it this that you do to try to determine whether or not
16 there are anything -- whether or not there is anything on
17 State's Exhibit No. 81 for you to go back and test either
18 this presumptive or another method?
19 A. What I did is I looked at the areas that were
20 marked by Deputy Rossi under the microscope.
21 Q. Now, when we talk about microscope, are we
22 talking about the kind that I get for my son at Target so
23 he can see a leaf?
24 A. Well, it's a similar principle. It's probably
25 a little bit more expensive than that, and the one that we

1 use has a camera attached to it so that we can take
2 photographs.
3 Q. Well, if it was more than $10 then, yes. But
4 my question is, is the magnification and the technology
5 such that the apparatus that you have, the microscope
6 itself, of a very high magnification?
7 A. Yes, it is.
8 Q. And as you indicated, it also provides the
9 ability to photograph what it is that you're seeing?
10 A. Yes.
11 Q. In going through microscopically and looking at
12 State's Exhibit No. 81, you mentioned to the folks on the
13 jury that the microscope that Harris County is in
14 possession of has the capability of photography. I'd like
15 to show you what's been marked previously as State's
16 Exhibits 174 through 245, and see if you recognize those
17 items, please?
18 A. Yes.
19 Q. And how is it that you recognize State's
20 Exhibits 174 through 245?
21 A. These are copies of photographs that I took
22 during the analysis.
23 Q. And do they appear to fairly and accurately
24 depict what they purport to, which is the analysis of
25 State's Exhibit No. 81 in connection with this case?

1 A. Some of them are from this exhibit, and some
2 are them are from other items that I tested.
3 MS. MCDANIEL: Your Honor, at this time the
4 State would offer State's Exhibits 174 through 245
5 into evidence.
6 MR. McWILLIAMS: We will need a little
7 time, Your Honor.
8 THE COURT: I'm sorry?
9 MR. McWILLIAMS: May we have a little time?
10 THE COURT: Yes.
11 (Brief pause.)
12 MR. McWILLIAMS: Judge, we've got
13 80-something photographs here. I think a lot of them
14 are duplicitous.
15 THE COURT: Go ahead.
16 MR. McWILLIAMS: If we could just get to
17 the ones that we're going to need to talk about the
18 evidence in the case, rather than -- some of them are
19 duplicitous.
20 MS. MCDANIEL: Judge, may we approach?
21 THE COURT: Yes.
22 (Whereupon counsel approached the
23 bench out of the hearing of the jury.)
24 MS. MCDANIEL: Judge, I'm sorry. I'm
25 trying my case. I have certain pictures in here that

1 have certain relevance. We're not trying to hide
2 anything from the jury. Some of them are
3 duplicitous. I can go through them. These are exact
4 copies from the PDF format. I know they have a
5 chance of cross-examining her. These are all of the
6 microscopic photographs. While they might appear to
7 be duplicitous, I'm trying to admit everything that
8 Ms. Welch took photographs of.
9 THE COURT: No objection?
10 MR. McWILLIAMS: No.
11 THE COURT: All right. Thank you.
12 (Whereupon the following proceeding is
13 held in the hearing of the jury.)
14 THE COURT: They are admitted.
15 Q. (By Ms. McDaniel) Ms. Welch, before we go
16 through these photographs, I also want to show you what
17 has previously been admitted as State's Exhibit 152. Does
18 this appear to be an enlarged copy of what's been admitted
19 as State's Exhibit 174?
20 A. Yes.
21 Q. I'm going to see if I can put this up here.
22 Ms. Welch, if you hit the screen in the right way, it will
23 get rid of all those markings.
24 A. (Witness complies.)
25 Q. Ms. Welch, I'm going to put State's Exhibit 174

1 up on the photo enlarger so the folks on the jury can have
2 various points to look at. Let me take it out first to
3 the larger size of it. I guess what I want to start off
4 with is you indicated that you -- that there were some
5 markings placed on here by Deputy Rossi regarding possible
6 locations for blood, right?
7 A. Correct.
8 Q. Now, we can see up here a bunch of black
9 circles in various parts of the nightgown. Are those your
10 numberings, or is that someone else's, if you know?
11 A. The black circles were all made by me -- by me.
12 Q. Okay. So, you mentioned the term
13 Phenolphthalein as a presumptive test. Are you also
14 familiar with the term confirmatory test?
15 A. Yes.
16 Q. For those of us that aren't scientist,
17 presumptive is maybe and confirmatory is positive?
18 A. In a way, yes.
19 Q. Okay. Explain to us in your terms, in your
20 academic terms what a positive would be our confirmatory
21 test.
22 A. Well, a confirmatory test is basically that,
23 it's a confirmation test for a biological fluid that we're
24 testing for, unlike the presumptive test which isn't
25 necessarily specific only to that fluid, or that

1 substance. Other things might cause a presumptive test to
2 be positive. A confirmatory test confirms the presence of
3 that substance.
4 Q. Okay. Now, when you talk in those terms of
5 presumptive and confirmatory, are there a variety of tests
6 with which you're familiar for different substances
7 whether it be blood or types of substances?
8 A. Yes, there are different presumptive tests and
9 different confirmatory tests for different biological
10 fluid. So, different for blood versus semen or saliva.
11 Q. Okay. So, when we hear "serology," that
12 doesn't necessarily equate to DNA?
13 A. No.
14 Q. How come?
15 A. Well, serology is the examination and the
16 testing for the presence of fluid, or if not testing for
17 fluid, that's just in the collection of a portion of an
18 item for DNA analysis. DNA analysis is trying to obtain a
19 DNA profile from the sample that you've collected in
20 serology whether it be a biological fluid or not.
21 Q. Are you familiar with a confirmatory or
22 positive test available to detect the presence of blood?
23 A. Yes.
24 Q. What is that?
25 A. We use a test called the Hematrace test.

1 Q. Let me ask you a couple of questions about the
2 Hematrace test. First, is that what your are referring to
3 as a confirmatory test?
4 A. Yes.
5 Q. Is it something that can be done in microscopic
6 sources?
7 A. Yes, it's very sensitive, and you can get
8 positive results from microscopic stains.
9 Q. Now, in talking about the Hematrace test, give
10 the folks on the jury an idea of how you conduct that
11 test. Is it an applied chemical, or is it stuff put on a
12 machine, or how does it work?
13 A. The way that it works is that you take a small
14 container of buffer, which is the liquid that's supplied
15 with the test, and you cut out a portion of the stain that
16 -- the stain in question, or the stain that you want to
17 test, and you put it into this buffer, you let it sit for
18 a certain amount of time, and then you take part of the
19 liquid for which, hopefully, your stain on your item is
20 dissolved in, and you put it on a little card. And it's a
21 little white card that looks -- the closest thing that you
22 probably can think of is a pregnancy test. It's a little
23 white card with a strip and you add the liquid to it just
24 like you would in a pregnancy test.
25 And then what happens during the test is the liquid

1 flows through -- through the card, and if the substance
2 that you're looking for is present, you get a line that
3 says the test is positive; if it's not, then you wouldn't
4 see a line and the test would be negative.
5 Q. Is the effectiveness of that test dependent on
6 the amount of what you're trying to test?
7 A. Yes.
8 Q. In what manner?
9 A. Well, every test -- every test that we do has a
10 certain threshold for, you know, if you don't have enough,
11 you might not see a positive result even though what
12 you're looking for is there. It's just not enough to --
13 MR. McWILLIAMS: I object to that. It's
14 speculative.
15 THE COURT: I will let her continue. It's
16 overruled.
17 Q. (By Ms. McDaniel) Go ahead, please.
18 A. I think I was done.
19 Q. Can you rephrase it again because I think that
20 we may have lost that in part. Is it dependent upon the
21 amount of availability for any and all the tests that
22 y'all conducted?
23 A. Can be, yes.
24 Q. So, for example, the amount of whatever it is,
25 whatever substance it is, it's dependent upon whether or

1 not you're going to get a result for, say, DNA?
2 A. Yes.
3 Q. If you don't have the available material,
4 you're not going to get a result?
5 A. Correct.
6 Q. All right. So, in looking at something like
7 this nightgown from 1987, can you tell us what type of
8 test you performed on it? Was it Phenolphthalein, was it
9 Hematrace, or was it something else?
10 A. I did some Phenolphthalein tests, I did some
11 Hematrace tests, and I did some DNA testing.
12 Q. Now, are you familiar with the term
13 consumption?
14 A. Yes.
15 Q. What does that mean?
16 A. Consumption is when you consume or use up the
17 entirety of something.
18 Q. And when we're talking about something that has
19 a finite availability, i.e., this 1987 nightgown, do you
20 guys have particular protocol that you try to follow in
21 order to not consume all of the available evidence?
22 A. That is a procedure that we routinely use in
23 the laboratory, yes.
24 Q. Why is that?
25 A. Well, we try not to consume the entirety of a

1 sample because there's always the possibility that, you
2 know, other testing might need to be done on the item, or
3 that in the future maybe there will be some tests that we
4 can't do at the time that could possibly, you know, give a
5 result, but mainly for the purpose of if, you know, say
6 the defense wants to do testing on something, we would
7 always want to try to leave some for that purpose also.
8 Q. Okay. Now, I'd like to turn your attention to
9 the first test that you did. What section was it on, if
10 you had it turned?
11 A. Well, the original -- the original testing that
12 I did was actually probably the bigger circles that are
13 marked with the "PH." Those are the Phenolphthalein
14 results.
15 Q. Tell me about those.
16 A. I identified areas on the nightgown that were
17 -- that looked like they were stains of some sort. They
18 were brownish/orangish in color. So, all of those areas I
19 did note, and I did do presumptive tests, Phenolphthalein,
20 on them.
21 Q. And what were the results, if any, from those
22 initial Phenolphthalein tests?
23 A. All of those results were negative.
24 Q. What does that mean to you, if anything? Does
25 that tell you that none of that was blood?

1 A. Most likely it was not, yes.
2 Q. Those particular sections that you tested?
3 A. Those particular sections marked with the "PH."
4 Q. Okay. At some point, did you conduct what we
5 have learned from you as being a confirmatory Hematrace
6 test?
7 A. Yes, I did Hematrace test on the stains -- or
8 the areas that were marked by Deputy Rossi, the
9 microscopic stains, or areas.
10 MS. MCDANIEL: May I approach the witness,
11 Your Honor?
12 THE COURT: Yes, ma'am.
13 Q. (By Ms. McDaniel) What I'd like to start with
14 is -- it seems like the sheen on this is really hard to
15 see, but I'm going to hold it up here. I'd like to start
16 with this one that's marked 1A. Okay?
17 A. Uh-huh.
18 Q. And for purposes of your testimony, I'm going
19 to see --
20 THE COURT: We're not going to be able to
21 finish the direct or cross before lunch. So, let's
22 go ahead and take a lunch break now, and then when we
23 come back we will pick up. Okay?
24 MS. MCDANIEL: Yes, sir.
25 (Whereupon the Court stood in recess

1 for lunch.)
2 MR. McWILLIAMS: Judge, I'd like to make a
3 motion outside the presence of the jury. It's an
4 oral motion to exclude certain testimony -- at this
5 point maybe a motion in limine in that regard. But I
6 think to set that up, I've had the court reporter
7 identify some particular testimony that was at the
8 very end of the direct examination before the break.
9 I'd ask her to read that right now off the record so
10 that I can explain.
11 THE COURT: Okay, please do.
12 (Whereupon the requested material was
13 read back by the reporter.)
14 ANSWER: I identified areas on the nightgown that
15 were -- that looked like they were stains of some
16 sort. They were brownish/orangish in color. So, all
17 of those areas I did note, and I did do presumptive
18 tests, Phenolphthalein, on them.
19 QUESTION: And what were the results, if any,
20 from those initial Phenolphthalein tests?
21 ANSWER: All of those results were negative.
22 QUESTION: What does that mean to you, if
23 anything? Does that tell you that none of that was
24 blood?
25 ANSWER: Most likely it was not, yes.

1 MR. McWILLIAMS: The last question and the
2 last answer, the result is negative, and the question
3 asks, "Does that tell you that it's not blood?" And
4 the answer is, "Most likely it's not blood."
5 THE COURT: Okay.
6 MR. McWILLIAMS: Judge, what we're talking
7 about here is a description of a false negative.
8 They are saying -- that and any discussion, my limine
9 and my motion to exclude relates to that, "Most
10 likely it was not." I think that should be stricken.
11 But any discussion about false negatives on this or
12 any other testing that she's done are, by definition,
13 not relevant evidence in this case.
14 Also by definition, a false negative
15 assumes facts not in evidence. It assumes that that
16 evidence was there, but this test didn't reveal it
17 for some reason. That's not relevant, it assumes
18 facts not in evidence, and it's inappropriate.
19 That's what's going on here. The answer is, it's a
20 negative result. "Does that tell you it's not blood?
21 Most likely it's not blood." That implies to the
22 jury that it could have been a false negative test.
23 I suspect the same is going to come when
24 she talks about Hematrace. And I want to harken back
25 to the motion that we made yesterday with regard to

1 Dr. Davis' testimony because, essentially, that was
2 the complaint about that. He's got a test that he
3 can't say is a positive result, but he's testifying
4 about why that might be falsely negative, and the
5 evidence actually really --
6 THE COURT: I've already ruled on that one.
7 MR. McWILLIAMS: I understand, Judge. But
8 what I'd like the Court to recognize is that this is
9 becoming a theme of the prosecution's case. We don't
10 have this evidence, but here are some reasons why our
11 test might have come up negative or inconclusive when
12 really it was there. That's the theme of the
13 prosecution, that's the theme of the evidence so far,
14 and that question and that answer specifically
15 relates to --
16 THE COURT: So, what's your motion?
17 MR. McWILLIAMS: I would ask the Court -- I
18 would that the Court grant a motion in limine that
19 the State and the witness not be allowed to enter
20 into any discussion of false negatives, or anything
21 that relates to that, or make any -- or make any
22 statements that a negative result is anything other
23 than a negative result, because discussing a false --
24 THE COURT: The problem I have with the
25 State saying that a negative result is anything more

1 than a negative result in this particular case is
2 because she doesn't know what was used, what products
3 or whatever, was put on a particular garment.
4 MS. MCDANIEL: Judge, I think --
5 THE COURT: Is that right?
6 THE WITNESS: Correct.
7 THE COURT: Go ahead.
8 MS. MCDANIEL: I think, Judge, maybe if I
9 clear it up with a few questions for the Court. What
10 I was trying unsuccessfully to do is there are
11 various parts of this thing that were tested, and
12 some may have been -- let's just say for purposes of
13 everyone's understanding, just pure DNA from someone
14 wearing a garment, for example.
15 THE COURT: Right.
16 MS. MCDANIEL: Or Ketchup, or something,
17 right? She's testing every spot that she sees. So,
18 within her scientific way, she's saying, I tested X,
19 and this is the result of Y. It's not based on
20 whether or not there was anything that treated it.
21 She's saying that the result is a negative, and that
22 that could be -- I mean, I guess I feel like it's
23 based on the location of the items in which she's
24 talking about having done a presumptive and getting a
25 negative, it's the explanation as to -- I mean, there

1 could be a hundred explanations, including the
2 defensive theory -- Mr. McWilliams, please.
3 THE COURT: No, no, no, I'm listening to
4 you.
5 MS. MCDANIEL: Insofar as there are
6 scientific -- things can be explained scientifically
7 within a reasonable degree of scientific probability,
8 and things that as a scientist she cannot explain.
9 So, whether this was blood, or monkey hair, or
10 Ketchup, she can't say. She can say that it was a
11 negative, and that there are a million reasons why it
12 could be that. It could be that it was pretreated in
13 1987, it could be that it was never blood.
14 I feel it's incumbent upon me as a
15 representative of this State and an officer of this
16 Court that I ask her questions to explain the test
17 that she did, even if they are not -- even if they
18 are not necessarily to the benefit of the State's
19 case, and that's what I'm trying to do.
20 THE COURT: I appreciate that. The other
21 thing is I don't -- when you have, like, for example,
22 a weapon that's tested for fingerprints, and it
23 doesn't show fingerprints, and there could be an
24 explanation as to why there are no fingerprints. But
25 in that case there's generally no question that the

1 weapon was handled by someone. You know what I mean?
2 MS. MCDANIEL: Yes, sir.
3 THE COURT: In other words, somebody
4 touched it, but we're not able to get any kind of
5 prints that we can -- or we got prints, but --
6 MR. McWILLIAMS: Your Honor, with all due
7 respect, I think there's a big distinction between
8 fingerprints and scientific testing of these items.
9 I mean, saying we didn't find fingerprints, but
10 fingerprints don't always get left on items is not
11 talking about a false negative test. She's talking
12 about applying science to a thing. She's introducing
13 it as expert witness testimony. I mean, a print is a
14 physical piece of evidence that's either there or
15 it's not. She's talking about her tests. With all
16 due respect, I don't think that when I'm talking
17 about false positives that's not in the same vain of
18 evidence as fingerprints.
19 THE COURT: With all due respect, I don't
20 think you were listening to me. I believe, and I was
21 just trying to state that there are circumstances
22 where it's legitimate to explain a negative result.
23 But, typically, an explanation of a negative result
24 like in a handgun, you're going to say, well, because
25 it has ridges where a print can't be made, or

1 something like that, there are explanations for why
2 you don't have a positive, or a result in that
3 particular case.
4 So, what I'm trying to get to is in this --
5 in this case, can the State say why there is a
6 negative result like you can in a handgun? The
7 handgun has ridges and it won't leave prints, or this
8 kind of surface because it's wet, it doesn't leave
9 prints. You see what I'm saying?
10 MS. MCDANIEL: Well, I understand what you
11 are saying, Judge. And I think that -- if I
12 understand it correctly, I think that -- and I'm sure
13 Ms. Welch will raise her hand if I'm saying it
14 incorrectly. But I think that that's sort of the
15 point, is that specifically as to the items that we
16 were discussing prior to the read-back that
17 Mr. McWilliams asked for, was talking about items
18 that have never and did not test for blood. They
19 simply went back and tried to test, in whatever
20 random fashion they saw fit, to test everything that
21 they could.
22 Now, she can speak, as she did during the
23 earlier part of direct examination, to the
24 degradation of the items, and because of the age of
25 the items, that that in and of itself can cause a

1 change. And just like you give a proffer to the
2 Court, one of the additional things that we then had
3 later tested was those big bloody sheets because they
4 were not tested in the same manner that the nightgown
5 was, right? And there was a negative on those bloody
6 sheets that were on the man's body that I think
7 everybody would agree all day long should have tested
8 positive.
9 So, what I believe the State's argument is,
10 is that -- it's two-fold: One is that we're trying
11 to explain to the jury that our experts have done
12 everything that they can to explain and understand
13 and why we would go from A to B with this next round
14 of testing.
15 And I think what Ms. Welch would testify to
16 is, is that in part of what we were trying to
17 determine as to whether there had been degradation of
18 State's Exhibit 81, the nightgown, we tested
19 something that we all agreed should come up as human
20 blood, Bingo on those sheets, and when it didn't, it
21 made sense that there's a degradation process going
22 on in some format for all of these items.
23 So, I think that she can speak to that it
24 is a likely result of just the degradation over time.
25 Now, I don't assume to ask her if she knows what

1 chemicals were put on the items in 1987 because she
2 doesn't know.
3 THE COURT: Okay. I understand what you're
4 saying, but there's a likelihood that I might limit
5 your argument in regards to, you know, what can or
6 cannot be said of those things.
7 MS. MCDANIEL: Yes, Your Honor.
8 THE COURT: I will permit you to do your
9 examination and to have her expert testimony before
10 the jury, but it might very well be that your
11 argument -- that I have to limit your argument on the
12 results.
13 MS. MCDANIEL: Yes, sir, as long as I can
14 make sure I understand it because it gets a little
15 confusing for me, to be quite frank.
16 THE COURT: For example, because you have
17 blood on a gown that everybody knew was blood, gown
18 or whatever, shirt, that can't be tested now. I am
19 most likely going to limit you from saying, well,
20 that's the same situation with this gown because this
21 is tested -- this tested -- the nightgown, because
22 they tested it presumptively, no, negative, and so
23 there's really nothing to say that it was blood, but
24 it could be. So, what I'm saying is I would most
25 likely limit you in arguing that what exist on that

1 is blood, unless there is some evidence that says
2 it's blood.
3 MS. MCDANIEL: And there is, Judge, and I
4 think that's where I was getting to when I started to
5 put that stuff up there. And I see Mr. McWilliams
6 really wants to talk.
7 THE COURT: That's fine.
8 MS. MCDANIEL: What I intend to elicit from
9 this witness is after doing the presumptive tests,
10 that the confirmatory tests were done in a random
11 matter. And, Judge, as you can see, 1A, which is on
12 the lower right-hand side --
13 THE COURT: Yes, ma'am.
14 MS. MCDANIEL: -- that one is positive, at
15 least in layman's terms, for blood, human or upper
16 primate blood.
17 THE COURT: Okay.
18 MS. MCDANIEL: And that's what we are
19 intending to go through with this witness. Now, the
20 part of the negatives with the Phenolphthalein, I
21 just feel responsible to go through with the witness
22 what the other tests were done, but 1A is
23 confirmatory for blood.
24 MR. McWILLIAMS: I don't have any objection
25 to talking about 1A or that evidence. But the Court

1 hits it right on the head. I'm sorry, Ms. McDaniel
2 is making the point of my argument here that her
3 intent is to -- her intent is to infer to the jury,
4 by the use of those questions on the sheet, that we
5 got a negative result here, but you can't really
6 trust that because it might still have been blood,
7 and there are these other explanations for why that
8 might not have been. That is irrelevant, it's 403
9 prejudicial, and --
10 THE COURT: Well, she's not permitted to
11 argue now, and like I said, it may very well be that
12 there's a limitation to the argument based on the
13 evidence that's presented to me.
14 MR. McWILLIAMS: But I'm objecting to
15 questions of the witness, Judge, not to argument.
16 THE COURT: Okay, that's overruled. But
17 there may very well be limitation to the argument
18 based on what I hear.
19 MS. MCDANIEL: Yes, Judge, absolutely. Can
20 we handle one other thing off the record, Your Honor?
21 THE COURT: Yes, ma'am.
22 (Whereupon discussion was held off the
23 record.)
24 MR. McWILLIAMS: I was asking the Court so
25 that I know how to frame my objections going forward,

1 it's my understanding that the Court has overruled my
2 objection and motion in limine and motion to exclude
3 the State from eliciting testimony from this witness
4 that relates to false negative results for
5 Phenolphthalein, or any other testing, DNA or
6 otherwise testing that they did, any explanation for
7 why a negative result --
8 THE COURT: Let me -- I'll just tell you
9 that, one, your objection is so long and convoluted
10 nobody can follow it. So, what you're going to have
11 to do is just when you hear it, make an objection and
12 I will rule. Okay? Because I can't give you a -- I
13 can't give you a motion in limine.
14 MR. McWILLIAMS: Just so I can be clear one
15 time on the record before we do it piecemeal. My
16 objection would be any discussion about the false
17 negatives, any explanation for a false negative at
18 all from this witness I think is irrelevant, and if
19 it's not irrelevant, then it's 403, and it's improper
20 expert witness testimony. That's my objection, and I
21 understand that that is overruled and the State is
22 allowed to elicit testimony --
23 THE COURT: Your understanding should be
24 that it's premature, and that if you hear something
25 that you need to object to, then, as an attorney, you

1 have an obligation to stand up and make your
2 objection, and then if there's --
3 MR. McWILLIAMS: I would object to the that
4 answer and the question.
5 THE COURT: Excuse me, sir. If there is a
6 point where I believe a running objection is
7 appropriate, then you can ask for a running
8 objection.
9 MR. McWILLIAMS: Then I have my objection
10 to that question that was asked.
11 THE COURT: Let's bring in the jury because
12 I'm not going to play this game.
13 (Whereupon the jury is present.)
14 THE COURT: Ms. McDaniel, you may proceed.
15 MS. MCDANIEL: Thank you, Your Honor.
16 Q. (By Ms. McDaniel) Ms. Welch, before we broke
17 for lunch, I believe we were beginning to discuss what has
18 been marked --
19 MS. MCDANIEL: Judge, may I approach the
20 witness and put the document up?
21 THE COURT: Yes, ma'am.
22 Q. (By Ms. McDaniel) I don't know if it's easier
23 for you to look at this one or that one, Ms. Welch, so I'm
24 going to give you both options. As a reference point, the
25 large reproduction of the nightgown with the testing is

1 State's Exhibit 152. Can you circle for the folks on the
2 jury on the photograph there on 114 where item 1A is
3 located?
4 A. (Witness complies.)
5 Q. So, we're talking about the lower right-hand
6 corner of the nightgown?
7 A. Yes.
8 Q. Now, can you first tell us when it was that
9 this item, or any of the items that you went back and
10 tested were first received by your section within the
11 Harris County Institute of Forensic Sciences?
12 A. We received the nightgown on November 8, 2010.
13 Q. I think we talked about some before the break.
14 You're not here to tell us what testing had been done
15 before this day when you start looking at it; is that fair
16 to say?
17 A. Right.
18 Q. Okay. So, your job is to go back and see if
19 any of these spots are in fact human blood?
20 A. Yes.
21 Q. Okay. Now, in looking at 1A, I want you to --
22 before the break we started to talk about something that
23 you described as the Hematrace test, and you described it
24 as a confirmatory test; is that right?
25 A. Yes.

Q. How large of a sample do you have to have in order to put it in that test?

A. Well, the amount -- the amount of stain that you have would vary, but we know that it's sensitive enough to give positive results on just drop -- very, very small drops of blood.

Q. I'm going to show you or put up on the -- I call it an overhead because I'm that old, but this contraption, what has been admitted -- will you clear the screen, please, Ms. Welch, on the lower left-hand side?

A. (Witness complies.)

Q. There are a couple of things I want to ask you about what we see here, this is State's Exhibit No. 178, and the first thing I want to ask you is there's some writing down here. Can you tell me what it is and what relevance it has to your testimony today, if any?

A. That is shorthand abbreviation for our laboratory case number, the item number, the date that it generated that photo and my initials.

Q. Okay, so this tells you, I took this picture and I did this -- I looked at this?

A. Yes.

Q. Now, I notice that it's in a PDF format and not what we might call a JPEG; is that right?

A. Yes.

1 Q. Why? Is there a reason, or is that just the
2 way that y'all transmit stuff?
3 A. We would typically transmit photographs -- this
4 is actually a scan of the page from my case file that I
5 believe was provided on discovery.
6 Q. Okay. So, when we are looking at -- I see a
7 bunch of black dots around here with 1A and what appears
8 to be some sort of a ruler. In looking in closer at it,
9 there's this small triangle here. What is that?
10 A. The small triangle is what was placed there by
11 Deputy Rossi.
12 Q. Okay. And I'm going to put up 179. Is this
13 another closer-up photo of that? I'm sorry. You can't
14 answer that, can you. There.
15 A. Right, correct.
16 Q. Now, when you see something like that little
17 triangle there -- and is this off of State's Exhibit 81,
18 the nightgown that was provided to you by the detectives?
19 A. Yes.
20 Q. There appears to a point, or a black spot, or I
21 don't know if that's marker or what. What, if anything,
22 is it trying to indicate as it references your actual
23 analysis in this case?
24 A. Well, according to Deputy Rossi, when he placed
25 the stickers on the nightgown, he marked the end of the

1 little triangle where he saw what -- something that he
2 believed was high velocity.
3 Q. Like an arrow?
4 A. Right.
5 Q. So, we're seeing essentially an arrow up here
6 for State's Exhibit 179 pointing to something. Now, to
7 the naked eye as it sits up here, can you see anything?
8 A. No.
9 Q. As part of your training and experience then,
10 what do you do to determine whether or not there's
11 anything consistent with blood or confirmatory for blood
12 on 1A?
13 A. Well, the next step that I took was to put that
14 part of the gown underneath the microscope and look for,
15 under the microscope, anything that could possibly see
16 magnified, look for the area that needed to be tested.
17 Q. I'm going to put up here what has been admitted
18 as State's Exhibit 181. And if you need to see it up
19 close and personal, I'm happy to bring it up there. I
20 know sometimes it's not as clear. Is this in reference to
21 State's Exhibit 1A? And you might need to look at some of
22 the markings. I don't know.
23 MS. MCDANIEL: May I approach the witness,
24 Your Honor?
25 THE COURT: Yes, ma'am.

A. Yes.

Q. (By Ms. McDaniel) So, is it your testimony then that Exhibit 181 is the microscopic photograph you took of what was indicated on the nightgown, State's 81, and circled by 1A?

A. Yes.

Q. Let's just describe, if you can, a few things about this photograph. First thing I want to ask, if you can see it up here, the date of the photograph?

A. Yes.

Q. Is what?

A. 1-13-2011.

Q. Now, you talked some about the type of microscope that y'all have. What is the amount of magnification that this microscope has, if you know?

A. Well, the amount of magnification that I used was 4X. The magnification of that, you multiply times 10. Whatever magnification you're using on the microscope, you multiply that times 10. So, basically, what that means is this is 40 times larger than what you would normally see.

Q. Now, as you looked at this then microscopically, is it fair to say that this triangular piece with the black here is that same triangle that was left on there by Deputy Rossi to give you an indication of what to look for?

A. Yes.

Q. Now, were you able to determine in the context of this, microscopically, if there was anything that you could also visualize?

A. Well, microscopically, I mean, you can see that there's an area I guess off to the right and a little bit above the point of the arrow that looks like there's some sort of possible stain there.

Q. Is this one of the stains that you tested with Hematrace?

A. Yes.

Q. Now, pardon me for asking you something that might be oversimplified, but it looks like we're looking at some kind of lattice work. What is the background visual of what we see?

A. That's just the weave of the fabric.

Q. So, we're talking about getting close enough to see the actual weave of the fabric?

A. Yes.

Q. And the portion that you actually did the Hematrace testing on, was that everything that's encapsulated in State's Exhibit 181, or was it a smaller portion than that?

A. What was tested -- I can't really tell from this photograph. I mean, what I attempted to do was --

1 because I had to cut not underneath the microscope. So I
2 was trying to get an area large enough to capture the spot
3 that I can see under magnification.
4 Q. Okay. So, I'm showing you what is now been
5 admitted as State's Exhibit 180, and does that give you --
6 does that illustrate what you had just a moment discussed
7 as far as the cuttings that you made on State's
8 Exhibit 81?
9 A. Yes.
10 Q. Now, can you point to the area on the actual
11 nightgown where you made the cut?
12 A. Turn it this way some.
13 Q. I'm sorry.
14 A. It's right here (demonstrating).
15 Q. On the lower left-hand corner?
16 A. Yes.
17 Q. In the Hematrace test you discuss that you use
18 something called a buffer. Is that the correct term?
19 A. Yes.
20 Q. What is a buffer?
21 A. Well, it's just a liquid that's normally used
22 to -- that you would put a piece -- an article in, an
23 item, a cutting to dissolve any stain that might be there.
24 Q. Now, the Hematrace test comes with that buffer,
25 correct?

1 A. Yes.
2 Q. This item here in State's Exhibit 180, the
3 circled portion that's marked 1A1, is that the area in
4 which you conducted the Hematrace test?
5 A. Yes.
6 Q. Can you tell the ladies and gentlemen of the
7 jury whether or not you received a confirmation of the
8 existence of blood?
9 A. Yes, on stain 1A, the Hematrace test was
10 positive.
11 Q. When you say it's positive, it's positive for
12 human blood? What types of blood is it positive for?
13 A. The test was originally developed to be
14 confirmation for human blood, but we know -- and this is
15 through the manufacturer and other studies that have been
16 done, that it will react positively not only to human
17 blood, but also to upper primate blood. So, we're talking
18 about possibly apes, monkeys, that sort of thing. And
19 then in addition to that, during testing they also found
20 that in some instances it was possible to get a positive
21 result with ferret blood.
22 Q. So, upper primates, humans, homo sapien, or
23 ferrets?
24 A. Correct.
25 Q. Dogs?

A. No.
Q. Cats?
A. No.
Q. Squirrels?
A. I don't believe squirrels. I'm not exactly sure if that was one of the animals they tested.
Q. Now, did you in fact then go through --
MS. MCDANIEL: May I approach the witness, Judge?
THE COURT: Yes, ma'am.
Q. (By Ms. McDaniel) Ms. Welch, I'm going to show you what I have previously marked as State's Exhibits 109 through 112. I'm just going to ask you to review those and see if you recognize them?
A. Yes.
Q. How is it that you recognize State's Exhibits 109 through 112?
A. Those are my reports of analysis.
Q. In connection with this case?
A. Yes.
Q. And do they fairly and accurately depict the testing that you conducted on the various dates, as well as the results?
A. Yes.
MS. MCDANIEL: Your Honor, at this time we

1 would offer State's Exhibits 109, 110, 111 and 112.
2 MR. McWILLIAMS: No objection to State's
3 Exhibits 109, 110, 111, and 112.
4 THE COURT: Thank you, sir. They will be
5 admitted.
6 MS. MCDANIEL: May I publish them to the
7 jury?
8 THE COURT: Yes, ma'am.
9 Q. (By Ms. McDaniel) I am going to start with
10 State's Exhibit 109 and just ask you a couple of
11 questions. This is y'all's standard form at the Harris
12 County Institute of Forensic Sciences, right?
13 A. Yes.
14 Q. Now, I notice that there is a signature here.
15 Is that your signature, Ms. Welch?
16 A. It is.
17 Q. What we know is -- what I'd like to ask is the
18 day of submission, if that corresponds with your
19 recollection and from your documentation as to the date of
20 submission?
21 A. Yes.
22 Q. And the submission by whom?
23 A. Deputy Rossi.
24 Q. And the submission of what?
25 A. A blue nightgown.

1 Q. Now, tell us what the summary results
2 interpretations are, please.
3 A. "Serology screening was performed on item one.
4 Results indicate the following: Blood was detected on
5 Item 1."
6 Q. When you say, "Blood was detected on Item 1,"
7 does that mean it was presumptive for blood, like we heard
8 about in Phenolphthalein, or positive for blood like with
9 Hematrace?
10 A. It means that the Hematrace test was positive.
11 Q. In going back through then the nightgown, did
12 you then go back and perform additional tests on
13 additional portions of the nightgown?
14 A. Yes.
15 Q. And tell the folks on the jury about that,
16 please.
17 A. Well, we did -- it wasn't after this. It was
18 at the same time, or around the same time as the original
19 testing.
20 Q. My apologies. Did you do additional testing in
21 addition to what we saw as 1A1?
22 A. Yes.
23 Q. Tell the folks on the jury about that, please.
24 A. At the same time that I tested 1A1, I also
25 tested stain 1B, and I took a cutting from that.

1 Q. Okay.
2 A. And the results for Hematrace on 1B were
3 negative.
4 Q. Let's go back and look at the photograph of the
5 nightgown so we can get an idea of where 1B is. I see 1A
6 here, and I see something that appears to be marked as 1B
7 up on the upper left portion of the photograph; is that
8 correct?
9 A. Yes.
10 Q. So, 1B was negative under the Hematrace test?
11 A. Correct.
12 Q. How many spots total did you test on the front
13 of that nightgown with Hematrace specifically?
14 A. In all total -- in all the tests that I did for
15 Hematrace, I tested eight different spots off the front of
16 the nightgown, and five of those -- three of those were
17 done individually with just the spot cut out similar to
18 what we showed with 1A. And one of the other things we
19 did was we took five different spots -- in one of the
20 tests I did, I just took five. They were all from
21 basically the same area, and I actually combined those
22 together to see what the result of that would be, and that
23 result was also negative.
24 Q. Okay. So, you get one positive on the front of
25 the nightgown from 1A1, right?

A. Correct.

Q. Now, I want to talk with you about whether or not you did any testing on some sheets.

MR. McWILLIAMS: Judge, I'm going to object to that testimony. I renew my previous objection.

THE COURT: That's overruled. Thank you, sir.

Q. (By Ms. McDaniel) Ms. Welch, what I'd like to show you is what's been previously admitted as State's Exhibit 79, and ask if you've seen this packaging before?

A. Yes.

Q. And how do you know? I'm seeing you look around this brown paper bag. Are there some certain markings that you look for that are consistent with how you do business over at the Harris County Forensic Sciences?

A. They are marked with the date and my initials.

Q. You recognize your handwriting. The contents of State's Exhibit 79, do you recall it to be a large sheet?

A. Yes.

Q. Now, what I want to ask you, Ms. Welch, is this: In looking at the front of this sheet, there appears to be a large circle around it and the letter A; is that correct?

A. Yes.
Q. Would that have been placed there by you?
A. Yes.
Q. And how do you know that?
A. That's because I knew -- I know that I did that during the analysis.
Q. Now, knowing that you received one positive on the front of the gown and several negatives with Hematrace, did you in fact then do a test on what is this large circled portion in the middle of State's Exhibit 79, the bloody bed sheet?
A. Yes.
Q. Did you do several tests or just one?
A. I did a presumptive, the Phenolphthalein test, and also confirmation test, the Hematrace test.
Q. Did you also document those photographically as you did with the nightgown examination?
A. Yes.
Q. I'm going to show you what has been admitted as State's Exhibit 216, and ask if you recognize that? How is it that you recognize it?
A. Yes, that's a photograph from the case file with the case number -- the laboratory case number, the item number, the date it was tested, and my initials.
Q. And now I'm going to put up State's exhibit

1 218, and I want to zoom in a little and ask you some
2 questions about what we see here. There's a lot of
3 writing on here at this point. Is this stuff that was put
4 on by y'all at the lab?
5 A. Yes, that was all added by myself.
6 Q. Now, I'm looking at State's Exhibit 111, which
7 is the submission date from February the 8th of 2011, and
8 I'm seeing something that I'd like for you to help us
9 understand. The cuttings that were done as part of your
10 testing were in the middle on 218 in the middle of what
11 appears to be a very large blood stain; is that correct?
12 A. One of them was, yes.
13 Q. Can you tell me what the results of this
14 analysis were for this large, circled stain?
15 MR. McWILLIAMS: Judge, I'm going to object
16 to that. Same objection.
17 THE COURT: All right. The objection is
18 overruled. You may discuss your analysis. The
19 question was, "What was your analysis," right?
20 MS. MCDANIEL: Yes, Your Honor. I think
21 I'm not giving her everything she needs to see.
22 THE COURT: All right.
23 A. Thank you. So for stain 2A, presumptive test
24 indicates the presence of blood on Item 2A; however, the
25 stain did not respond to test for human origin.

1 Q. (By Ms. McDaniel) So, am I understanding it
2 correctly? You're saying that for this big one here in
3 the middle, it was presumptive for blood, but when you did
4 Hematrace, it was not confirmatory?
5 A. Correct.
6 Q. How many spots on the sheets did you test in
7 the areas that are circled that appear to the naked eye to
8 be blood?
9 A. I tested five.
10 Q. Can you tell us what the results of those tests
11 were, first, with the Phenolphthalein?
12 A. It's probably easier if I go by item on these
13 results, or at least by stain. So, my results are blood
14 was not detected on Item 2D -- stain 2D.
15 Q. If it's okay with you, when you come to one,
16 what I'll do is try to find a corresponding photograph.
17 MR. McWILLIAMS: Judge, just for the
18 record, may I have a running objection to this line
19 of questioning?
20 THE COURT: Yes, sir. It will be a running
21 objection, but it is going to be denied. Your
22 objection is denied, but I'll give you a running
23 objection.
24 MR. McWILLIAMS: Thank you, Your Honor.
25 THE COURT: So the record is clear.

1 Q. (By Ms. McDaniel) You said 2D, Ms. Welch?
2 A. Yes.
3 Q. I'm going to put up what has been admitted as
4 State's Exhibit 225, and tell me if that would be a
5 depiction of what you are talking about in the first set
6 of results?
7 A. Yes.
8 Q. And what were the results that you found as to
9 2D?
10 A. The presumptive -- the Phenolphthalein test,
11 the presumptive test, was negative, as well as was the
12 Hematrace test.
13 Q. Okay. What I would like to ask is -- and a
14 frame of reference for those of us, 2D is obviously very
15 close up. And so in pulling back out State's Exhibit 218,
16 can you tell us where on this photograph D would have
17 been?
18 A. D is down on the right-hand corner there.
19 Q. Here?
20 A. Yes.
21 Q. So, we're talking about as far as a frame of
22 reference for the record, what appears to be the top of
23 the sheet to the left, we're talking about the mid to
24 lower right-hand corner; is that correct?
25 A. Yes.

1 Q. Tell us about the next stain that you analyzed,
2 or that you have the results for, I guess is easier to
3 say.
4 A. The results for all of the rest of the four
5 stains that I tested were similar. Presumptive test was
6 positive, or indicates the presence of blood on 2A, 2B,
7 2C, and 2E; however, the stains did not respond to tests
8 for human origin.
9 Q. Okay. So, from this whole sheet of what
10 appears to be human blood, you got no positive results for
11 blood; is that right?
12 A. Correct.
13 Q. The size of the samples from the nightgown,
14 were they the same as the size of the samples from the bed
15 sheet?
16 MR. McWILLIAMS: Objection to relevance.
17 THE COURT: It's overruled.
18 Q. (By Ms. McDaniel) If I asked that poorly,
19 please tell me.
20 A. The size of the stains on the nightgown were
21 actually smaller than the stains that I tested on the bed
22 sheet.
23 Q. I would like to speak with you in your
24 expertise about the condition of blood and how it
25 maintains over the course of time. Are you familiar with

--

MR. McWILLIAMS: I'm going to object the relevance of that.

THE COURT: I understand your objection. You stated it earlier. I'm going to overrule it and I'll let her testify based on her experience and expertise.

Q. (By Ms. McDaniel) For those of us that don't remember seventh grade biology, because I don't, what is the primary thing in blood that the Hematrace is testing for? Let me start off with that.

A. Hematrace is testing for the hemoglobin protein in blood.

Q. Hemoglobin. Okay. Do you know if hemoglobin, or if blood in general maintains its same chemical nature or status over time?

A. It depends on the storage conditions of the items. I mean, blood can -- hemoglobin can degrade over time.

Q. Okay. So, blood sample can degrade over time dependent upon how it's kept?

A. That's correct.

Q. And I think that you spoke before lunch about some things that can affect the stability of an item for later testing: Humidity, heat, all of those sorts of

1 things?
2 A. Yes.
3 Q. Are you aware in your knowledge of Hematrace of
4 the possibility of a false positive?
5 MR. McWILLIAMS: Objection. That's asked
6 and answered. We talked about ferrets, squirrels.
7 THE COURT: The false positive, I will
8 allow it. Is there a false positive?
9 A. Well, actually, I'm not aware of possibility of
10 a false positive test for Hematrace.
11 Q. (By Ms. McDaniel) Okay. When we talk about --
12 you talked a lot about the fact that you also have a
13 specialty in DNA analysis, right?
14 A. Yes.
15 Q. And we talked a little bit on direct about --
16 earlier before lunch about serology versusversus DNA. So,
17 my question is did you perform, or attempt to perform DNA
18 analysis on any of the spots, whether it be the sheet or
19 the nightgown?
20 A. I attempted to perform DNA analysis or three
21 different spots from the nightgown.
22 Q. And were you able to get what we would call a
23 sufficient profile for reporting?
24 A. The results of the DNA testing were that no DNA
25 was detected on any of those spots.

1 Q. Okay. I want to make sure I understand it.
2 So, you were able to do a DNA analysis on some of the
3 spots on State's Exhibit 81?
4 A. Yes.
5 Q. I'm sorry, the nightgown. But you were not
6 able to get any DNA detected at all?
7 A. Correct.
8 Q. For clarification, a large stain the size of
9 what's in 218 on the sheet here versusversus a microscopic
10 stain as you've described visualizing in State's
11 Exhibit 81, does the variance of the size of the stains
12 have any impact on your ability to use Hematrace and have
13 a positive or a negative result for blood?
14 MR. McWILLIAMS: Objection, relevance.
15 THE COURT: I'll allow it. Overruled.
16 A. The Hematrace trace is a sensitive test. So,
17 the size of the stain, you know, whether it be microscopic
18 or large, in terms of just getting a result because there
19 is blood there, shouldn't matter.
20 Q. (By Ms. McDaniel) So, the size of the stain
21 doesn't matter?
22 A. If you're looking -- if you look at the test
23 over all, so if you -- okay, if you have a fresh blood
24 stain, it's freshly there.
25 Q. I cut my finger and I bleed on a piece of

1 pallet.
2 A. Correct. You should get -- and it's human
3 blood, you should get a positive result with the Hematrace
4 test from a large stain, as well as a small stain. So,
5 what I thought you were asking me is does the size of the
6 stain matter when obtaining a result? And, no, it really
7 shouldn't. You might see a weaker result --
8 MR. McWILLIAMS: Objection at this point.
9 Nonresponsive. She's answered the question.
10 THE COURT: I'll let you continue. You're
11 saying that it shouldn't matter, but you were going
12 to say something else. I'll permit it.
13 A. Just that a smaller stain might, you know, show
14 a weaker result, but it's still a positive result.
15 Q. (By Ms. McDaniel) So, the microscopic portion
16 of State's Exhibit 1A -- 1A1 that you talked about, the
17 fact that it was a small stain, would that make the
18 Hematrace test change its result from being positive or
19 negative based solely on the size of the stain? And if
20 I'm not asking it right, tell me to ask it again.
21 A. Can you ask it again?
22 Q. Yes. When looking at State's Exhibit 1A1,
23 right, the cutting from the front left portion of the
24 nightgown, the fact that that's microscopic and came back
25 with a positive result under Hematrace, confirmatory for

1 blood, does the size of that mean it wasn't really blood?
2 A. No.
3 MS. MCDANIEL: Pass the witness, Your
4 Honor.
5 THE COURT: Cross?
6 **CROSS-EXAMINATION**
7 BY MR. McWILLIAMS:
8 Q. Ms. Welch --
9 THE COURT: Turn that mic so it picks you
10 up. Thank you very much.
11 Q. (By Mr. McWilliams) Ms. Welch, let's talk a
12 little bit. I want to talk about 1A. That's the only --
13 that one little microscopic piece is the only blood on
14 this that you found, right?
15 A. Correct.
16 Q. On the nightgown -- on the nightgown, on
17 anything other than the sheet, on anything that the
18 defendant in this case was wearing, namely, the nightgown,
19 you can't say that there's blood on any of it except the
20 one little part that you identified as 1A?
21 A. Well, the nightgown was the only part of the
22 clothing that I tested.
23 MR. McWILLIAMS: Objection, nonresponsive.
24 THE COURT: It's nonresponsive. Restate
25 your question again very quick.

1 Q. (By Mr. McWilliams) State's Exhibit 81, the
2 only blood that you've identified on that is the one
3 microscopic photo that you've identified in 1A?
4 A. Yes.
5 Q. There's nothing else on there that you can say
6 is blood?
7 A. No.
8 Q. Okay. Just so that we're clear, you are
9 agreeing with me that there's nothing else that you can
10 say on there is blood, right?
11 A. From the results that I got, all of the stains
12 that I tested, except for 1A, were negative.
13 Q. Now, there's this discussion about the
14 difference between testing on the sheet versusversus the
15 testing on this and what that means. Do you have any idea
16 how this was treated before it got to you?
17 A. No.
18 Q. Do you have any idea how that was treated
19 before it got to you?
20 A. I'm sorry?
21 Q. You can't see it? It's the sheet.
22 A. The sheet, no.
23 Q. Do you know if they were treated the same?
24 A. I don't have direct knowledge of that, no.
25 Q. They give it to you and you get it as you get

1 it?
2 A. Correct.
3 Q. Now, let's talk about this. You have a
4 positive Phenolphthalein result on all -- on those spots
5 on the sheet, right?
6 A. Correct.
7 Q. The presumptive Phenolphthalein, all that big
8 blood mass on there, that all tested positive for blood
9 presumptively with Phenolphthalein?
10 A. Four out of five.
11 Q. And to be clear, the five -- the one that was
12 not in there, that's actually off to the side and outside
13 of that major blood mass, right, the one that didn't show
14 any blood, 2D?
15 A. I have to look that up.
16 Q. Okay.
17 A. It's grouped off to the right of some of the
18 other stains.
19 Q. The other stains that you tested are actually
20 in that big pool of blood, right? You cut them out of
21 that?
22 A. Well, not all of them, just one from the large
23 stain.
24 Q. But in any event, you tested all these. Those
25 tested positive -- they presumptively tested positive

1 under the Phenolphthalein, and then you test them with
2 Hematrace, right?
3 A. Correct.
4 Q. And during direct, I think that there were
5 questions that elicited two different answers. On one
6 hand, I thought you said that there was no blood in those
7 -- in the other Hematrace trace spots; and then on the
8 other hand, I thought you had said that there was no human
9 blood in the Hematrace on the sheet.
10 A. From the sheet -- okay, so stain 2D was
11 reported as no blood. The presumptive test and the
12 Hematrace were negative.
13 Q. Maybe we should just talk about the other four,
14 right, because there were five. The 2D is the one that's
15 not any blood at all. The four were the ones that tested
16 positive for Phenolphthalein and then didn't -- they
17 didn't -- they didn't test positive with Hematrace?
18 A. Right.
19 Q. And what -- I took it as a distinction. One,
20 Ms. McDaniel elicited a response that said that meant that
21 it was not blood; on the other hand, she elicited another
22 response from you that suggested that that was not human
23 blood.
24 MS. MCDANIEL: Judge, I'm going to object
25 to the side-bar. My apologies to the Court.

1 THE COURT: All right. I think he's just
2 trying to explain the question so that we can --
3 A. It's possible I misspoke on that. The
4 presumptive tests on those four was positive, and the
5 Hematrace was negative. That doesn't necessarily mean
6 it's not blood. If I misspoke on that, I apologize.
7 Q. (By Mr. McWilliams) I don't think that you did.
8 I think it needs to be clear for the jury. If you get --
9 there's a far different thing from having a negative
10 Phenolphthalein result and a negative Hematrace result,
11 right?
12 A. Right.
13 Q. I mean, if I've got a positive Phenolphthalein
14 and a negative Hematrace, then I'm probably thinking,
15 well, it's blood, but I'm not sure what kind it is?
16 A. That's correct.
17 Q. Did you have any -- did you have any positives
18 from Phenolphthalein on this that you got a negative
19 Hematrace result?
20 THE COURT: When you refer to this or that
21 record --
22 MR. McWILLIAMS: State's Exhibit 81.
23 THE COURT: Okay.
24 A. Well, that's going to require some explanation.
25 Q. (By Mr. McWilliams) I don't understand that it

1 does. Did you test that -- did you do Phenolphthalein
2 testing on it?
3 A. I did, but I did on different stains that I
4 tested on the Hematrace. There were no stains on the
5 nightgown where I did both.
6 Q. Okay. So, you did both of those things on the
7 sheet, but you never did both of those things on the
8 nightgown?
9 A. Correct.
10 Q. When you got the nightgown, David Rossi had
11 identified over 100 spots that he thought were high
12 velocity blood spatter, right?
13 A. I counted 54 of the little arrows.
14 Q. Okay. So, if he thought it was 100, maybe he
15 was mistaken. It's really only about 50-something, right?
16 A. I really can't testify to that. I don't know.
17 Q. That's a fair response. But the fact was none
18 of those were blood except 1A?
19 A. Correct, they were negative.
20 Q. And listen, we don't just need to do Hematrace
21 and the Phenolphthalein. I know it's archaic and crude,
22 but there are some other tools that you might use just to
23 decide presumptively if something was blood or not to give
24 you an idea of where to look?
25 A. There are tests that you can do. There's like

1 Luminol, possibly.
2 Q. I'm going to ask you about passing a black
3 light over it.
4 A. That's -- I know that that's possible. We
5 don't routinely do that in our procedures.
6 Q. I've got something noted here, and I just need
7 to address it before I forget about it. I think you made
8 a comment that you said that you are not aware of a false
9 positive on Hematrace, but I also thought that you gave us
10 some false positives of Hematrace. I thought you said --
11 I thought you said higher primates, ferrets, and maybe
12 squirrels?
13 A. Okay, I'll explain that a little bit further.
14 Because of the possibility of upper primates, or possibly
15 ferret blood coming up positive in the Hematrace test, we
16 do not consider it confirmation for human blood. We
17 consider it confirmation for blood. So, we know that when
18 we get a positive, there's hemoglobin there. So, we know
19 that it is blood, but as far as a false positive being the
20 upper primate, or the ferret, I mean, those are known --
21 those are known positives. So, we're not necessarily
22 considering those a false positive. We know those come up
23 with the test.
24 Q. And you're assuming that for the most part we
25 don't prosecute ferrets and upper primates. So, if

1 there's blood on it, then we must be talking about human
2 blood, right?
3 A. Well, because we don't make that assumption, we
4 report it the way that we do.
5 Q. Exactly. So, you would never, ever go to these
6 guys and tell them that you have -- you know that there is
7 blood on this unless you can confirm that there's actually
8 human blood on it?
9 A. Unless we can confirm that there's blood on it.
10 Q. So, you don't even get to the point of being
11 human. How do you make that jump to say then that it's
12 human blood?
13 A. We actually do not make that jump. We don't
14 report -- when we report our results for Hematrace, we
15 don't report that it's human blood.
16 Q. I'm sorry, Ms. Welch, let me stop you. That's
17 a misunderstanding of my question. I'm saying move beyond
18 Hematrace. If I want to take that Hematrace result and I
19 say, I got this now. I'm sure it's blood of some sort.
20 When it's Phenolphthalein, we got -- if it tests positive
21 under Phenolphthalein, we got a pretty good idea it's
22 blood of some kind, but we don't know what kind, right,
23 but it might not be blood at all?
24 A. With Phenolphthalein, correct.
25 Q. With Phenolphthalein it could be saliva, right?

1 A. The false positives for the Phenolphthalein
2 test --
3 Q. You want me to read them to you? Is saliva a
4 false positive for -- can you get a false positive on
5 Phenolphthalein for saliva?
6 A. Not that I'm aware of with saliva.
7 Q. How about malt extract?
8 A. That's a possibility.
9 Q. Vegetable extract?
10 A. Yes.
11 Q. Certain salts?
12 A. Yes.
13 Q. The bottom line is Phenolphthalein is a far
14 from presumptive test for it being blood or human blood?
15 A. It's far from a confirmation test.
16 Q. It tells you this is a good place to look?
17 A. Yes.
18 Q. And nothing more?
19 A. Correct.
20 Q. And it would be very dangerous to make any
21 assumptions in this setting based on a Phenolphthalein
22 test?
23 A. Yes.
24 Q. Now, then, the next thing is you move to the
25 Hematrace. And we can narrow that pretty -- Hematrace

1 narrows it pretty good. If you get a positive on
2 Hematrace, you're pretty sure that that's human blood. Is
3 this a fair characterization?
4 A. It's highly likely, yes.
5 Q. Good enough, highly likely. But in some
6 settings, kind of like the exact and demanding precision
7 nature of your work in this courtroom, you don't want to
8 stop there. You really want to know if it's human blood,
9 right? So, what would you do?
10 A. The next possible step that you could take
11 might be to do DNA analysis.
12 Q. Because if you were able to pull DNA out, could
13 you say if it was human?
14 A. You could say if it was human, yes.
15 Q. Could you say whose it belonged to?
16 A. If you got a DNA profile.
17 Q. And if in this case you had a complainant who
18 was dead and available to extract DNA sample from,
19 correct?
20 A. Yes.
21 Q. And you had blood from the scene -- from items,
22 correct?
23 A. Yes.
24 Q. So, there was the availability of -- well, let
25 me just say -- strike that. I'll move on. So, with DNA I

1 can say not only is it human blood, but I can say it's
2 somebody's blood?
3 A. You wouldn't necessarily be able to say with
4 DNA that it was blood.
5 Q. Okay. Let me ask you this: Do you think that
6 that they ask you to do that DNA sampling because they
7 wanted to know if it they could find Ed Clark's blood on
8 81?
9 MS. MCDANIEL: Judge, that calls for
10 speculation as to why she was asked to do something.
11 THE COURT: That's sustained. You can ask
12 the question a different way.
13 Q. (By Mr. McWilliams) When the DA's office comes
14 to you and says, I want you to look at 81, or just
15 something like that, and I want you to try and get DNA off
16 of this -- I mean, when we're talking about DNA, aren't we
17 usually -- when you are called upon to analyze DNA and you
18 extract it, aren't you -- like 90 percent of the time,
19 aren't you using that to identify someone?
20 A. Yes.
21 Q. And in this case, is there anything about 1A
22 that you can use to identify any human being at all?
23 A. From the results of 1A?
24 Q. Yes.
25 A. As far as identification of an individual, no.

1 Q. Can you tell me that 1A is human blood for
2 sure?
3 A. I can tell you that it was Hematrace positive.
4 Q. You know if they ever had ferrets?
5 A. I don't have any idea.
6 Q. They lived in a pretty heavily wooded area.
7 Reasonable to assume there are a lot of squirrels around
8 there?
9 A. I really don't have any direct knowledge of
10 that.
11 Q. Now, let me ask you. You specifically said --
12 talking about 1A -- that that was one of the spots that
13 David Rossi had identified in his thing when you got it,
14 that he identified, at least in what you looked at, as
15 high velocity spatter, blood spatter, right?
16 A. Yes.
17 Q. You said that on direct examination?
18 A. Yes.
19 Q. Do you know whether that's true?
20 A. Whether it was high velocity, I don't know.
21 Q. Now, you're a forensic examiner. I realize
22 that some of this blood spatter stuff may be outside your
23 area, but certainly you are familiar with the term high
24 velocity impact?
25 A. I'm familiar with the term.

1 Q. And so you knew what he was talking about when
2 he described it as such?
3 A. What I knew was that he was talking about
4 stains that could possibly be blood that were so small as
5 to be microscopic.
6 Q. And have you ever heard the term transferred
7 evidence?
8 A. Yes.
9 Q. And transferred blood?
10 A. Yes.
11 Q. And there is a world of distinction between
12 high velocity impact blood spatter and a transfer of
13 blood?
14 A. Yes.
15 Q. Transfer blood can tell you nothing about when
16 it got there, how it got there, origin, nothing, right?
17 A. Blood spatter is really outside of my area of
18 expertise, but I know enough to know that they are very
19 different.
20 Q. I guess what I'm getting at is the distinction
21 is high velocity impact blood spatter says that got there
22 at an event where a gun was fired into someone's head and
23 it caused blood to come out in microscopic fashion onto
24 it. It is specific to a type of an event.
25 MS. MCDANIEL: Judge, she's testified this

1 is outside the scope of her expertise.
2 THE COURT: Yeah, it's getting -- she's
3 saying that she doesn't know a lot about this. But I
4 will let you, if you have something that's within her
5 expertise, you can ask it.
6 Q. (By Mr. McWilliams) Generally, is that your
7 understanding of the distinction between the two?
8 MS. MCDANIEL: Judge, I renew my objection.
9 THE COURT: Okay. She can answer that.
10 Can you answer that?
11 A. Can you repeat it, please?
12 Q. (By Mr. McWilliams) I'll just move on,
13 Ms. Welch. It is not your particular area. Talking about
14 size doesn't matter on Hematrace. Let's go to that.
15 Okay? Because the Hematrace test is so sensitive, the
16 fact that these dots are tiny, that's okay, right? You
17 can still test them with the Hematrace?
18 A. Yes.
19 Q. So, the fact that you don't have very much of
20 it isn't going to be an explanation for why something
21 didn't test positive on Hematrace?
22 A. Well, it is possible that a stain could be too
23 small to get a result. Even though these are tiny, we
24 know we tested some that were that small and got a
25 positive result. But it is possible that maybe if they

1 are smaller than that, they may not.
2 Q. Okay. I thought Ms. McDaniel asked you several
3 questions about that. In fact she read it in kind of a
4 dramatic flourish at the end about how the size doesn't --
5 MS. MCDANIEL: Judge, I apologize. The
6 side-bar, I object.
7 THE COURT: No side-bar, please.
8 MR. McWILLIAMS: Understood, Judge. I'm
9 sorry.
10 THE COURT: Thank you.
11 Q. (By Mr. McWilliams) I'm trying to identify the
12 question for you. Do you remember talking to her about
13 that?
14 A. I do.
15 Q. And does it seem -- I mean, I kind of feel like
16 you are saying something different to me.
17 A. Well, not -- I'm sorry, I'm not meaning to say
18 something different to you. I will explain a little bit
19 more.
20 Q. Sure.
21 A. It is possible that a stain could be too small,
22 but when you have a stain that is of enough size to give a
23 positive result, you're going to get the same positive
24 result whether the stain is large or whether the stain is
25 small. However, again, it's positive it could be too

1 small to give a result.
2 Q. Did you test any stains that were too small to
3 give a result?
4 A. I don't -- I'm not sure of the answer to that
5 question. I mean, it's possible.
6 Q. Right. I mean, how do you -- how is any of
7 them ever -- how could I ever say -- I mean, isn't it fair
8 that I could test -- I could take any spot off there and
9 say, well, it was so small, I got -- it didn't test
10 positive for blood, but it was so small maybe it was blood
11 and I just can't tell?
12 A. I guess -- I don't want to be nonresponsive,
13 but --
14 Q. I get it that it's hard.
15 A. I would like to explain. Let me explain the
16 definition of -- okay, in scientific terms, the definition
17 of a negative result. We get negative results all the
18 time. Okay? And there could be a number of reasons for
19 that. And the reason is what you're looking for, or
20 thinking was there, is not there. It's actually truly
21 negative; or there's not of enough there to be above the
22 threshold that would give you a positive result; or it's,
23 you know, begin degraded or somehow altered so that, you
24 know, chemically you can't get that positive result.
25 Q. All right, I understand. Let's talk about

1 that, Ms. Welch. Would you agree with me -- are you
2 telling -- would you ever tell this jury in this case that
3 items that you tested with -- you said you tested eight
4 Hematraces, right? You did eight?
5 A. Yes.
6 Q. And seven are negative, right?
7 A. Correct.
8 Q. So, here's really the question. Is it okay for
9 anybody on this jury to think that if -- that the reason
10 that -- for them to assume that the reason that the seven
11 were negative is because there just wasn't enough to test,
12 or it was too degraded, and that really they were blood,
13 or do you think that's incredibly dangerous?
14 A. I think scientifically it's a possibility that
15 that is a reason for the result. I can't absolutely say
16 that that wouldn't be the case.
17 Q. Okay. Ms. Welch, I understand that
18 scientifically it is a possibility, right?
19 A. Yes.
20 Q. But I'm representing this lady, and her life --
21 MS. MCDANIEL: Judge, I object to that.
22 That's happened repeatedly.
23 THE COURT: Your objection is argument?
24 MS. MCDANIEL: Yes, Your Honor. I'm sorry.
25 THE COURT: No argument. Ask the question.

1 Q. (By Mr. McWilliams) I want to ask that in the
2 context that we are in, that you are delivering this
3 evidence to this jury, Ms. Welch, do you want this jury to
4 think --
5 MS. MCDANIEL: Judge, I object. That
6 invades the province of the jury.
7 THE COURT: That's an improper question.
8 There's a way to ask the question.
9 Q. (By Mr. McWilliams) Do you intend that this
10 jury understand your testimony to be --
11 MS. MCDANIEL: I renew my objection based
12 on the fact that it's the exact same question, Your
13 Honor.
14 THE COURT: No, no, no, I'll allow it. Go
15 ahead.
16 Q. (By Mr. McWilliams) Do you intend for this jury
17 to understand your testimony to be that the seven negative
18 tests that you got on Hematrace really might have been
19 blood anyway? Is that what you intend for them to
20 understand from your testimony?
21 A. That is possible, yes.
22 Q. That's what you want them to understand?
23 A. I would like them to understand that the
24 results that I got for those Hematrace tests were
25 negative. But I'd like for them to understand what the

1 meaning of a negative result is.
2 Q. Let's talk about that from your point as --
3 from your perspective as a scientist. You wouldn't tell
4 the DA's office that you got a positive result, would you?
5 A. I'm sorry, I don't quite understand.
6 Q. Let me ask it this way. Can you say within a
7 reasonable degree of medical or scientific certainty that
8 those are false negatives, that those really were blood?
9 A. I don't -- I got a negative result. I don't
10 know whether they were a false negligent.
11 MR. McWILLIAMS: I object that that's
12 nonresponsive.
13 THE COURT: It's overruled.
14 Q. (By Mr. McWilliams) I want you to answer my
15 question within -- you're an expert witness in this area,
16 correct?
17 A. I am.
18 Q. Within a reasonable degree of scientific
19 certainty, are you telling this jury that those were false
20 negatives when they came up negative for blood?
21 A. I'm not telling the jury that they were false
22 negatives. The results were negative. I don't know why
23 the results -- I don't know the reason for the negative
24 results.
25 Q. Is it possible that the reason for the negative

1 results is because they aren't blood?
2 A. It's absolutely possible.
3 Q. You have any reason -- can you say with any
4 degree of scientific certainty to this jury that --
5 MR. McWILLIAMS: May I have just a moment,
6 Your Honor?
7 THE COURT: Yes, sir.
8 (Brief pause.)
9 Q. (By Mr. McWilliams) How much time did you spend
10 with this evidence, Ms. Welch?
11 A. Quite a fair amount of time. I don't know
12 exactly, but I opened it multiple times.
13 Q. So, hours?
14 A. Yes.
15 Q. Days?
16 A. A few days, yes.
17 Q. You're not the only one who worked on it,
18 right? Other people worked on it before?
19 A. I know that -- I mean, if it was tested before
20 it came to me, then other people had handled it, yes.
21 Q. Can you tell the jury that there's no blood on
22 that?
23 A. I can tell the jury that that one spot was
24 Hematrace positive, and the Hematrace test is positive for
25 blood. We do not say human blood for the reasons of the

1 possibility of upper primates and ferrets.
2 Q. So, there is one microscopic spot of some kind
3 of blood. You don't know if it's transfer, you don't know
4 if it's -- versus high velocity?
5 A. That's correct.
6 MR. DAVIS: I'm going to pass the witness,
7 Judge.
8 THE COURT: Any questions?
9 MS. MCDANIEL: No, sir. May this witness
10 be excused?
11 THE COURT: Yes, ma'am, you are excused.
12 We are going to take a quick break. Again, we are
13 working till 6:00. So, we will take probably about
14 10 minutes or so.
15 (Whereupon the Court stood in a brief
16 recess.)
17 THE COURT: Let's bring in this jury.
18 (Whereupon the following proceeding is
19 held in the presence of the jury.)
20 THE COURT: Call your next witness.
21 MS. MCDANIEL: Sergeant Dean Holtke, Your
22 Honor.
23 THE COURT: Sergeant Holtke, come forward.
24 Please raise your right hand.
25 (Whereupon the witness is sworn by the

Questions for Mr. Henderson:

1. What are the relevant standards, guidelines and/or best practices applicable to analyzing "cold cases" involving blood spatter evidence? Do you believe they were followed by the State's Expert (Mr. Christopher Duncan) in this case?

The bloodstain analysis performed on any case is based on the size, shape, distribution, and the location of the bloodstains.

There are no differences in the guidelines for working a cold case or for working a current case. Bloodstain analysis begins with the examination of the evidence. This can be done at the actual crime scene or by examining the collected evidence in the lab or in the evidence room. The evidence can also be analyzed from crime scene video and /or from crime scene photographs. The challenge with cold cases is often with the quality of the evidence. Evidence can deteriorate over time, especially if the environment is not controlled. The starting point in any blood analysis case is to establish that the pattern in question is blood. There are several reliable tests analyst can use to determine the presence of blood. These tests include presumptive, species specific and DNA testing. The presumptive test tells you that in most likelihood it is blood. The species specific test tells you it is blood and most likely human blood. The DNA test tells you it is blood and whose blood it is. The tests used are determined by the analyst. . It may be one test or a combination of several. However, the standard that has to be met for the bloodstain analysis to be accepted by the court is a positive presumptive for blood.

As to the question of best practices in bloodstain analysis, the following standards are used:

The bloodstain evidence is documented; the patterns are analyzed and individual stains within the different patterns are collected for the lab. (It is not necessary to test or collect every stain. For one it is not needed and secondly the lab is going to limit the number of stains that are tested.) Critical stains, within the pattern are chosen, ideally, by a person with bloodstain training. In a cold case, the analyst should attempt the same thing. That is to identify the pattern and select stains from within those patterns for further testing. Presumptive test can be performed on several different stains within the pattern; however, in older cases, it is not unusual for the results to be non-conclusive. It is still necessary for the analyst to establish one stain as blood or the strong possibility that it is blood.

It is my opinion that Mr. Duncan attempted to and did establish one stain within the pattern to be blood. The type of test he used narrowed it down to most likely human blood. The same stain was used by Mr. Bevel in his analysis. Mr. Duncan also attempted to verify his finding with a light source and the lab preformed other presumptive testing. Mr. Duncan used accepted practices within the bloodstain discipline to reach his conclusion.

2. What are the relevant standards, guidelines and/or best practices applicable to analyzing “high velocity” blood spatter? Do you believe they were followed by Mr. Duncan in this case?

To answer any question about high velocity impact spatter we need to first clarify what we are referring to when we say “high velocity.” As I said earlier, bloodstain analysis is partially based on the size of the stains. Earlier terminology broke impact spatter into high, medium, and low velocity, based on the predominate stain size. High velocity was basically considered to have a predominate stain size of less than one millimeter. In a crime scene setting, only a few mechanisms would lead to high velocity spatter. High velocity spatter is normally created by gunshots or expiratory blood. Unfortunately it is sometimes hard to convey the fact that the blood spatter created by a gunshot is not necessarily all high velocity mist. The smaller end of the spatter created by a high velocity incident has very little mass and can only travel a short distance. As the stains increase in size they travel farther. There is a rule of thumb that high velocity spatter or spatter created by a gunshot will only travel approximately 46 inches. However, in reality, the smaller end or the “mist” travels a much shorter distance. And you also have the potential for larger stains to travel much further. A rule taught, at least to all my students, is that when you go to a shooting, you expect to find high velocity spatter, but do not be surprised if you don't find it. High velocity spatter too easily blends into carpet, or dirty floors or other surfaces. High velocity spatter is also easily deflected or stopped by fabric, hair, skin, bone, etc.

Another problem associated with the fine mist from high velocity spatter is that the smaller stains tend to partially dry in flight. You may have a large number of very small stains visible on clothing at the scene only to find that after transport back to the lab they are gone. This occurs because the spatter is in a spherical shape and barley adhered to the clothing; therefore, the high velocity spatter can easily be wiped off or it can fall off during packaging or shipping.

Impact spatter can often be found on people who are present at the scene. This includes high velocity spatter. The location of the smaller stains on a second person would put him/her close to the victim when the incident occurred. The distribution and shape of the stains may even allow for the analyst to feel confident that the second person was the shooter. The problem again is the size and the migratory nature of the stains. You have to take into account the possibility that a slightly larger impact stain that is dislodged during the process may leave a contact/transfer stain. It has to be taken into account that because of the mass of high velocity spatter and the relative short distance it takes for it to slow down; the spatter does not always have the force to penetrate the weave of clothing. Again many of the small stains adhere only to the surface of the fabric and are easily dislodged.

The answer to the question on the procedure for analyzing “high velocity spatter” is no different than the procedure for analyzing any bloodstain pattern. The analysis is based on the size, shape, distribution and the location of the bloodstains.

Mr. Duncan gathered information about the evidence. He photographed the clothing using different techniques and documented the suspected stains on the clothing. He confirmed the presence of blood in one of the stains which would allow him to include other like sized and colored stains as part of the pattern. He allowed for the pattern to possibly be a contact or transfer stain. His final decision was impact spatter. I believe Mr. Duncan followed a sound procedure for a very difficult case.

3. Are there any threshold requirements for positive laboratory results before a bloodstain pattern analyst should testify regarding a possible bloodstain pattern? If so, what are those requirements? Do you believe they were met by Mr. Duncan in this case?

There was a rule of thumb in the late 80's and early 90's that if you had three different presumptive tests come back positive that would confirm you had blood. Because each presumptive test has different false positives, three positive results from three different presumptive tests were deemed to be reliable. That rule began to change as DNA testing was developed and the presumptive became species specific. In current cases today, samples are saved for DNA testing. In fact, DNA testing often takes less blood that the old presumptive test. Presumptive tests today are often used only to confirm the presence of blood in the field or a presumptive, such as Blue Star, is used to look for hidden bloodstains or bloodstains not visible without enhancement. And then the presumptive test is followed up with further testing, such as DNA testing.

Before the analyst can perform a bloodstain analysis, the presence of blood has to be confirmed. This is sometimes difficult in cold cases, but at least a representative stain from the pattern needs to test positive to a presumptive test. Of course, the best thing is for the presumptive to be species specific. The more information you can get from your testing, the more firm you can be in your analysis. A presumptive test tells you there is a strong possibility that the stain on the clothing or in the scene is blood and this would allow for an analysis to be done. The next step is reached if the analyst can say for sure the origin of the blood is human. And DNA testing allows it to be narrowed down to one person. So the minimum standard would be what the court would allow. A species specific positive such as you have in this case is enough for conclusions to be drawn. Mr. Duncan was not outside of the discipline to draw the conclusion he did.

4. As a general matter, do you believe Mr. Duncan followed the standards, methods and procedures that a qualified and well-trained blood stain pattern expert should have followed?

This case was worked under very difficult conditions. The evidence in this case had been handled, stored, and subjected to other factors that would have caused the small impact stains to deteriorate. A successful attempt was made to determine that the stains were human blood. An attempt to document the stains with standard lens and under extreme close- up photography was accomplished. This allowed for further examination of the evidence. Limited analysis was performed on the scene photographs. This was wise based on the time of photographs taken and the inability to look at all of the physical evidence and to confirm what was or what was not visible in the photographs. Yes, I do believe Mr. Duncan followed acceptable procedures in his analysis of this case.

5. Do you believe Mr. Duncan’s expert testimony was appropriate, accurate and scientifically supportable? Was Mr. Duncan qualified to conduct the analyses and provide the opinion?

Based on the trial transcript, Mr. Duncan answered every question as straight forward as possible. His techniques were correct. He was limited with a case of that age and no previous blood test. Additional information, such as better documentation of the scene and testing for the possibility of blood during the time of the offense, would have made his job much easier. But I doubt very seriously that it would have changed his testimony. I see no reason to question his testimony. And once again Mr. Duncan is qualified to conduct and testify on his analysis. I will add that once the stain was determined to be blood, Mr. Duncan could have presented testimony about the rest of the pattern. The lack of a presumptive reaction did not exclude the other like stains within the pattern from being presented as part of the pattern once the one stain was determined to be blood. This may have helped settled the question of impact versus transfer.

6. The Commission is able to suggest best practices to the community of bloodstain pattern analysts as well as the broader criminal justice community which is the ultimate end-user of the forensic discipline. Do you have any other observations or recommendations regarding this case (or the discipline in general) that may assist the Commission in formulating such recommendations?

The most important suggestion I can make to the commission is the need for all bloodstain analysis or reports to be peer reviewed. Often this never happens. A local officer or a lab person becomes the "go-to guy" on bloodstain analysis and his work is never questioned. The best practice for any discipline is for the work of individuals to be reviewed by others. This has been a common practice for years in fingerprint identification and in the laboratory sciences such as DNA.

Other observations or recommendations regarding this case:

My recommendation would have been to have treated the nightgown with blue star. Blue star is a presumptive test that might have reacted with more of the stains in the pattern. It would have strengthened Mr. Duncan's testimony if the blue star had reacted.

7. Do you have any other observations regarding the integrity and reliability of the blood spatter analysis and related testimony in this case? ultimate end-user of the forensic discipline. Do you have any other observations or recommendations regarding this case (or the discipline in general) that may assist the Commission in formulating such recommendations?

To objectively question the bloodstain analysis in this case is very difficult due to the limited evidence and documentation of the case. What is possible to look at, is what evidence is available and to see if the analyst went outside the lines to reach his conclusions. Bloodstain analysis is both subjective and objective. There will always be room for variations in opinions on a case. Whatever opinions are given by the analyst in this case or in any case should be backed up based on the standards of bloodstain pattern analysis. I believe in this case the analysis was based on the accepted standards of the discipline. Could things have been explained or described better? Possibly, but every case can be looked at with hind sight.

The analysis in this case was done in a professional way and it was presented in a professional way. We all know the case would have been worked differently in 2017 than it was in the1980's.. Part of the problems incurred by the analyst in this case would be non-issues today with the improved training levels of crime scene officers and the advancements made in laboratory testing.

I can't say with certainty that the stain in question was an impact strain, wipe/swipe or transfer. I respect both opinions. I have my own opinion, but it would not be proper because it would be my best guess and not based on physical examination of the clothing.

I will say again that I believe Mr. Duncan followed the steps necessary to reach an opinion that is within the capabilities of the discipline. I would commend Mr. Duncan for his analysis performed on a case with these limitations.

Questions for Dr. Spiegelman:

What are the relevant standards, guidelines and/or best practices applicable to the use of statistical analyses in gunshot residue cases? Do you believe applicable standards were followed by the State's expert in this case?

Dr. Davis did not use the best or even reasonable statistical practice for several reasons:

1 There are no comprehensive or meaningful studies of GSR on nightgowns, so there was/is no way to interpret finding 2 GSR particles on Norma Clark's nightgown. The Cardinetti paper referenced by Dr. Davis only studies hands. Hands are part of a human being, and a nightgown is not. Hands in the USA are usually washed several times a day, and nightgowns can go for long periods between washings. The evidence at trial that shows that Norma Clark's stored nightgown held GSR particles for decades, and the GSR literature shows that hands do not do that. In a home loaded with guns how can a GSR analyst know if the GSR wasn't picked up by the nightgown months before the murder and then stored in a closest until the night of the murder? I was given no testimony about the history of the nightgown. Dr. Davis should have said 'there is no comprehensive or meaningful literature to interpret the GSR particles on nightgowns.' He should have said *nothing* else about interpretation of the 2 GSR particles in this case. No likelihoods, no probabilities, no anything else.

2 There are no comprehensive or meaningful studies of secondary GSR transfer in homes with many guns. In fact, in Dr. Davis' June 30 memo to Dr. Kahn he writes: "At the end of the testimony in this particular case, defense counsel (paraphrasing) asked whether these averages or probabilities can be applied to the environment of the defendant's home. I replied that this particular model could not be applied since the baseline average for that scenario had not been established." He should not have given any testimony at all or *only* said that as an examiner I do not know how to interpret the 2 GSR particles found nor does anyone else. From *Calculation of likelihood ratios for gunshot residue evidence—statistical aspects*, by Naomi Kaplan Damary et al, the paper written with the Israel Police lab write "The LR depends heavily on the propositions being compared. The important issue of correctly specifying the two alternative propositions extends beyond the scope of the current article (for further discussion see Gallidabino *et al.,* 2015). Here we consider only the situation in which the suspect declares that he was neither near the crime scene

nor in physical contact with a weapon elsewhere. This is motivated by the policy of our lab to *exempt a suspect* (Emphasis CS) from GSR testing if he has tied himself to the crime scene or if he belongs to a population likely to be contaminated by GSR particles (for example hunters or soldiers)."

I now provide more detail:

3. Using that data only in the Cardinetti paper we get the 95% confidence interval for the probability of a non-shooter as [0.00000150953, 0.00351836]. The biggest calculation oversight *was not* taking into account how common/rare observing 2 particles from a shooter would be. For shooters after 3 hours Cardinetti says the Poisson model is appropriate (Kaplan Damary et al, et al. disagree) but by using the Poisson model that Dr. Davis put forward at trail a 95% confidence interval for finding 2 particles on hands after 3 hours from a shooter is [0.00111588, .0310989]. The likelihood of observing 2 GSR particles on hands at 3 hours after a shooting is not very different for shooters and non-shooters. If we take the likelihood ratio from the upper end of the 2 95% confidence intervals it is less than 12 to 1, and at the lower end about 112 to 1 in favor of the shooters. Other ratios from these intervals are possible and range from less than 1 (favoring innocence) to astronomically large (favoring guilt.) If this seems counter intuitive it is because the Cardinetti paper uses shooters who fired a gun at least 10 times. Finding as few as 2 particles on a shooter after 3 hours would be rare under the Poisson model.

   Aside from Dr. Davis' assertion that the Poisson model is appropriate the paper: Naomi Kaplan Damary et al. shows convincingly that, for shooters, the Poisson model is inappropriate and they instead use a negative binomial model. Damary et al. get a 95% confidence interval for a likelihood ratio (ratio of the probabilities of non-shooters to shooters of [11, 1500000] for 2 GSR particles. So, a likelihood ratio of about 12 to 1 or so is plausible and is very different presentation than the 1 in 10,000 probability given by Dr. Davis. He should never have given any testimony regarding probabilities or their interpretation.

4. The probability calculations are problematical. First the Poisson distribution is not the best model for the Cardinetti paper. See Kaplan Damary et al. for an explanation as to why. For non-shooters, it *may* be a decent model but there is too little data in the paper to tell. The only literature and data given by Dr. Davis that was published at the time of the

trial was the Cardinetti paper. Using the data only in the Cardinetti paper we get the 95% confidence interval for the probability of a non-shooter as [0.00000150953, 0.00351836]. The upper end of the confidence interval is about 1 in 285 and that is very different than 1 in 10,000. The absence of confidence intervals was not the biggest statistical oversight. Dr. Davis should never have given any testimony regarding probabilities or interpretation.

Do you believe applicable standards were followed by the State's expert in this case?

There was no SOP provided that outlined presenting findings in testimony. One cannot violate a written protocol if one does not exist. The inconclusive was presented as strongly incriminating evidence and points 1 to 4 above explain why this should never have been done.

Are there any threshold requirements regarding number of particles that should be identified before a GSR analyst testifies regarding the presence of GSR, or do thresholds vary by laboratory?

The threshold varies from lab to lab. The Israelis use 3 GSR particles as a threshold. Bexar County uses 1, but interpretations also vary from lab to lab.

Is the Poisson distribution an appropriate statistical theory upon which to base statements of likelihood or probability in GSR analysis for criminal cases?

The Poisson model is not nearly as good overall for GSR as the negative binomial distribution. I am the statistician appointed to the OSAC GSR committee and there was a verbal consensus at our last meeting in Virginia that the Poisson model is often seriously lacking. (Also, Cardinetti stated that for many of his shooter data sets the Poisson model was not appropriate.)

As a general matter, do you believe Dr. Davis' scientific and statistics-related testimony was appropriate, accurate and scientifically supportable? Why or why not?

Dr. Davis' testimony was completely inappropriate. See items 1 to 4 above.

Do you have any other observations regarding the integrity and reliability of the GSR analysis, statements of statistical weight and related testimony in this case?

Dr. Davis has 4 degrees in chemistry. He has a bachelor's degree in chemistry, 2 master's degrees in chemistry, and a PhD in chemistry. He is an expert chemist. He is not an expert statistician. In fact, judging from his testimony, I suspect that he knows less than a bachelors' degree holder in statistics. I say that because he gave no confidence intervals and did not give a likelihood ratio. He did not seem to appreciate the limits of applying hand studies to nightgowns.

The Harris County lab should ask for statistical help. I not only advise the TFSC but I am an advisor to the HFSC and at their request spend a lot of time with them going over statistical issues.

The Commission has the ability to suggest best practices to the community of GSR analysts as well as the broader criminal justice community which is the ultimate end-user of forensic science. Do you have any observations or recommendations regarding this case (or the general subject of GSR and associated statistical analyses) that may assist the Commission in formulating such recommendations?

My recommendation is that each forensic discipline work with statisticians to provide a foundation for their testimony. What sounds okay to forensic fields practicing in a silo, may not fly with the broader scientific community. In a meeting with the OSAC statisticians in Virginia a large number of fields were found lacking a statistical foundation including gun-shot residue, glass fragments, and blood spatter.

A Statistical Review Of GSR Trial Evidence In The Norma Clark Case

By Clifford Spiegelman, PhD

Questions from the TFSC to Cliff

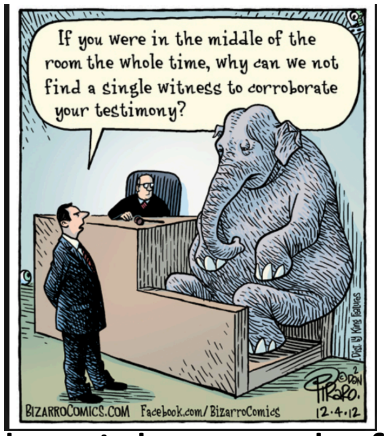
- 1. What are the relevant standards, guidelines and/or best practices applicable to the use of statistical analyses in gunshot residue cases? Do you believe applicable standards were followed by the State's expert in this case?
- 2. Do you believe applicable standards were followed by the State's expert in this case?
- 3. Do you believe applicable standards were followed by the State's expert in this case?
- 4. Are there any threshold requirements regarding number of particles that should be identified before a GSR analyst testifies regarding the presence of GSR, or do thresholds vary by laboratory?
- 5. Is the Poisson distribution an appropriate statistical theory upon which to base statements of likelihood or probability in GSR analysis for criminal cases?

Questions from the TFSC to Cliff Continued

- 6. As a general matter, do you believe Dr. Davis' scientific and statistics-related testimony was appropriate, accurate and scientifically supportable? Why or why not?
- 7. Do you have any other observations regarding the integrity and reliability of the GSR analysis, statements of statistical weight and related testimony in this case?
- 8. The Commission has the ability to suggest best practices to the community of GSR analysts as well as the broader criminal justice community which is the ultimate end-user of forensic science. Do you have any observations or recommendations regarding this case (or the general subject of GSR and associated statistical analyses) that may assist the Commission in formulating such recommendations?

Q1: Relevant Standards, Guidelines And/ Or Best Practices

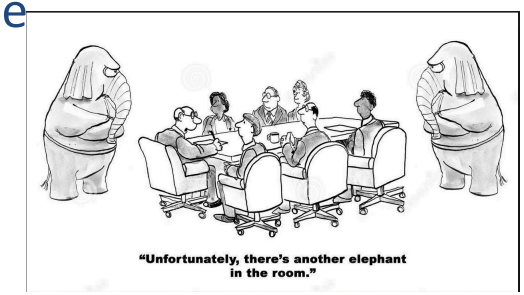
- A. There are no comprehensive or meaningful studies of GSR on nightgowns, so there was/is no way to interpret finding 2 GSR particles on Norma Clark's nightgown .
  - Davis study is only hands.



- B. No testimony about the history of the nightgown before the murder.
  - Was it stored near firearms?
- C. Dr. Davis should have said 'there is no comprehensive or meaningful literature to interpret the GSR particles on nightgowns.' He should have said nothing else about interpretation of the 2 GSR particles in this case. No likelihoods, no probabilities, nothing else.

Q1: Relevant Standards, Guidelines And/ Or Best Practices Continued

- D. There are no comprehensive or meaningful studies of secondary GSR transfer in homes with many guns.
  - In fact, in Dr. Davis' June 30 memo to Dr. Kahn he writes: "At the end of the testimony in this particular case, defense counsel (paraphrasing) asked whether these averages or probabilities can be applied to the environment of the defendant's home. I replied that this particular model could not be applied since the baseline average for that scenario had not been established."
    - Dr. Davis should not have given any testimony at all or *only* said that as an examiner I do not know how to interpret the 2 GSR particles found nor does anyone else



Q1: Relevant Standards, Guidelines And/ Or Best Practices Continued

- 3. Using that data only in the Cardinetti paper we get the 95% confidence interval for the probability of a non-shooter as [0.00000150953, 0.00351836]. The biggest calculation oversight was not taking into account how common/rare observing 2 particles from a shooter would be.
  - For shooters after 3 hours Cardinetti says the Poisson model is appropriate (Kaplan Damary et al, et al. disagree) but by using the Poisson model that Dr. Davis put forward at trail a 95% confidence interval for finding 2 particles on hands after 3 hours from a shooter is [0.00111588, .0310989].
  - Damary et al. get a 95% confidence interval for a likelihood ratio (ratio of the probabilities of non-shooters to shooters of [11, 1500000] for 2 GSR particles.

Q1: Relevant Standards, Guidelines And/ Or Best Practices Continued

- E. From Calculation of likelihood ratios for gunshot residue evidence—statistical aspects, by Naomi Kaplan Damary et al, the paper written with the Israel Police lab write "The LR depends heavily on the propositions being compared. The important issue of correctly specifying the two alternative propositions extends beyond the scope of the current article (for further discussion see Gallidabino et al., 2015). Here we consider only the situation in which the suspect declares that he was neither near the crime scene nor in physical contact with a weapon elsewhere. This is motivated by the policy of our lab to exempt a suspect from GSR testing if he has tied himself to the crime scene or if he belongs to a population likely to be contaminated by GSR particles (for example hunters or soldiers)."

LRs from Kaplan Damary Et Al.

TABLE 3 *LR Confidence intervals for different times and different numbers of GSRs*

	0 GSRs	**1 GSRs**	**2 GSRs**
$t = 2$	$[2.9 \times 10^{-3}, 4.7 \times 10^{-2}]$	$[1.2 \times 10^{-1}, 1.7 \times 10^{2}]$	$[6.3 \times 10^{0}, 1.2 \times 10^{6}]$
$t = 3$	$[5.9 \times 10^{-3}, 6.1 \times 10^{-2}]$	$[2.4 \times 10^{-1}, 2.1 \times 10^{2}]$	$[1.1 \times 10^{1}, 1.5 \times 10^{6}]$
$t = 4$	$[1.1 \times 10^{-2}, 7.9 \times 10^{-2}]$	$[4.2 \times 10^{-1}, 2.7 \times 10^{2}]$	$[1.9 \times 10^{1}, 1.8 \times 10^{6}]$
$t = 5$	$[1.9 \times 10^{-2}, 1.0 \times 10^{-1}]$	$[6.7 \times 10^{-1}, 3.4 \times 10^{2}]$	$[2.9 \times 10^{1}, 2.2 \times 10^{6}]$
$t = 6$	$[3.0 \times 10^{-2}, 1.3 \times 10^{-1}]$	$[9.7 \times 10^{-1}, 4.3 \times 10^{2}]$	$[3.8 \times 10^{1}, 2.9 \times 10^{6}]$
$t = 8$	$[6.1 \times 10^{-2}, 2.3 \times 10^{-1}]$	$[1.7, 7.2 \times 10^{2}]$	$[5.6 \times 10^{1}, 4.0 \times 10^{6}]$
$t = 10$	$[1.0 \times 10^{-1}, 3.9 \times 10^{-1}]$	$[2.4, 9.6 \times 10^{2}]$	$[6.8 \times 10^{1}, 4.3 \times 10^{6}]$
	3 GSRs	**4 GSRs**	**5 GSRs**
$t = 2$	$[3.9 \times 10^{2}, 1.2 \times 10^{10}]$	$[2.9 \times 10^{4}, 1.6 \times 10^{14}]$	$[2.5 \times 10^{6}, 2.6 \times 10^{18}]$
$t = 3$	$[6.8 \times 10^{2}, 1.5 \times 10^{10}]$	$[4.8 \times 10^{4}, 1.9 \times 10^{14}]$	$[3.9 \times 10^{6}, 3.1 \times 10^{18}]$
$t = 4$	$[1.1 \times 10^{3}, 1.8 \times 10^{10}]$	$[7.0 \times 10^{4}, 2.3 \times 10^{14}]$	$[5.2 \times 10^{6}, 3.7 \times 10^{18}]$
$t = 5$	$[1.5 \times 10^{3}, 2.2 \times 10^{10}]$	$[8.8 \times 10^{4}, 2.8 \times 10^{14}]$	$[5.9 \times 10^{6}, 4.2 \times 10^{18}]$
$t = 6$	$[1.8 \times 10^{3}, 2.7 \times 10^{10}]$	$[9.8 \times 10^{4}, 3.1 \times 10^{14}]$	$[6.2 \times 10^{6}, 4.4 \times 10^{18}]$
$t = 8$	$[2.2 \times 10^{3}, 3.1 \times 10^{10}]$	$[10.0 \times 10^{4}, 3.3 \times 10^{14}]$	$[5.0 \times 10^{6}, 4.2 \times 10^{18}]$
$t = 10$	$[1.8 \times 10^{3}, 3.1 \times 10^{10}]$	$[5.1 \times 10^{4}, 3.0 \times 10^{14}]$	$[1.7 \times 10^{6}, 3.7 \times 10^{18}]$

Q2: Do you believe applicable standards were followed by the State's expert in this case?

- There was no SOP provided that outlined presenting findings in testimony. One cannot violate a written protocol if one does not exist
- The inconclusive was presented as strong evidence of having been around a fired weapon.
    - How could the 1 in 10,000 testimony be interpreted otherwise?

Q3: Are there any threshold requirements regarding number of particles that should be identified before a GSR analyst testifies regarding the presence of GSR, or do thresholds vary by laboratory?

- The threshold varies from lab to lab. The Israelis use 3 GSR particles as a threshold. Bexar County uses 1.
  - Interpretations also vary from lab to lab.

Q5: Is the Poisson distribution an appropriate statistical theory upon which to base statements of likelihood or probability in GSR analysis for criminal cases?

- The Poisson model is not nearly as good overall for GSR as the negative binomial distribution. I am the statistician appointed to the OSAC GSR committee and there was a verbal consensus at our last meeting in Virginia that the Poisson model is often seriously lacking.
  - Also, Cardinetti reference used by Dr. Davis, stated that for many of the Cardinetti shooter data sets the Poisson model was not appropriate.

Q6: As a general matter, do you believe Dr. Davis' scientific and statistics-related testimony was appropriate, accurate and scientifically supportable? Why or why not?

- Dr. Davis' testimony was completely inappropriate.

Q7: Do you have any other observations regarding the integrity and reliability of the GSR analysis, statements of statistical weight and related testimony in this case?

- The presentation of the statistical evidence was far below what would be expected from a statistician.
  - The Harris County lab should ask for statistical help.

Q8: The Commission has the ability to suggest best practices to the community of GSR analysts as well as the broader criminal justice community which is the ultimate end-user of forensic science. Do you have any observations or recommendations regarding this case (or the general subject of GSR and associated statistical analyses) that may assist the Commission in formulating such recommendations?

- My recommendation is that each forensic discipline work with statisticians to provide a foundation for their testimony. What sounds okay to forensic fields practicing in a silo, may not fly with the broader scientific community. In a meeting with the OSAC statisticians in Virginia a large number of fields were found lacking a statistical foundation including gun-shot residue, glass fragments, and blood spatter.