

Before the

INTER-AMERICAN COMMISSION ON HUMAN RIGHTS

Jessica Gonzales,
in her individual capacity and on behalf of her deceased daughters,
Katheryn, Rebecca, and Leslie Gonzales

vs.

The United States of America

Case No. 12.626

EXPERT REPORT OF PETER DIACZUK

July 15, 2009

I. Introduction*

1. My name is Peter Diaczuk and I am a forensic scientist and the Director of Forensic Science Training at the Center for Modern Forensic Practice, John Jay College of Criminal Justice, City University of New York. In this Expert Report, I assess the quality of the Colorado authorities' investigation into the deaths of Katheryn, Rebecca, and Leslie Gonzales in June 1999 – an issue in case of *Jessica Gonzales v. United States*, before the Inter-American Commission on Human Rights – in light of well-accepted standards and best practices in the fields of forensic science and criminal justice. As this report describes, the Colorado authorities erred in several areas of their investigation: the collection and preservation of physical evidence; crime scene photography; analysis and reporting of forensic evidence; the chain of custody of the evidence and evidence that appears to be lost or missing; trajectory analysis; and blood spatter analysis.
2. In my estimation, the incomplete handling, documentation, and analysis of the evidence in this case resulted in unnecessary uncertainty surrounding the time, place, and circumstances of the three girls' deaths. Specifically, neither the girls' death certificates nor the thousands of pages of investigatory documents that I have reviewed specify a time or location of the girls' deaths.¹ Moreover, these documents make summary conclusions, without accompanying analysis, that Simon Gonzales killed his children prior to his arrival at the police station.² The result fails to

* I wish to acknowledge the invaluable research assistance of the following students from Columbia Law School in preparing this report: Chinyere Ezie, Meera Shah, and Danielle Toaltoa.

¹ See State of Colorado Certificate of Death: Rebecca Gonzales; State of Colorado Certificate of Death: Katheryn Gonzales; State of Colorado Certificate of Death: Leslie Gonzales, Ex. A (hereinafter Certificates of Death); *infra* ¶ 5.

² See 18th Judicial District Critical Incident Team Report Re: Shooting of Simon Gonzales, Castle Rock Police Department Case #99-3226, Ex. B; see also Letter to Colorado Bureau of Investigations (CBI) from

conform to best practices in the fields of forensic science and criminal justice investigation.

3. I conclude this report by highlighting the oversights in the investigation into the deaths of Katheryn, Rebecca, and Leslie Gonzales conducted by the Colorado authorities, and I offer suggestions for how the authorities could have undertaken their investigation. Importantly, as I underscore, all is not lost. If even some of the evidence in this case has been properly preserved – which is unclear from my examination of the documents – several lingering questions concerning the time, location, and circumstances surrounding the girls’ deaths might still be answerable today. Therefore, it is my recommendation that the Colorado authorities re-open the investigation into the girls’ deaths, with the goal of resolving unanswered questions about their deaths. This report will, I hope, serve as a resource that highlights the areas most in need of further forensic analysis and development moving forward in this case.
4. In preparation for drafting this report, I have reviewed the facts of the case, as presented by the Petitioner, Jessica Lenahan (formerly Gonzales), and the Respondent, the United States.³ I understand the undisputed facts, as they pertain to the issues addressed in my report, to be the following: In the late afternoon/early evening of June 22, 1999, Simon Gonzales picked up his three young daughters, Katheryn, Rebecca, and Leslie, from the home of his estranged wife, Jessica

Detective Contos and Agent Vanecek, (June 28, 1999), Ex. C.; Letter from the Office of the District Attorney to Chief of Police Tony Lane, (June 28, 1999), Ex. D.

³ Petitioner’s Final Observations Regarding the Merits of the Case, *Jessica Gonzales v. The United States of America*, Case No. 12.626, at 6-89 (March 24, 2008) (hereinafter Gonzales Merits Brief); Reply of the Government of the United States of America to the Final Observations Regarding the Merits of the Case by the Petitioners, *Jessica Gonzales v. The United States of America*, Case No. 12.626 (October 17, 2008) (hereinafter U.S. Observations on the Merits).

Gonzales, while a domestic violence restraining order against him was in effect. At approximately 3:20 am on June 23, 1999, Simon Gonzales parked his pickup truck across the street from the front entrance of the Castle Rock Police Department, located in Castle Rock, Colorado. Simon Gonzales exited his vehicle and began shooting at the police department building using a 9 mm Taurus handgun. Ignoring commands to lower his weapon, Simon Gonzales continued shooting. Four police officers returned fire – two using 45 caliber handguns and two using 12 gauge shotguns with 00 buckshot pellets – and killed him. A search of Mr. Gonzales’s vehicle revealed the bodies of his three children, Katheryn, Rebecca, and Leslie, all deceased and with multiple bullet wounds in their bodies.

5. In preparing this report, I analyzed crime scene documentation, evidence collection, laboratory analysis, reconstruction efforts and autopsy findings generated by Colorado authorities, including photographs, reports, evidence logs/chain of custody records, laboratory examinations, autopsy reports, case narratives, witness statements, and interview notes produced by the Colorado Bureau of Investigation, Douglas County Sheriff’s Office, Arapahoe County Sheriff’s Office, Eighteenth Judicial District – District Attorney’s Office, Douglas County Coroner’s Office, Castle Rock Police Department, Town of Castle Rock, Town of Parker Police Department, and the Town of Cherry Hills Police Department (collectively, “Colorado authorities”), produced in response to Petitioners’ document requests under the Colorado Open Records Act (“CORA”) and the Colorado Criminal Justice Records Act (“CCJRA”). Should additional documents exist, they may be key to resolving the lingering uncertainties surrounding the girls’ deaths, described *supra* ¶ 2.

6. Section II of this Report provides my biography. In Section III, I summarize recognized standards for law enforcement homicide investigations in the areas of the collection and preservation of evidence and crime scene photography. I then evaluate the Colorado law enforcement authorities' investigation and reporting on the homicides involving Simon Gonzales and the three Gonzales children in light of these standards. In Section IV, I apply a similar approach in the area of forensic science. First I consider the standards for analysis and reporting of forensic evidence; the chain of custody of evidence; trajectory analysis; and blood spatter analysis. I then evaluate the forensic analyses conducted by various Colorado authorities in the wake of the deaths of Katheryn, Rebecca, Leslie, and Simon Gonzales. Finally, in Section V, I highlight the most egregious oversights in the investigation into the deaths of Katheryn, Rebecca, and Leslie Gonzales conducted by the Colorado authorities, and I suggest an alternative schema for how the authorities could have undertaken their investigation. I conclude by offering suggestions for how Colorado authorities can still remedy these failings and take steps to provide greater clarity about the time, location, and circumstances surrounding the girls' deaths.

II. Expert Biography⁴

7. My academic career has been dedicated to forensic science. In 1978, I received a Bachelor of Science, *cum laude*, from John Jay College of Criminal Justice, City University of New York. I currently teach there while enrolled in the Doctoral Program. In recognition of my academic achievement, I was awarded the Jerome Metzner Graduate Award for Excellence in Forensic Micro Techniques in 2003.

⁴ See Curriculum Vitae of Peter J. Diaczuk, Ex. E.

8. In 2006, I was appointed Director of Forensic Science Training in the Center for Modern Forensic Practice at John Jay College of Criminal Justice. In addition, I serve as a casework assistant to Dr. Peter De Forest, Professor of Criminalistics at John Jay College of Criminal Justice (now retired).
9. I am a certified master firearms instructor for the National Rifle Association. I have also served as an Assistant Chief Range Officer and firearms instructor for the Town of Huntington, NY.
10. I am member of numerous professional societies focused on forensic science. I serve as Secretary and on the Board of Directors for the Northeastern Association of Forensic Scientists. I am a diplomat of the American Board of Criminalistics and a life member of the International Association for Identification, the New York Microscopical Society, and the National Association of Power Engineers. I am also affiliated with the American Society for Testing and Materials E-30 Committee on Forensic Science, and the National Fire Protection Association. I am a Fellow in the Criminalistics Section of the American Academy of Forensic Sciences.
11. I have lectured extensively on topics in forensic science, with a goal of educating forensic science colleagues, lawyers, and, most recently, human rights advocates. I was instructor for a workshop at the American Academy of Forensic Sciences Annual Meeting entitled, "Microscopical Thinking in Trace Evidence." In January 2008 I participated in the forensic analysis and shooting reconstruction of the deaths of ten Belgian Peacekeepers in Rwanda for the International Criminal Tribunal for Rwanda, a synopsis of which, entitled "Examination of a Thirteen Year-Old Crime Scene," was presented at the Annual Meeting of the American Academy of Forensic Sciences.

At the behest of Professor Philip Alston, the United Nations Special Rapporteur on Extrajudicial Executions, I served in February 2009 as a special lecturer on “Shooting Scene Reconstruction and Terminal Ballistics” at a two-day training course on *Forensic Science for Human Rights Advocates* at New York University Law School.

12. Given my experience in and knowledge of the field of forensic science, I have testified as an expert witness concerning firearms, crime scene reconstruction, microscopy and trace evidence in numerous state criminal court cases in Connecticut, New Jersey and New York from 2002 to the present.

III. Law Enforcement Investigatory Practices in Homicide Cases

13. In this section, I summarize recognized standards for law enforcement homicide investigations in the areas of the collection and preservation of evidence and crime scene photography. I then evaluate the Colorado law enforcement authorities’ investigation and reporting on the homicides involving Katheryn, Rebecca, Leslie, and Simon Gonzales in light of these standards.

A. Collection and Preservation of Physical Evidence

Standard Procedures

14. The role of a crime scene investigator is complex. Faced with myriad variables at a crime scene, investigators must recognize items of potential evidentiary value and assess the relevancy of these items of evidence – a crucial decision that directly impacts subsequent investigation and adjudication of a case.⁵

⁵ ENCYCLOPEDIA OF LAW ENFORCEMENT VOL. 1, 111-113 (Larry E. Sullivan et al. eds., 2005).

15. The first principle of a crime scene investigation is that law enforcement authorities must conduct a thorough inspection, which includes the “proper collection of all items or substances of evidentiary value,”⁶ and the preservation of all evidence that may be relevant or probative.⁷ Once collected, crime scene evidence must be preserved and stored securely.⁸ According to the United States Department of Justice, investigators should also “communicate with the prosecuting attorney’s office before making decisions that potentially may compromise the evidence.”⁹
16. As a case unfolds, new questions emerge which may require revisiting the crime scene or reviewing items in evidence, even years after a crime has occurred. In one case in which I was involved, for example, a car stored outside for several years under a degraded tarp tested positive for lead residues, providing important evidence for an investigation. The question of residue became important only late in the investigation of the case, years after the crime occurred.¹⁰
17. Premature disposal of evidence prevents investigators and analysts from conducting a complete and thorough investigation. Consequently, law enforcement officials must

⁶ INTERNATIONAL ASSOCIATION OF CHIEF OF POLICE NATIONAL LAW ENFORCEMENT POLICY CENTER, INVESTIGATION OF OFFICER-INVOLVED SHOOTINGS— REPORTING USE OF FORCE MODEL POLICY 2, (1998) (hereinafter IACP Model Policy).

⁷ INTERNATIONAL ASSOCIATION OF CHIEFS OF POLICE NATIONAL LAW ENFORCEMENT POLICY CENTER, INVESTIGATION OF OFFICER-INVOLVED SHOOTINGS CONCEPTS AND ISSUES PAPER 1, (1999) (hereinafter IACP Shooting Concepts Paper).

⁸ UNITED STATES DEPARTMENT OF JUSTICE, OFFICE OF JUSTICE PROGRAMS: NATIONAL INSTITUTE OF JUSTICE, CRIME SCENE INVESTIGATION: A GUIDE FOR LAW ENFORCEMENT 28, (2000).

⁹ UNITED STATES DEPARTMENT OF JUSTICE, OFFICE OF JUSTICE PROGRAMS: NATIONAL INSTITUTE OF JUSTICE, CRIME SCENE INVESTIGATION: A REFERENCE FOR LAW ENFORCEMENT TRAINING 48, (2004). *See also* Department of Justice (1999) and Police Action Resource Center (June, 2008) guidelines for officer-involved shootings—whenever a state official discharges his or her firearm, in the course of duty, uses deadly force against a suspect or exchanges gunfire. The standards for evidence collection and investigation in this circumstance are even more stringent. When properly conducted, investigations into officer-involved shootings involve multiple layers of inquiry. According to IACP Shooting Paper, this is true even in cases where the cause of the individual’s death is unclear, or force may have been justified by the need for self-defense.

¹⁰ Forensics analysis I conducted with Dr. Peter DeForest (East Orange, NJ, 2002).

secure key pieces of evidence and place them in safe storage for the duration of an investigation, irrespective of the length of the investigation, or the size of the evidence concerned.¹¹ Following this procedure, items such as motor vehicles that may contain crime scene evidence should be kept in long-term storage so that probative information can be obtained after the initial inspection takes place.¹²

Evaluation of the Colorado Authorities' Investigation

18. In the case of the Gonzales homicides, the Colorado authorities' examination of the crime scene outside of Simon Gonzales's pick-up truck was adequate: many items of physical evidence were recognized, sketched, and photographed next to their identifying markers, and tracked from their secure storage to a forensic laboratory and back to secure storage through chain-of-custody forms.¹³

19. In sharp contrast, the authorities' treatment of the pickup truck, inside of which the bodies of Rebecca, Katheryn, and Leslie Gonzales were found, did not conform to best practices in criminal justice investigations. Colorado investigators did not treat the pickup truck with the care and rigor that a homicide crime scene requires; such care and rigor is especially important in the case, as here, of a triple homicide. Although the authorities identified numerous pieces of physical evidence inside of the truck, they did not adequately sketch or photograph these pieces of evidence prior to

¹¹ CRIMINALISTICS: THEORY AND PRACTICE at 32 (Kevin O'Brien & Robert Sullivan eds., 3rd ed. 1980) (arguing that evidence should never be destroyed "at any stage of the investigation, unless prior release is obtained from all concerned authorities."); *see also* PAUL KIRK & LOWELL BRADFORD THOMAS, THE CRIME LABORATORY 29-36 (1965).

¹² PETER DE FOREST, Microscopical Thinking in Trace Evidence, Presentation at the ANNUAL MEETING OF THE AMERICAN ACADEMY OF FORENSIC SCIENCES (Denver, CO, February, 2009).

¹³ *See* CBI Laboratory Report (June 29, 1999), Ex. F; CBI: Report of Investigation: sketches of crime scene, Ex. G.

removing them to the evidence storage location.¹⁴ Furthermore, with few exceptions, investigators did not adequately photograph the three girls' bodies inside the truck, or the related trace evidence, using the proper technique – close-up photography with use of a scale – even though this precise technique was employed when investigators photographed trace evidence found on the street, near the body of Simon Gonzales.¹⁵

20. Careful documentation of relevant evidence is always required – particularly in cases like this, where valuable evidence will be compromised when victim's bodies are placed in body bags and transported to the morgue.¹⁶ Even though the authorities took several useful pictures of the victims prior to their removal, several uncertainties, discussed *infra*, Section III.B, remain that could have been avoided by careful documentation and photography. Investigators had ample time to take sufficient photographs and complete their documentation because they had properly secured the crime scene and erected barriers to block the view of the scene by members of the public, press, and onlookers.¹⁷

21. The investigation of the pickup truck's interior was incomplete and it was not properly handled as a piece of evidence. As a key piece of evidence, the pickup truck containing the bodies of the Gonzales children should have been kept in safe storage until death investigations and any foreseeable legal challenges were complete.

¹⁴ See Douglas County Sheriff PROPERTY/EVIDENCE sheets, case number 99-11604, evidence tag numbers 45667 to 45672, 45703 to 45708, 45710 to 45714 (note that numbers 45715-45721 are missing), 45722 to 45732, Ex. H; see also *infra* Section III.B of this Report for additional details on crime scene photographs.

¹⁵ See CBI: Report of Investigation by Agents J. Clayton and D. Sollars (June 19, 1999), Ex. I, 6 (hereinafter CBI Investigation Report); see also CBI Investigation Report photo log rolls with description of content, Ex. J, (hereinafter photo log roll(s)), rolls 2 & 3 (on file with author); photographs of the truck's interior crime scene, Ex. J (note that these photographs are representative of other photographs that Colorado authorities took of the truck's interior).

¹⁶ BARRY FISHER, CRIME SCENE INVESTIGATION 78-79 (CRC Press, 7th ed., 2004).

¹⁷ CBI Investigation Report, Ex. I, *supra* note 15, at 3 (“A visual barrier was constructed...”).

Instead, records from the Castle Rock Police Department and Westside Towing Company indicate that the truck was removed from the crime scene at 12:45pm on June 23, 1999, and that, following brief storage at Douglas County Sheriff's Office examination bay and Westside Towing internal storage, it was quickly sent to a salvage yard.¹⁸

22. *The premature disposal of the truck was a severe misstep; and it constitutes perhaps the greatest lost opportunity for a swift resolution of the questions regarding what took place inside the truck's cab just prior to, and during, the shootout with the Castle Rock Police Department.*

23. Not only should the truck itself have been preserved as evidence, officials should also have undertaken more detailed documentation of the crime scene inside the truck. Such documentation should have included extensive photography, analysis of trajectories, cut-outs of the upholstery containing blood and bullet holes, measurements of the locations of bullet holes, and sketches of the interior of the cab. Once it was determined that the children were deceased and evacuation to a hospital was unnecessary, the locations, orientations, and positions of their bodies should have been thoroughly documented, regardless of the time incurred in doing a thorough documentation.¹⁹

¹⁸ *Id.* at 3; *see also* Vehicle Impound Recovery Record (June 23, 1999, 1:15pm), Ex. K; Klode Salvage Distribution Center, Inc. Request for Pick-up (August 10, 1999, 6:45pm), Ex. L.

¹⁹ PETER DE FOREST, FORENSIC SCIENCE, AN INTRODUCTION TO CRIMINALISTICS 416 (1983) ("There is normally no need to remove a body until after the scene has been completely and thoroughly documented.").

B. Crime Scene Photography

Standard Procedures

24. A crime scene must be thoroughly photographed to preserve a record of the event, as investigators first observed it, for future review.²⁰ Ideally, photo documentation should begin with panoramic, or overall views, then continue to middle or intermediate distance views, and finally include close-up views.²¹ Using this method, items of interest can be placed in perspective with other stationary items.²² Scales must be included in photographs to afford a size relationship of the item to a known measurement and to identify the location of the item in relation to other fixed positions.²³ When practical, the film plane of the camera should also be placed parallel to the substrate being photographed to minimize distortion and foreshortening effects.²⁴
25. Proper lighting, whether by flash or ambient light, is critical to crime scene photography. If ambient light is insufficient but a flash is impractical, a tripod should be used to steady the camera during long exposure times, where handholding the camera will lead to blurry photographs.²⁵ On-camera flashes should be avoided in favor of an off-camera flash, so that the photographer retains control of the direction and angle of the light striking the target.²⁶ It may be necessary to take multiple photographs with the flash placed at different directions or angles, in order to

²⁰ *Id.* at 40-42.

²¹ EDWARD ROBINSON, CRIME SCENE PHOTOGRAPHY 331, 344, 352 (2007).

²² *Id.* at 25.

²³ *Id.* at 326.

²⁴ *Id.* at 183.

²⁵ Fisher, *supra* note 16, at 84.

²⁶ PAUL KIRK, CRIME INVESTIGATION INTERSCIENCE 494 (1953).

adequately document the nuances of a piece of evidence at a scene.²⁷ The need is especially great if a piece of evidence cannot be collected and transported to a controlled laboratory setting where additional photography can be accomplished without the distractions and limitations of field photography.²⁸

Evaluation of the Colorado Authorities' Investigation

26. As I discuss *supra* and throughout this Report, the Colorado authorities' investigation of the interior of the truck did not conform to best practices in the field. Roughly three quarters of the investigators' photographs concerned items of evidence found at street level, focusing the police investigation on the shooting death of Simon Gonzales.²⁹ All told, the documentation level of the truck's interior, which contained the three girls' bodies, was insufficient. Many of the photographs taken inside the truck lacked scales to determine the size of the item of interest.³⁰ In several close-ups, it was unclear exactly what location was being photographed in relation to the rest of the interior of the truck.³¹ Given that the truck was the site of a triple homicide and key to resolving questions related to the deaths of the girls, similar care should have been taken to document and photograph the interior of the truck.³²
27. As for the *outside* of the truck and the surrounding area, the Colorado authorities took photographs reflecting overall views and aerial views, allowing remote items to be put into perspective and overcoming ambiguities of rough scene sketches.³³ The

²⁷ Fisher, *supra* note 16, at 82.

²⁸ *Id.* at 82.

²⁹ See generally, photo log rolls, Ex. J, *supra* note 15; see also photograph of the truck's exterior crime scene, Ex. J (note that this photograph is representative of other photographs taken of the truck's exterior).

³⁰ See photographs of truck's interior crime scene, Ex. J, *supra* note 15.

³¹ *Id.*

³² Fisher, *supra* note 16, at 79.

³³ CBI Investigation Report, Ex. I, *supra* note 15, at 6; see also photo log rolls, Ex. J, *supra* note 15, roll 1, photos 2-12, 18-21, 24-35 (on file with author).

investigators also took several photographs with intermediate and close-up views.³⁴ However, several close-ups were adversely affected by poor lighting conditions, whether by partial shadowing from a nearby object, such as the evidence marker “tent”, or from glare or “white-out” as a result of a camera-mounted flash.³⁵ The restrictions of a camera-mounted flash could have been easily overcome by the use of a remote or hand-held flash attached to the camera’s “hot shoe” (i.e. the slotted bracket that is generally located on the top of a camera that allows an external flash or other accessory device to be connected to the camera). The use of a remote or hand-held flash would have allowed the photographer more flexibility by not restricting the angle, direction, or distance of the object being photographed.

28. The initial production of better quality photographs would have provided opportunities for future evaluation of the items photographed, should these items ever be lost or destroyed, as may be the case here.³⁶ As I discuss below, proper photography does not supplant the need for laboratory analysis of all relevant items that an investigator collects. However, having high quality photographs is an important initial step, and is certainly better than possessing no information about the items at all.³⁷

³⁴ See Photo log rolls, Ex J, *supra* note 15, rolls 7, 8 and 9 (on file with author).

³⁵ NICHOLAS PETRACO & HAL SHERMAN, ILLUSTRATED GUIDE TO CRIME SCENE RECONSTRUCTION, 407-408 (CRC Press, 2006). See also one object photographed in two different types of lighting, Ex. M, for a demonstration of how lighting can change the way in which photographic evidence is viewed.

³⁶ See *supra* ¶ 5.

³⁷ See one object photographed in two different types of lighting, Ex. M, *supra* note 35.

IV. Analysis, Preservation, and Reporting of Forensic Evidence

A. Trace Evidence Analysis

Standard Procedures

29. Probative physical evidence retrieved from a crime scene should be sent to a forensic science laboratory for analysis. Physical evidence at the crime scene should be logged and collected even when its probative nature or value is not immediately clear at the time of collection.³⁸ Reasonable investigation protocols do not require the collection of the entire “kitchen sink.” Nonetheless, bullets, casings, and fragments should always be subjected to forensic analysis in homicide cases.³⁹ In particular, bullet holes containing gun shot residue (GSR) should be examined in detail. When a bullet exits the muzzle of a firearm, pressure behind it blows GSR out of the firearm’s barrel under high velocity. The barrel expels residues in a smoky cone shaped pattern. As GSR travels further from the muzzle, its pattern becomes broader and less concentrated (because the elements included in gunshot residues are small and lightweight, they lose energy rapidly).⁴⁰ The information derived from a thorough examination of firearm evidence can often be helpful in identifying the firearm used, the path the bullet traveled, the location of the shooter, the identification of intervening targets, distance determinations, and occasionally the sequence of fire.⁴¹

Evaluation of the Colorado Authorities’ Investigation

30. Although important items of physical evidence at the crime scene in this case were recognized, photographed, documented and collected, most of the items collected

³⁸ De Forest, *supra* note 19, at 38, 362.

³⁹ *Id.* at 388.

⁴⁰ Jeffrey Scott Doyle, *An Introduction to Forensic Firearm Identification: Gunshot Residue*, http://www.firearmsid.com/A_distanceGSR.htm (last visited July 15, 2009).

⁴¹ LUCIEN HAAG, *SHOOTING INCIDENT RECONSTRUCTION*, 15, 63, 103, 147, (ACADEMIC PRESS, 2006).

from inside of the truck were *not* routed to the laboratory for analysis.⁴² In contrast, most, if not all, of the items found outside the truck were properly analyzed. The evidence from inside the truck should have been tested during the initial law enforcement investigation. If this evidence is still in storage, however, it can still be tested. A thorough examination of these items, correctly identified and recognized as important by the evidence collection team, could still help to clarify lingering uncertainty about the time, location, and circumstances of the deaths of the Gonzales girls.⁴³

31. One particularly troubling aspect of the forensic analysis concerns the analysis of and accounting for the firearm evidence found inside of Simon Gonzales's pickup truck. According to reports by the Colorado authorities, 11 spent 9mm cases and 2 unfired 9 mm cartridges were found, along with several pieces of projectile fragments, inside of the truck.⁴⁴ Five spent cases were found outside the truck and ten unfired cartridges were found inside Simon Gonzales's 9mm Taurus firearm.⁴⁵ Although it may appear that all of the sixteen (16) 9 mm spent cases originated from the Taurus pistol, the origin of the projectiles and fragments is not so evident. *Pursuant to standard investigatory procedures, a laboratory examination of all cases, projectiles, and fragments – those found inside and outside the truck – was absolutely crucial.*
32. While the authorities examined the 5 spent cases found outside the pickup truck and determined that they were shot from the 9mm Taurus handgun, they did not,

⁴² See E-mail communication from Pete Mang, of Colorado Bureau of Investigation (CBI), to Caroline Bettinger-Lopez, of Columbia Law School Human Rights Clinic, (April 27, 2009, 12:35 pm) (on file with author).

⁴³ See *infra* section V.

⁴⁴ See CBI Investigation Report, Ex. I, *supra* note 15, at 4.

⁴⁵ See CBI Laboratory Report, Ex. F, *supra* note 13; see also CBI Investigation Report, Ex. I, *supra* note 15, at 3.

according to the documents I reviewed, similarly examine the eleven spent cases, two unfired cartridges or the projectile fragments recovered from inside the pickup truck.⁴⁶ An examination of these cases from the interior of the truck would have easily confirmed whether they corresponded to the Taurus pistol, as was determined with regard to the five spent cases that were collected from the street and sent for examination. Each projectile and bullet fragment should have been examined as well, because they would likely have contained information on their surfaces that could indicate not only the firearm (or at least the class of firearms) from which they originated, but also subtle trace evidence that may indicate what intermediate objects they impacted during their flight, such as the truck windshield or the doors.⁴⁷ This information would be of immense value in reconstructing the shootout, and assigning origins and trajectories to each projectile and fragment, where possible.

33. Moreover, according to the Douglas County Coroner's reports, Katheryn, Rebecca, and Leslie Gonzales collectively sustained a total of seven bullet wounds, all perforating.⁴⁸ Seven exit wounds on the girls suggest that the cab of the truck should have been carefully examined for at least those seven bullets and/or corresponding bullet holes, plus any additional bullets based on the total number of shots fired.

34. Other crucial pieces of evidence were collected during the girls' autopsies but not analyzed. These include particle samples found near the bullet entry wounds, clothing

⁴⁶ See CBI Laboratory Report, Ex. F, *supra* note 13.

⁴⁷ Haag, *supra* note 41, at 106, 90. See also bullets passing through different intermediary objects, Ex. N, (top row from left to right: 45 caliber bullet that has penetrated glass, glass fragments caused by bullet penetration, 9 millimeter bullet that has penetrated glass; bottom row from left to right: 45 caliber bullet that has penetrated metal, metal fragment caused by 45 caliber bullet penetration, 9 millimeter bullet that has penetrated metal).

⁴⁸ See generally Douglas County Coroner's Report: Rebecca Gonzales; Douglas County Coroner's Report: Katheryn; Douglas County Coroner's Report: Leslie Gonzales, Ex. O (hereinafter Coroner's Reports). The Coroner's Reports and photographs I reviewed indicate that five of these seven bullet wounds contained gun shot residue (GSR), *see infra*.

worn by the victims, and the hair from near their bullet entry wounds.⁴⁹ Examining the girls' clothing for gun shot residue (GSR) could provide crucial evidence regarding the distance of the shooter.⁵⁰ Similarly, examining their hair and garments may reveal GSR, which could indicate the distance of the shooter and narrow down the type of ammunition used, based upon the gunpowder particles present.⁵¹ Determining which ammunition was used could then lead to a determination of which gun was used. This is significant since, between Simon Gonzales and the Castle Rock Police Department officers, there were three different types of guns at play and therefore three different types of ammunition: the police officers used 45 caliber ammunition and 12 gauge 00 buckshot pellets, and Simon Gonzales used 9 millimeter ammunition.⁵² *Thus, an injury could easily be linked to a particular firearm and could possibly be linked to a particular shooter.*⁵³

35. Both hair and clothing can retain gun shot residue (GSR) and act as filters, preventing residue and particles from impacting the skin. Apparently, the Gonzales crime scene investigators appreciated this, because GSR collection kits were used at the crime scene several times. During the autopsy, the Coroner also realized the great potential of documenting and collecting samples of particles at or near the entry wounds. The Coroner collected GSR particles as well as hair near the head wounds of all three victims.⁵⁴ However, despite the fact that the most critical GSR evidence was likely

⁴⁹ *See id.*, "Trace Evidence" sections.

⁵⁰ *See* t-shirt shot from different distances, Ex. P (demonstrating how the intensity of gun shot residue increases when shot from a close range).

⁵¹ BRIAN J. HEARD, HANDBOOK OF FIREARMS AND BALLISTICS: EXAMINING & INTERPRETING FORENSICS EVIDENCE 166 (1997).

⁵² *See* side-by-side comparison of ammunition, Ex. Q (9 millimeter bullet on the left and a 45 caliber bullet on the right, side and aerial angles).

⁵³ Haag, *supra* note 41, at 19.

⁵⁴ *See* Coroner's Reports, Ex. O, *supra* note 48, "Trace Evidence" sections.

the powder particles found on the victims' entry wounds, *not all of the entry wounds were photographed*.⁵⁵ Similarly, although important GSR samples were taken during autopsy and given to the attending officer, there is no further record of these samples, and *apparently no further analysis was done*.⁵⁶ A laboratory analysis of the particles collected by the Coroner, and the garments worn by the victims, would have greatly contributed to the resolution of questions that pertained to the source of the bullet wounds. However, the records provided by Colorado authorities indicate that this analysis was never done.

36. Gunshot residue has a limited ability to travel in air; it cannot overcome intervening objects such as the body of a truck. Thus, its confirmed presence near five of the seven bullet holes in the girls' bodies suggests that at least those shots were fired from close range, while its absence at two of the bullet holes is not as obviously close-range.⁵⁷ Because there were several types of ammunition being used – which implies different types of gunpowder – it is likely that the type of ammunition that resulted in fatal wounds on the girls could also have been discovered through an examination of the GSR.⁵⁸ Since the police were using both a different brand and a different caliber of ammunition than Simon Gonzales, it is very possible that the type and shape (morphology) of the gun powders were different.⁵⁹ Thus forensic testing would have yielded another crucial clue about the source of the GSR, and thus, the

⁵⁵ See generally, Photo log rolls, Ex. J, *supra* note 15 (on file with author).

⁵⁶ See Coroner's Reports, Ex. O, *supra* note 48, at "Trace Evidence" sections.

⁵⁷ See garment with gun shot residue, Ex. R (demonstrating how unburned powder residue is projected onto the garment and retained there).

⁵⁸ Haag, *supra* note 41, at 21.

⁵⁹ See side-by-side comparison of two different gun powder morphologies, Ex. S (demonstration of how different gun powder morphologies can be identified through visual inspection).

source of the bullets which struck the girls, where GSR particles were present near the entry wounds.

B. Custody of Evidence and Missing Evidence

Standard Procedures

37. Proper evidence collection is key to crime scene investigation, and this includes proper tagging and logging of evidence. According to the records in Petitioners' possession, the Colorado authorities collected much of the appropriate evidence needed for testing. Because several shots entered the vehicle, the presence of numerous bullet fragments and secondary missiles, in the form of broken glass, were present.⁶⁰ The crime scene team correctly recognized evidence that was likely to be critical, and they collected numerous items and assigned unique identifying numbers, as reflected by the Property/Evidence sheets currently on file.⁶¹

Evaluation of the Colorado Authorities' Investigation

38. Although Colorado law enforcement undertook extensive evidence collection – notwithstanding their failure to submit many pieces of evidence for laboratory analysis – the only document that I have reviewed that pertains to this evidence is a log of signatures illustrating the chain of custody of the evidence that was sent for review and analysis.⁶² When Colorado agencies were contacted in response to CORA/CCJRA requests, officials responded that they are not in possession of

⁶⁰See Photo log roll, Ex. J, *supra* note 15, roll 5 (on file with author).

⁶¹ See Douglas County Sheriff PROPERTY/EVIDENCE sheets, Ex. H, *supra* note 14, as examples of property/evidence sheets.

⁶² *Id.*

physical evidence – a fact which is worrisome.⁶³ Barring an internal policy requiring destruction of the evidence after a period of time, this evidence should have found a final owner within the web of Colorado agencies.⁶⁴

39. *It is my opinion that Colorado officials should make every effort to determine whether missing evidence is still in existence. If the evidence is located, a forensic scientist can still examine the evidence and hopefully, use it to draw important conclusions about the circumstances surrounding the deaths of the Gonzales children.*⁶⁵ For instance, an examination of the powder particles and clothes collected at autopsy would settle pressing questions surrounding ammunition, as this examination would point to the firearm, and thus, the shooter.

C. Trajectory Analysis

Standard Procedures

40. When responding to a firearms-related homicide, crime scene investigators should determine the path of all bullets fired and the shooter's position with respect to each bullet⁶⁶ – i.e. from shooter to target as well as the inverse.⁶⁷ Investigators should determine the path of all bullets fired by both police officers and suspects.⁶⁸ Doing so while the scene is fresh and items have not been disturbed can save countless hours of

⁶³ Fisher, *supra* note 16, at 10; *see also* Email communication, *supra* note 42.

⁶⁴ O'Brien & Sullivan, *supra* note 11, at 18.

⁶⁵ *See infra*, section V.

⁶⁶ IACP Shootings Concepts Paper, *supra* note 7, at 5; IACP, IACP Model Policy, *supra* note 6, at 4; POLICE ASSESSMENT RESOURCE CENTER, THE DENVER REPORT ON THE USE OF DEADLY FORCE 73 (June 2008), *available at* http://www.parc.info/client_files/Denver/624%20The%20Denver%20Report%20final.pdf (hereinafter PARC Denver Report).

⁶⁷ IACP Shootings Concepts Paper, *supra* note 7, at 5; IACP Model Policy, *supra* note 6, at 4; PARC Denver Report, *id.* at 73.

⁶⁸ IACP Model Policy, *supra* note 6, at 4; IACP Shootings Concepts Paper, *supra* note 7, at 5.

attempts to assign trajectories after the fact, assuming these assignments can even be made with any degree of accuracy once the scene is “released.” Once the scene is released, post-event activities soon overwrite the fragile and transitory record of the crime, complicating reconstruction efforts.

41. Proper placement and measurements concerning trajectory rods is also crucial. Ideally, crime scene investigators should place a rod in every bullet hole and should note directions, measurements or angles for each hole.⁶⁹ For photography of the overall scene, having a rod in every hole makes it easier to interpret from the photographs at a later date. However, if only one rod is used, but is used correctly, with measurements and angles, then the shooting can also be interpreted at a later date. Conversely, if all holes had rods at the same time, but did not include notes concerning directions, measurements or angles, then the rods are of minimal value. In short, the presence of rods, accompanied by relevant data, yields better results.

Evaluation of the Colorado Authorities’ Investigation

42. From basic visual inspection of the documents produced by the Colorado authorities at the crime scene and subsequently, it is clear that the Gonzales children had been shot, and that bullets – later determined by the Douglas County Coroner to be seven bullets – had exited their bodies,⁷⁰ so the exact positions of their bodies in relation to the interior of the truck became relevant toward locating the fatal bullets.⁷¹ Trajectory analyses could have been conducted to determine bullet paths from the victims and

⁶⁹ Haag, *supra* note 41, at 150-59.

⁷⁰ *See generally*, Coroner’s Reports, Ex. O, *supra* note 48.

⁷¹ De Forest, *supra* note 19, at 416 (“Crucial evidence on the body or information regarding its relation to the scene may be lost if it is removed hastily”); Fisher, *supra* note 16, at 55 (“The body should not be moved in haste if its presence is needed for the reconstruction” “...if the only purpose for moving the body is to place it in storage at a mortuary, this would be an error.”).

the truck body. This could have assisted in determining the positions of the girls immediately prior to their being shot, and potentially could even assist in determining a possible sequence of fire.

43. As photos taken before the truck was destroyed reveal that some bullets exited the truck floor after passing through at least one victim,⁷² authorities could have investigated whether or not the truck was in front of the Castle Rock Police Station when bullets exited the vehicle, if unimpeded by the vehicle undercarriage, as would be indicated by bullet damage to the pavement. Had the bullets impacted the pavement below the truck, there would be evidence of this impact either where the truck was parked in front of the Police Station, or at some prior location elsewhere.
44. Although the Douglas County District Attorney's Report to Castle Rock Police Chief Tony Lane dated August 13, 1999, suggests that the truck was elsewhere when bullets perforated the truck floor because projectile fragments were not present below the truck,⁷³ other evidence on the record indicates that this statement was speculative. According to the Arapahoe County Sheriff's Office Crime Lab Progress Report, the street was washed down by the Fire Department at about 7pm on the date of the incident, June 23, 1999.⁷⁴ Yet, it was the following day, June 24, 1999, at the Douglas County Sheriff's Office, when Agents Clayton and Sollars realized that bullets perforated the floor of the truck.⁷⁵ This means that authorities had either not contemplated that bullet fragments and bullet impacts could be underneath the cab of the truck before washing the pavement, or, if they did contemplate this, they did not

⁷² Photo log roll, Ex. J, *supra* note 15, roll 8, photos 23-27 (on file with author).

⁷³ See Letter from the Office of the District Attorney to Chief of Police Tony Lane, Ex. D, *supra* note 2.

⁷⁴ See Laura DeLong, Arapahoe County Sheriff's Office Crime Lab Progress Report (June 25, 1999), Ex. T.

⁷⁵ CBI Investigation Report, Ex. I, *supra* note 15, at 4 ("Agent Sollars was able to show corresponding damage to the metal support structures beneath where the victims had been lying.").

do so until after the outline of the truck had been spray-painted, and did not indicate this in their field notes. If the bullets had had an unimpeded path to the ground, then those bullets would have been resting there – but ultimately rinsed away – and if they possessed sufficient energy, there would have been defects in the pavement. Given this fact, before the District Attorney Report was issued, law enforcement’s observations and photographs about the condition of the pavement beneath the truck should have appeared somewhere in the crime scene notes.

45. With respect to trajectory rods, although the truck was photographed to show the numerous bullet or pellet impacts to its body and glass, only two trajectory rods were used at a time.⁷⁶ Furthermore, although the two rods were placed in holes and then moved to additional holes, there was no documentation to indicate a trajectory angle using a simple protractor, either in the photograph or as part of a sketch.⁷⁷ Nor were measurements used whereby trigonometry could be applied later.⁷⁸ As described above, this data is essential to performing a proper trajectory analysis. The inclusion of a protractor to indicate the angle of the rods, or measurements for trigonometric calculations of incident angles, would provide the ability to approximate the direction from which the bullets were fired. Thus, the use of the rods, and where they were projecting, had minimal value. Had the additional information been included – angles or measurements, camera views taken along the axis of the rods, strings outstretched as extensions of the rods – then the source of each bullet that entered or exited the truck might have been extrapolated.

⁷⁶ Photo log roll, Ex. J, *supra* note 15, roll 7, photos 15-17, 19-22 (on file with author); CBI Investigation Report, Ex. I, *supra* note 15, at 3.

⁷⁷ Haag, *supra* note 41, at 155.

⁷⁸ *Id.* at 173.

46. Admittedly, based on mere visual inspection, it would be difficult for a crime scene investigator to conclude that all seven bullets which impacted the victims exited their bodies. However, on June 24, 1999, when autopsy reports revealed this to be the case, an investigation team could have been assigned to retrieve the truck from secure storage and assess bullet paths in a complete and scientific manner. Even though two bullet holes were identified during the June 24 garage inspection, the examination could have been much more thorough, since the truck was now in secure indoor storage and free from onlookers or weather and lighting constraints.⁷⁹ Each bullet hole could have been examined for its path through the interior of the truck – carpeting, upholstery, seat cushions – and then through the floor, sides, or into the cab interior. Furthermore, if substantial vehicle components like the vehicle transmission were present in the undercarriage at the point of exit, a bullet or bullet fragments might even have been lodged there that could have been retrieved for laboratory examination and possible identification as being fired from a specific firearm. A bullet that has microscopic striations from the firearm and traces of biological material from the victim, would be conclusive both to the source of the bullet and its target.⁸⁰

D. Blood Spatter Analysis

Standard Procedures

47. “Blood spatter” is a broad term referring to the projection or deposition of blood droplets of various sizes, depending on the energy involved. In homicide

⁷⁹ Photo log roll, Ex. J, *supra* note 15, roll 7, photos 15-17 (on file with author).

⁸⁰ Michael Haag , A Long Distance Trajectory Reconstruction: The Random Shot, Presentation at AFTE Annual Training Conference (Miami, FL, June 3, 2009).

investigations and forensic analyses, blood spatter and the position of victims' bodies should be documented and analyzed to determine their condition and position when killed.⁸¹ A careful analysis of blood spatter patterns can be very useful in reconstruction efforts. The angles of droplets, their size, shape and quantity can all be evaluated by trained personnel. Conclusions can then be drawn as to the pattern origin and the dynamics or energies characteristic for the deposition.⁸² Measuring and analyzing the actual blood spatter patterns is the best and most accurate way to do this.

48. "Back spatter" measurements are also important. Back spatter is a phenomenon where blood is projected back toward a firearm when the muzzle is close to a vascular or already bleeding target. Back spatter can also occur when the muzzle of the firearm is held directly against a victim, where the expanding gases enter the skin and moments later, as the pressure is released, the gases escape, often carrying blood or tissue back out of the wound and onto the firearm or other close objects.⁸³

Evaluation of the Colorado Authorities' Investigation

49. Blood samples from the truck were collected, but there was no record of their analysis, similar to the trace evidence collected by the Coroner during autopsy.⁸⁴ The Taurus handgun was submitted for laboratory evaluation as the source of some of the

⁸¹ UNITED STATES DEPARTMENT OF JUSTICE, OFFICE OF JUSTICE PROGRAMS, NATIONAL INSTITUTE OF JUSTICE, DEATH INVESTIGATION: A GUIDE FOR THE SCENE INVESTIGATOR 24 (1999), available at <http://www.ncjrs.gov/pdffiles/167568.pdf> (hereinafter DOJ Death Investigation).

⁸² Ralph R. Ristenblatt III, David San Pietro, & Lawrence Quarino, Bloodstain Pattern Recognition and Analysis, Training at Cedar Crest College (Allentown, PA, 2003).

⁸³ See generally Haag, *supra* note 41, at 189, 299; B.G. Stephens and T.B. Allen, *Back Spatter of Blood from Gunshot Wounds - Observations and Experimental Simulation*, 28 J. FOR. SCI. 2 (April, 1983); Curriculum Vitae of Peter Diaczuk, Ex. E, *supra* note 4, (citing backspatter presentation(s) conducted with Herschman; citing backspatter course with Ristenblatt, June 2003; citing 2007 AFTE workshop with medical examiner).

⁸⁴ See CBI Investigation Report, Ex. I, *supra* note 15, at 4.

firearm evidence found at the outside scene,⁸⁵ but there is no record of it being examined for traces of any blood droplets. The only blood noted was on the “magwell, rt side of slide & grip.”⁸⁶ These areas were not sampled, nor were they photographed or described as smears or droplets. If present, small blood droplets could have been from the muzzle in close proximity to a victim at discharge.⁸⁷ Unfortunately, once the test-fire procedure for function and comparative purposes was performed on the firearm, any blood deposited inside the bore is lost.

50. There were numerous photographs taken of the blood spatter emanating from the truck, and it is evident that these patterns were generated from the blood of the victims.⁸⁸ Moreover, there was also blood inside of the truck, and on the victims’ faces, heads, and garments.⁸⁹ An interpretation of the patterns might have revealed that the blood had oozed out from inside of the truck and developed a rearward direction because the truck was moving forward at a speed sufficient to force the blood rearward. Thus, this would indicate that the girls were killed before the truck reached its final destination and the force of the air against the truck in motion created this directional blood pattern. This conclusion appears in the District Attorney’s report to the Police Chief, but it does not appear in any of the crime scene notes or crime scene reports reviewed.⁹⁰

51. The condition of this blood, specifically how advanced the blood clotting process was, would have been useful for reconstruction, had it been carefully documented,

⁸⁵ See CBI Laboratory Report, Ex. F, *supra* note 13.

⁸⁶ See *id.*, “Firearm Mechanical Functioning Work Sheet.”

⁸⁷ Haag, *supra* note 41, at 189, 299.

⁸⁸ Photo log roll, Ex. J, *supra* note 15, roll 7, photo 11, roll 8, photos 8, 9, 13, 18, 19, 20 (on file with author).

⁸⁹ Photo log roll, Ex. J, *supra* note 15, roll 5, photos 14, 33-35, roll 6, photos 12 & 13, roll 7, photos 1-3 (on file with author).

⁹⁰ Letter from the Office of the District Attorney to Chief of Police Tony Lane, *supra* note 2.

either in writing or with deliberate photographs or both.⁹¹ Medical personnel or blood spatter experts could then have opined about the time frame necessary for the clotting to have taken place, adding more information to the reconstruction efforts.⁹² For example, if the blood was still fresh and had not begun to clot when initially observed, it would indicate that the wounds were very recent, whereas if the blood had begun to separate or clot, it would indicate that the wounds were older and that the girls' wounds were inflicted prior to Simon Gonzales driving up to the Castle Rock Police Station.

V. Conclusion

A. The Colorado Authorities' Investigation into the Gonzales Children's Deaths was Inadequate under Forensic Science Standards and Law Enforcement Investigation Protocols.

52. In this Report I have examined the Colorado authorities' investigation into the deaths of Simon Gonzales and the Gonzales children, Katheryn, Rebecca, and Leslie, in June 1999. With respect to the Gonzales children, I have highlighted several areas where the investigation and analysis were inadequate, insufficient or deficient. Although investigators were quite thorough when documenting evidence near Simon Gonzales's body and in sketching crime scene drawings, the treatment and handling of the interior of the pickup truck, where the girls' bodies were found, was inadequate from a scientific standpoint. Additionally, while many items of evidence pertaining to the interior of the truck were noted and apparently collected, few were subjected to

⁹¹ I note that certain photographs of Rebecca Gonzales appear to indicate advanced blood clotting. See photographs of truck's interior crime scene, Ex. J, *supra* note 15. However, in my review of the documents provided by the Colorado authorities, I have not seen any medical interpretation of this clotting.

⁹² De Forest, *supra* note 19, at 296-97.

adequate laboratory analysis. Finally, photographs of the interior of the truck were too few and, in some instances, were not carefully taken. Trajectory rods were used ineffectively, and no attempt was made to preserve the evidence or collect trace evidence or secondary missiles from the truck's interior.

53. As a result of these inadequacies in the investigation and analysis of evidence, uncertainty related to the time, location, and circumstances of the Gonzales children's deaths lingers to this day.

54. Although the answers to some homicide cases are simply unknowable, given the documents uncovered, this does not appear to be the case here. Instead, while many answers appeared within reach, law enforcement officials simply did not take the steps necessary to fully uncover them. There may be several reasons for this. First, as I previously acknowledged, the work of crime scene investigators and forensic analysts is difficult; so best practices may occasionally be revealed in hindsight. Second, the financial resources and human capital resources that law enforcement agencies possess can be a major constraint in completing comprehensive investigations.

55. Finally and crucially, however, Colorado law enforcement's failure to probe the causes of the Gonzales children's death could be interpreted to indicate that the investigation into the girls' death was a secondary priority to the investigation of Simon Gonzales's death. Numerous data support this conclusion: although law enforcement used care in photographing and documenting the outside crime scene and evidence found at the street level, near Simon Gonzales's body, the bodies of the girls and the interior of the truck were photographed hastily, without use of the proper

lighting equipment or measurements/scales. Trace evidence from inside the truck cab, such as bullet fragments and firearm cartridges and casings, were collected but never sent onward for laboratory analysis. In addition, the truck in which the girls' bodies were found was quickly destroyed, before time, location, and circumstances surrounding the Gonzales children's deaths were even recorded on their death certificates, even though inquiries into the girls' deaths were still pending.⁹³

56. Even if circumstantial evidence may have suggested to the authorities that Simon Gonzales was responsible for the deaths of the girls, the forensic analyses I have reviewed have not fully borne out this conclusion. *Instead, the death investigations of Katheryn, Rebecca, and Leslie Gonzales appear to have been prematurely ceased. I cannot emphasize enough that the death of each victim could have been treated as a separate occurrence, and investigated in its own right.*

57. As I discuss below, several shortcomings of the investigation could still be addressed today and could answer several still-unresolved questions concerning the time, location, and circumstances of the deaths of the Gonzales children.

B. Means Exist Which Could Have Revealed (and Still Might Reveal) Key Details Surrounding the Girls' Deaths.

58. By careful examination of the interior of the truck, law enforcement officers might have been able to determine the location of the exit holes of most, if not all, of the seven shots that struck the Gonzales children. This information could have revealed other information, such as sequence of fire for some of the shots. Furthermore, many

⁹³ See generally Certificates of Death, Ex. A, *supra* note 1.

details of the girls' deaths could still be revealed if evidence pertaining to the interior of the truck was finally subjected to thorough analysis. Some key problems include:

- (1) *Particle samples from the Gonzales children's clothing near the bullet entry wounds should have been examined.* To the extent that the clothing sustained bullet passage and hair and other biological matter was recovered near the bullet entry wounds, useful information could have been revealed from analysis of the clothing.
- (2) *Trace evidence and firearm evidence from inside of the truck cab should have been submitted for laboratory analysis.* This evidence was probative with respect to the girls' deaths, and it could have been carefully examined. For instance, unfired cartridges, fired cases, and projectile fragments were recovered from the cab. These cartridges, cases, and projectiles could have been examined to determine why they were present, and whether they help indicate the total number of bullets discharged from Simon Gonzales's gun— helping to clarify the seven bullet wounds sustained by the girls.
- (3) *Further examination could have been conducted into the Coroner's reports and items found in the vehicle. Evidence indicates that the girls may have eaten shortly before their deaths.*⁹⁴ The Coroner's report indicated that at the time of the girls' deaths, food digestion was approximately one hour in process.⁹⁵ The Coroner indicated that the girls' stomachs contained French fries, hamburgers, and chili,⁹⁶ and photographs taken by the investigators indicate the presence of

⁹⁴ See 18th Judicial District Critical Incident Team Report, Ex. B, *supra* note 2, at 35.

⁹⁵ See *id.* at 35.

⁹⁶ See Coroner's Reports, Ex. O, *supra* note 48, "Gastrointestinal System" sections.

“Wendy’s” restaurant bags in the bed of the truck.⁹⁷ If the investigators had followed up on this evidence, they might have been able to determine where Simon Gonzales had driven the truck to purchase/obtain the food and, possibly, the route of the truck before the shooting at the Castle Rock Police Station. In addition, since bullets traveled through the floor of the truck,⁹⁸ it was possible that bullet strikes or bullet fragments could have been found on the ground at the parking lot of a Wendy’s restaurant or at or near the Police Station, so that the location of the shooting could have been determined.⁹⁹

(4) *Investigators should have performed a more complete search for bullet strikes.*

As discussed *supra*, the Taurus handgun was likely discharged at least 16 times, resulting in at least 16 bullet paths to investigate. Locating bullet impacts or bullet fragments containing biological material from the victims would suggest the location of the truck at the time of the fatal shootings. Following the route that the truck traveled before the shootout may have indicated where bullet fragments or tire impressions could still be found, allowing authorities to reassemble, piece by piece, the events of June 22-23, 1999. Because no such analysis appears in the records, the site of the girls’ deaths is unresolved.

(5) *Analysts should have taken photos in the laboratory of the physical evidence.*

Although the crime scene photography outside of the truck was deliberate and conscientious, except for the problems discussed *supra*, in my review of the documents produced by Colorado authorities in this case, *see supra* ¶ 5, I see no

⁹⁷ See Photo log roll, Ex. J, *supra* note 15, roll #7, photo 23 (on file with author).

⁹⁸ See CBI Investigation Report, Ex. I, *supra* note 15, at 4.

⁹⁹ Additionally, several “ear-witnesses” also reported hearing gunfire that night. See Castle Rock Police Department Offense Report (June 23, 1999, 1:56pm; June 30, 1999, 9:30am), Ex. U. This also may have provided clues as to what happened in the hours leading up to the shoot-out.

indication that laboratory photographs of the physical evidence were submitted for review. Field photography cannot approach the precision of laboratory photography for items recovered, due to the conditions and limitations of the field, discussed *supra*. Although field photography was absolutely necessary, it should have been supplemented with laboratory close-ups using controlled lighting on a copy stand. Any items submitted for laboratory analysis that contained trace evidence could have been photographed through a microscope to show details unresolvable with the naked eye. The stereo binocular microscope is commonly used for initial screening for trace evidence, which if found is often examined further using polarized light microscopy. Photographs taken through these instruments can be very informative for future review.

C. Concluding Observations

59. From my review of the documents, photographs, evidence logs and memos compiled by Colorado authorities pursuant to the investigation into the Castle Rock Police Department's fatal shooting of Simon Gonzales on June 23, 1999, there appears to have been an underlying assumption that Simon Gonzales killed Katheryn, Rebecca and Leslie Gonzales with the 9mm Taurus handgun that he purchased on June 22, 1999. The investigation into the deaths of Katheryn, Rebecca, Leslie and Simon Gonzales appears to have been conducted to confirm this hypothesis. This is often explained by social scientists as confirmation or verification bias, where a sort of "tunnel vision" limits the ability of individuals to entertain or consider contradictory

information or alternative theories.¹⁰⁰ Conversely, when properly conducted, forensic analysis has a commitment to neutrality and proceeds on its own merits, eventually reaching a conclusion that is uncontaminated by a desire to prove a theory of guilt. Breaking with these core principles, authorities appear to have approached the homicide investigations of the Gonzales children with preconceived notions that biased the entire process.


60. By failing to preserve the Gonzales truck or to analyze evidence collected from its interior, when it was clear that firearms from the police and Simon Gonzales were both discharged over the course of the June 23, 1999 shootout, Colorado authorities made some significant missteps. Taken singly, flaws in an investigation may be insignificant. Taken cumulatively, however, the flaws in the Colorado authorities' investigation into the Gonzales girls' deaths contribute to the ambiguities that remain, ten years later, regarding the time, place and circumstances of the children's death.

61. *Today, if physical evidence has been properly preserved, Colorado authorities can still take steps to correct the gaps in the investigation, and answer several lingering questions surrounding the girls' deaths.* This would include using the chain of custody logs to locate all relevant trace and physical evidence and then submitting this evidence, along with any relevant photographs and videos, to a forensic laboratory for analysis and interpretation. High resolution prints should also be produced directly from the negatives of all crime scene and autopsy photographs for continuity and context (especially in the absence of actual evidence).

¹⁰⁰ See generally, Susan Bandes, *Loyalty & Criminal Justice: A Mini-Symposium: Loyalty to One's Convictions: The Prosecutor and Tunnel Vision*, 49 How. L. J. 475 (2006); Keith Findley & Michael Scott, *The Multiple Dimensions of Tunnel Vision in Criminal Cases*, 2006 Wisc. L. Rev. 291.

62. Therefore, it is my recommendation that the Colorado authorities re-open the investigation into the homicides of Katheryn, Rebecca, and Leslie Gonzales, with the goal of resolving ambiguities about the time, location, and circumstances surrounding their deaths.

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