

Stria Consulting Group Incorporated
Forensic Firearms Consultation & Instruction

P.O. Box 367, Brooklyn, NY 11228

Phone# (718)236-7616 Fax# (718)621-4734 Email stria@msn.com

2/15/14

Mr. Joseph P. Musacchio
Kreindler & Kreindler LLP
277 Dartmouth Street
Boston, MA 02116-2805

Case # 2012/1

Re: *Estate of Eurie Stamps v. City of Framingham and Paul Duncan*

Mr. Musacchio,

The following report documents the results of my analysis of the submitted documentation and my visit to the shooting scene to conduct an inspection and analysis of the layout of the apartment at 26 Fountain Street, Framingham, MA where the shooting of Mr. Eurie Stamps, Sr. occurred. All opinions in this report are to reasonable degree of scientific certainty and probability and have been afforded exclusively by my review of the provided information and analysis and is based on my training and experience. I reserve the right to amend this report if additional information becomes available in the future.

Since my assignment, I've received the following case documentation to review:

Statements and Depositions

- Interview w/Officer Duncan 1/6/2011
- Deposition of Officer Paul Duncan 11/6/2013
- Middlesex District Attorney Press Release
- Middlesex D.A. FOIA Documents
- Deposition of Dr. Henry M. Nields
- Deposition of Norma Bushfan-Stamps
- Deposition of Dwayne Barrett
- Lt. Robert Downing's Deposition 8/1/2011
- Officer James Sebastian's Deposition 8/6/2013
- Officer Timothy O'Toole's Deposition 9/23/2013
- Officer Christopher Langmyer's Deposition 9/23/2013
- Brian Simoneau's Deposition 9/26/2013
- Deputy Chief Craig Davis' Deposition 10/3/2013
- Sergeant Vincent Stuart's Deposition + drawing
- Officer Sean Riley's Deposition 8/1/2013
- Officer Michael Sheehan's Deposition 8/6/2013

SWAT Team Interview Transcripts

- Brian Curtis 1/6/2011
- Chris Illiardi 1/6/2011
- Christopher Langmyre 1/6/2011
- Christopher Murtaugh 1/6/2011
- Greg Reardon 1/6/2011
- James Sebastian 1/6/2011
- Michael Sheehan 1/6/2011
- Paul Duncan 1/6/2011
- Robin Siviglio 1/6/2011
- Sean Riley 1/6/2011
- Stephan Casey 1/6/2011
- Timothy O'Toole 1/6/2011
- Captain Joseph Hicks 1/7/2011
- Jeff Beckwith 1/7/2011
- Nicholas Ferry 1/7/2011
- Framingham Wave Radio Broadcast

Reports

- Medical Examiners Report 1/6/2011
- Opinions of Steve Ljames 8/8/2011
- Firearms Identification Report 1/15/2011

Images

- Crime Scene images taken on 1/5/2011
- Framingham Police Invest. Photos
- Medical Examiners Photographs

DVD Data Discs

- Middlesex District Attorney File
- Stamps v. Town of Framingham – Scene
- Stamps Deposition Exhibits

Case Folders

Stamps v. Town of Framingham, FOIA

Documents from Framingham Police Department 8/16/12

This folder contained a large number of images, reports and investigation documents. These were a number of duplicate documents that were received at various times during my review.

12/28/2011 File “Documents to James Gannalo” Re: Eurie Stamps

This folder contained a large number of images, reports and investigatory documents listed above.

Stamps – Deposition Exhibits

- Officer Sean Riley's Deposition 1/6/11 w/marked drawings 1a and 1b
- Drawings (3) on Layout indicating Officer Riley's route into Kitchen
- Officer Riley's SWAT Training
- Old Policy on Firearms and Weapons (Framingham PD)
- New Policy on Firearms and Weapons (Framingham PD)
- (4) Crime Scene photos
- Interview of Robert Downing w/drawings marked 10a and 10b
- Brian Simoneau minutes recording 9/21/2011
- After Action Report 1/5/2011
- Search Warrant
- Additional Drawings (4) on Layout indicating Officer Riley's route into Kitchen
- Officer Michael Sheehan's Deposition 1/6/2011 + drawings
- Lt. Robert Downing's Deposition 1/6/2011 + drawings
- Officer James Sebastian's Deposition 1/6/2011 + drawings
- Officer Timothy O'Toole's Deposition 1/6/2011 + drawings
- Officer Christopher Langmyer's Deposition 1/6/2011 + drawings
- Brian Simoneau's Deposition + related reports
- Deputy Chief Craig Davis' Deposition 1/4/2011 + related reports
- Sergeant Vincent Stuart's Deposition + drawing

Floor Plan

- I received detailed measurements taken of the apartment by an engineer hired by the plaintiff, Thomas Lally. I personally witnessed Mr. Lally performing his inspection of the apartment and I believe that these measurements and the floor plan are accurate.

My Professional Background

I'm a retired NYPD Detective and practicing forensic firearms examiner/training consultant in the fields of firearms operability, microscopic analysis of ballistics evidence and shooting incident reconstruction for the past twenty-five (25) years. I've provided professional assistance to attorneys, municipalities and law enforcement agencies for case evaluation, courtroom and trial presentation in both criminal prosecution and civil litigation in fifteen different states since my service retirement in 1998.

I've successfully completed more than twelve-thousand (12,000) firearms related cases while assigned to the NYPD Ballistics Squad from 1989 through 1998. These cases encompassed a wide variety of homicides, attempted murders, assaults and weapons possession charges throughout the five boroughs of the City of New York.

I provided expert testimony at more than six-hundred (600+) trials conducted in various federal, state and county jurisdictions in multiple states. I've been recognized as an expert witness at trials linked to firearms, firearms operability, ballistics, firearms identification, microscopy, shooting incident reconstruction, gunshot-residue analysis and muzzle-to target distance determination examinations. I've also presented expert testimony at a number of civil trials while assisting counsel for both the plaintiff and defendants.

I have provided professional independent consultation in more than five hundred (500+) firearms related cases since 1998. I've assisted hundreds of attorneys in case analysis, trial preparation and presentation at criminal and civil trials conducted in New York, New Jersey, Connecticut, Virginia, West Virginia, Pennsylvania, Texas, Maryland, Delaware, Kansas, Vermont, Florida, North Carolina, New Hampshire and North Dakota.

I have conducted forensic evaluation of the circumstances surrounding shooting incident related cases. I have provided scientific assessment of recovered physical evidence from shooting incidents to establish how the incident occurred. I have performed forensic reconstruction analysis related to police involved shootings and unintentional discharges.

Incident Information

On January 5, 2011, uniformed members of the Framingham Police Department executed a search warrant at 26 Fountain Street, Framingham, MA. Included in the raid team were members of the Special Weapons and Tactics Team (SWAT). During the search of the premises, Mr. Eurie Stamps was ordered to the floor by two members of the SWAT Team and placed face down on the floor of a small hallway located at the rear of the premises. SWAT Police Officer Paul Duncan assumed control of Mr. Stamps by pointing his M-4 rifle at Mr. Stamps while other SWAT members continued the search of the rear of the location. At sometime during the time that Officer Duncan was taking control of Mr. Stamps, a fatal shot was fired from Officer Duncan's firearm.

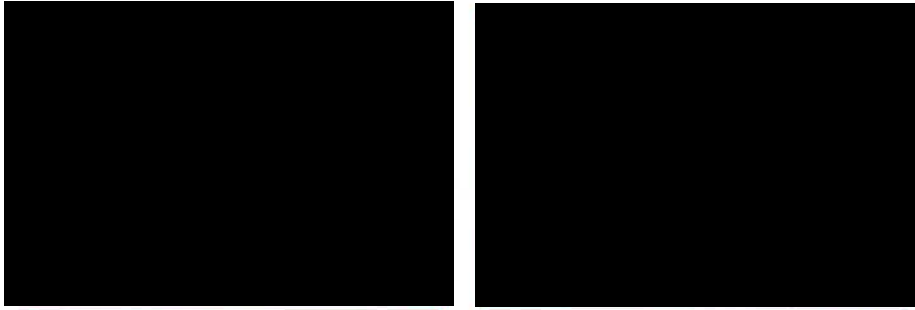
According to the recorded statement and deposition testimony of Officer Duncan, he saw Mr. Stamps with his elbows on the floor and hands above his head. According to Officer Duncan, he was concerned that Mr. Stamps might reach for a weapon. Officer Duncan made a decision to restrain Mr. Stamp's uncuffed hands behind his back.

He decided to perform this by stepping from the kitchen to the right of Mr. Stamps' prone body, kneeling down and grasping his two hands behind his back without applying handcuffs to his wrists. Officer Duncan's account describes how he stumbled and the shot was unintentionally discharged. Mr. Stamps was removed by ambulance to a nearby hospital and subsequently expired.

The Wound

Mr. Stamps died as a result of a single gunshot from Mr. Duncan's rifle, According to Doctor Neild's Medical Examiner's report created after his autopsy on 1/6/11:

- There was a single gunshot wound to his head, neck and chest area.
- There was stippling present on Mr. Stamp's face located above and forward of the penetration. The stippling pattern was in an oval shape (5 ½" high and 3" wide).
- The bullet entered the deceased's left cheek and exited his left neck.
- The bullet re-enters the deceased's neck/clavicle area.
- The bullet (now fragmented) was recovered from Mr. Stamp's body
- The path of the bullet is downwards, leftwards and backwards.



These autopsy images show the wound and with a trajectory rod inserted into the wound track

Officer Duncan's Movements (According to his Statement and Deposition Testimony)

According to Officer Duncan's statements made on 1/6/2011 and his deposition taken on 11/6/13, he made entry into the first floor through the front door shown at the upper left of the sketch. Duncan moved into the "Living Room" through the door located on the right side of the "Front Entry". He moved into the "Den" and noticed another room (the "Kitchen").

While in the den, Officer Duncan heard a series of police commands coming from the kitchen. Officer Stuart ordered Duncan to enter the kitchen to act as a backup (or trailer) for the other officers. Officer Duncan entered the kitchen and noticed two rooms, one that is lit to the far left that he calls a pantry and a dark hallway to the right. He states that there were two SWAT operators in that hallway and says that he lines up (stacks) behind them.

The SWAT operators in the hallway move forward and into a room on the right side of the rear of the hallway leaving Mr. Stamps in the hallway lying on his stomach. Officer Duncan noticed that the hallway is cluttered with "obstacles" and that a man is "somewhere in the hallway". He estimates that the man (Stamps) is lying "probably two or three feet from the threshold".

- Duncan then states that the man (Stamps) is lying face down with his elbows resting on the floor, his hands and fingers are open and they (his hands) were "hovering by his head".
- Officer Duncan next states that Mr. Stamp's moves his head up and his hands in a motion like "who's this, what's coming in here". Officer Duncan enters the hallway and is about two feet from Mr. Stamps when this movement occurs.
- According to Officer Duncan, he lost his balance and fell back and to his left where he impacted the wall. He said that his rifle discharged between the time he began to fall and when he impacted the wall.

Firearm Information

Officer Duncan carried a .223cal Colt select fire (semi and full automatic) rifle, serial #AD230821, model# M4 Commando loaded with twenty-eight (28) cartridges and another two magazines loaded with an additional fifty-six (56) rounds of ammunition. This firearm was tested and found to be functioning properly by members of the Massachusetts State Police Laboratory in 2011.



Image of a Colt, Commando rifle

This rifle is a variation of the 5.56x45mm cal (.223cal civilian version) Colt M16 rifle developed for the United States military approximately fifty years ago. The Commando model is based on the design of Colt's M16A2 and M4 models still in military service today. These rifles can be designed to fire as semi-automatic, fully automatic or in a three shot burst mode. This is controlled by a selector switch visible on the side of the lower receiver of the firearm.

This design is a “cut down” or shortened version of the full size M16A2 military rifle or the AR15 (civilian version) of the rifle. The manufacturer has designed the rifle with an eleven and one half (11.5) inch barrel length and a folding style rear stock which can be retracted to shorten the overall length of the rifle. When the stock is fully open, the overall rifle length measures thirty and four tenths (30.4) of an inch long. This can be changed to a twenty-seven and one tenth (27.1) of an inch long when retracted.



The rifle fires 5.56x45mm cal (military) or .223cal (civilian) cartridges that are inserted into a spring loaded magazine that is seated into the lower receiver portion of the firearm. When fired, the bullet from this type of cartridge can travel approximately 2900 f/sec which is equivalent to *approximately* 2000 miles per hour.

The cartridge is comprised of four parts: the projectile (bullet), the propellant (gun powder), the primer and the cartridge case that holds all the components together.

Operating the Rifle

NOTE: As with operating ANY firearm, proper safety procedures **MUST** be followed.

The firearm is operated by performing the following steps to determine that the rifle is unloaded:

- Point the muzzle in a designated **SAFE DIRECTION**.
- Place selector lever on **SAFE**.
- Remove the magazine by depressing the magazine catch button and pulling the magazine down.
- Inspect the magazine to determine that it is unloaded.
- Lock bolt open by pulling the charging handle rearward.
- Press bottom of bolt catch and allow bolt to move forward until it engages bolt catch. This locks the bolt open for inspection.
- Return charging handle to full forward position.
- If you have not done so before, *place the selector lever on SAFE*.
- Visually and physically inspect the receiver and chamber to ensure these areas contain no ammo.
- With the select or lever pointing toward **SAFE**, allow the bolt to go forward by pressing the upper portion of the bolt catch.

After determining that the rifle is unloaded, follow the next steps to load the firearm:

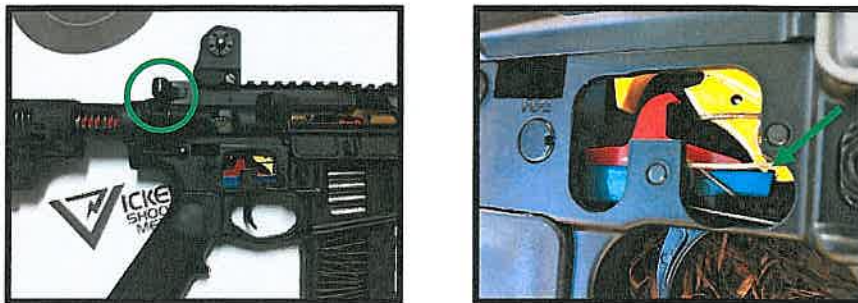
- Load the magazine with the proper ammunition.
- Place selector lever on **SAFE**
- Point the rifle's muzzle in a **SAFE** direction
- Insert the loaded magazine into the magazine well at the bottom of the lower receiver and lock it firmly into place.
- Pull back and release the charging handle to chamber a round
- The rifle is now loaded and ready to fire

Firing the rifle will start the following series of events inside the weapon:

- When the trigger is pulled, the internal hammer is released from the sear and allowed to snap forward under spring tension.
- The hammer strikes the firing pin, driving it forward into the primer
- The primer of the cartridge is crushed and creates a spark
- This spark ignites the propellant inside the cartridge case
- The propellant burns very rapidly creating expanding gases
- The pressure from these gases are contained by the heavy metal of the chamber and are released by pushing the bullet out of the casing and down the barrel
- The gas pressure continues to build until the bullet exits the barrel at the muzzle
- The action of the rifle firing a bullet creates an opposite reaction (recoil) and is assisted by a small amount of redirected gases (gas tube) that is used to unlock the bolt and push rearward on the bolt to initiate the extraction and ejection processes.

- The extractor (a claw or hook like device) pulls the fired cartridge case out of the chamber until it interacts with the ejector (a spring loaded pin device) that flips it out of the ejector port in the side of the rifle.
- The bolt continues to move rearward until it is pushed forward by the tension of the recoil spring until it closes again.
- During that forward motion, the next round in the magazine is stripped from the magazine and pushed into the chamber by the bolt.
- The bolt then locks into place and the rifle is ready to fire again
- In semi-automatic mode, the trigger has to be pulled every time the rifle is fired.

The following images illustrate the internal mechanisms of the M4 rifle:



This color coded cutaway view of the M4 highlights the trigger, disconnect and hammer of the firearm with the weapon. To cock the rifle, the charging handle (green circle) would be pulled rearward and this would pull the hammer (yellow) rearward under spring tension. The hammer locks back when it interacts with the trigger (blue) at the trigger notch (sear) shown with the green arrow.

This notch holds the hammer in place (cocked) until the trigger is pulled rearward allowing the trigger to drop away from the notch releasing the hammer forward. As the hammer is pushed back during the extraction process, the part known as the disconnecter (red) stops it from falling forward again until the trigger is again pulled.

The steps of the process can simply be listed as:

- *Feeding* – using the bolt to push a live round from the magazine
- *Chambering* – pushing that round into the chamber
- *Locking* – the bolt rotates and locks against the rear of the round
- *Firing* – depressing the trigger
- *Unlocking* – the bolt rotates and unlocks
- *Extracting* – the extractor pulls the fired round from the chamber
- *Ejecting* – the fired round contacts the ejector and exits the rifle
- *Feeding* – the next round is stripped from the magazine

NOTE: The process now repeats with every pull of the trigger

Trigger Pull Weight

This is the amount of energy needed to pull the trigger rearward to the point that the sear disengages and the hammer is released striking the firing pin discharging a live cartridge. This weight is set by the manufacturer and is dependant on the strength of the trigger spring and the friction between the surfaces of the hammer and trigger when engaged in the trigger notch (sear). Officer Duncan's rifle was tested and determined to have 6.22-6.95 lbs (semi) and 9.28-9.82 lbs (automatic) trigger pull weights.

How the Safety operates

In these types of firearms, the safety is a lever device that is manipulated by the person operating the firearm. To engage this device, the leaver must be twisted to the safe position (marked with an S) toward the rear of the rifle. This allows the safety mechanism to cam into a position and blocks the trigger from moving which doesn't permit the cocked hammer to be released from its connection with the trigger. This device is considered a "thumb safety" which is manipulated by the thumb of the same hand pulling the trigger.

Trigger Finger in Register



This is a common firearm safety technique adopted by members of the military and law enforcement that is used to prevent unintentional discharges. This important training consideration is simply keeping the finger off the trigger unless you are in the actual act of firing. Keeping the trigger finger in register (off the trigger) only adds an inconsequential amount of time in a gunfight, but the safety it promotes is invaluable.

When a muscle is activated by a direct command from the brain, the action is intended. This is known as a voluntary contraction. However, muscles can also be activated by signals that arise from other locations within the nervous system besides the brain and such activation produces a muscle contraction that is not the result of a conscious decision. These actions are known as involuntary contractions. Unintentional discharges are the result of involuntary muscle contractions that occur during the inappropriate handling of a firearm.



Low and Ready is the best position when you are searching for a target or approaching a target area at a fast rate. The rifle is pointing down at around a 45 degree angle and you turn your head and scan for targets without raising the rifle and waving it around. When a target appears, simply raise the rifle around 45 degrees and take aim and shoot. This position also is the fastest to move from to a shooting position.

Conclusions and Opinions

The foundation drawn on for my conclusions was developed using information received for this case, my personal visit to the apartment, my professional experience and my personal research into a number of related subjects.

These opinions are based on a reasonable degree of scientific certainty and probabilities.

1. Officer Duncan's Description Is Implausible, Highly Unlikely and Inconsistent with the Evidence.

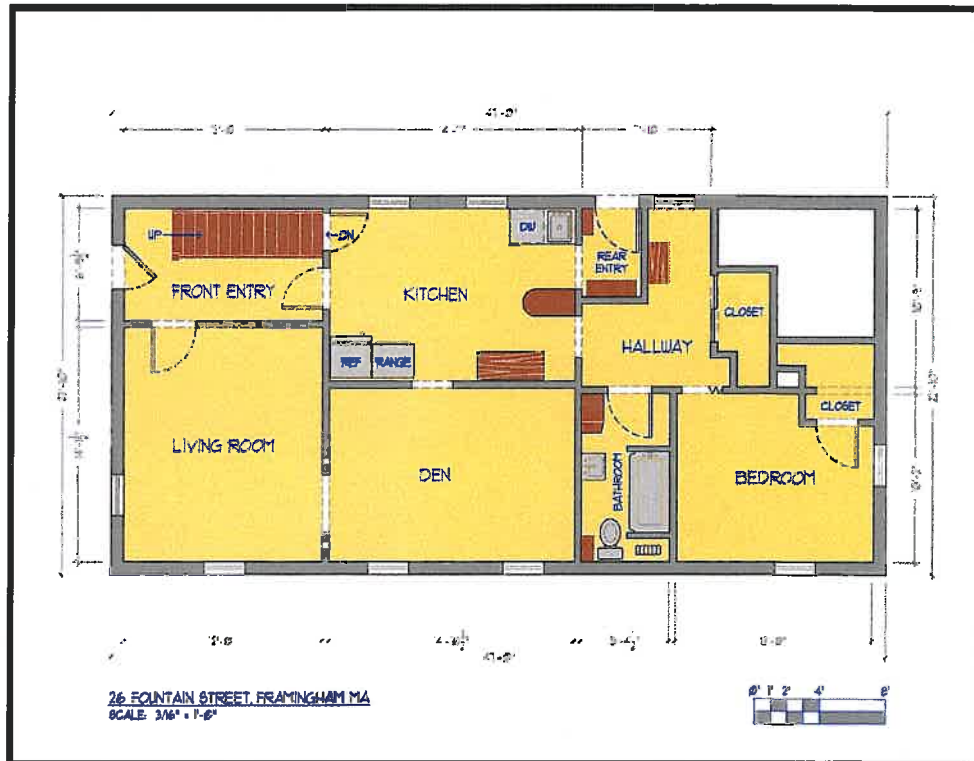
In my opinion, Officer Duncan's rifle could not have discharged in the manner he described and inflicted the wounds identified by the Medical Examiner. The pathway of the wounds through Mr. Stamps' body could not have been caused by a bullet discharged from Officer Duncan's rifle in the manner he has described.

- Officer Duncan testified in his deposition that when he entered the hallway from the kitchen he was to the right of Mr. Stamps. (Duncan Dep. at 92-94, 212-214).
- While standing to the right of Mr. Stamps, Duncan either stepped on something or his right foot moved "in a certain way", causing his left foot to move in another direction. (Id. at 93).
- He states that he lost his balance and began to fall backwards and to the left where he struck the wall to the left of where Mr. Stamps was lying. (Id. at 93-95).
- In his interview, Officer Duncan stated that he "was somewhere around [Stamps'] shoulders or just passed his shoulders" when he began to lose his balance and step backwards with his left foot. (Duncan Interview at 40).
- Officer Duncan's "back or left side" hit the wall to his left. (Duncan Deposition at 95-96).
- Officer Duncan testified that his rifle discharged between the time he began to fall backwards and time he first struck the wall. (Id. at 97-98).
- At all times the rifle was in Duncan's right hand and strapped over his shoulder. Officer Duncan admitted in his deposition that his rifle would not have discharged unless his finger depressed the trigger while he was falling and before he struck the wall. (Duncan Dep. at 102-103, 134).
- Officer Duncan estimated that Mr. Stamps' head was located approximately two to three feet from the threshold between the kitchen and the hallway where Stamps was lying. Officer Duncan testified that when he landed on the floor, Mr. Stamp's head was close to his body and he was "literally almost on top of him." (Duncan Interview at 42, 58).

- Other officers testified concerning the proximity of Mr. Stamps’s head to the threshold between the kitchen and hallway. Officer O’Toole testified that Mr. Stamps’ head was “close to the threshold.” (O’Toole Dep. at 53).
- Officer Langmeyer testified that Mr. Stamps’ head was approximately one foot from the threshold. (Langmeyer Dep. at 48-49). Officer Sheehan testified that Mr. Stamps’ head was very close to the threshold. (Sheehan Dep. at 45).

Officer Sebastian, Officer Riley, and Lt. Downing were in the kitchen when Officer Duncan discharged his rifle.

- Officer Sebastian testified that when he heard Duncan’s rifle fire, he turned immediately and saw Duncan on his feet walking out of the kitchen. (Sebastian Dep. at 43-44).
- Officer Riley testified that when he heard the gun shot, he immediately turned toward the sound of the rifle and saw Officer Duncan on his feet regaining his balance at the threshold between the kitchen and hallway. (Riley Dep. at 58-63).
- Lt. Downing testified that he was looking toward the hallway/kitchen threshold, heard a loud bang, and saw Duncan in the kitchen walking toward him. (Downing Dep. at 101, 104).



Sketch of the apartment created by Mr. Lally

It is my opinion to a reasonable degree of scientific certainty that it is highly improbable that Mr. Stamps was shot in the manner in which Officer Duncan described for the following reasons:

- Position of the rifle when discharged

- Under Officer Duncan's description of his movements, the length of the rifle, and the location of his fall and landing close to Mr. Stamps' head, I believe that it's highly improbable that the rifle discharged at the location stated by Officer Duncan. I base this on the following:
 - a. The length of Officer Duncan's rifle when fully extended is 30.4 inches and when fully retracted is 27.1 inches. According to Officer Duncan, Mr. Stamps' head was two or three feet from the threshold when Duncan began to fall. (Duncan Deposition at 65).
 - b. Officer Duncan stated in his interview that he was at or passed Mr. Stamps' shoulders when he began to fall. Therefore, as he was falling backwards and to his left, his body would have been over or just above Mr. Stamps' head.
 - c. When Officer Duncan landed after his fall, he was almost on top of Mr. Stamps and Stamps' head was close to him and he could see the top of his head. (Duncan Interview at 58). This explains Officer Duncan's statement that after he fell he was literally on top of Mr. Stamps.
 - d. According to Officer Duncan, the rifle remained in his right hand throughout his fall and was held by a strap attached to the gun and over Officer Duncan's shoulder.
- Given the close proximity of Officer Duncan's body to Mr. Stamps' head during the fall, I believe that the rifle's muzzle would have been past Mr. Stamps' left cheek and likely closer to his lower neck and upper chest when Duncan discharged his weapon between the time he began to lose his balance and when he first impacted the wall.
- Therefore, if the rifle was fired during the fall as described by Officer Duncan, I believe that the bullet could not have entered Mr. Stamps' left cheek due to the likely position of the muzzle.

- Wound path trajectory

- In my opinion, based on the statements made by Officer Duncan describing the fall, I believe that if the bullet somehow entered Mr. Stamps' left cheek during the fall depicted the bullet would not have followed the angle and pathway through the left cheek, out of the upper neck, and through the lower neck/clavicle at the angle and pathway identified by the Medical Examiner.

- Stippling Pattern

- The powder stippling around the gunshot wound is directly contrary to the weapon being fired while the muzzle was in contact or in loose contact with Mr. Stamps' cheek. The Medical Examiner's Report and Dr. Neilds' deposition testimony state that the stippling present on the left side of Mr. Stamps' face was located above and forward of the bullet entry wound. The stippling pattern was in an oval shape five and one half inches high and three inches wide.
- According to Dr. Neilds' autopsy report, this stippling pattern indicates that the end of the muzzle could have been up to 36 inches or more from Mr. Stamps' face when the rifle was discharged. I feel that the stippling pattern is inconsistent with a contact (muzzle against the face) or a loose close contact shot.
- This fact directly affects the actual position of the rifle when discharged.

- Position of Officer Duncan's body when the shot was discharged

In my opinion, given the probable angle of the weapon from the time Duncan began to fall and the time he first struck the wall, it is implausible that Officer's Duncan's rifle discharged during the fall and somehow inflicted the wound sustained by Mr. Stamps.

I based this opinion on:

- The width of the hallway is approximately five to six feet according to the engineering drawing prepared by Mr. Lally for this case. When Mr. Stamps stepped into the hallway, he said he was to the right of Mr. Stamps so that Mr. Stamps was on Duncan's left. Given the average height of Officer Duncan, his location when he entered the hallway, and the measured width of the hallway, it is likely that when he struck the wall, he hit the wall with his upper back or his upper left side contacting at least several feet above the floor.
- I believe that he could not have fallen flat on the floor due to the constriction of the hallway. This conclusion is further supported by the fact that Duncan's rear-end landed in the corner of where the front hallway wall meets the left side hallway wall. In my opinion, this position indicates that Officer Duncan fell against the wall and slide down with his buttocks falling to the floor in the corner.

- In his interview with the State Police, Officer Duncan stated that after he hit the wall he continued to slide, indicating that his upper body hit the wall and then he slide down the wall to the floor. (Duncan Interview at p. 57).
- In my opinion, the leftward, downward, and backward trajectory of the bullet into Mr. Stamps' face, neck and chest is consistent with the muzzle of the rifle being at an angle in relation to Stamps' prone position on the floor. For the gun to be at the correct angle under Duncan's description of his fall, I believe that the muzzle of the rifle would have somehow passed behind Officer Duncan's two legs and in some way maintained that angle before the shot was discharged. However, Officer Duncan stated in his interview that the rifle was "resting on him" when he fell and was not behind him. For that reason, I believe that the probable angle of the rifle during Officer Duncan's described fall would not have resulted in the leftward, downward, and backwards path of the bullet reported in the Medical Examiner's report.

- Likely position of Officer Duncan when the shot was fired

To a reasonable degree of scientific certainty, I believe it is likely and probable that Officer Duncan discharged his rifle when he was standing in the kitchen and pointing the rifle at Duncan's head in the low ready position. In my opinion, at this location the angle of the rifle would have placed the weapon in a position resulting in the path of the bullet that inflicted the wounds as described by the Medical Examiner; namely, downward, right to left, and a front to back path in his body.

This conclusion is supported and confirmed by the deposition testimony of Officer Riley, Officer Sebastian, and Lt. Downing:

- Officer Riley testified that he turned immediately after hearing Duncan's rifle discharge and saw Duncan standing on his feet at the threshold between the kitchen and the hallway.
- Officer Sebastian testified that when they heard the shot, he turned immediately and saw Duncan walking in the kitchen.
- Lt. Downing testified that he was looking toward the hallway/kitchen threshold, heard a loud bang, and saw Duncan in the kitchen walking toward him.

2. Officer Duncan failed to follow safe firearm handling procedures

Officer Duncan failed to keep his rifle's safety engaged, he failed to keep his finger off of the trigger of his rifle and finally, he failed to keep the weapon's muzzle pointed in a safe direction at all times. Those actions violated both basic firearm safety procedures and Officer Duncan's departmental guidelines.

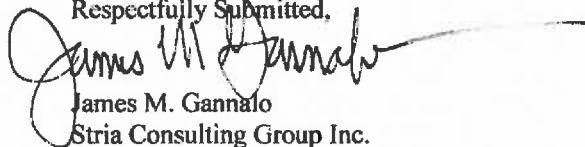
- Involuntary Hand Clenching

According to studies made by Federal Agencies (FBI, DEA, ATF), the Force Science Institute and the German National Police, the tightening of the hand causes a contraction of all of the fingers with a force up to 30 lbs. and cannot be consciously controlled. This action is known as ***Involuntary Hand Clenching***. The three most commonly identified causes of involuntary hand clenching have been extensively studied. They are as follows:

- **Postural Imbalance**. When the shooter loses balance or trips, his hands will clench.
- **Startle Effect**. When the shooter is under stress and surprised, there will often be a hand clench.
- **Interlimb Interaction**. Under stress, when the non gun hand closes violently, the gun hand will clench, spontaneously duplicating the actions of the non-gun hand.

I must reiterate that my opinions are based solely on my analysis of the items available for re-examination, statements made by the officers involved, the medical examiner autopsy report and the submitted police reports. I have formulated these conclusions based on my professional training/experience as both a police officer and a forensic firearms examiner and reserve the right to amend my conclusions if additional information becomes available at a later date.

Respectfully Submitted,



James M. Gannalo
Stria Consulting Group Inc.

Rate of Compensation

I've been compensated at my common rate of \$200.00 per hour for my work in preparing this report. This was applied to my personal and telephone conferences with the assigned attorney and his staff, my professional review of all reports, documents, statements and photographs. Additionally, this rate and a travel rate of \$75.00 per hour were accrued during my two visits to Massachusetts related to this matter.

Expert Witness Testimony

The following lists expert witness testimony I've provided in the last five years. Altogether, I've been declared an expert witness in excess of six hundred times in a variety of Federal, State and City courts.

- Grandy v. Commonwealth of VA (Federal District Court, Alexandria, VA) 9/13
- People v. Moise (NY) 6/13
- People v. Maxwell (Brooklyn) 6/13
- Stontosh Clark v. City of Philadelphia (PA) 4/13
- State of New Jersey v. Camilo Lopez (Jersey City, NJ) 4/13
- People v. Delroy Francis (Brooklyn) 2/13
- People v. Michael Grafton (Schenectady, NY) 2/13
- Ledger v. City of New York (Eastern District) 10/12
- New Hampshire v. Glenn (NY) 6/12
- Lusk v. City of Huntington, AS (NY) 5/12
- Ledger v. City of New York (NY) 4/12
- People v. Fields (NY) 1/12
- People v. Pena (Brooklyn) 3/11
- People v. Faregas (Nassau) 3/11
- Lopez v. City of New York (Eastern District) 10/11
- Grandy v. Commonwealth of VA (Federal District Court, Alexandria, VA) 8/11
- People v. Wallace/Hinkson (Brooklyn) 4/11
- US v. Cook (Federal District Court, PA) 2/10
- State v. Warden (CT) 2/10
- State v. Hair (Connecticut) 2010
- People v. Elion (Rochester) 2010
- People v. Vasser (Queens) 2010
- People v. Card (Brooklyn) 9/10
- People v. Phillips (Rochester NY) 8/9
- People v. Johnson (Queens) 9/09
- People v. Sabu (Brooklyn) 11/09
- People v. Rivera (Bronx) 2/8
- People v. Morency (Brooklyn) 9/08
- People v. Graham (Suffolk, NY) 4/08
- People v. Smith (NY) 3/08
- People v. Williams (Bronx) 4/08
- State v. Roberson (CT) 9/08

James M. Gannalo

Forensic Firearms Consultant & Instructor

Stria Consulting Group Incorporated

P.O. Box 367

Brooklyn, New York 11228

Phone # (718) 236-7616

Email: stria@msn.com

Fax # (718) 621-4734

Website: nystria.com

Updated 2/14

Retired NYPD Detective and practicing forensic firearms examiner/training consultant in the fields of firearms operability, microscopic analysis of ballistics evidence and shooting incident reconstruction. I've provided professional assistance to attorneys, municipalities and law enforcement agencies for case evaluation, courtroom and trial presentation in both criminal prosecution and civil litigation in fifteen different states since my service retirement in 1998.

Experience

Mr. Gannalo has been an active firearms examiner for the past twenty-six (26) years since 1998. He successfully completed more than twelve-thousand (12,000) firearms related cases while assigned to the NYPD Ballistics Squad from 1989 through 1998. These cases encompassed a wide variety of homicides, attempted murders, assaults and weapons possession charges throughout the five boroughs of the City of New York. Mr. Gannalo also assisted a number of local, state and federal law enforcement agencies with investigations of firearms related incidents.

Mr. Gannalo has provided expert testimony at more than six-hundred (600+) trials conducted in various federal, state and county jurisdictions in multiple states. He has been recognized as an expert witness at trials linked to firearms, firearms operability, ballistics, firearms identification, microscopy, shooting incident reconstruction, gunshot-residue analysis and muzzle-to-target distance determination examinations. Mr. Gannalo has also presented expert testimony at a number of civil trials while assisting counsel for both the plaintiff and defendants.

Mr. Gannalo has been assigned as an independent consultant in over five hundred (500+) firearms related cases since his service retirement in 1998. He has assisted hundreds of attorneys in case analysis, trial preparation and presentation at criminal and civil trials conducted in New York, New Jersey, Connecticut, Virginia, West Virginia, Pennsylvania, Texas, Maryland, Delaware, Kansas, Vermont, Florida, North Carolina, New Hampshire and North Dakota.

Mr. Gannalo has created and/or instructed a number of forensic training programs for firearms identification, shooting incident reconstruction and expert witness courtroom testimony. These programs have been used to train many hundreds of firearm examiners, investigators and police officers from law enforcement agencies throughout the United States. These training curriculums have been used to educate examiners in crime laboratories operated by the New York City Police Department, City of Philadelphia Police Department, Arkansas State Crime Laboratory and the Georgia Bureau of Investigation Crime Laboratory.

Mr. Gannalo continues his education and professional development and has attended more than fifty (50) training courses offering over one thousand (1,000) hours of basic and advanced forensic related instruction in a number of scientific fields.

Forensic Firearm Consultation – (1998 to Present)

- Conducting independent examination and evaluation for a variety of firearms and shooting related cases using recognized analytical techniques. Providing expert witness courtroom testimony on an assortment of criminal and civil cases in New York, New Jersey, Connecticut, Virginia and Pennsylvania. Recognized as an expert in firearms, firearms operability, ballistics, firearms identification, microscopy, shooting incident reconstruction and gunshot residue testing & analysis.
- Retained as a member of an advisory shooting incident reconstruction team which traveled to Abu Dhabi, UAE and investigated gunshot related injuries to United Arab Emirates military personnel deployed to Iraq by assessing the bullet resistant properties of government vehicles.
- Retained as a forensic consultant in criminal and civil litigation pertaining to police related shootings in New York, New Jersey, Connecticut, Texas, Maryland and Virginia.
- Assisted both defense counsel and prosecutors with trial preparation and presentation as an expert witness in the fields of shooting reconstruction, ballistics, firearms operability and microscopic examination of shooting related evidence.
- Provided professional assistance for criminal defense, prosecutions and civil litigation cases concerning murder, assault and weapons possession in New York, New Jersey, Pennsylvania, Delaware, Maryland, Kansas, West Virginia, Vermont and Florida.
- Retained as a forensic consultant by the Argentine Forensic Anthropology Team an internationally recognized organization supported by the United Nations and charged with the forensic investigation of discovered mass graves throughout the world.
- Examined firearms and microscopic evidence, interpreted scientific reports, crime scene documents and medical examiner findings in excess of **five hundred** cases since 1998.
- Provided scientific analysis, forensic examination and case preparation for civil litigation concerning personal injuries by an assortment of paint ball markers.

Shooting Incident Reconstructions – Conducting forensic evaluation of the circumstances surrounding shooting incident related cases. Providing scientific assessment of recovered physical evidence from shooting incidents to establish how the incident occurred. Performing forensic reconstruction analysis related to police involved shootings and unintentional discharges.

- Retained as a consultant by attorneys representing both plaintiffs and defendants in firearms related injury cases in New York, New Jersey, Pennsylvania, Virginia and North Carolina.
- Retained as an autonomous consultant in police involved shooting incidents in New York, New Jersey, Pennsylvania, Connecticut, New Hampshire, Maryland, Virginia, West Virginia and Texas.
- Retained as a consultant by a number of private individuals to review and analyze questionable shootings resulting in the injury or death of family members.
- Court appointed as a forensic expert in various criminal defense cases where shooting reconstruction determined the validity of witness statements.
- Conducted investigations of shooting incidents involving homes, offices, multi-family dwellings, public property and motor vehicles using ballistic trajectory rod analysis.
- Evaluated crime scene reports, forensic documents, internal police investigations and witness statements associated with both criminal prosecutions and civil litigation.

Forensic Training – Established recognized training programs in firearms operability, moot courtroom instruction and microscopic analysis.

- Retained in 2013 by the Connecticut Division of Scientific Services Crime Laboratory and tasked with providing a comprehensive training curriculum for microscopy and advanced firearm identification of bullets and cartridge casings.
- Retained in 2011 by the Georgia Bureau of Identification as a member of a team of senior firearm examiners tasked with providing a comprehensive training curriculum for toolmark analysis and advanced firearm identification of bullets and cartridge casings.
- Retained in 2010 by the Arkansas State Crime Laboratory to provide forensic training in toolmark analysis, gunshot residue analysis and moot courtroom testimony techniques.
- Retained from 2007 through 2008 by the City of Philadelphia Police Department as a Firearms Consultant/Training Coordinator responsible for creating two separate training courses for firearms operability, moot courtroom instruction and microscopic analysis. Successfully trained **twelve** (12) police officers and civilian employees as firearm examiners during this eighteen (18) month program. This training curriculum was reviewed and certified during a successful International Organization of Standardization (ISO) accreditation process in 2010.
- Retained from 2001 through 2005, by the New York City Police Department as a Firearms Consultant/Training Coordinator responsible for creating three (3) ASCLD/LAB recognized training courses in firearms operability, moot courtroom instruction and microscopic analysis. Successfully training **thirty** (30) New York City Police Department detectives, police officers and criminalists in firearms testing procedures, operability analysis, microscopic examination and firearms identification.
- Selected as a forensic instructor for the BATF National Firearms Examiner Academy (NFEA) 2009 and 2010 sessions conducting realistic moot court scenarios for the students at the US District Court located in Greenbelt, Maryland.
- Personally compiled an extensive forensic training manual, reviewed by ASCLD/LAB and adopted by the NYPD Laboratory Firearms Analysis Section in 2004. Created and administered a number of competency and proficiency tests to NYPD firearm examiners using ASCLD/LAB standards.
- Selected as a member of the Forensic Advisory Group to the Director of the NYPD Laboratory assisting the administration of New York City Police Department Forensic Laboratory in attaining and maintaining a professional level of standards in strict accordance with the ASCLD/LAB requirements for accreditation.
- Provided comprehensive training in an assortment of forensic disciplines to members of Crime Laboratories in New York, New Jersey, Pennsylvania, Georgia and Arkansas.
- Retained by the Rockland County District Attorney's Office as a Forensic Instructor, Firearms Consultant and Firearms Examiner/Microscopist providing fundamental training to eight (8) members of the Rockland County Sheriff's Department in the fields of firearm operability, testing and identification.

Law Enforcement Training Accomplishments - Trained and/or lectured to hundreds of members of a various municipal enforcement agencies throughout New York, New Jersey and Pennsylvania. Additionally trained and/or lectured members of the following:

- Federal Bureau of Investigation
- Bureau of Alcohol Tobacco & Firearms
- United States Park Police
- New York State Police

- New Jersey State Police
- Connecticut State Police
- Massachusetts State Police
- Rhode Island State Police
- Maine State Police
- Arkansas State Crime Laboratory
- Georgia Bureau of Identification Crime Laboratory
- Connecticut Division of Scientific Services Crime Laboratory

ASCLD/LAB – International Assessor/Auditor Training – (May 18-22, 2009) - Certified as an assessor for accredited laboratories by successfully completing this course of instruction provided by the ASCLD/LAB – International organization. The curriculum adhered to the specialized system formed by the International Organization of Standardization (ISO) based on the ISO/IEC 17025 general requirements for the competence of testing and calibration laboratories.

ISO Assessor/Auditor Assignments - I've participated in ten (10) comprehensive audits conducted to assess the following laboratories compliance with International Organization of Standardization (ISO) ISO/IEC 17025 standards.

- In 2011/2012, I participated as an assessor conducting laboratory inspections of four Illinois State Police Laboratories (Fairview Heights, Chicago, Springfield and Morton labs) for ISO 17020 accreditation.
- In March of 2012, I participated as an assessor conducting a laboratory inspection for the initial ISO 17020 assessment of the Plano Police Department Crime Scene Investigation Unit in Plano, Texas.
- In October of 2012, I participated as an assessor conducting a laboratory inspection for the ISO 17020 accreditation of the Illinois State Police Metro-East Forensic Laboratory Scene Investigation Unit.
- In November of 2012, I participated as an assessor conducting a laboratory inspection for ISO 17020 accreditation of the Royal Canadian Mounted Police Crime Laboratory in Halifax, Nova Scotia, Canada.
- In May of 2013, I was retained by the Metropolitan Police Laboratory, Washington, DC to audit a number of previously completed cases to determine compliance with ISO/IEC 17025 standards in preparation for accreditation.
- Also in May of 2013, participated as an assessor conducting a laboratory inspection for ISO 17020 accreditation of the North Carolina State Crime Laboratory (Raleigh and Western Labs) in both Raleigh and Asheville, NC.
- In August of 2013, participated as an assessor conducting a laboratory inspection for ISO 17020 accreditation of the Durham Police Department's Forensic Service Division Crime Scene Unit (Firearm section) in Durham, NC.

Crime Laboratory Experience - NYPD Ballistics Squad (Oct. 1989 to Sept. 1998)

- Duties included testing many thousands of different firearms and microscopically examining shooting related evidence. Case results were then interpreted and evaluated before preparing forensic reports and providing expert court testimony. Additional experience included serial number restorations, muzzle to target distance testing and laser trajectory analysis of shooting incidents.

- Completed 12,000+ cases of operability testing and microscopic examination of ballistics evidence. Testified and qualified as an expert witness in 550 trial cases in the Northern, Eastern and Southern Districts of the United States Federal Court and in Supreme, Criminal & Family Courts in all five boroughs of New York City.
- Participated in the investigation and analysis of cases while collaborating with members of the Federal Bureau of Investigation (FBI), Bureau of Alcohol Tobacco and Firearms (BATF), Drug Enforcement Agency (DEA), New York State Police and a number of law enforcement agencies and investigative units in the region.

Additional Training and Media Accomplishments

- Continue to lecture at universities, scientific working groups, and legal associations providing continuing legal education seminars (CLE) and a variety of law enforcement forensic courses of instruction in New York, New Jersey and Pennsylvania.
- Trained and lectured to members of various state and municipal police agencies, prosecutor's offices and sheriffs departments while providing forensic instruction sponsored by *Montclair State University of New Jersey*.
- Appeared as a forensic firearm examiner on Court TV's *Nancy Grace Show*, the *Forensic Files* series and the *Fox Five News Network*. Provided professional assistance to journalists from the *New York Times*, *New York Daily News*, *New York Post*, *Boston Globe* and *Time Magazine* for news articles related to firearms and shooting incidents.
- Provided technical advice relating to the preparation of scripts for the *Law and Order* and *The Good Wife* series and assisted a number of authors, writers and journalists in novels, screenplays and articles relating to firearms identification, assassinations and murders.

Scientific Presentations and University Lectures - Provided professional instruction to a variety of forensic laboratory examiners, university students and police investigators at the following training courses:

“Basic Testimony Techniques in Forensics”

Courtroom Testimony Instruction Course at St. Johns University (Queens, NY) 11/97

“Perspectives on Handling Firearms & Ballistic Evidence at the Crime Scene”

NYSIAI Educational Training Conference (Rochester, NY) 3/00

“Homicide Case Studies: Suicide or Homicide?”

NYS Firearms Examiner Scientific Working Group Seminar (Albany, NY) 11/02

“Training Challenges in the Modern Laboratory”

Eastern Regional AFTE Training Seminar (Trenton, NJ) 11/04

“Identification Based on Unusual Toolmarks”

New York Microscopical Symposium at John Jay College (New York City, NY) 4/05

“Training Challenges in the Modern Laboratory”

Association of Toolmark & Firearms Examiners Training Seminar (Indianapolis, IN) 6/05

“Introduction to Firearms Operability and Firearms Identification”

Forensic Science Introduction Course, Hofstra University (Hempstead, NY) 7/05, 3/06, 10/08

“Understanding Firearms & Shooting Related Evidence”

Homicide & Crime Scene Investigation Training Course (Atlantic City, NJ) 3/06

“Shooting Reconstruction: Scientific Techniques & Methodology”

Shooting Incident Reconstruction Training Seminar (Lancaster, PA) 5/06

“Wound Ballistics Analysis, Unusual Police Involved Shooting”

New England Firearm Examiners Educational Training Conference (Meriden, CT) 9/08

“3D Animation Analysis, Police Involved Shooting in Brooklyn, NY 2005”

Shooting Incident Reconstruction Training Course (Lawrenceville, NJ) 11/08

“Guest Instructor-Moot Courtroom Testimony Instruction”

National Firearms Examiner Academy – BATF (Beltsville, MD) 9/09

“Protection Failure Analysis of an Armored Toyota SUV”

Eastern Regional AFTE Training Seminar (Beltsville, MD) 10/09

“Courtroom Testimony & Expert Witness Techniques”

Union County Police Ballistics Laboratory (Westfield, NJ) 12/09

“Shooting Reconstruction: Scientific Techniques & Methodology”

Shooting Incident Reconstruction Training Seminar (Cedar Grove, NJ) 6/10

“Georgia Bureau of Investigation Firearms Examiner Training Program”

Georgia Bureau of Investigation Crime Laboratory – GBI (Decatur, GA) 6/11 – 10/11

Publications

“Protection Failure Analysis of an Armored Toyota SUV” AFTE Journal, Volume 41, Number 4, Fall 2009, pp358-365

Specialized Training and Coursework - attended forensic and firearms related training courses to advance my proficiency and remain competent in this profession. These include:

Firearms Analysis and Examination

BATF Firearm Serial Number Restoration School (NYPD Lab) 1/03

Wilson Arms Factory Familiarization Tour & Instruction (Branford, CT) 1/06

US Military Weapons Development Seminar, Proving Grounds Aberdeen (Aberdeen MD) 5/07

ATF Seminar on Military Weapons and Ammunition Testing, Picatinny Arsenal (Sparta NJ) 6/07

Ruger Firearms Manufacturing Orientation (Newport, NH) 4/08

SigArms Firearms Manufacturing Orientation (Exeter, NH) 4/08

Smith & Wesson Firearms Manufacturing Orientation (Springfield, MA) 4/08

O.F. Mossberg Firearms Manufacturing Orientation (North Haven, CT) 4/08

BATF Machine Gun Conversion Course (Beltsville, MD) 10/09

Glock Firearms Manufacturing Orientation (Smyrna, GA) 8/11

Microscopy

National Integrated Ballistic Information Network Training Course (Largo, FL) 6/02
New York Microscopical Symposium at John Jay College (New York City, NY) 4/05
Polarized Light Microscopy Workshop, NY Microscopical Society (Montclair, NJ) 10/07
Scanning Electron Microscope (SEM/EDX) Orientation (Philadelphia, PA) 7/08
Comparison Microscopy Illumination Workshop (Hillsborough, NJ) 4/09

Toolmark Analysis

Introduction to Forensic Impression and Pattern Evidence (NYPD Lab) 4/97
F.B.I. Toolmark Examination & Evaluation Training Course (Springfield, MA) 6/06
Society Toolmark Seminar, New York Microscopical (New York, NY) 4/10

Forensic Science

Expert Testimony & Evidentiary Law related to the Daubert Decision (Hamilton, NJ) 4/06
BATF Daubert Seminar at the New Jersey State Police Laboratory (Hamilton NJ) 12/06
ASCLD/LAB International Assessor/Auditor Training (Pittsburgh, PA) 5/09
Ethics in Forensic Science (West Virginia University) 3/12
Perspectives in Expert Testimony (West Virginia University) 3/12
ASCLD/LAB International Assessor/Auditor Refresher Training (Online) 4/12
Standards Council of Canada – Accreditation Training Session (New York) 10/12
Trace Evidence for Associative and Reconstruction Purposes (West Virginia University) 5/13

Shooting Incident Reconstruction

Crime Scene Reconstruction of Shooting Incidents - FBI Academy (Quantico, VA) 7/95
NYPD Criminal Investigation Course (NYPD Police Academy) 11/97
NYPD Evidence Collection Team Training Course (NYPD Police Academy) 1/98
Shooting Incident Reconstruction Training Course (NYPD Lab) 5/00
Digital Imaging of Evidence Training Course (NYPD Lab) 4/02
Ricochet Analysis Training Workshop (San Antonio, TX) 5/02
Wound Ballistics Training Workshop (San Antonio, TX) 5/02
Shooting Reconstruction & Firearms/Toolmark Examination Protocols (Albany, NY) 11/02
Forensic Shooting Reconstruction Training Course (Prescott, AZ) 11/04
Gunshot Residue Chemical Testing & Evaluation Course (Springfield, MA) 6/06
Advanced Shooting Incident Reconstruction Training Course (Concord, NH) 6/08
FBI Shooting Incident Reconstruction, Trajectory Analysis Training Course (Fort Dix, NJ) 9/08
Crime Scene Photography Training Seminar (Valhalla, NY) 11/08
Principles and Theories of Shooting Reconstruction (West Virginia University) 2/12
Principles of Crime Scene Investigation (West Virginia University) 3/12
Principles of Death Investigation (West Virginia University) 5/12
Shooting Incident Reconstruction and 3D Laser Scanning Setup (Buffalo, NY) 6/12

Armorer Coursework

Glock Firearms Armorer Course (Westchester, NY) 3/95
Heckler & Koch Model MP5, USP & Shotgun Armorer Course (Toms River, NJ) 3/97
Mossberg Shotgun Armorer Course (NYPD Police Academy) 8/97
Ruger Firearms, Model G100 Revolver Armorer Course (Springfield, MA) 6/06
Sig Sauer Firearms, Model 220, 229 Pistol Armorer Course (Hamilton NJ) 8/06

Professional Development

Association of Firearms & Toolmark Examiners Training Seminar (Annapolis, MD) 7/97
Association of Firearms & Toolmark Examiners Training Seminar (Williamsburg, VA) 7/99
Association of Firearms & Toolmark Examiners Training Seminar (San Antonio, TX) 5/02
Association of Firearms & Toolmark Examiners Training Seminar (Philadelphia, PA) 5/03
Association of Firearms & Toolmark Examiners, Eastern Regional (Hamilton, NJ) 11/04
Association of Firearms & Toolmark Examiners Training Seminar (Indianapolis, IN) 6/05
Association of Firearms & Toolmark Examiners Training Seminar (Springfield, MA) 6/06
Association of Firearms & Toolmark Examiners, Eastern Regional (Beltsville, MD) 10/09
Association of Firearms & Toolmark Examiners Training Seminar (Buffalo, NY) 6/12

New England Firearm Examiners Educational Training Conference (Meriden, CT) 9/04
New England Firearm Examiners Educational Training Conference (Meriden, CT) 9/08

NYSIAI Regional Educational Training Conference (Williams Lake, NY) 11/98
NYSIAI Regional Educational Training Conference (Rochester, NY) 3/00
NY/NJ/Connecticut Tri-State Training Conference (Atlantic City, NJ) 3/00
NYSIAI Regional Educational Training Conference (Williams Lake, NY) 12/03
International Association of Identification (IAI) Training Conference (Boston, MA) 7/06
NJFFEA Training Conference / Bullet Deflection Analysis (Hillsborough, NJ) 10/09

Professional Affiliations - currently a member in good standing, or have been previously accepted as a recognized member of the following specialized associations:

Association of Firearms and Toolmark Examiners (Regular Membership) (AFTE)
Association of Crime Scene Reconstruction (ACSR)
International Association of Identification (IAI)
International Association of Wound Ballistics (IAWB)
National Association of Criminal Defense Lawyers (Associate member) (NACDL)
National Rifle Association (NRA)
New York State Identification Association (NYSIAI)
New Jersey State Identification Association (NJIAIA)
New York Microscopical Society (NYMS)
Northeastern Association of Forensic Scientists (NEAFS)
NYS Association of Criminal Defense Lawyers (Associate member) (NYSACDL)
New Jersey Forensic Firearm Examiner Association (Training Chairman) (NJFFEA)

EXHIBITS USED TO SUPPORT OPINIONS

In addition to the materials and exhibits identified in this report, I also relied upon the following exhibits.

1. The photographs marked as exhibits 9, and 19-21 in the depositions taken by the plaintiffs.
2. The Medical Examiner's Report
3. The photograph marked as Exhibit 4 at the Medical Examiner's deposition.
4. An exemplar M-4 rifle.
5. The results of the testing of Duncan's rifle.
6. 3-D images of the shooting as describe in my report and showing the shot fired from the kitchen into the hallway. These 3-D images will be prepared within the next two weeks.
7. A computerized animation of the shooting to be prepared and provided prior to trial.
8. The attached two photographs of the shooting scene



