LAW ENFORCEMENT EMPLOYEE-INVOLVED FATAL INCIDENT REPORT

REPORT TO THE PUBLIC

Employer Agency: Sonoma County Sheriff's Office
Investigating Agency: Santa Rosa Police Department
Decedent: Andy Lopez Cruz
Date of Incident: October 22, 2013

Report Prepared by:
SONOMA COUNTY DISTRICT ATTORNEY'S OFFICE

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I. PREAMBLE

The following is a synopsis of the report the District Attorney's Office has provided to the Grand Jury pursuant to the Sonoma County Law Enforcement Employee Involved Fatal Incident Protocol. It is intended to provide the public with an overview of the facts and our deliberative process in determining whether criminal liability was present. While extensive, it does not purport to contain all the facts, documents and evidence we considered or relied on in reaching our decision. Historically, other than a press release, the Sonoma County District Attorney has not released any portion of a fatal incident report to the public. In releasing this synopsis, I must be mindful of and balance the public's need to know the basis of my decision, with the legitimate privacy concerns of the persons mentioned in this report.

II. INTRODUCTION

On October 22, 2013, Andy Lopez Cruz was shot multiple times by an on-duty deputy sheriff employed by the Sonoma County Sheriff's Office. He died at the scene. The Sonoma County Sheriff's Office immediately invoked the Sonoma County Law Enforcement Employee-Involved Fatal Incident Protocol. The purpose of this protocol is to set forth procedures and guidelines to be used by Sonoma County law enforcement agencies in the criminal investigation of specifically defined incidents involving law enforcement employees. Under this protocol, in order to eliminate either the risk or appearance of a conflict of interest, a law enforcement agency other than the employing agency is called in to investigate a law enforcement employee-involved fatality. Accordingly, members of the Santa Rosa Police Department assumed responsibility for the investigation of this shooting incident. Members of the Petaluma Police Department and Sonoma County District Attorney's Office were also assigned to participate in the investigation.

In the aftermath of the incident, there was significant general civil unrest which resulted in at least ten protest marches and a Black Friday flash mob at the Santa Rosa Plaza. There is a weekly presence at the Courthouse by those protesting this shooting, and other officer involved fatalities. The impact of the shooting has been far-reaching, as evidenced by the countless articles, blogs, opinions, and letters in the local print media, as well as on social media. In response to the public outcry, the Board of Supervisors formed a Community and Local Law Enforcement Task Force, which was charged, among other things, with investigating options for civilian review of officer-involved shootings. The Board of Supervisors has also moved forward with plans to evaluate the prospects for developing a memorial park at the site of

the shooting. The depth and breadth of the public reaction to this tragedy throughout the community was not lost on the District Attorney.[1]

The role of the Sonoma County District Attorney's Office in a law enforcement employee-involved fatal incident is to "participate with the lead agency in conducting the investigation; provide advice and direction to the investigators on relevant criminal law issues; upon completion of the investigation, analyze the facts of the incident in light of relevant statues to determine whether or not violations of criminal law are believed to have occurred; prepare a written District Attorney's summary, within ninety (90) days of receiving the completed investigation, which states whether or not any violations of the criminal law occurred in the incident; as deemed appropriate, prosecute those persons believed to have violated criminal law; provide the Deputy District Attorney's summary of the incident and recommendation to the Foreperson of the Sonoma County Grand Jury; upon request, present investigative information to the Sonoma County Grand Jury for their consideration and review." (See Law Enforcement Employee-Involved Fatal Incident Protocol.)

Additionally, "the Office of the District Attorney has investigative authority independent of that of other member agencies. When deemed appropriate by the District Attorney, the Office of the District Attorney may perform an independent investigation separate from the lead agency."

The protocol that lays out relative responsibilities was developed by the members of the Sonoma County Law Enforcement Chiefs Association in 1993. It has been reviewed and revised a number of times, most recently in 2010.

III. INVESTIGATION METHODOLOGY

Upon the Sheriff's Office's invocation of the protocol, the Santa Rosa Police Department assumed overall responsibility for supervising, coordinating and conducting the criminal investigation. They were given assistance by the

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1 The District Attorney assigned a senior staff member to track the media and public comments related to this case. If new witnesses or new statements were found in these articles or comments, every effort was made to track down and interview the witness. Several of those statements are included elsewhere in this report. The following is the cumulative results of that tracking. It does not include articles in newspapers across the country, such as The Huffington Post, USA Today and the San Francisco Chronicle and world-wide reports distributed through the Associated Press.

Press-Democrat articles: 87
Press-Democrat articles re: issues ancillary to the shooting (e.g. security guards getting fired, toy gun ban): 24
Press-Democrat articles about the Law Enforcement task force: 8
Letters to the Editor referencing the shooting: 88
Press-Democrat Editorials: 18
Press-Democrat Close to Home columns: 8
Sonoma County Gazette articles: at least 4
Wikipedia reference on City of Santa Rosa definition: <http://en.wikipedia.org/wiki/Santa_Rosa,_California> (accessed April 29, 2014).
Wikipedia reference on Andy Lopez shooting: <http://en.wikipedia.org/wiki/Shooting_of_Andy_Lopez> (accessed April 29, 2014).

Petaluma Police Department. The Sonoma County District Attorney's Office closely monitored the investigation, which was conducted primarily by the Santa Rosa Police Department Violent Crimes Investigation Unit, and relied on the investigative reports submitted by the Santa Rosa Police Department, as well as reports, expert opinions and records obtained through the District Attorney's Office's own subsequent investigation.

As in every law enforcement employee involved fatal incident, the District Attorney calls for a thorough, complete and comprehensive investigation. In the days following this shooting, an experienced Chief Deputy District Attorney who has over twenty three (23) years of experience as a prosecutor, extensive experience handling homicide cases and who has reviewed many law enforcement involved fatalities, was assigned to oversee the investigation and conduct the legal review.

Additionally, the District Attorney assigned a highly experienced District Attorney Investigator (DAI), with over 33 years of continuous service as a California Peace Officer, including work as a Special Investigator in a major metropolitan Police Department, where he has conducted numerous criminal investigations (some resulting in felony arrests) into the actions of police officers. The DAI has also been the lead investigator of many homicide investigations, including several officer-involved shootings.

The Sonoma County District Attorney's Office obtained and reviewed the following from the Santa Rosa Police Department: over a thousand pages of documents, including summaries of interviews and contacts with approximately 200 witnesses, including a neighborhood canvas; 196 minutes of audio recordings and transcripts of witness interviews; dispatch and radio traffic recordings; forensic and analytical testing reports, including California Department of Justice (DOJ) firearm examination reports and testing of physical evidence; crime scene investigation reports and photographs; and the forensic pathologist report and photographs. In addition, approximately 175 items booked into evidence were reviewed.

Further investigation was conducted by the District Attorney's Office which included: retaining Dr. William J. Lewinsky of the Force Science Institute, an independent, outside expert on human performance in high stress encounters, such as officer involved shootings; retaining Craig Fries of Precision Simulations, a 3D computer animation scene re-creation expert; consulting with a blood spatter expert; consulting with Dr. Reese Jones, an expert on the use, ingestion, and effects of marijuana; interviewing and re-interviewing several known and new witnesses, including the forensic pathologist retained by the Lopez family's civil attorney; obtaining and reviewing personnel and training records of both Deputies Gelhaus and Schemmel; obtaining and reviewing military records of Deputy Gelhaus; obtaining and reviewing school records pertaining to Andy Lopez; and

conducting further crime scene examination, documentation and evidence recovery efforts.

IV. SCOPE OF REVIEW

The sole purpose of this criminal investigation and review is to establish the presence or absence of any criminal liability on the part of any person, including the involved law enforcement employee(s).

V. STANDARD OF REVIEW

The District Attorney, as the chief law enforcement official of Sonoma County, and as the person responsible for deciding what cases to prosecute within this jurisdiction, has the responsibility for the filing of all criminal cases. The discretion to exercise this function, i.e. to charge a person with a crime, is not without limit.

The standard to be applied by the District Attorney in filing criminal charges is accurately expressed in a publication of the California District Attorneys Association entitled, *Uniform Crime Charging Standards*.[2]

It provides:

> The prosecutor should consider the probability of conviction by an objective fact-finder hearing the admissible evidence. The admissible evidence should be of such convincing force that it would warrant conviction of the crime charged by a reasonable and objective fact-finder after hearing all the evidence available to the prosecutor at the time of charging and after hearing the most plausible, reasonably foreseeable defense that could be raised under the evidence presented to the prosecutor.

Additional restraint on the charging authority is found in *The California Rules of Professional Conduct*, *Rule 5-110*, which provides that an attorney in government service (this definition includes prosecutors) shall not institute or cause to be instituted criminal charges when the member knows or should know that the charges are not supported by probable cause.

Simply put, the standard for charging a crime is high because the burden of proof required at trial is quite high, i.e. proof beyond a reasonable doubt, which is the highest burden of proof under the law.

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2 California District Attorneys Association, *Uniform Crime Charging Standards* (1996) p. 12.

VI. SUMMARY OF FACTS

The following is a summary of facts intended to assist the reader in understanding this report and its conclusions. It is not a substitute for the volumes of reports, interviews, and other evidence from which it is derived but is a synopsis based upon our analysis of the evidence. Sometimes a witness is directly quoted, and other times the witness's statement is paraphrased or summarized. Where necessary, direct quotes will be denoted with quotation marks.

As often occurs in human affairs, none of the witnesses' perceptions of the incident are identical. Nevertheless, after reviewing their statements and considering other evidence, we believe that the facts set forth in this synopsis are well established.

A. Background Information on Involved Parties

1. Deputy Gelhaus

At the time of this incident, Deputy Erick Gelhaus had been employed as a Sonoma County Deputy Sheriff for 23 years and on October 22, 2013, he was on his second assignment as a Field Training Officer (FTO). He returned to assignment as an FTO in December of 2012 and was working in patrol, on the day of this incident, as Deputy Michael Schemmel's FTO. He was responsible for training and reporting on Deputy Schemmel's progress as a Sonoma County Deputy Sheriff recruit. It is a uniformed assignment.

During the course of his employment with the Sheriff's Office, Deputy Gelhaus has had a number of assignments that were not in the patrol division: he has been assigned as a detective to a DEA taskforce (3 years) and as an officer in the multiagency gang enforcement team (MAGNET), on three different occasions. In addition, he has had collateral duties such as serving as range master and has been a firearms instructor (20 years).

According to military records obtained and reviewed by the District Attorney's Office, Deputy Gelhaus served almost 20 years in the United States Army, including time served in active-duty, reserve, and National Guard capacities. He was an infantryman who rose to the rank of Sergeant. His records revealed experience in extremely stressful situations, and expertise in small arms skills and techniques, including service as a firearms instructor where he was recognized for exceptional meritorious service. He was honorably discharged from the reserve and National Guard service in August 2010.

The investigation has revealed that Deputy Gelhaus had experience with AK-47s while in the service, and has recovered AK-47s and

trained on the use of the AK-47 while a Deputy Sheriff. In fact, approximately a month prior to this incident, Deputy Gelhaus participated in a firearms training in which AK-47 rifle rounds were fired into and through a mid-size sedan. Thus, he was highly experienced in recognizing this weapon and understanding its capabilities.

2. Deputy Schemmel

As of October 2013, Deputy Michael Schemmel had been a sworn peace officer for more than 12 years. Prior to joining the Sonoma County Sheriff's Office on September 13, 2013, he worked for 11 years with the Marin County Sheriff's Office. [3] Prior to that he was with the Concord Police Department for 1 year. In his prior employment, the deputy had various assignments, including Field Training Officer, critical incident trainer for mentally ill and work on a special enforcement team that included investigating tobacco sales to minor decoys. On the day of this incident, he was in the FTO program as a lateral trainee assigned to patrol, working in a two-man unit. His assigned Field Training Officer was Deputy Erick Gelhaus. It is a uniformed assignment.

3. Andy Lopez Cruz

Andy Lopez Cruz (hereafter Andy) was born on June 2, 2000. He died on October 22, 2013, as a result of multiple gunshot wounds sustained while carrying a replica AK-47.[4] The gunshot wounds were sustained at the end of an encounter with members of the Sonoma County Sheriff's Office.

Several of Andy's friends were interviewed regarding the replica AK-47 Andy had at the time he was shot. John Doe #1, age 13, told officers canvassing the scene that he was worried that the shooting concerned his friend Andy because Andy was carrying his "AK." John Doe #1 told officers

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3 Deputy Schemmel was present during a prior law enforcement employee-involved fatal shooting incident in 2013. That incident was investigated pursuant to the Law Enforcement Employee-Involved Fatal Incident Protocol. This reviewing agency is aware of the details of that incident and that shooting was found to be lawful under the circumstances. There is nothing about that incident that is relevant to this inquiry. This disclosure is made in the interests of transparency and in order to maintain the integrity of the investigation. In that case, on February 28, 2013, Deputy Schemmel was employed by the Marin County Sheriff's Office and went on a ride-along with the Sonoma County Sheriff's Office prior to accepting employment with the Sonoma County Sheriff's Office. During the evening, Sonoma County Sheriff's deputies became involved in a lengthy vehicle pursuit in which the driver, Richard Shreckengaust, kidnapped his passenger. He was eventually shot by Sheriff's deputies when he began to reach for something in his car, which deputies believed was a weapon. Deputy Schemmel had no involvement in the shooting incident itself, but was merely an observer.

4 We have referred to the weapon Andy Lopez possessed at the time of his death as a "replica AK-47." However this type of weapon has also been referred to as a simile weapon because it can actually propel and shoot BBs. In various penal code sections and city and county ordinances, this type of weapon has also been referred to as: a "small arm device"; an "imitation firearm"; an "air gun, bb gun, pellet gun or any instrument... which throws bullets or missiles of any kind ..."

that Andy owns two airsoft guns; one that looks like an "AK," and a pistol. John Doe #1 said the "AK" was black see-through with fake wood on the handle and stock, but "from far away, it looks real." He said the "AK" did not have an orange tip because it broke off when Andy dropped the gun.

The day after Andy's death, Officer Orlando Macias responded to Cook Middle school at the request of school staff. A boy was in their office crying hysterically because he thought it was his fault Andy died. John Doe #2, age 13, and Andy had participated in Officer Macias' GREAT Program the preceding year. Officer Macias recognized John Doe #2 and spoke to him. John Doe #2 told Officer Macias the replica AK-47 belonged to him. John Doe #2 also told Officer Macias he felt responsible for Andy's death because he allowed Andy to borrow the gun even though the orange tip of the barrel was broken off making it look real, although he'd told his friend not to take it since it was broken.

The replica AK-47 assault rifle Andy possessed on October 22, 2013.

The identical replica AK-47 rifle purchased by the District Attorney Investigator at a local sporting goods store. Note: the orange tip identifying this as a replica weapon is present.

Officer Macias reminded John Doe #2 that he had shared with his class about how airsoft guns scare him because they looked "too real." John Doe #2 acknowledged that, telling the officer that his cousin had purchased orange paint for it, and that he makes sure not to walk too far from home when he has his airsoft/replica gun.

B. Andy's activities prior to the shooting

Andy's mother, Sujey Cruz was interviewed at the Santa Rosa Police Department regarding Andy's activities on the day of his death.[5] She stated that Andy left his house around 3:15 p.m. with the "machine gun" the "big black gun." He came back a few moments later to get the "smaller," "clear" gun. He then left again around 3:30 p.m. She told investigators that Andy had just started playing with the guns one week prior to this shooting incident and that prior to that week, he hadn't played with the guns in a long time. She said he was not allowed to have pellets for the air soft guns because they can hit the windows of cars. Andy was going to go to his friend John Doe #1's[6] house because John Doe #1 lives just up the street and they "were going to play, shooting" with the guns. He got the big gun (AK-47 replica) from a neighbor of John Doe #1's.

Andy then left the house and began to walk northbound on Moorland Avenue toward John Doe #1's house with both guns. Andy's 17 year old brother later told officers that when Andy carried his replica guns he would normally carry what he described as the "AK" under his arm. The brother explained that this was so people wouldn't think it was a real gun, so that when hidden it wouldn't scare people. The information provided by Andy's friends regarding the appearance of the replica weapon and absence of an orange tip was confirmed by his brother, who had seen the weapon at the family home either the prior day, or 2-3 days prior to that.

C. Deputies' Contact with Andy Lopez

Deputies Gelhaus and Schemmel were in distinctively marked Sonoma County Sheriff's Office uniforms and were in a distinctively marked Sonoma County Sheriff's patrol vehicle which possessed a fully operational light bar

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5 Officers were contacted at the scene by Rogelio Cruz Sr., Andy's father, who was looking for his 13 year old son who had left the house but had not come home. At this point officers did not know the identity of the deceased individual. Sujey Cruz, Rogelio Lopez Sr. (Andy's father) and Andy's 17 year old brother, voluntarily came to the Santa Rosa Police Department. All three were initially seated in an interview room. While they were alone in the room, the tape recorder was running. Detectives then interviewed Sujey Cruz and Rogelio Cruz Sr. together. Andy's brother was interviewed in a separate room. The purpose of the interviews was to get background on Andy Lopez Cruz and to gather information to determine the identity of the deceased individual. During this interview, a positive identification of Andy Lopez as being the person who was killed was ascertained and the death notification was then made.

6 John Doe was later identified as John Doe #1, who resided at an apartment building, just north of the shooting scene.

and siren. Deputy Gelhaus was wearing a uniformed short sleeve shirt with Sonoma County Sheriff's Office patches on both shoulders, a cloth gold badge on the left chest, embroidered on the right chest was FTO and below that E. Gelhaus and green utility cargo pants. He was wearing personal body armor, his duty belt which holds, among other things, two ammunition magazines with 17 rounds of hollow point ammunition in each, Taser, pepper spray, flashlight, cuff case with one set of handcuffs, radio, and a Smith & Wesson 9 mm semiautomatic handgun with 18 rounds of hollow point ammunition (one live round in the chamber and 17 rounds in the magazine.) He had a back-up firearm and a knife on his person as well. All of these items are approved for use by the Sonoma County Sheriff's Office. Deputy Schemmel was wearing a uniformed short sleeve shirt with Sonoma County Sheriff's Department patches on both shoulders, a cloth gold badge on the left chest, embroidered on the right chest was M. Schemmel, and green utility cargo pants. He was wearing personal body armor, his duty belt which holds, among other things, two ammunition magazines with 15 rounds of hollow point ammunition in each, pepper spray, two pairs of handcuffs, keys, a radio, a flashlight, and a .40 caliber Glock semiautomatic handgun with an attached light and with 16 rounds of hollow point ammunition (one live round in the chamber and 15 rounds in the magazine.) He had a back-up firearm and a knife on his person as well. All of these items are approved for use by the Sonoma County Sheriff's Office. He did not have a Taser assigned to him because he had not yet been trained by the Sonoma County Sheriff's Office.

They started their shift at 7:00 AM and were driving to the Moorland area[7] so Deputy Gelhaus could give his trainee an opportunity to be more proactive.[8]

D. CAD Log Chronology of Events

Sonoma County Sheriff's Office event chronologies (CAD) log (which records transmissions from deputies in the field and dispatch transmissions) indicate that Deputy Gelhaus first requested a "Code 20,[9] two units" at 15:14:19 (*the actual audio tape of this transmission shows he called it in at 15:13:58*[10]) and Deputy Schemmel reported "shots fired" at 15:14:25 *(the*

7 Moorland, commonly referred to as the Moorland neighborhood, is an unincorporated area of southwest Santa Rosa which includes Moorland Avenue between Todd Road and Bellevue Avenue.

8 To be proactive generally means to see a trainee in action, to make car stops; citizen contacts; and be proactive rather than reactive (responding to calls). The Moorland Ave. area is one of the most active crime areas in Sonoma County and was considered to be a good place to observe a trainee be proactive.

9 Code 20 in SCSO police jargon means emergency assistance needed, we need urgent cover and is a second level priority call. Code 3 is universally known to law enforcement to be the highest priority call.

10 The discrepancy as to time is due to the dispatcher having to first listen to the Deputy's radio transmission(s), then manually type a synopsis of what he said. The time indicated by the CAD synopsis is the time the dispatcher completed and entered their reiteration of what the deputy just broadcast.

actual audio tape of this transmission shows he began that call at 15:14:17). Thus, the amount of time which elapsed from the time of calling in the concern to the call of shots being fired was about 19 seconds.

The CAD dispatch log shows the following timeline of relevant events:

15:14:15: An event was created regarding a suspicious person on Moorland and West Robles involving Deputies Gelhaus and Schemmel.

15:14:19: Code 20, two units was broadcast by Deputy Gelhaus. The blurp of a siren start is heard as he finishes his words. (It is important to note: the ACTUAL TIME of this dispatch on the audio recording is 15:13:58)

15:14:25: "shots fired" was broadcast by their unit. (It is important to note: the ACTUAL TIME of this dispatch on the audio recording is 15:14:17)

15:14:36: Santa Rosa Police Department was advised by dispatch of shooting.

15:14:41: REDCOM was advised by dispatch – refers to Fire Dispatch and is used to summon EMS (ambulance) units. In a shooting incident, they stage near the scene, and wait until law enforcement renders the scene safe for them to enter.

Thereafter, the Sonoma County Sheriff dispatched 45 units, totaling 48 employees, to the Code 20 and recorded 38 units actually arriving on scene before the Code 20 was lifted. The number of units arriving on scene may not reflect all the units that actually arrived on scene, however. Approximately 15 Santa Rosa Police Department units also responded to the Code 20 and 14 units with 14 officers arrived on scene before the Code 20 was rescinded.

15:14:50: Deputy Gelhaus reported that one subject was down, they needed medical at the scene code 3 and he needed units to block Moorland at West Robles. (In the background of the audio, Deputy Schemmel can be heard stating "don't move.")

15:14:51: This entry was repeated

15:18:20: Deputy Gelhaus transmits "SR units keep coming south"

15:18:36: Someone transmits "Eric do you want us to come in off Todd?

15:18:42: Dispatch directs "first couple units in NB from Todd

15:18:58: Deputy Pederson transmits "Swing shift coming in from NB Todd."

15:19:08: Someone transmits "Unknown unit SB from Moorland"

15:19:21: Deputy White arrives on scene.

15:19:35: Gelhaus states "Come into Moorland up from W. Robles, Need to secure subject to get him off the rifle."

15:19:58: Gelhaus transmits "Additional units block Anteeo at W. Robles. Go up that way, go into little alley there.

15:20:30: Deputy Ragan arrives

15:20:40: Deputy Neely arrives

15:21:03: Gelhaus transmits "Send in EMS."

15:21:53: Someone stated: "Eric I'm Following AMB (ambulance) in – Come straight in?" (Most likely Deputy Borrusso.)

15:21:55: Deputy Gelhaus responded "come straight in."

15:22:10: Sgt. Raasch arrives

15:22:40: Deputy Neely transmits "Checking for pulse."

15:22:52: Deputy Borrusso arrives.

15:22:53: Sgt. Burke arrives.

15:23:07: Someone transmits "One CHP unit will be in the area. On Moorland and w. Robles. Walking over to Lloyd."

15:23:13: Deputy Engram transmits that "Medical is on scene."

More coordination transmissions are then made.

15:28:54: Deputy Borrusso states "Deputy Schemmel w/me and sequestered – en route to main."

E. Initial Investigation

After the shooting, Deputy Gelhaus and Deputy Schemmel were separately sequestered[11] at the scene and taken to a local hotel where each was interviewed by Santa Rosa Police Department Detectives a few hours later. It was determined that Deputies Gelhaus and Schemmel were conducting some proactive police work that day. Schemmel was driving and Gelhaus was in the passenger's seat. Deputy Gelhaus was familiar with the Moorland Avenue area and the gang activity in the area because of his previous assignment to MAGNET. As the patrol car drove up to the stop sign at West Robles, Gelhaus could see the field and the sidewalk and saw Andy walking northbound about 25 yards ahead of them carrying what appeared to be an AK47 at his side. Gelhaus yelled to his partner something to the effect of "do you see that" and radioed in the observation as a Code 20, two units.[12] Deputy Gelhaus' recognition of the weapon was based on prior work in the gang enforcement unit, military experience, and work as a firearms instructor. His experience included his personal knowledge having fired a real AK47 and his knowledge about the ability of a round to penetrate soft body armor that deputies wear as well as the ability of rounds fired by an AK47 to penetrate car bodies, as seen in a recent in service training. Deputy Gelhaus was aware of the greater distance a rifle could reach over a firearm, thus the urgency of call.

As Deputy Gelhaus radioed for assistance, Deputy Schemmel drove the patrol car into the oncoming lane and parked at an angle to the curb. In doing so he activated the light bar and blipped the siren. These actions were witnessed by civilians in the area. As the car pulled up, Deputy Gelhaus released his seatbelt, opened his door and drew his pistol, taking a position in the V area between the door and car body. At this point the car was thought to be approximately 10 – 20 yards from the subject, whose back was still turned to the car (crime scene technicians determined the distance to be 67.5 feet, or a little more than 20 yards). While Deputy Schemmel put the car in park, withdrew and took up a position similar to Deputy Gelhaus on the driver's side, drawing his gun, Deputy Gelhaus was heard to call out to the subject either once or twice, depending on the observer, to drop the gun. Both deputies reported that rather than obeying the command, the subject turned to his right toward the deputies with the weapon in his hand and the barrel, which had been pointed down, began to ascend. As the subject holding

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11 Law enforcement employees present at the scene when the incident occurs, whether as actors or witnesses, are relieved of their duties as soon as is safe and practical. First priority for relief is for an actor(s), who is then driven to the police station or other secure location by a supervisor or designated uninvolved law enforcement officer. Other involved employees drive or are transported to their own station or other agreed upon secure location. Sworn personnel not involved in the incident are assigned to accompany the involved employees.

12 The CAD dispatch log shows the "Code 20, two units" was sent by Deputy Gelhaus at 15:14:19. However, when listening to the *actual audio* of the call it was transmitted at 15:13:58. (See footnote 13.)

the weapon turned toward the deputies, both deputies reported being in fear for their lives or that of their partner and surrounding citizens. In his interview, Deputy Gelhaus became emotional when describing the events, and the fear he felt. Deputy Schemmel was coming into position to fire when he heard Deputy Gelhaus fire and saw the subject take a step backward. The subject either fell to his knees or to the ground, and the weapon lay either under or near him. He appeared to be seated and facing the deputies. The deputies remained in position behind the cover of their vehicle until backup support arrived. Deputy Gelhaus called in that shots were fired, and Deputy Schemmel can be heard in the background telling the subject to not move. At least one witness heard one of the deputies yell "don't reach for the rifle." When other units arrived, Deputy Schemmel continued to provide cover as they approached the subject, later identified as Andy. He was located on his back with a rifle near his foot, which Deputy Gelhaus either kicked or moved away.

F. Responding Officers

There were a number of Sonoma County Sheriff's deputies and Santa Rosa Police officers who responded to Deputy Gelhaus' request for Code 20. A reviewed of the dispatch logs show at least 45 units were dispatched, totaling 48 employees, to the Code 20. The Dispatchers recorded 38 units actually arriving on scene before the Code 20 was lifted. Approximately 15 single person Santa Rosa Police Department units responded to the Code 20 and 14 actually arrived on scene. All of the units arrived at the scene shortly after shots were fired. Some of them arrived while Deputy Gelhaus and Schemmel were still in the "at the ready" position by their open car doors. Two of these deputies, Bryan Jensen and Terry White, where the first to arrive after shots had been fired. They, along with Deputy Gelhaus, were the first to approach Andy, who was laying on the ground.

The officers approached while Deputy Schemmel remained at the patrol car to cover. According to the officers' accounts, Deputy Gelhaus continued to admonish the Andy not to touch the weapon or reach for it as the deputies approached him with guns drawn. They saw the weapon at his feet and Gelhaus either kicked or threw it aside before they secured the suspect, determined he was in medical distress and began resuscitation efforts. Another deputy approached to assist and found a clear plastic pistol in the Andy's waistband that he removed. It was retained as evidence. All three officers who approached with Deputy Gelhaus reported believing the rifle at the Andy's feet was an AK47. One deputy with almost 20 years of experience, who had been a member of the SWAT team, and was a firearms instructor for ten years, said he couldn't tell it wasn't real until he examined it more closely. He found the dimensions and coloring to be consistent with a real AK 47.

Other deputies reported responding to the scene, and hearing Deputy Gelhaus directing the response over the radio, while also hearing a voice saying in the background to "stay down." Deputy Gelhaus was heard to report that one person was down and someone was lying on a rifle.

As law enforcement personnel arrived at the scene, emergency medical crews were attending to the Andy. A number of experienced officers, some with in excess of 20 years in law enforcement, and some with specialized tactical experience, or assigned to the violent crimes unit, reported seeing the weapon from a distance of 15 – 20 feet and believing it was an actual AK47. This included personnel from the Sheriff's Office and the Santa Rosa Police Department. It was only upon close inspection that the weapon revealed its true characteristics as a replica.

Unrelated actual AK-47 recovered by the Sonoma County Sheriff's Office (upper) and Andy Lopez' replica AK-47 recovered at the scene of the shooting (lower.) The real AK-47 in the upper photo is consistent in size and appearance with the replica AK-47 Andy Lopez possessed.

G. Medical intervention

The evidence reviewed reflects that once Andy was determined to be in medical distress the deputies began life saving measures. Fire personnel were on scene and took over medical intervention,[13] until the AMR ambulance crew arrived.[14] They then pronounced him deceased at 15:27. The firefighters were

13 Dispatch log shows Deputy Gelhaus directing Deputy White into scene area at 15:19:35 and asking for EMS to enter the scene at 15:21:03. Captain Nicholson stated they received the call to respond at 15:15:43 and got to the scene in about two minutes. He said they waited in the staging area for four to six minutes before being cleared to enter the scene.

14 Dispatch log shows they entered the scene at approximately 15:21:55.

asked if they had seen the weapons near the Andy and all had. They had varying views on whether the rifle appeared real, with one noting from far away it looked real, but close up the distinction could easily be seen.

H. Other Witnesses to the Shooting

Many civilian witnesses observed various portions of this incident and provided accounts of what they observed. Some witnesses observed the Sheriff's patrol car or Andy before the shooting, others observed portions of the shooting itself and still others heard the shooting. Notably, the investigation yielded virtually 360 degree witness views of the circumstances immediately before, during, and after the shooting incident. Every identified witness to this incident was contacted and interviewed and many statements were collected from witnesses at the scene and in later interviews. A number of witnesses where re-contacted for follow-up interviews with detectives. Some witnesses were found by reading newspaper accounts of their statements, or through TV news reports. Those witnesses were also contacted by detectives and interviewed.

The Santa Rosa Police Department and the Sonoma County District Attorney broadcast numerous public messages encouraging witnesses to come forward and contact law enforcement. Members of the Santa Rosa Police Department and the Sonoma County District Attorney's Office also spoke to representatives for the Lopez family and asked them to forward any other information or witnesses who came to their attention to ensure that we had a complete and thorough investigation. Specifically, investigators from the Santa Rosa Police Department telephoned the attorney's office on four separate occasions and asked to speak to him about the November 1, 2013 article in the Press Democrat in which the attorney said he had spoken to a witness that the police had not yet interviewed. They wanted the name of that witness, or any other witness the attorneys may have uncovered so they could be interviewed. They also personally spoke to a person employed in that law firm and asked for the attorney to call them. Their request for a return phone call remains unanswered. Further, the district attorney spoke directly with the attorney for the family and requested any additional information they would like to provide.

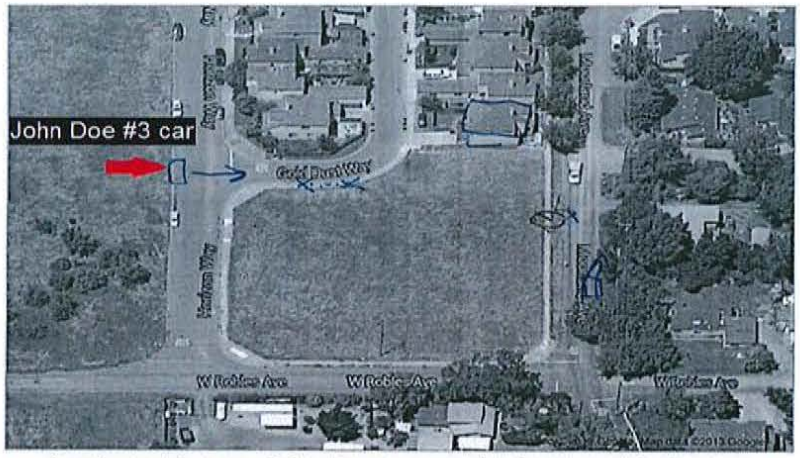
Additionally, individuals from a protest group came to the District Attorney's Office on November 5, 2013, and met with the DA. They claimed to have additional witness accounts, and were specifically asked and encouraged to provide names and contact information or statements from the alleged witnesses either to the Santa Rosa Police Department or directly to the District Attorney. One week later, a District Attorney Investigator followed up with one of the individual protesters who had agreed to be a contact person to ask for any names or contact information in order to ensure we had any

and all information from those who claimed to have information or evidence related to the Lopez investigation. To date, no information has been provided by any member of the group.

1. John Doe #3

Witness John Doe #3 lived on Moorland Ave. and his house borders the north end of the field where the incident took place. His side yard fence separates his house from the field.

According to John Doe #3, at approximately 3:00 p.m., he came home from taking his son to the doctor and parked his car on Gold Dust Way, which is the street which borders the northwest side of the field. As he was walking towards his house, carrying his 10 month old son in a car carrier, he said he saw an individual, later identified as Andy, walking northbound on Moorland.



Google map image of shooting scene with John Doe #3's diagram.

He then saw a sheriff's patrol car travelling northbound on Moorland. The patrol car: "blipped their sirens, had the lights on, and, just stopped diagonally in the road, blocked it off." He saw both doors open and both deputies got out of their car behind their car doors and drew their weapons. He heard them yell "to the guy, 'put your gun down.'" He saw the Andy turn around to face them. He heard the deputies yell a second time "put your gun down." He could not see what happened next because he wanted to get his infant son inside, so he kept walking. He then heard approximately five (5) shots.

Q: "Where were the cops when you saw them first?

A: When they got out of the car?

Q: Yeah. Yeah, when they got out of the car

A: Uh, they were behind the doors.

Q: Okay. And did you see what they were doing behind the doors?

A: Uh, they had their guns drawn. Almost right away.

Q: And, I know you have said it before, but what do you remember them saying to the other person?

A: uh "put your gun down."

Q: Okay. And then, that's when this person turned around?

A: Yes.

Q: And then what'd they say?

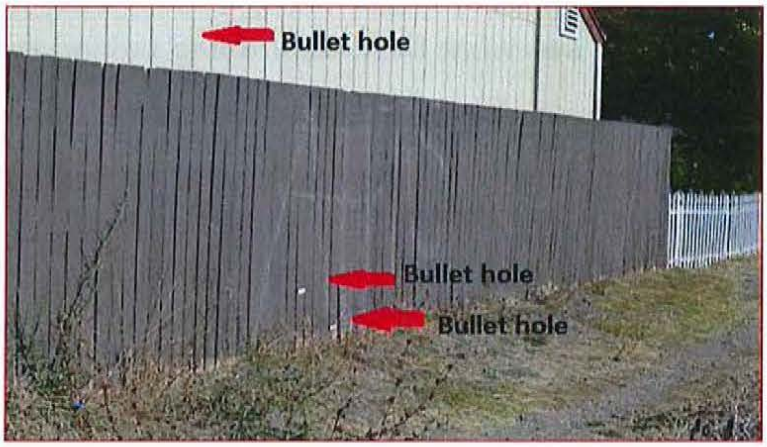
A: "put you gun down." They repeated it.

Q: Okay, and then what happened?

A: Uh, shots were fired."

He stated he couldn't see the gun in Andy's hand because of the location of the sun. He stated he knew the officers had shot because when he got home he saw bullet holes in his house, but did not know if Andy shot his firearm.

After the shots were fired, John Doe #3 stated he was still on Gold Dust Way and he noticed the deputies were still behind their car doors and it looked to him like they were radioing for "backup" and/or medical support. He said he also heard them giving the Andy orders to put his hands above his head. When he entered his home he reported seeing glass all over his kitchen and noticed that one bullet hit the exterior wall of his garage (which is next to the north end of the field), went through the interior wall of his garage; and entered his kitchen hutch. It hit the glass door of the hutch, breaking the glass and landed on the shelf. Crime scene technicians later recovered the slug from a shelf inside the hutch.



Santa Rosa Police Department evidence photo taken the day after the shooting.

Crime scene technicians found a total of 3 slugs in the vicinity of John Doe #3's home: 2 hit the lower part of his fence – 1 came to rest on the other side of the fence in the grass and 1 came to rest on garage floor; the third hit the house – it went through and through the garage, entered the kitchen wall and came to rest in the hutch which was up against that wall.

John Doe #3 estimated that twenty (20) seconds elapsed from the time he heard the siren go off until he heard gunshots and about five (5) seconds from the second time they said "put the gun down" until he heard shots fired.

2. John Doe #4

Witness John Doe #4 was driving his vehicle Northbound on Moorland Ave. towards west Robles, between 3:30 p.m. and 3:45 p.m., when he saw a van behind him and a sheriff's unit behind that. When he got to the stop sign at the intersection of Moorland and W. Robles, he noticed that at some point the van turned and now only the Sheriff's unit was behind him. As he proceeded through the intersection he noticed "the little guy with the, with the rifle in his hand." He described a person later identified as Andy, carrying what John Doe #4 thought looked like an "AK47" in his left hand with the barrel pointed down. He thought to himself, "oh my God, the sheriff is behind and this guy got a rifle in his hand." He described that as he got parallel with the guy, John Doe #4 was concerned that something could happen, so he slowed down to about 10 miles per hour or less, opened his window, and yelled: "Hey. Throw that thing away, Police behind!" He said that the "guy" never "paid attention to me" and kept walking the same way. John Doe #4 continued to drive north on Moorland. He estimated he was about 15 feet away from Andy at the time he told Andy to get rid of the rifle.

John Doe #4 said when he spoke to Andy he could see his face and thought he was about eleven (11) years old. He couldn't describe what Andy was wearing because he was just paying attention to the rifle and thinking to himself "oh my God, if something happens here." He thought the rifle was a toy and it looked "like a plastic" and "I think it's fake, but I'm not sure" it was "way too light" and also he's "no more than 12 years old, I think." He said he thought those guns would be heavy and that gun "looks like very light." He also thought if someone had a real gun on the street they would be looking around more (he pantomimed this on the video at 21:30) and Andy was just walking down the street, quiet and normal.

But more notable is when John Doe #4 stated he didn't stop because: "In that moment I'm, I'm, if he's drug or something he probably shoot me, too, but he never pay attention to nothing. He keep walking same."

John Doe #4 indicated that since he knew the Sheriff was right behind him and the guy had a rifle, he continued to observe through his mirrors what was happening behind him.[15] As he looked into his mirrors he said he saw: "as soon as he (Sheriff) saw the guy" that "the sheriff drive real quick to that side," and the driver then "open the door" and "shoot him. Right away."

Image taken from cell phone video recorded by John Doe #9

John Doe #4 stated that he didn't hear anything before the shots and estimated that about five seconds after the sheriff's car stopped, he heard 3 shots. He only saw one deputy, the driver. He thought he stopped his truck at the same time he heard the shots and estimated he had stopped his truck about 50 feet from the scene of the shooting. In an image obtained by

15 A District Attorney Investigator later re-interviewed John Doe #4 and showed him a still photo taken from a cell phone video taken by witness John Doe #9. John Doe #4 identified a vehicle north of the sheriff's unit as being his white commercial truck that was stopped at the location. The still photo is attached hereto as Appendix A.)

John Doe #9 immediately after the shooting, a white truck can be seen in the video stopped on Moorland Avenue, north of the deputies' patrol unit. That truck was confirmed to have belonged to witnesses John Doe #4.

John Doe #4 stated he was in shock about what had happened so he started to drive away but then made a series of right turns to return back to the area he had originally stopped his vehicle. He estimated it took him no more than 2 minutes to return to that spot. According to John Doe #4, the sheriff deputy was still in the same position, "pointing... with the gun to the guy."

3. John Doe #5

John Doe #5 reported that he was driving his new van southbound on Moorland, just before Newmark when he saw a sheriff's car driving northbound on Moorland. He said the Sheriff's car suddenly pulled in front of his lane and quickly parked at an angle across his lane. When he saw the "flashing lights facing me in my lane," he reported he just stopped where he was because he didn't see anybody behind him or in front of him.[16] He estimated he was 200-to 250 feet north of West Robles. He said that as soon as the Sheriff's vehicle came to a stop, the driver's door opened quickly and he saw a "quick blur of a brown uniform" pass between the V of the car. He only saw the driver's door open and did not think there was a second officer until he read the papers. Approximately 3 seconds later he heard 7 gunshots which he described as: "First 4 were rapid, last set of 3 were a little more measured."

John Doe #5 also stated that he did not know who fired a gun or what they were shooting at. He did not see Andy Lopez. In his recollection: "...the progression of events as I saw it were, my impression was, it was almost seamless. Car pulling up, the door opening, just enough time for somebody to assume a position, or assess something and the gunshots." He also stated that he didn't hear anything at all, including voices or a siren

4. Jane Doe #1 and Jane Doe #2

On October 28, 2013, Santa Rosa Police Department Detective Deleon watched a KGO news report on the internet which showed two woman, Jane Doe #1 and Jane Doe #2, telling a reporter that they were eyewitnesses to the shooting and had not been interviewed by the police. Per the news story, Jane Doe #1 and Jane Doe #2 said the deputies shouted first, then got out of their car and fired. It appeared the interview of the two women was done together and it was difficult to determine from the story if both women

16 Other evidence indicates that John Doe #4 had passed him and was also stopped in the northbound lane of Moorland at this time.

saw the same thing, as part of what was said was verbatim and part was reiterated by the reporter.

Jane Doe #1 told the reporter in Spanish that they were behind the patrol car at the stop sign. She saw the deputies turn on their police lights and drive over to where the teenager was standing in an open lot. Jane Doe #1 said she heard the deputies say in English "drop the gun." The deputies each opened their doors and took out a gun (singular - "la pistola") and fired. The deputies only yelled once before opening fire. Detective Deleon saw Jane Doe #2 on the video, saying in Spanish, that they fired immediately at the teenager and they did not give him an opportunity to do anything.

Police worked diligently to track the women down and finally found and interviewed them on October 30, 2013.

a. Jane Doe #1

Jane Doe #1 stated that she was driving northbound Moorland Ave. behind a Sonoma County Sheriff's patrol car. She said she had several other people in her car. As Jane Doe #1 approached the stop sign, she said she saw a male walking northbound on Moorland Ave. north of W. Robles Ave. on the east side of the road. She stated that the male crossed Moorland Ave. from east to west onto the sidewalk on the west side of Moorland Ave. As the patrol car came up to the stop sign, Jane Doe #1 saw the emergency lights on the patrol car turn on and heard a short siren sound as the patrol car drove quickly forward and to the left. As she was at the stop sign, she heard someone from inside the patrol car yell to drop the gun. She said it sounded like he said to "throw the gun." She then saw both front doors open (she believes at same time) and saw both deputies get out and stand next to their door holding their pistols. She then heard four shots and thought both deputies fired their guns.

After sitting there for approximately five seconds, she said she backed up a short distance and turned into her driveway on Moorland Ave. Everyone got out of her car and she continued to watch the scene, although her view was obscured by the bushes. She said she then heard one deputy say for someone to get their hands on top of their head and saw other deputies arrive. She stated that when the deputies approached the person on the ground, he was face down and that they turned him onto his back and then started to do CPR. She also said she saw one deputy (bald), from the original encounter, grab his head and look down as if thinking to himself "What have I done?"

Santa Rosa Police Department evidence photo taken from a CHP helicopter after shooting, showing the location of Jane Doe #1 and John Doe #3 in relation to shooting scene.

Jane Doe #1 said she could not see what the male was doing when he was shot because the patrol car blocked her view of that and she did not hear the male say anything prior to being shot.

b. Jane Doe #2

Jane Doe #2 stated she was in the rear seat of her daughter Jane Doe #1's car travelling north on Moorland Ave. A sheriff's patrol car with two deputies in it was directly in front of them. She saw the sheriff's car drive quickly forward and turn left towards the corner of the sidewalk and heard one of the deputies in the car yell, while they were still inside of the car. A few seconds later, both front doors of the car opened at once and she heard four shots. Jane Doe #1 went to her house and everybody got out of the car. About four minutes later she heard one of the deputies, who was standing next to his patrol car, yell to someone to put their hands on top of their head. Jane Doe #2 saw the deputies approach the person on the ground and flip him onto his back.

5. John Doe #6

Detectives interviewed two other passengers who were found. John Doe #6 said that he was in the rear seat of Jane Doe #1's car on the day of the incident and as they approached the intersection of Moorland and W. Robles, they stopped behind a Sheriff's car. He saw it drive forward and to the left, and turn on the lights on top of the car. Two deputies opened their doors and got out of their car. He described both as sitting down outside of their car, holding their guns and pointing them forward. He heard one of

the deputies yell something before he heard shots fired. He heard the deputy yell a second time as the deputy began shooting.

6. Jane Doe #3

Jane Doe #3, John Doe #6's wife, was also interviewed. She said she was in the front passenger seat of Jane Doe #1's car and they were driving behind a Sheriff's car. As they approached the intersection of Moorland Ave and W. Robles, the Sheriff's car drove forward and to the left. She said she saw the overhead lights turn on but did not hear a siren. She then saw both doors on the patrol car open at same time and heard one of the deputies speak in a loud voice. She thought the driver spoke as she saw his mouth move. She then heard four shots fired very quickly. After she heard the shots, she said she heard one of the deputies yell loudly again. She said she then saw the deputy on the driver's side grabbed something she believed to be a radio microphone, and he spoke into it. She believed that that deputy also gave somebody further commands. They went to Jane Doe #1's yard and looked through trees to the scene. From there she saw a person on the ground, facing down, and saw deputies approach him. One of the deputies used his foot to move something off to the side.

I. Other Witnesses

1. John Doe #7

John Doe #7 stated that he was driving northbound on Moorland Ave at 3:04 p.m., approximately 300 feet north of Todd Road, when he saw a person who was walking northbound on the west side of the street with an AK-47 BB gun. When he was asked how he could tell it was a BB gun versus a real gun, he said: "I can't tell. I just figured who would be walking with an AK47 in broad daylight." Consequently, he just assumed it was a BB gun. When asked if the rifle looked real to him, he said it could have been real but it looked "too clean" and the black part looked "too shiny." He said he had seen AK-47s before. He also said the person was holding the rifle's pistol grip in his right hand with the barrel pointing toward ground. He thought the male was 15-16 years old and had peach fuzz on his top lip. He stated he was thinking about confronting the Andy because someone had shot out his windows recently and he was going to see if this Andy did it, but he continued to drive northbound and past the Andy.

2. Jane Doe #4

Jane Doe #4 reported she was driving northbound on Moorland, approaching the stop sign at W. Robles, when she saw a "kid," whom she believed was 13-16 years old, walking northbound on Moorland Ave. on the

west side of the road, south of W. Robles. She stated the "kid" was: "carrying a gun" in his left hand. She marked a photo of, what she described, as the location at the time she saw him. What she indicated, depicted Andy at the driveway of the house at the southwest corner of Moorland and W. Robles when she observed him. [redacted] said he was "swinging it [the gun]" and described the gun as long, but small, with a wooden handle. She believed it might have been a BB gun.

3. John Doe #8

John Doe #8 owns firearms and used to work in the firearms business. As he was in his front yard, before the incident, he said he saw a juvenile walking past his driveway, going northbound on Moorland Ave, with a shoulder slung firearm. He said the reason he remembers this is because "I thought I saw a gun" and "I became a little bit more interested" and had to take a second closer look. John Doe #9 stated that Andy:

> [H]ad an object that looked a lot like a gun, if you look at it quickly, it had a barrel, he had it shoulder slung. I could see the barrel, and at first I thought well, he's packing a gun. And, and the more I looked at it, the more I thought it was a toy. It was small, it looked like it could have been an Airsoft or a pellet gun or something else." He also told detectives that "If you were confronted by this individual and you had a few seconds to make a choice, you'd call it a weapon. Now what kinda weapon?" He went on to say he would have guessed it was an assault weapon but he could not see its entire profile to tell you what kind it looked like.

He also stated that two to three minutes after the youth passed his driveway, John Doe #8 heard shots.

4. John Doe #9

John Doe #9 reported that he was driving, northbound on Moorland approaching the intersection at W. Robles. When he pulled up to the stop sign, he saw a patrol car parked on the opposite side of the street and "two officers ducked down behind the doors of their car" in a "felony stop position." They had their "guns drawn, rested on the joint of where the door is." He said both doors were open and he could tell the deputies had someone at gunpoint. He also saw someone laying on the ground and heard them say "don't reach for the rifle."

He stated when he heard that, he didn't want to go northbound, so he made a right turn on W. Robles, went to the dead-end, made a U-turn and then went west on W. Robles, back towards the scene of the incident. The

stopped just short of the stop sign at Moorland and said he could still see the deputies behind their open car doors. John Doe #9 said by this time, he saw two or three other cars that had also stopped. He said he thought two of those cars turned around and one car kept going. John Doe #9 said he waited a couple of moments and then turned on the video camera on his cell phone. John Doe #9 pointed the phone towards his passenger window and proceeded to go drive through the intersection, crossing Moorland and continuing west on West Robles, videotaping the scene out of his passenger side window. John Doe #9 stated he did not see any other Sheriff's units in the area while he videotaped. The following is captured on still photos taken from this video tape:

The overhead lights on the sheriff unit light bar are on; Deputies Schemmel and Gelhaus are crouched behind their respective doors, with their guns drawn (0:45). A white truck can be seen in the video stopped on Moorland Avenue, north of the deputies' patrol unit. That truck was confirmed to have belonged to witnesses John Doe #4.

Image taken from a cell phone video recorded by John Doe #9.

As the vehicle continues to drive past the scene, the video then depicts Andy lying on the ground, most of his body is in the field and the bottom of his legs are on the sidewalk; he is face up; his feet are pointed toward the deputies; his arms are extended away and out from his side; and what appears to be a weapon is lying on the ground next to the sole of his left tennis shoe (0:46), in a position similar to that reported by the involved deputies.

Numerous persons who lived in neighborhood were interviewed about what they heard. Some of those statements are set forth in more detail

below. However, the range of statements of all persons interviewed varied with regard to what they heard. Some heard yelling before and after the shots; some heard yelling only before the shots; some did not hear voices; some heard a siren while others did not; some heard a succession of shots fired while others heard a few, then a pause, and then a few more.

These inconsistencies were considered but did not have an impact on the ultimate conclusion. California Criminal Jury Instruction 105 provides in relevant part that: "People sometimes honestly forget things or make mistakes about what they remember. Also, two people may witness the same event yet see or hear it differently."

6. Jane Doe #5

Jane Doe #5 stated that she was in the kitchen of her home washing dishes and looking out the kitchen window when she saw a Sheriff's car go north through the intersection. Around 30 seconds later she heard approximately "five or six" shots. She said she didn't hear anything before the shots, but, after the shots she said she heard deputies yelling, "Stay down. Stop moving." She said she also heard one yell to not "reach" for something," but didn't hear exactly what the deputies didn't want the person to reach for. She stated she also heard them yell commands approximately three or four times and saw a "man" on the ground.

7. Jane Doe #6

Jane Doe #6 said she was lying on her couch when she heard a noise, which she described as a bang followed by two shots. She said she got up and went to the window and saw a deputy behind the passenger side door of his car, with a pistol in his hand. She then saw/heard 4-6 more shots being fired. She said she thought the deputy yelled something prior to shooting, but she couldn't be sure. She also stated that she saw a "rifle" being kicked away.

8. John Doe #10

John Doe #10 was asleep in his bed, at Moorland Avenue, when he stated he was awakened by four to five gunshots in succession. He said he then heard his sister, Jane Doe #6, yelling, "Somebody got shot." A minute or two later he said he went outside with his sister and looked through the chain link fence. He stated he saw a body lying on the ground and saw an officer, on the driver's side door of the car, standing behind his open car door, pointing his gun and yelling, "Put your hands on your head." He said he heard the officer say that multiple times while they approached the body. He stated

that once other officers got there, "They pulled a rifle or something out from underneath him." He also said the patrol car had its flashing lights on.

9. John Doe #11

John Doe #11 was contacted on October 22, 2013, at the home of Jane Doe #6 and John Doe #10, and told police he didn't want to be interviewed. On October 23, 2013, John Doe #11 approached Santa Rosa Police Department detectives while they were collecting evidence at the shooting scene, which was across the street from his house. He was agitated when he spoke to officers and told detectives that at the time of the shooting, he was in the backyard of his house and heard shots. He did not indicate whether he saw anything. On the evening of October 23, 2013, John Doe #11 was interviewed by a local news station. John Doe #11 told the news reporter he witnessed the entire shooting and saw deputies shooting Andy Lopez when he was on the ground.

On October 24, 2013, John Doe #11 had an encounter with police who he told that his true statement to the media was edited. He told them that he was in the back yard of his house when he heard two to three shots. He then heard more shots and cops yelling. He said he ran out and saw the "dude" on the ground. He said that police yelled at him to get back, and he ran through his back yard, jumped the fence and left the area. John Doe #11 also said he knew Andy and had watched him grow up, since they lived in same neighborhood. Further investigation by officers indicated that Doe #11 was not familiar with Andy, discrediting any prior statement regarding observations of the shooting.

10. John Doe #12

John Doe #12 was at his kitchen table when he heard a brief chirp of a siren. He described the siren as "it wasn't like the warble, it was just a constant stream siren, but real short." Approximately five seconds later he heard seven quick shots, "it sounded just like a nail gun, like somebody was nailing off a roof where you didn't have to pause." He said he was too far away to have heard any yelling, but he could not say whether or not somebody was yelling.

11. John Doe #13

John Doe #13 was in his house when he heard a quick "blurp" of a siren, immediately followed by "voices being raised, and shouting." He then heard three to four loud pops.

12. John Doe #14

John Doe #14 was in his home, north of the shooting, when he heard "forceful talking." Shortly thereafter he heard six to seven shots from one gun. He exited his residence and saw one deputy standing behind the door of his car with his gun drawn using his car door as shield. He told investigators, "I would have used my door as a shield too" in a gunfight, and it "looked like" he was trying to protect himself. He said that deputy told him to go back inside his house for safety.

13. John Doe #15

John Doe #15 lived with his sister Jane Doe #1 and was resting in his upstairs bedroom when he heard a police siren. John Doe #15 stated the siren was short, lasting approximately three seconds. He then heard four gunshots. He walked to the bedroom window which overlooks Moorland Ave. and looked out. He saw two deputies standing next to their open car doors. He also heard someone yelling but could not determine who yelled or what they were saying. Other deputies arrived at the scene and he saw one deputy walk from the north towards the person he saw on the ground and pick up what he believed to be a rifle. He said that nothing about the rifle made him believe it was a toy. At some point a deputy started doing chest compressions on a male lying on the ground.

14. John Doe #16

John Doe #16 was in the living room of Jane Doe #1's house when he heard four gunshots. He said at that point, John Doe #15 came downstairs and they both went outside. At that point, he said he saw two Sheriff's deputies standing outside their car with the doors open, pointing their guns toward a person lying on the ground. He heard them shouting at the person lying on the ground but he could not understand what they were saying because he does not speak English. Less than ten minutes after the shooting, he saw a second Sonoma County Sheriff's deputy car pull up just to the right of the first car. He also saw police officers arriving from the north on Moorland Ave. He could also see a long gun lying next to Andy on the ground. He said it appeared to be a real gun and when the deputies approached the Andy on the ground, one of them moved it off to the side with his foot.

J. Post Incident Observations of Deputy Gelhaus

Immediately after the shooting, Deputy Gelhaus reacted in accordance with his departmental training. He promptly notified Dispatch that shots were fired and he started to triage his situation: maintaining a visual on Andy and the gun; asking for back-up, so they could safely remove the threat (gun) and

approach Andy; requesting that medical respond, Code 3; directing arriving officers were to go and starting to set up a perimeter and check for other witnesses or shots, etc. It was only after other units arrived and took control of the scene that Deputy Gelhaus could disengage from his role of directing the scene. Research has shown that for officers to perform at an expert level, they must develop abilities to rapidly identify and, with little conscious effort, drive forward workable solutions to problems they face.[17]

A Sergeant on scene observed Gelhaus to appear distraught, and pretty shaken. A civilian witness, John Doe #4, noted that he appeared "not happy" with the situation, and looked as if he said "oh my God, what I did."

Deputy Gelhaus' post-incident conduct can be characterized as professional and appropriate under the circumstances. There were no reports of Deputy Gelhaus having been angry, hostile or out-of-control at any point. Deputy Gelhaus was cooperative with this investigation and Santa Rosa Police Department interviewers after the incident. The audio recording of his interview with Santa Rosa Police Department detectives within hours of this incident recorded his voice crack and expressions of emotion are made as he describes his thought that he or his partner were going to get shot just prior to firing his weapon.

K. Autopsy

A second autopsy was performed by a pathologist, Dr. Jay Chapman, who was retained by the Lopez family. That autopsy was posted on the internet, and copies have been handed out at multiple public events. This office became aware of it and downloaded a copy for review in connection with this investigation. Ordinarily extensive detail regarding cause of death wounds would not be released to the public out of respect to the family. However, a number of assumptions have been made by some members of the community based on misunderstandings and misinterpretations. Thus it has been deemed appropriate to comment on the contents of the autopsy report prepared, and on subsequent interpretations of that report.

On October 24, 2013, a post mortem examination was conducted by Dr. Arthur Josselson, a medical doctor certified in the area of forensic pathology. He determined the cause of death as a "gunshot wound of chest and gunshot wound of abdomen and chest, (minutes.)"

The autopsy exam showed that Andy Lopez suffered seven gunshot wounds to his body. All of the wounds travelled from the right to the left. The following description refers to the order in which Dr. Josselson examined

17 Dr. William Lewinsky, report to Sonoma County District Attorney, page 8.

and subsequently described the wounds in his report, not the order in which the wounds were actually sustained:

- Gunshot wound #1 entered through the right chest area (near right nipple), traveling through the right lung, through the aorta, and lodging into the left lung. A round was recovered at the end of this bullet trajectory. This gunshot wound resulted in fatal injuries.

- Gunshot wound #2 entered through the right hip area and traveled upward through the liver, right lung, and lodged into the soft tissue of the upper back. A round was recovered at the end of this bullet trajectory. This gunshot wound resulted in fatal injuries.

- Gunshot wound #3 entered through the lower right buttocks and traveled through and lodged into the left pelvis area. A round was recovered at the end of this bullet trajectory. This gunshot wound was not fatal.

- Gunshot wound #4 entered through the upper right buttocks area and traveled upward towards the lower back area and exited. This gunshot wound was not fatal.

- Gunshot wound #5 entered and exited through the right wrist area and fractured the bone. This gunshot wound was not fatal.

- Gunshot wound #6 entered through the lower left forearm area and traveled downward and exited through the left palm area. This gunshot wound was not fatal.

- Gunshot wound #7 entered and exited through the outside area of the upper left arm (We would describe this as almost as if the bullet had pinched the skin as it travelled through it.) This gunshot wound was not fatal.

As indicated, a second autopsy was conducted Dr. Jay Chapman, who was retained by the civil attorney representing Andy Lopez' family. After learning of this witness, the District Attorney requested that the civil attorney allow the District Attorney Investigator assigned to this case to interview Dr. Chapman regarding his report. That request was granted and this office was allowed to speak to Dr. Chapman regarding his findings. Dr. Chapman is board certified in the area of forensic pathology and has qualified as an expert many times in many courts. Dr. Chapman reached the same conclusions as Dr. Josselson regarding the wounds except for the bullet wound identified by Dr. Josselson as gunshot wound #7 (Dr. Chapman identified this as gunshot wound #2.) At the original autopsy, Dr. Josselson opined that this bullet

entered the back side of the arm and exited towards the front, opined that the entry wound was smaller than the exit wound, and noted an abrasion margin on the exit wound. Dr. Chapman opined this bullet entered the front side of the arm and noted a "well-defined medial abrasion cuff[18]" and exited to the posterior side. He opined the entry wound was larger than the exit wound. Notably, Dr. Chapman stated to the District Attorney Investigator that he did not opine that any gunshot wounds entered Andy's back.

In an effort to get clarification as to the direction of gunshot wound #7 the Department of Justice crime lab was asked to examine the sweatshirt Andy was wearing when shot. The DOJ lab conducted a gunshot residue examination exam (bullet wipe residue test) of the holes in the left upper arm of the clothing, and also examined the fibers around those bullet holes microscopically, but could not determine a direction of fire for either hole from this test. Even though there was more lead detected at the front bullet hole than at the rear bullet hole, no determination as to direction of fire could be made. During the microscopic examination of the fibers surrounding the bullet holes in Andy's sweatshirt, criminologists determined that both holes were too much in disarray to determine if any one hole had fibers going outward versus inward; consequently, this examination was not able to determine direction of fire for either shot.

Further efforts to determine the bullet path included critical reviews of the Josselson and Chapman autopsies, an examination of the shirt by a blood spatter expert (who also reviewed the autopsy photos of the corresponding wounds to the body), and consultation with a semi-retired DOJ Criminalist for his opinion as to whether bullet path can be determined or at least inferred by the relative amount of lead present on cotton clothing (where the wound is through and through and there are two perforations to the garment worn). Santa Clara County District Attorney Investigator Michael Gaynor, a Certified Bloodstain Pattern Analyst (International Association for Identification) also viewed the clothing after it had been placed into evidence and opined from that that "the direction of the gunshot wound in the deceased's upper left arm is from the posterior to the anterior," which is consistent with Dr. Josselson's initial opinion.

Additionally, we consulted with Precision Simulations to assist us in rendering opinions about bullet wound #7, as well as the other wounds. We have considered their analysis as to the trajectory of wound #7, based on empirical evidence and find it compelling. Namely, their conclusion found

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18 An abrasion cuff is also called an abrasion collar, abrasion margin, abrasion rim, or abrasion ring. "As the bullet penetrates the skin, the skin is indented, resulting in the creation of an *abrasion collar*. This collar is an abraded area of tissue that surrounds an entry wound as the result of friction between the bullet and the epithelium. Most entrance wounds will have an abrasion collar. :Rosen's Emergency Medicine: Concepts and Clinical Practice, by John A. Marx, Robert S. Hockberger, and Ron M. Walls; 8th edition

that the bullet that caused gunshot wound #7 was from front to back and:

> ...entered Lopez' left upper arm superficially and exited his body. This bullet traveled only a short distance inside Lopez' body and therefore matches the evidence for the spent bullet found on Anteeo Way[19] in two ways. First, the undamaged nature of the round found on Anteeo suggests a round that did not encounter any hard substance in its path. The superficial nature of the wound and its location in the flesh of Lopez' arm matches this data point well. Second, the 475 feet the round traveled after leaving Lopez' arm also matches the fact that the round on Anteeo Way was slowed to a great degree and its distance reduced significantly. No other round matches this fact pattern. The bullet that caused wound 7 is unique in another way. Dr. Chapman lists the bullet that caused wound 7 as traveling front-to-back; Dr. Josselson's initial report shows the round traveling back-to-front.
>
> In looking at the trajectories required for each orientation, a few items stand out. The bullet that caused wound 7 matches the spent bullet found on Anteeo Way. The alignment of Deputy Gelhaus' location, to Andy Lopez' location and continuing to Anteeo Way requires that this round undergoes a deflection to Gelhaus' right of between 5 and 7 degrees. This deflection matches a front to back orientation as the round would travel to Lopez' shoulder heading left and then deflect away from Lopez' shoulder to the right.
>
> In a back to front orientation, the expected direction of deflection away from Lopez' shoulder would result in a deflection to the left, resulting in the round landing much farther to the west than where it was found. In addition, the trajectory appears to be essentially perpendicular to Lopez' arm and torso. In a back to front orientation, Lopez would need to be turning towards his left and away from Deputy Gelhaus to receive the wound. Given the short timeframe of the firing sequence, it is not likely that there is enough time for a round to be fired, for Lopez to react by turning away, be struck by the bullet that caused wound 7 and then turn back towards Gelhaus to receive wound 1, then fall and receive wound 2, 3 and 4.
>
> However, if Lopez initially turned towards his right and faced Deputy Gelhaus, then this wound could have been received in a front to back orientation, aligning with the location on Anteeo

19 The evidence recovered at the crime scene and autopsy is discussed in the next section " : Accounting for Bullets Fired."

Way, matching the statement of both Deputies and the witness John Doe #3. Due to these points I believe that Dr. Chapman's conclusion that the path is from front to back is more consistent with the evidence than Dr. Josselson's initial conclusion that the path is from back to front. (Dr. Josselson subsequently amended his opinion as to the path of the bullet that caused gunshot wound 7.) I believe that this round was the first bullet to strike Andy Lopez and was likely the 2nd round fired, preceding the bullet that causes gunshot wound 7, and being the bullet that Lopez was reacting to when he was bent over and struck in the chest."

We undertook extensive research [20] regarding bullet wounds and determination of entry versus exit wounds as part of our investigation into bullet wound #7. As a result we concurred with the conclusions espoused by Precision Simulations that the bullet that caused wound #7 entered from the front, rather than the back. We found compelling the research which indicated exit wounds: "exhibit no abrasion collar,"[21] (unless shored abrasion arises which did not occur in this case) and the recognition that "the majority of gunshot wound misinterpretations result from the... assumption that the exit wound is always larger than the entrance wound."[22]

As a result, we contacted Dr. Josselson and gave him the additional information we had obtained as part of our investigation regarding: the amount of time the firing sequence took per Dr. William Lewinsky's research; the fact the replica AK-47 was a pistol grip weapon which Andy was holding in his left hand; and the analysis of the trajectory of the shots fired as opined by Precision Simulations. After reviewing this documentation, Dr. Josselson opined that gunshot wound #7 was from front to back.

As part of the post mortem examination, a femoral blood sample was collected from Andy. The blood sample was sent to a qualified forensic laboratory (NMS Labs) and tested for the presence of intoxicants. THC (marijuana) was found to be present in his blood. Specifically, Delta-9 THC was found at a level of 5.9 ng/mL and Delta-9 carboxy THC was found at a level of 22 ng/mL. It is important to note that THC concentrations in femoral blood are usually one-half (1/2) that of serum/plasma concentration (i.e., blood drawn during a blood test). According to the lab report:

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20 We consulted a number of medical treatises on this Andy, namely: https://www.inkling.com/read/rosens-emergency-medicine-concepts-and-clinical-practice-marx-hockberger-walls-8th/chapter-65/forensic-aspects-of-gunshot;http://what-when-how.com/forensic-sciences/evaluation-of-gunshot-wounds/;_ http://library.med.utah.edu/WebPath/FORHTML/FOR039.html; http://www.forensicmed.co.uk/wounds/firearms/gunshot-wounds-rifled-weapons/

21 http://www.forensicmed.co.uk/wounds/firearms/gunshot-wounds-rifled-weapons/

22 http://what-when-how.com/forensic-sciences/evaluation-of-gunshot-wounds/;

> Delta-9 THC is the principle psychoactive ingredient of marijuana/hashish. It rapidly leaves the blood, even during smoking, falling to below detectable levels within several hours. Delta-9 carboxy THC is the inactive metabolite of THC with peak concentrations attained 32 to 240 minutes after smoking. It may be detected for up to one day or more in the blood. Both may be present substantially longer in chronic users. Marijuana is a DEA schedule I hallucinogen that can have significant effects on the human body and on human behavior. Pharmacologically it has depressant and reality distorting effects.

The District Attorney's Office retained Dr. Reese Jones, an expert in the area of marijuana and its effect on the human body, to review the lab results and compare it to what we know of Andy's marijuana use prior to death. He was asked to render an opinion as to the level of intoxication of Andy, if any, at the time of the shooting, and what effects, if any, the marijuana in his system might have had on his behavior that day.

Dr. Jones' opinion was that Andy had last smoked marijuana within 60 to 75 minutes prior to his death and was likely feeling the effects of that marijuana at the time of his encounter with the sheriff's deputies.

Dr. Reese Jones opined that:

> The concentration of marijuana in the postmortem blood sample is consistent with the range of concentrations commonly present 60 to 75 minutes following smoking a marijuana cigarette or a pipe and cognitive and behavioral effects that typically follow marijuana use would likely to have been present to a significant degree during that interval following.

According to Dr. Jones, the effects Andy, a 13 year old boy, would have been experiencing at the time of the encounter would have included:

> Dysfunctional attention to visual and auditory stimuli, impaired judgment, slowed decision making and increased mental processing time are amongst the common consequences particularly likely to be evident particularly when having to deal with performance of sudden, unanticipated tasks including decisions that needed to be quickly responded to. The degree of marijuana induced cognitive and behavioral impairment is likely greater in a young adolescent user than would be the case with a mature, adult marijuana user with years of experience dealing with the cognitive and behavioral consequences of marijuana intoxication.

He further opined that these effects are more likely to become apparent whenever someone has to deal with the "performance of sudden, unanticipated tasks, including decisions that needed to be quickly responded to." Additionally, a marijuana cigarette and a small bottle of Visine were found in Andy's clothes. Thus, Andy's recent use of marijuana may have been a factor impacting Andy's behavior at the time of this incident.

L. Accounting for the Bullets Fired

At the time of the shooting incident, Deputy Gelhaus possessed a departmentally approved Smith & Wesson MP-9, .9 mm semi-automatic firearm. It contained a magazine loaded with 17 rounds of hollow point, copper ammunition and one live round in the chamber. Deputy Gelhaus also possessed two additional magazines on his duty belt; each loaded with 17 rounds of the same ammunition.

For reasons related to stress and perception, it is common in officer involved shootings for the officer not to recall precisely how many times they discharged their weapon.[23] Such is the case with Deputy Gelhaus.

After the incident, Deputy Gelhaus' firearm and magazine were collected and inventoried, as was the magazine he dropped at the scene when he tactically reloaded after he stopped shooting. His firearm had 1 round in the chamber and 17 rounds in the magazine. The discarded magazine had 9 rounds left in the magazine.[24]

Deputy Gelhaus discharged his firearm 8 times during the encounter with Andy. Crime scene technicians found 8 shell casings[25] on the ground, to the right of the passenger side door of Deputy Gelhaus' unit. The shell casings were later examined and compared with Deputy Gelhaus' duty weapon. It was determined that all 8 casings had been ejected from Deputy Gelhaus' firearm. Andy had 7 gunshot wounds. Three of the rounds that struck Andy Lopez stayed in his body were recovered during the autopsy.[26]

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23 This has been extensively documented in the relevant literature. See for example: Alexis Artwohl, Ph.D. (2008), *Perceptual and Memory Distortions During Officer Involved Shootings*, AELE Lethal & Less Lethal Force Workshop; Seymour Epstein, (1994) *Integration of the Cognitive and the Psychodynamic Unconscious*, American Psychologist, Vol. 49.

24 At the time of this incident, Deputy Gelhaus' duty weapon had 1 round in the chamber and 17 in the magazine for a total of 18 rounds. He fired 8 rounds and then reloaded, dropping the magazine to the ground. While doing so, he kept 1 live round in the chamber as he reloaded a new magazine with 17 rounds. Thus accounting for the discarded magazine with nine rounds, plus the 8 rounds fired, plus 1 round that stayed in the weapon during the reload.

25 All eight casings were tested and determined to have been fired from Deputy Gelhaus' weapon.

26 All three slugs were tested and determined to have been fired from Deputy Gelhaus' weapon.

Four of the rounds that struck Andy Lopez exited his body. One round apparently missed striking Andy.

One bullet slug was recovered from inside John Doe #3's kitchen hutch; one bullet slug was recovered on the floor of John Doe #3's garage; one bullet slug was recovered in the side yard of John Doe #3's home, between the fence that separates the north end of the field and his house; and one intact bullet slug[27] was recovered on the sidewalk north of the crime scene at Anteeo Way. Three slugs were recovered during the autopsy. Thus, one bullet slug remains outstanding.

The District Attorney's Office retained the services of Precision Simulations to attempt to create a 3-D analysis of the shooting event and the path of each of Deputy Gelhaus' bullets. In order to provide the most accurate and complete report possible, the District Attorney Investigator measured the bullet holes to John Doe #3's house and assisted Precision Simulations in performing the following: scene visit, including viewing the bullet holes in the fence and house; conducting a field survey to create a 3-D laser model of Deputy Gelhaus' patrol car, an officer assuming the firing position of Deputy Gelhaus at the time of the shooting and of an exemplar handgun; and scene view and measurements of the location the intact round which came to rest on Anteeo Way.

Precision Simulations made the following observations from the evidence collected and the additional investigation conducted:

> Three of the eight rounds fired by Deputy Gelhaus struck the structures north of Andy Lopez' location, one in a house directly behind the fence at Mooreland Avenue and two in the fence itself. The strike on the house exterior was located 7 feet from the ground. Of the two strikes on the fence, one was located 18 inches from the ground; the other was located 8 inches from the ground. The bullet that struck the fence 18 inches above the ground continued through the fence and into the exterior wall of the garage. The bullet that struck the fence 8 inches above the ground struck a 2x4 behind the fence and was found lying on the ground behind the fence. One of the 8 rounds fired by Deputy Gelhaus was found approximately 475 feet away on the cement walkway at the rear of the house at 233 Anteeo Way. This round was intact and undamaged.

Based on their review of the evidence and the computer analysis of the bullet trajectories (based in part on the known location of the shooter; the trajectory of the bullet wounds and the known resting spot of the four rounds

27 This was tested and determined to have been fired from Deputy Gelhaus' weapon.

that did not remain in Andy's body), Precision Simulations offered the following opinions as to the order the rounds were fired and Andy's likely body positioning at the time:

1. The bullet that struck (the residence behind the fence at the north end of the field) and penetrated the exterior wall to the garage, the interior wall and the hutch in the living room was most likely the first round fired and the round that missed Andy Lopez. This opinion is based on the fact that: "The bullet ... had enough force to perforate the garage exterior, composed of two layers of building material, the wall separating the garage from the house interior, the back panel of the hutch located in the dining room and then come to rest. It is likely that this bullet encountered little resistance prior to striking the building. It is also likely that this round was fired while Lopez was in a standing position, given its upward trajectory. Either the bullet that caused wound 7 or the bullet that struck the house 7 feet above the ground could have the required velocity. Given that the bullet that caused wound 7 matches the spent bullet found on Anteeo Way, the bullet that missed Lopez is the only remaining candidate. Therefore it is likely this bullet struck (the residence) 7 feet above the ground.

2. The spent bullet found on Anteeo Way was likely the same round that caused gunshot wound 7 to Andy Lopez' upper left arm. This round likely struck Lopez while he was directly facing Deputy Gelhaus.[28] This is likely the 2nd round fired and the 1st round that hit Andy. This bullet was remarkable in that it showed essentially no damage. Of the bullets that did not stay in Andy Lopez, the only bullet that did not either break bones or travel a significant distance in Lopez' body is the one that caused gunshot wound. Gunshot wound 7 is a superficial and grazing wound to the upper arm which could have slowed the round enough to explain its location only 475 feet away as well as its undamaged condition. The only other bullet that would be expected to be undamaged is the round that missed Lopez (referred to as the bullet that struck the house 7 feet above the ground for this report). This bullet would have traveled much farther than 475 feet had it not struck any intervening object. The bullet that caused gunshot wound 7 is the only reasonable candidate for the bullet found on Anteeo Way.

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28 We are aware that this conclusion contradicted Dr. Josselson's initial autopsy report. Nonetheless we find the convincing force of the evidence: the other injuries, slugs recovered, shooting sequence and duration of the shooting corroborates this conclusion. Additionally, when provided the additional evidence and investigation that the District Attorney's Office conducted, Dr. Josselson amended his prior opinion as to the path of wound #7. His opinion also now corroborates the empirical evidence that Andy Lopez was facing Deputy Gelhaus when he was first fired upon. Moreover, this conclusion is corroborated by various witness statements, including Deputies Gelhaus and Schemmel.

(Additionally, we independently reached the conclusion that the bullet that missed Andy is not the bullet found on Anteeo Way. We have found persuasive and convincing, the fact that according to *The Physics Factbook,*™ [29] a reference guide that is among the many scientific reference periodicals routinely relied upon by the California Department of Justice in bullet trajectory analysis, that "... a 9 mm 120 grain bullet fired out of an average sized handgun at 45 degrees elevation will travel about 2300 meters (1.42 miles) before falling.")

3. The bullet that caused gunshot wound 1 entered the right chest area with an upward angle and lodged in his left chest. It is likely that Andy Lopez was turned partially away from Deputy Gelhaus, and leaning away from Gelhaus at the time this shot was fired. Andy Lopez was still on his feet when this bullet struck him and "it is likely that Lopez was responding to prior gunshots." It is also likely that this round was the 3rd round fired.

4. The bullets that caused gunshot wounds 5 and 6 were both to Andy Lopez' lower arms and both exited his body. There are many possible postures in which Lopez could have sustained these injuries. At least one, and possibly both of these rounds match the bullet strikes in the lower portion of the fence. Given the continuous nature of the firing sequence, and the lack of other trajectories matching a kneeling or intermediate posture, it is likely that one or both of these were sustained while Lopez was either kneeling or transitioning from standing to prone. It is likely that these were caused by the 4th and 5th rounds fired

5. The bullet that caused gunshot wound 3 struck Lopez in the right side of the buttocks and lodged in the left pelvis area. It did not have sufficiently specific data for the resting location to create a trajectory. However, given the general direction and angle, it is likely that this wound was caused by the 6th round fired and "struck while Lopez was either on or near the ground" or "transitioning from his knees to lying on the ground."

6. The bullet that caused gunshot wound 4 struck Lopez in the upper right buttocks area and exited his body in the lower back. Given a straight trajectory this round would likely have struck the dirt in the field approximately 100 feet south of the fence, and would account for the one round that was not recovered at the scene. It is also possible, given a slight upward deflection of 2 degrees, that this round continued

29 <http://hypertextbook.com/facts/2002/DomnaAntoniadis.shtml> (accessed May 29, 2014).

and struck the fence. This bullet struck Lopez while he was lying on the ground on his left side and is likely the 7th round fired.

7. The bullet that caused gunshot wound 2 struck Lopez in the right hip area and lodged in the left side of his chest. This wound occurred while Lopez was lying on the ground on his left side and is likely the 8th and final round fired.

Thus, based on the empirical evidence, we found nothing in the record to dispute this analysis. From this data we were able to conclude that at the time Deputy Gelhaus fired his weapon at Andy Lopez, Andy had turned towards the Deputies and was facing the deputies when the first shot was fired. He was hit in the left upper arm, then the left chest, and as he started to fall to the ground he was hit five more times. The forensic evidence and subsequent investigation corroborate both Deputy Gelhaus' and Deputy Schemmel's observations at the time the shots were fired.

VII. STATEMENT OF THE LAW

The sole issue to be resolved is whether the shooting of Andy Lopez was unlawful because the force used by Deputy Gelhaus was not reasonably necessary under the circumstances to accomplish a lawful law enforcement purpose. Or, put another way, the question is whether the shooting was lawful because the force used by Deputy Gelhaus *was* reasonably necessary under the circumstances to accomplish a lawful law enforcement purpose.

Deciding this issue centers around several key principles of law. A brief legal summary is included to assist the reader in understanding this report and its conclusions. While it is by no means an exhaustive explication of the controlling principles of law to be applied to this case, it is a correct statement of the law to be applied.

A. Consensual Law Enforcement Encounters With Members of the Public

Any peace officer may approach and contact any person in public, or anywhere else the officer has a legal right to be, and engage that person in conversation. (*Wilson v. Superior Court* (1983) 34 Cal.3d 777,789.) The law does not prohibit an officer from approaching any person in a public place and engaging that person in uncoerced conversation. (*People v. Divito* (1984) 152 Cal.App.3d 11, 14.)

Law enforcement officers do not violate the Fourth Amendment by merely approaching an individual on the street or in another public place, by asking him if he is willing to answer some questions, or by putting questions

to him if the person is willing to listen (*Florida v. Royer* (1983) 460 U.S. 491, 497.)

Contact does not become a detention merely because an officer approaches an individual on the street and asks a few questions. No objective reason is necessary in justifying this type of contact. (*In re Manual G.* (1997) 16 Cal.4th 805, 821; *People v. Hughes* (2002) 27 Cal.4th 287, 328.)

B. Detentions

Peace officers have the authority to detain an individual when they have reasonable suspicion to suspect that criminal activity may be occurring and the person to be detained is connected with that possible criminal activity.[30] The area's reputation, the time of day, and the suspect's efforts to avoid detection are all proper factors to consider and together may provide reasonable suspicion of criminal activity.[31] The purpose for the detention is to allow the peace officer an opportunity to confirm or dispel the suspicion of criminal activity.[32]

Moreover, peace officers have the authority to detain an individual when they have reasonable cause to believe that a person has a firearm with him in violation of any law relating to firearms.[33] By definition of the law, an AK-47 is an assault weapon[34] and it is illegal to possess one.[35] An individual has a duty to submit to a lawful detention.[36] Further, the suspect has an obligation to stop and has no right to resist a lawful detention.[37]

It should be noted, it is actually a violation of California Penal Code Section 20170(a) to "openly display or expose any imitation firearm in a public place" unless the entire exterior surface of the imitation firearm is painted with a specified color per Section 20175. "Merely having an orange tip ... does not satisfy this requirement." PC 20175(m.) Additionally, it is a violation of

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30 California Jury Instructions (CALCRIM) 2670. *Illinois v. Wardlow* (2000) 528 U.S. 119, 123-124; *United States v. Sokolow* (1989); 490 U.S. 1, 7-8; *People v. Bennett* (1998) 17 Cal.4th 373, 386-387.

31 *People v. Souza* (1994) 9 Cal.4th 224, 240-242.)

32 *United States v. Sokolow* (1989) 490 U.S. 1; *Terry v. Ohio* (1968) 392 U.S.1

33 Penal Code Section 833.5

34 PC 30510

35 PC 30605 (former PC 12280.)

36 Penal Code Section 834a.

37 *People v. Lloyd* (1989) 216 Cal.App.3d 1425, 1429.

Sonoma County Code 19A-3 for any minor between the ages of 12 and 18 to be in possession of an airsoft gun unless they are either accompanied by a parent, guardian or responsible adult or are on the private property of his parent or guardian and has on his person both a signed permission slip to have the weapon and a valid hunting license or hunter's safety certification. Other cities in Sonoma County have similar ordinances. We put this in here not to suggest or imply Deputy Gelhaus believed Andy to be carrying a replica firearm, but rather, as illustrative of the ramifications of carrying these replica weapons in public.

C. Homicide

Homicide is the killing of one human being by another. Homicide can be either lawful or unlawful. When the shooting occurs in self-defense, or in defense of another, it is not an unlawful act. (California Criminal Jury Instruction (CALCRIM) 500, 505).

D. Self-defense

In order to convict a law enforcement officer of any charges for an on-duty shooting, it would be necessary to prove beyond a reasonable doubt that no legal justification existed for the officer's actions.[38] Penal Code Sections 197-199 define the law of self-defense add defense of another. It is necessary to consider the law of self-defense as set forth in Penal Code Section 197, which provides that the use of deadly force by any person, including a peace officer, is justifiable when used in self-defense or in defense of others. CALCRIM 505 provides that a person can be said to have acted in lawful self-defense or for the defense-of-others if all the following exist:

1. The person reasonably believed that person, or someone else, was in *imminent danger* of being killed or suffering great bodily injury;

2. The person reasonably believed that the immediate use of deadly force was necessary to defend against that danger; and

3. The person used no more force than was reasonably necessary to defend against that danger.

Both self-defense and defense-of-others are complete defenses to a homicide and render the homicide lawful.[39]

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38 *People v Banks* (1977) 67 Cal.App.3d 379, 383-384.

39 See CALCRIM 505; Penal Code Section 199.

When deciding whether the person's beliefs were reasonable, one must consider all the circumstances as they were known to and appeared to the person at the time and consider what a reasonable person in a similar situation with similar knowledge would have believed. Further, the law, as set forth in CALCRIM 505, permits a person, if confronted by the *appearance of danger* which arouses in his mind as a reasonable person an honest fear and conviction that he is about to suffer death or great bodily injury, to act in self-defense or defense of others. The person's right of self-defense is the same whether the danger is real or merely apparent. People v. Jackson (1965) 233 Cal.App.2d 639, 641-642.

In making these determinations, we are bound by the same burden of proof (beyond a reasonable doubt) and standard of review applicable in any other criminal case. The findings of our office are authorized by law. (Cal. Const. Article III, Section 3; Government Code Section 26500; Hicks v Board of Supervisors (1977) 69 Cal.App.3d 228. The Office of the District Attorney conducted its review by applying the facts of this case to the controlling legal authority. The authority includes California Penal Code Section 197-199, 835a, and published case law.

The United States Supreme Court has ruled that a police officer is entitled to use deadly force only when "the officer has probable cause to believe that the suspect poses a significant threat of death or serious bodily injury to the officer or others." Tennessee v. Garner (1985) 471 U.S. 1, 3.

However, in a subsequent case, Graham v. Conner (1989) 490 U.S. 386, the United States Supreme Court held that an officer's right to use his weapon, is to be analyzed under the Fourth Amendment's "objective reasonableness" standard. The Court also held that the determination of the reasonableness of an officer's use of force "must embody allowance for the fact that police officers are often forced to make split-second judgments – in circumstances that are tense, uncertain and rapidly evolving—about the amount of force that is necessary in a particular situation." *Id.* At 397. The Court cautioned that "[t]he reasonableness of a particular use of force must be judged from the perspective of a reasonable officer on the scene, rather than with the 20/20 vision of hindsight." *Id.* At 396.

The court went further in defining the standard of review:

> As in other Fourth Amendment contexts, however, the "reasonableness" inquiry in an excessive force case is an objective one: the question is whether the officers' actions are "objectively reasonable" in light of the facts and circumstances confronting them, without regard to their underlying intent or motivation. See Scott v. United States, (1978) 436 U.S. 128, 137-139; see also Terry v. Ohio, *supra,* 392 U.S., at 21, (in analyzing the

reasonableness of a particular search or seizure, "it is imperative that the facts be judged against an objective standard"). An officer's evil intentions will not make a Fourth Amendment violation out of an objectively reasonable use of force; nor will an officer's good intentions make an objectively unreasonable use of force constitutional. See *Scott v. United States, supra,* 436 U.S., at 138, citing *United States v. Robinson (1973),* 414 U.S. 218.

The California Court of Appeal stated in *Brown v. Ransweiler* (2009) 171 Cal.App.4th 516, 527-528 that:

> Unlike private citizens, police officers act under color of law to protect the public interest. They are charged with acting affirmatively and using force as part of their duties, because the right to make an arrest or investigatory stop necessarily carries with it the right to use some degree of physical coercion or threat thereof to effect it.... Police officers are, in short, not similarly situated to the ordinary battery defendant and need not be treated the same. In these cases, then, the defendant police officer is in the exercise of the privilege of protecting the public peace and order [and] *he is entitled to the even greater use of force than might be in the same circumstances required for self-defense.... The test is highly deferential to the police officer's need to protect himself and others....*" (Emphasis added.)
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> ...The question is whether the officers' actions are "objectively reasonable" in light of the facts and circumstances confronting them, without regard to their underlying intent or motivation.... In calculating whether the amount of force was excessive, a trier of fact must recognize that peace officers are often forced to make split-second judgments, in tense circumstances, concerning the amount of force required....
>
> We must never allow the theoretical, sanitized world of our imagination to replace the dangerous and complex world that policemen face every day. What constitutes 'reasonable' action may seem quite different to someone facing a possible assailant than to someone analyzing the question at leisure....

Additionally, the law provides that when a law enforcement officer reasonably perceives a person to be armed with a gun, the "officer does not have to wait until a gun is pointed at the officer before the officer is entitled to take action."[40] Furthermore, in *McLenagan v Karnes* (4th Cir. 1994) 27 F.3d

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40 *Anderson v Russell*, (4th Cir. MD. 2001) 247 F.3d 125, 131, citing *McLenagan v Karnes* (4th Cir. 1994) 27 F.3d 102, 107.

1002, 1007, the court stated: "we do not think it wise to require a police officer, in all instances, to actually detect the presence of an object in a suspect's hand before firing on him." And the firing of multiple shots "does not suggest the officer shot mindlessly as much as it indicated they sought to ensure the elimination of a deadly threat."

The law also recognizes that a person acting in a stressful situation is not able to reflect upon his actions and the perceived threat against him to the same degree as a person who is not confronted by an emergency situation. When an attack is sudden and the peril is swift and imminent, immediate action may be necessary. In such cases, the law does not second-guess and say that one might have resorted to other means to secure one's safety. *People v Hecker* (1995) 109 Cal. 451, 467.

Also, the law recognizes that an officer must make instantaneous decisions based on the appearance of danger. "He may act upon such appearances with safety; and if without fault or carelessness he is misled concerning them, and defends himself correctly according to what he supposes the facts to be, his act is justifiable..." *People v Collins* (1961) 189 Cal.App.2d 575, 588.

Additionally, there are also some special rules that apply to the use of deadly force by peace officers who are in the lawful performance of their duties. Use of deadly force while in the line of duty is justified, and therefore not unlawful, provided all the following exist:

1. The person is a peace officer;

2. The killing was committed while performing any legal duty;

3. The killing was necessary to accomplish that lawful purpose; and

4. The peace officer had probable cause to believe that the person killed posed a threat of serious physical harm, either to the peace officer or to others.[41]

In such situations there is a presumption that the killing was justified. The burden falls to the prosecution to prove beyond a reasonable doubt the killing was not lawful.[42]

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41 See CALCRIM 507; Penal Code Sections 196, 199

42 See CALCRIM 507; Penal Code Sections 189.5, 199.

Thus, the situation that faced Deputy Gelhaus and Schemmel must be analyzed within the legal parameters of the law, as set forth above. In order for Deputy Gelhaus to be justly charged and convicted for the shooting of Andy Lopez, we would have to prove, beyond a reasonable doubt, that Deputy Gelhaus' actions were not committed in lawful self-defense. Also, the law mandates that when judging the reasonableness of Deputy Gelhaus' actions, we must give due deference to the "dangerous and complex world that policemen face every day."

VIII. LEGAL ANALYSIS

As applicable to the facts of this case, the finding of self-defense has several legal elements.

1. Deputy Gelhaus actually believed himself, or others, to be in imminent danger of being killed by Andy Lopez.

2. Deputy Gelhaus reasonably believed that the immediate use of force was necessary to defend himself, or others, against Andy Lopez.

3. Deputy Gelhaus used no more force than was reasonably necessary to defend himself against the danger posed by Andy Lopez.

Our analysis of these elements is as follows:

A. Actual Belief in the Necessity of Self-Defense

This element concerns Deputy Gelhaus' state of mind – whether he actually believed that Andy Lopez posed a danger to himself or others at the time he fired his weapon. His statements to investigators indicate he did. Those statements are corroborated by other evidence that was collected and analyzed. That includes statements of fear by Deputy Schemmel, as well as an experienced understanding of the capability of a firearm like the suspected AK47. The response requested – Code 20 – also suggests alarm on the part of the declarant requesting immediate assistance. Civilians corroborated the deputies' accounts that Deputy Gelhaus called to Andy to drop the weapon twice before shots were fired. After the shooting, Deputy Gelhaus broadcasted the need to get the suspect off of the rifle, and an approach was made only after other units arrived, and while Deputy Schemmel was providing cover. Until the other units arrived, both deputies were seen and recorded remaining behind the cover of their patrol vehicle. Further, as the deputies approached Andy, their guns were drawn, and one deputy could be heard yelling to put his hands on his head and not to reach for something.

When the deputies reached Andy, Deputy Gelhaus immediately moved the rifle from his proximity.

The evidence is consistent with and corroborates reports that Andy was turning toward deputies with the firearm in his hand as it was ascending. As discussed earlier, the analysis by Precision Simulation, together with the autopsy results, support a determination that Andy was facing the deputies when shots were fired. The wound to his left arm and chest indicate he was facing toward, and then beginning to lean to his left. The subsequent wounds are consistent with him falling down and to his left.

There may be other interpretations of this evidence as well, but in looking at criminal liability, the law provides that if there is more than one reasonable interpretation of the circumstantial evidence, a jury must accept the reasonable interpretation pointing to innocence. Thus, in reviewing potential liability, so must we.

Dr. William Lewinsky of the Force Science Institute, a leading and independent and objective expert in the field of human perception and critical incident decision making involved in lethal force encounters, was retained by the Sonoma County District Attorney's Office to render an opinion about various aspects of this shooting. Dr. Lewinsky explained that research shows that an officer begins to shoot when they independently perceive a threat and stops shooting when they realize that threat has ceased. He also explained that the "*average* officer can fire a short stroke semi-automatic handgun at a cadence of a quarter (1/4) of a second per round" – that would be 5 rounds in one second. And "an *average* officer who has practiced using a shorter stroke, semi-automatic handgun such as the Smith & Wesson M&P used in this incident, can rapidly fire at a cadence of approximately a quarter (1/4) of a second per round, especially in a very close encounter. He concludes that "in this instance, an average officer firing rapidly at the distance of this incident could have fired all eight (8) shots in approximately one and three quarters (1 ¾) of a second." He also states that given the training of Deputy Gelhaus, the duration of gunfire may have been "even shorter."

Dr. Lewinsky also provided that in research on time to start and stop shooting, officers were able to disengage, in laboratory settings, in approximately a third of a second. "This means they would have fired an additional one to two rounds" while detecting it was safe to stop and actually stopped firing. In the real world, even the shortest time "to recognize a cue to stop, begin to stop and then completely stop an action took the equivalent for an officer in a shooting situation of three trigger pulls."

Moreover, Dr. Lewinsky concludes, that the results of this research shows "that an officer who is genuinely shooting until the threat stops, will

despite their best efforts, continue to fire a number of shots while a person is initiating a fall and then falling to the ground."

Thus, this is entirely consistent with the shooting pattern that was described, and the physical evidence collected. Moreover, the firing of multiple shots does not suggest an officer "shot mindlessly as much as it indicated they sought to ensure the elimination of a deadly threat." *Elliott v. Leavitt*, *supra*, 99 F.3d at 643.

Consequently, the fact that several shots hit Andy while he was facing towards Deputy Gelhaus and while he was falling to the ground, are consistent with Deputy Gelhaus' claim that he shot Andy in self-defense. Therefore, the shots he sustained while he was going to the ground or had reached the ground do not disprove the deputy's claim of self-defense.

Finally, the fact that Andy was carrying a realistic replica AK-47 assault rifle at the time of his encounter with deputies does not defeat Deputy Gelhaus' claim of self-defense. Dr. Lewinsky noted that research over the last decade has found that the average time it takes for an assailant to move his weapon from a bootleg position (held down, beside the leg), raise and fire it, is just over a quarter (0.25) of a second to 0.59 seconds. Also, long barreled weapons such as an AK-47 "can be shifted from a low, off-target position (pointed down to the ground) to an aimed point and fire position" in an average time of one second. He concludes that if Andy Lopez "had the weapon he was perceived to have (AK-47) and the intent to fire on the officers as was perceived and Deputy Gelhaus had not responded, but waited until Mr. Lopez had actually started to point or point and fire his perceived AK-47 – by the time Deputy Gelhaus could respond with gunfire, if Deputy Gelhaus was still able to – he could be shot at multiple times before he could respond back and fire one shot."

In summary, we find that the statements and actions of Deputy Gelhaus at and around the time of the shooting to support a finding that he actually believed Andy Lopez had an AK-47 assault rifle. We further find that Deputy Gelhaus' claim of self-defense of himself and others to be credible. We have looked at his personnel file, military records and various writings and found nothing which would undermine this determination`. Therefore, we find that this element of self-defense has been met and Deputy Gelhaus actually believed that Andy Lopez posed an imminent danger to officers and others.

B. Reasonableness of Belief that Andy Lopez Posed an Imminent Danger

In addition to actual belief, Deputy Gelhaus' actions must also be judged as to whether they were reasonable under the circumstances. Evidence

collected supports such a finding. Moments before the Sheriff's Deputies engaged Andy, witness John Doe #4 had alerted Andy that he needed to get rid of his gun because the police were coming.

Deputies Gelhaus and Schemmel were in a distinctively marked patrol vehicle and were in distinctively marked uniforms. Deputies blipped the siren on their car and had their overhead emergency lights on. There was simply no mistaking them for anything but law enforcement officers. Gelhaus yelled to Andy two times to drop his rifle. Numerous witnesses heard deputies yell commands immediately prior to the shooting. One witness in particular, John Doe #3, was behind Andy and across a large field and heard deputies yell two times to "drop the gun." When Andy initially glanced back, he seemingly should have seen the marked vehicle with emergency lights on, and perhaps heard the blip of the siren. One would expect that he'd heard the admonitions as well and would comply with the command to drop the weapon.

We can speculate as to why Andy didn't comply with the command to drop the weapon, but that speculation doesn't change the circumstances presented to the deputies. As Andy turned in their direction, the gun turned with him and the barrel of the weapon was raised.

Although this action on Andy's part could have been completely innocent, a deputy confronting a suspect with, what they believe is an assault weapon whose rounds can pierce car doors and soft body armor, cannot assume turning a weapon towards them is just innocent body mechanics.

Inadvertently or not, that was the scenario Deputy Gelhaus was confronted with: A trained, knowledgeable law enforcement officer saw a person with a deadly AK-47 assault weapon in his hand, a person who had refused to comply with orders given to him by an armed officer, start to turn towards the deputies. The situation in which Deputy Gelhaus found himself in quickly evolved into an extremely dangerous predicament.

Deputy Schemmel, who was similarly situated to Deputy Gelhaus, also believed Andy had an assault rifle, saw "the rifle he's holding, moving towards the right as well. Meaning, coming with him" and feared he was going to be shot. Deputy Schemmel started to raise his gun "to come on to the threat" in self-defense when he heard Deputy Gelhaus fire and saw Andy take a step backwards.

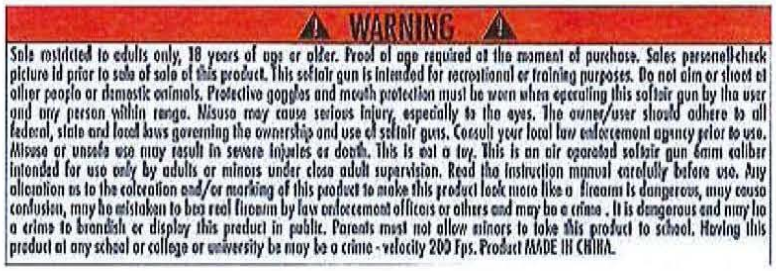
The above facts constitute substantial evidence which would support a finding of the reasonableness of Deputy Gelhaus' belief that Andy Lopez posed an imminent danger.

However, we need to also analyze whether there is any credible evidence that to show Deputy Gelhaus' belief was unreasonable.

The weapon Andy was carrying turned out to be a replica AK47 airsoft gun. This fact alone does not defeat the reasonableness of Deputy Gelhaus' belief. Many witnesses described the weapon they saw, some said it was a toy, others said it was real. The fact that most agreed the weapon could be mistaken for a real gun is compelling. Those who thought so included civilians and members of law enforcement, including those with specialized firearms training.

Thus, the overwhelming force of the evidence is that, at first glance, most people believed the AK-47 replica Andy Lopez was carrying at the time of his death was real. Those who believed it to be a toy took other factors into consideration, such as being close enough to Andy while he was carrying the AK-47 to see that he was a young teenager who they assumed wouldn't have a real gun, or carry it in broad daylight on the street. Others came within a few feet of the gun after Andy was shot and could see the characteristics more clearly. There were also those who thought it might be fake, but didn't want to engage Andy for fear it was real.

Moreover, a District Attorney Investigator purchased the exact replica firearm from a local sporting goods. The rifle comes in a box and contains the following warning label displayed on the box and on face page of the accompanying user's manual in which the manufacturer acknowledges the inherent confusion that altering the gun would have on law enforcement who may mistake it "for a real firearm." It is printed in 3 languages.


WARNING

Sale restricted to adults only, 18 years of age or older. Proof of age required at the moment of purchase. Sales personnel check picture id prior to sale of sale of this product. This softair gun is intended for recreational or training purposes. Do not aim or shoot at other people or domestic animals. Protective goggles and mouth protection must be worn when operating this softair gun by the user and any person within range. Misuse may cause serious injury, especially to the eyes. The owner/user should adhere to all federal, state and local laws governing the ownership and use of softair guns. Consult your local law enforcement agency prior to use. Misuse or unsafe use may result in severe injuries or death. This is not a toy. This is an air operated softair gun 6mm caliber intended for use only by adults or minors under close adult supervision. Read the instruction manual carefully before use. Any alteration as to the coloration and/or marking of this product to make this product look more like a firearm is dangerous, may cause confusion, may be mistaken to be a real firearm by law enforcement officers or others and may be a crime . It is dangerous and may be a crime to brandish or display this product in public. Parents must not allow minors to take this product to school. Having this product at any school or college or university be may be a crime - velocity 200 Fps. Product MADE IN CHINA.

This is not a toy. This is an air operated airsoft gun 6mm caliber intended for use only by adults or minors under close adult supervision... Any alteration as to the coloration and/or marking of this product to make this product look more like a firearm is dangerous, may cause confusion, may be mistaken to be a real firearm by law enforcement officers or others and may be a crime. It is dangerous and may be a crime to brandish or display this product in public.

Given the fact that numerous witnesses thought this was a real AK-47, and the actual appearance of the weapon when viewed, the evidence supports a finding of reasonableness under the circumstances Deputy Gelhaus found

himself in. Even though the weapon turned out to be a replica and not a real firearm, the courts require that prosecutors take into account law enforcement officers' "split-second judgments in tense circumstances." In doing so, at the time he began to fire his weapon, Deputy Gelhaus was reasonable in believing Andy Lopez posed an imminent danger.

Moreover, the reasoning espoused in *Anderson v Russell*, *supra*, 247 F.3d at 132, is pertinent to the inquiry into the nature and extent of the threat Deputy Gelhaus believed Andy Lopez to pose, namely:

> (Officer) Russell ultimately was mistaken as to the nature and extent of the threat posed by Anderson, which resulted in a tragic consequence to Anderson. Nevertheless, as we stated in *Elliott V Leavitt (4th Cir. 1996) 99 F.3d 640, 644*, 'the Fourth Amendment does not require omniscience. . . . Officers need not be absolutely sure . . . of the nature of the threat or the suspect's intent to cause them harm -- the Constitution does not require that certitude precede the act of self-protection.' ('Also irrelevant is the fact that Crawford was actually unarmed. Anderson did not and could not have known this. The sad truth is that Crawford's actions alone could cause a reasonable officer to fear imminent and serious physical harm.') Anderson's actions unwittingly caused Russell to reasonably fear imminent and serious physical harm.

Although some who saw that Andy was a teenaged boy assumed that the weapon was fake, it appears from the evidence that Deputy Gelhaus did not get a good enough view of Andy to determine he was a teenager. In his report, Professor Lewinsky discusses the focus of someone in Deputy Gelhaus' position on the threat – the firearm, rather than other factors, such as the shooter's face.

The law imposes upon Deputy Gelhaus (or anyone confronted with the same or similar circumstances as presented in this case) the duty to behave reasonably. Deputy Gelhaus did behave reasonably under the circumstances. Andy's actions of not complying with a law enforcement officer's clear commands to drop the weapon; turning toward that officer with an AK-47 in his hand (which he had been told and knew, or reasonably should have known, looked like a real AK-47); and with the barrel of the weapon coming up and beginning to point towards the officer (perhaps inadvertently or with the natural turning movement of a body) would suggest to a reasonable person (based on all of the information known to Deputy Gelhaus regarding the killing capacity of an AK-47), that they, or others, were in imminent peril of serious bodily injury or death.

C. Reasonable Force

The third element required to establish the justification of self-defense is that the force used is no greater than necessary to deal with apparent danger. It is common knowledge that the AK-47 is the very symbol of a deadly weapon. The mere silhouette of such a weapon instills a sense of foreboding in the average person. Here, the danger reasonably apparent to Deputy Gelhaus was that Andy Lopez had an AK-47 in his hand, had refused to comply with commands to drop it, and was turning towards Deputy Gelhaus and his partner, thereby causing the barrel of the rifle to turn towards them. Deputy Gelhaus, being acutely aware of the damage that can be caused by an AK-47 round, resorted to the only force he had available to deal with an AK-47, the discharging of his firearm until the threat was stopped.

In order to justly charge and convict Deputy Gelhaus of a crime, it would be our burden to prove beyond a reasonable doubt that he did not act in self-defense or defense of others when he shot and killed Andy Lopez. "No citizen can fairly expect to draw a gun on police without risking tragic consequences. And no court can expect any human being to remain passive in the face of an active threat on his or her life." *Elliott v Leavitt*, *supra*, 99 F.3d at 644. In light of the evidence and law espoused above, we would be unable to carry this burden.

IX. CONCLUSION

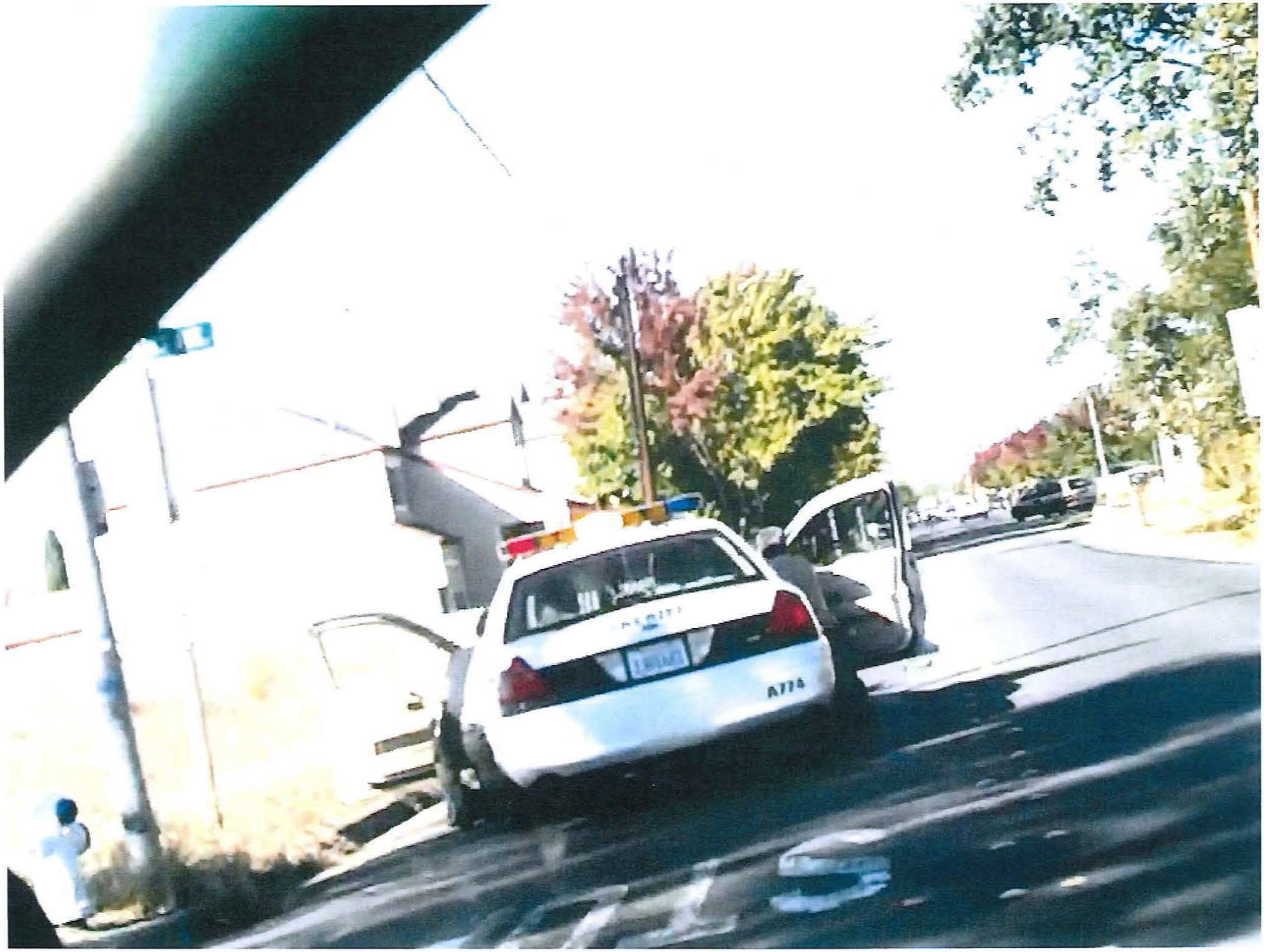
The events of October 22, 2013, are absolutely tragic. A 13 year old boy was killed by an experienced law enforcement officer. The loss of this young life under these circumstances is a loss for all of us and this community will be forever changed because of what happened that afternoon. Questions will remain with regard to the facts that have been determined through this investigation, and questions will continue with regard to what the community can do to avoid another tragedy like this.

Yet, as stated early on, the responsibility of this investigation and report is solely to determine whether criminal charges are warranted based on the available evidence. That evidence establishes that while in the lawful performance of his duties, Deputy Gelhaus was faced with a highly unpredictable and rapidly evolving situation. Given his training and experience, he believed, honestly and reasonably, that he was faced with a "do or die" dilemma; wait for the subject to fire what he believed was a deadly weapon and risk he and his partner being shot and killed, or fire his weapon when the threat was turned toward him. Here, the implementation of lethal

force was a reasonable response under the circumstances. Therefore, the actions of Deputy Gelhaus were lawful and no criminal charges will be filed against him at this time.

###

APPENDIX A


A774

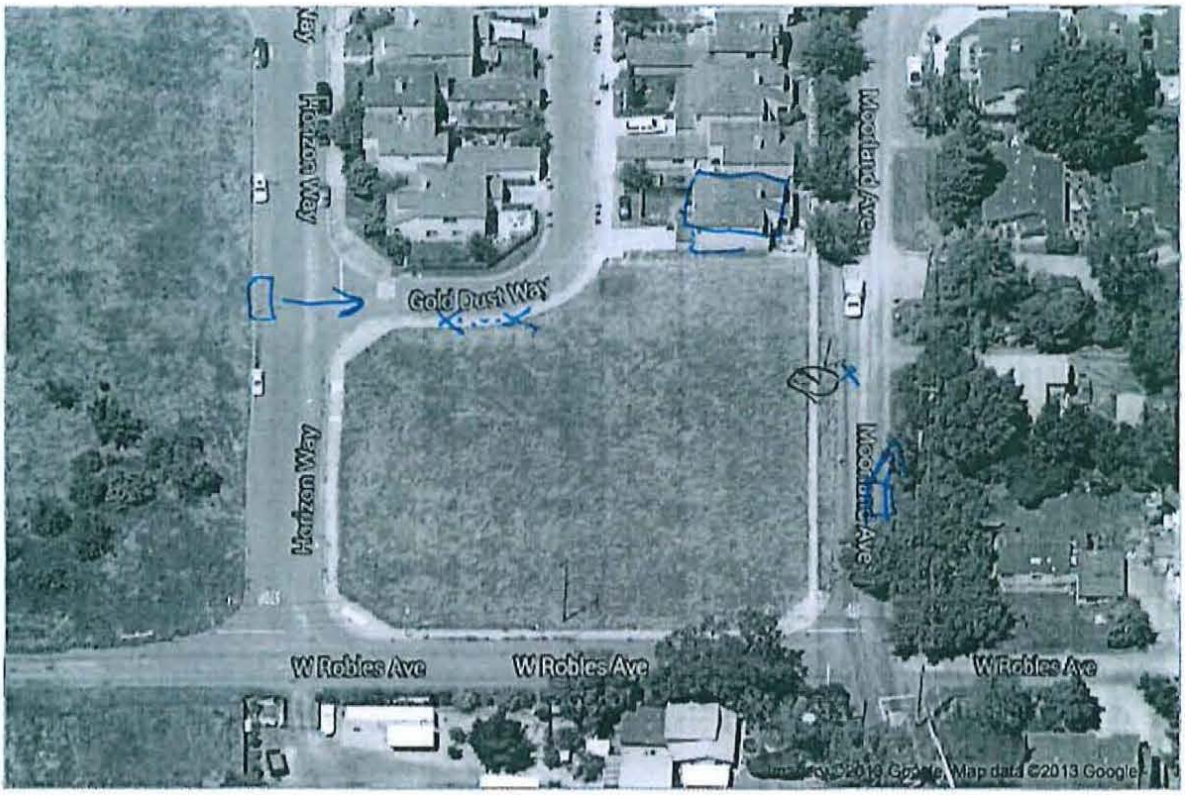
John Doe #4

APPENDIX B

John Doe #3

To see all the details that are visible on the screen, use the "Print" link next to the map.

Google



Rosa, California 95407 did not match any locations.

l it? Add it to Google Maps!

APPENDIX C

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Grass Valley, CA 95945
530.477.5820 Voice
530.477.5819 Fax
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CURRICULUM VITAE

CRAIG T. FRIES
Precision Simulations, Inc.
Phone: (530) 477-5820
Fax: (530) 477-5819
craig@precisionsim.com
TIN: 91-1842702

SUMMARY:

Craig Fries founded Precision Simulations, Inc. (PSI) after working as director of computer simulations for Visual Forensics, a senior analyst for Visual Science Research Corporation and a lead research assistant for NASA sponsored studies. As a leading proponent of the use of computer generated simulations and forensics animations, Craig developed the first forensic animations developed using laser scanning data admitted into a court trial in the US, the first 3D animation accepted in Santa Clara Superior Court and the first forensic animation admitted into a court trial in Hawaii. Craig has written articles on accident and crime reconstruction and animation for Forensic Magazine, Claims Magazine, the California District Attorneys Association Quarterly Journal and Right of other publications. Craig has taught extensively in the areas of 3D animation, Laser scanning, Photogrammetry, Video Analysis, 3D Ballistic Trajectory Analysis and admissibility of animation.

Craig has maintained a 100% admissibility record for courtroom submissions of his animations and analyses.

PROFESSIONAL HISTORY:

1997 - Present

PRECISION SIMULATIONS, INC., - Founder and CEO. Combining scientific analysis with 3D computer technology, Craig created a unique process to produce 3D computer generated reconstructions and animations. These animations are very precise and accurate, earning PSI a record of 100% admissibility to the courtroom over a fifteen (15) year period. Craig has pioneered the adaptation of Laser Scanning to add accuracy and realism to computer generated reconstruction of crimes and accidents. PSI created the first laser generated 3D reconstruction and animation to be admitted into court in the US. These tools are now being routinely used to recreate computer accident and crime scenes where evidence has been lost or compromised and where access to the scene is severely restricted or totally prevented. Craig previously pioneered the use of computer generated 3D graphics in condemnation litigation and the use of 3D visualization and animation to create virtual environments, to show drive thru's and fly-over's of planned projects.

1992 – 1997

VISUAL FORENSICS- Director of Computer Animation. Developed forensic visualization programs and created complex aviation animations for cases involving US government. Directed and created first computer animation accepted in Santa Clara superior court. Contributed to first human vision simulation based on empirical data to be accepted into trial in US. Developed image processing techniques to display visual function for litigation.

1992 - 1997

VISION SCIENCES RESEARCH CORPORATION- Senior Analyst. Active in research and development of advanced functional vision test methods and products. He designed and built a unique Night Driving Simulation System (NDSS), approved for use in FDA protocols and clinical trials. He pioneered the use of the NDSS in vision related litigation. Designed and created EyeView™, a patented software system to measure and demonstrate human functional vision levels. Worked extensively on mathematical analyses for injury accident cases.

1991 - 1992

CALIFORNIA STATE UNIVERSITY, HAYWARD - Lead Research Assistant, working on NASA funded basic research into sense and perception of astronauts. Performed statistical analysis for study data and presented extensively at NASA meetings at the Ames Research Center.

EDUCATION:

B.A. Psychology, California State University, Hayward, 1991.

AFFILIATIONS:

Member California Attorneys for Criminal Justice
Member International Right of Way Association
Member Transportation Research Board – Task Force on Visualization
Member Forensic Expert Witness Association
Member Association of Crime Scene Reconstructionist

PATENTS:

Co-Inventors, Dr. Arthur P. Ginsburg, Lawrence H. Tessler and Jonathan Tifft, "Objective Patient Vision Comparison Process and Apparatus", No. 5,552,842.

PUBLICATIONS:

Right of Way Magazine – "Virtual Valuation-Simulating an "After" Condition" Nov/Dec 2005
Claims Magazine – "New Tools for Reconstruction" - February 2006
Forensic Magazine – "Reconstruction with 3D Laser Scanning" - August/September 2006
Prosecutor's Brief – The California District Atty. Association Quarterly Journal – Sept. 2006
Plaintiff Magazine – "Caught in the act!" – August 2007
Advocate Magazine – "Caught in the act: Accident reconstruction from video footage"- Sept. 2007

APPENDIX D

FORCE SCIENCE® INSTITUTE Ltd
www.forcescience.org

May 2, 2014

Mr. Tim Dempsey
600 Administration Drive, Room 212
Santa Rosa, CA 95403

RE: Mr. Andy Lopez – OIS Sonoma County

Dear Mr. Dempsey:

Thank you for the kind invitation to work on this case. I have reviewed and considered the following material:

Items received on March 5, 2014:
1. Primary Report/Incident Summary
2. Case Summary
3. Event chronology/CAD Log – SCSO
4. Event chronology/CAD Log – Santa Rosa PD
5. Interview of SCSO Deputy Erick Gelhaus
6. Interview of SCSO Deputy Michael Schemmel
7. Interview of SCSO Deputy Bryan Jensen
8. Interview of SCSO Deputy Jack Neely
9. Interview of SCSO Deputy Salvatore Barusso
10. Interview of SCSO Deputy Terry White
11. Interview of SCSO Deputy Mike Raasch
12. Interview of SCSO Deputy Brad Burke
13. Interview of CHP Sgt. John Evans
14. Interview of CHP Officer Patrick Burnett
15. Interview of SRPD Officer Mike Clark
16. Interview of SRPD Officer Julio Del Angel
17. Interview of Rodrigo Lopez
18. Interview of Sujey Lopez
19. Interview of [redacted]
20. Interview of [redacted] John Doe #3
21. Interview of [redacted] John Doe #4
22. Interview of [redacted] John Doe #9
23. Interview of [redacted] John Doe #1

Mankato – Headquarters
124 East Walnut Street, Suite 120
Mankato, MN 56001
T: (507) 387-1290 F: (507) 387-1291
frontdesk@forcescience.org

Chicago
5467 North Lamon Avenue
Chicago, IL 60630
T: (773) 481-4964 F: (773) 913-6205
info@forcescience.org

24. Interview of [redacted]
25. Interview of [redacted]
26. Interview of [redacted] John Doe #2
27. Interview of [redacted] John Doe #7
28. Interview of [redacted] JANE Doe #1
29. Interview of [redacted] JANE Dee #2
30. Interview of [redacted]
31. Interview of [redacted] JANE Doe #3
32. Interview of [redacted] John Doe #16
33. Interview of [redacted] John Doe #8
34. Interview of [redacted]
35. Interview of [redacted] John Doe #12
36. Interview of [redacted] John Doe #13
37. Interview of [redacted] John Doe #5
38. Interview of [redacted] JANE Doe #6
39. Interview of [redacted]
40. Interview of [redacted] JANE Doe #5
41. Interview of [redacted] JANE Doe #4
42. Interview of [redacted] John Doe #14
43. Interview of [redacted]
44. Interview of [redacted]
45. Interview of [redacted] John Doe #11
46. Spanish translation of parents interview
47. Death notification to parents
48. List of Area residents contacted
49. Supervised Area Canvass
50. Interview of [redacted]
51. Interview of [redacted]
52. Interview of [redacted]
53. Interview of [redacted]
54. Emergency Medical Personnel Interviews – Joseph Dwyer, Lucas Bohanan, Nancy Bradley, Neil Nicholson, Nathan Dejung, Steven Humes, and Thomas Cozine
55. DOJ Work request/Ballistics report
56. Major Incident Log
57. [redacted] cell download John Doe #11
58. Crime Scene Description/evidence
59. Photography/Scene Processing 10-23-13
60. Aerial photography/scene processing
61. Total Station & pictures
62. Processing Deputy equipment/clothing
63. Processing Deputy patrol vehicles
64. Supervised crime scene
65. Press releases
66. Summary report of autopsy
67. Autopsy Evidence Collection

66. SCSO/Medical Examiner report
67. Autopsy/Patient care report AMR
68. Response report/Lopez attorney
69. Response report
70. Inspected replica AK47 investigative report
71. Purchases replica & warning disclaimer
72. Replica VS real AK47 press conf. & pictures
73. SCSO Chronology & dispatch audio
74. Toxicology report
75. Transporting evidence from lab to SRPD report
76. SRPD dispatch audio
77. KGO News story re: witness
78. Contact & secure [redacted] Moorland Ave report
79. Cook & Lewis School contact report
80. Investigative report of attempt contact with area witness
81. Removal of replica from evidence report
82. Scene Security reports
83. Petaluma PD OIS reports
84. SCSO OIS reports
85. Andy Lopez I-Lead Reports
86. Evidence sheets – alphabetical order
87. Name list of all contacts

INTRODUCTION:

I have a B.A. in Psychology and Sociology (1967) from Lakehead University in Thunder Bay Ontario. I then took approximately three years of graduate course work in psychology from Minnesota State University Mankato, the University of Ottawa, the University of Vermont, and the Alfred Adler Institute in Chicago. I have a M.A. in Counseling, from the University of Arizona (1979). I have a Ph.D. in Psychology with a core concentration in Police Psychology (1988) from Union Institute. All of my Ph.D. classes were residential and I was not required to, but did have, a clinical internship with the Behavioral Science Unit with Tucson Police Department. I have two undergraduate courses in research, three courses at the master's level and one at the doctorate level. I have had graduate course work in physiological psychology and perception including conducting a major research project on perception. The focus of my doctoral work was on training techniques for critical incident decision-making.

I was a professor in the Law Enforcement Program at Minnesota State University, Mankato, Minnesota, U.S.A. for 28 years. I was also Director of the Law Enforcement Program, which upon graduation made our students eligible to take the state police officer license exam. In essence, I directed a university based police academy. I was also Chairperson of the Political Science/Law Enforcement Department. While so employed I developed the Force Science Research Center within the College of Social and Behavioral Sciences. The mission of the research center was to research human performance in high stress encounters such as police use-of-force – something I have been personally researching since 1975. Although I am now retired

from my position as professor, I continue to direct the Force Science Institute, Ltd. and maintain a relationship with the University through a position as member of the Visiting and Collaborative Graduate Faculty. Minnesota State University has also named a lecture series after me entitled "The Lewinski Lecture".

As documented in the attached CV and related materials my professional background and experience is in the area of helping officers through training to achieve optimal performance in high-stress encounters. This involves the study and understanding of human dynamics involved in lethal force encounters. In both areas of endeavor, I have extensively studied human perception, attention, decisions, reaction time, memory, etc. These topics have been extensively studied and documented in the field of psychology, some of them for over a century and a half. Force Science has conducted a number of studies to assess how mainstream knowledge in these areas applies to the particular dynamics of law enforcement scenarios. By way of illustration, human perception and contextual influence have been extensively researched for over a century and reaction time has been researched for a century and a half. Force Science has endeavored to build upon the existing base of knowledge by carefully controlled examinations of how officers of varying levels of experience perceive information and react in profession-specific contexts such as a simulated deadly force encounters. The current focus of our research is on subject and officer movement in lethal force encounters as well as action/reaction parameters (including judgment and movement patterns and time) perception and memory.

An article co-authored with Dr. Audrey Honig, entitled *A Survey of the Research on Human Factors Related to Lethal Force Encounters* was published in the Law Enforcement Executive Forum in August 2008. In the same journal, I have also published an article on our research on *The Influence of Officer Positioning on Movement During A Threatening Traffic Stop Scenario* and *A Study on the Presence of Selective Attention in Firearms Officers* and another publication on New *Developments in Understanding the Stop Shooting Response*. This last publication involves among other things, a comparison between the 'stop shooting response' and the movement of a person, using our Speed Grid to ascertain the speed of a subject in miles per hour from the length, time and cadence of a subject's step. Further, in conjunction with a number of other authors, I have published in peer reviewed journals an article *Performing Under Pressure: Gaze Control, Decision Making and Shooting Performance in Elite and Rookie Officers* on the effect of visual focus on shooting decision and accuracy in the Human Movement Science Journal, an article on *Fired Cartridge Case Ejection Patterns*, which focused on the effect of the manipulation of handgun on ejection patterns, published in the Investigative Sciences Journal and *Witnesses in Action: The Effect of Physical Exertion on Recall And Recognition*, in Psychological Science Journal. I have also published in The International Journal of Exercise Science an article entitled *The Influence of Start Position, Initial Step Type and Usage of a Focal Point on Sprinting Performance.* This article focused on the movement time of an officer confronted with an edged weapon attack or an oncoming vehicle. We have just had a journal article accepted for publication in Police Practice and Research: An International Journal. This article is on the memory of an officer for automatic behavior in a high stress, deadly force encounter. All publications and news lines that contain our research are available on the Force Science website at "http://www.forcescience.org". We have also presented our research at a number of blind, peer-reviewed conferences including

two presentations to the American Psychological Association, Law Society Conference, and we were approved for presentation to the American Society for Engineering Educators, International Colloquium in Bejing, China. The peer-reviewed process for China was used on our Tempe Studies and the equipment we developed and used for that study. We have been invited twice to present to the International Association of Chiefs of Police (normally at least a screened process) once to the main body on the application of our research to their policy recommendations, and the other time by the Psychological Services Section of the IACP. Since then I was invited in 2012 to present our research on officer safety on traffic stops to the Patrol and Tactical Operations subcommittee and in 2013 I was an invited panel presenter in a *Plenary Session on Officer Involved Shooting – Investigative Protocols: A Presidential Initiative.* I have also done two presentations on our research to a Criminal Justice Committee and a Human Rights Committee from the Houses of Parliament, both the House of Commons and the House of Lords, in London, England.

Related articles on commands, memory and decisions in critical incidents have been published by us in the peer reviewed Law Enforcement Executive Forum and the Police Quarterly, and in the non-peer reviewed but screened FBI bulletin. (Please see the attached C.V.)

I have qualified as an expert on action/reaction, perception and memory in force or lethal force encounters in criminal courts in Arizona, California, Connecticut, Florida, Iowa, Maryland, Massachusetts, Missouri, Minnesota, Ohio, South Carolina, Texas and Alberta and Manitoba, Canada. I have also qualified as an expert in federal or state court in Arizona, California, Connecticut, Illinois, Iowa, Kansas, Florida, Oregon, Maryland, Minnesota, Ohio, Oklahoma, Texas and Washington on the same topic.

I have made multiple presentations to a variety of associations for crime scene analysis and reconstruction. Our research results on the behavioral science elements of officer-involved shootings (dynamics, perception, action/reaction, decision making, memory) are being used internationally in crime scene reconstruction. We have provided week long Certification Courses on the behavioral science aspects of officer-involved shootings and use of force to investigators throughout the world and contracted for exclusive courses with New Scotland Yard, the Royal Canadian Mounted Police and Homeland Security. Officers and representatives from the following U.S. and Canadian Federal Agencies have attended our course: ICE, FBI, DEA, ATF, Department of Interior, Department of Defense (Canada), Canada Border Services Agency, US Department of Veterans Affairs, TSA, Diplomatic Security Service, FLETC, Federal Protective Service, Federal Reserve Police, Great Lakes Naval, US Army, US Navy, Ministry of Community Safety and Correctional Services (Canada), National Park Service, Pentagon Force Protection Agency, Royal Canadian Mounted Police, US Courts National Training Academy, US Customs and Border Protection, Department of State, US Department of Agriculture , US Marshall Service, US Probation Service, US Attorney's Office. It has also been provided to a variety of other federal, state and local law enforcement officers from these and 6 other countries.

Publications on our research and video illustrations are posted on the Force Science website or the research can be reviewed in the Force Science News.

PREAMBLE:

There are centuries of scientific study on human behavior that can be brought to bear on our understanding of the human elements at issue during an officer involved fatal encounter. Applicable subtopics of study include, (but are not limited to)

- Perception – the means by which humans perceive and then covert the raw data into meaningful information
- Action/reaction time – the time it takes to initiate a movement that is perceived as a stimulus, and the time a responder takes from the presentation of a stimulus to the initiation of a response.
- Motor movement time – the time it takes to complete or deliver the reaction.
- Processing or Decision Method and Decision Time – the method by which we drive forward a decision, which can vary according to the immediacy and severity of a perceived threat. Research further delineates that an individual's training and experience in functioning under similar threat conditions, impacts on the methodology and time for decision-making.
- Memory – which is a function of attention and is affected by a variety of factors including during and complexity of the incident, emotional distress, rest, review, the level of threat perceived by the actor, etc.

We can use this information to accurately and objectively inform our understanding of at least some of the elements of an incident under examination. An analogous methodology has been used in the field of accident reconstruction for decades. For instance if an officer is simply driving a car, receives a cell phone call and glances down to see who is calling on their cell phone and then looks back to the road, we know from a large number of studies how long that action would generally take. If we then also knew the speed at which the officer was driving we could determine the distance travelled during the period of inattention. Likewise in armed encounters, we generally know how long it takes a trained officer to perceive a threat and react to that threat by firing a gun. If we have reliable information to use about the movement of the officer's opponent in the encounter, we are able to draw reliable conclusions as to the location and actions of the opponent at the time the officer decided to respond with deadly force.

Similarly there are almost two centuries of research on human behavior that have application to officer-involved use of force encounters. Trainers, investigators, administrators and jurists throughout most of the western world are applying at least some element of this research. Most of the research is generally done on average human beings. Some has been done by the military. Some has been done with law enforcement. Force Science Institute, Ltd. and the Force Science Research Center have done considerable research on our own that stands on this extensive preexisting body of knowledge and helps us apply many principles that derive from these centuries of research. This research can then be applied to a rapidly evolving, high stress encounter such as a police shooting. Knowledge of this research is not "mind reading" or psychoanalyzing an officer. It simply explains the behavioral foundation of an officer's performance in a high stress encounter and has the potential to help anyone trying to

understand or judge an officer's behavior, "frame of mind" during a shooting incident, as well as the dynamics of the physical interaction between the subject and the officer.

REPORT:

PURPOSE:

I was asked to utilize my particular fields of expertise to analyze the circumstances which form the basis of this case and to provide information, opinions, and conclusions that are reliably supported, to a high degree of scientific certainty, by established and acceptable standards. Subsequently when I review a case such as this I consider the following elements and the research that assists in clarifying an officer's behavior.

RELEVANT INFORMATION:

- **Deputy Gelhaus Interview (p. 5) Oct. 22, 2013. "When my door was open, as I was getting my pistol forward between the V of the door, I challenged the man. I yelled drop the rifle, the muzzle of the rifle coming up in my direction as he turned and I began to shoot, because I thought he was gonna shoot me. Um, I continued to shoot until he went down.'"**

- Deputy Gelhaus recognized the apparent long barreled, assault type rifle as an AK47 that fired rounds that would not be stopped by his vest and could to some degree also penetrate a vehicle. Subsequently his protection, which was his vest and vehicle, could not provide protection or cover for him. The ammunition fired from this type of weapon, has, been designed, within the last few decades, to defeat bullet proof vests and can also penetrate the side of an automobile.

- Individuals who are not familiar with weapons or weapon management may inadvertently swing or point guns at people without being aware of the implications of their movement and the response of others.

- It is unfortunate that the single largest threat facing police officers today and the highest demand for police training is responding to the threat of an active shooter. Attorney General Eric Holder just asked Congress for 15 million dollars for 'active shooter' training. Law Enforcement may be more aware today than other time in history of the threat from the lone, young man with a gun or a knife.

- Many replica handguns or long barreled weapons have the appearance of actual firearms. The replica is often designed and molded to appear as real as possible and therefore inversely, a real weapon has the appearance of a replica. Manufacturers make an effort to make the replica distinguishable from a real weapon. Unfortunately, as apparently occurred in this incident, the distinguishable feature can accidentally or intentionally be

altered or removed so the replica cannot be distinguished from a real weapon without close inspection. When an officer perceives a weapon is being pointed at them the very nature of the action/reaction paradigm prohibits the officer from having the time to closely inspect and distinguish the modified replica from a real weapon.

DECISION, ACTION AND TIME:

1. Since the time of Aristotle, Western culture has accepted that reasoning is virtuous. The tenor of his teachings, which were further reified by Augustine and Descarte was that morally acceptable decisions were only possible when we renounced passions and emotions to the quest for rationality in all endeavors. The modern day result is our disposition to view decisions arrived at through the application of reason as good, and to view all others as presumptively suspect. The law enforcement and military community, like much of Western society, has long embraced the notion that our behaviors are the result of conscious thinking. So we have endeavored to teach officers how to consciously apply rules as a basis for making decisions and to implement these rules with the conscious awareness of the use of the appropriate instrument (e.g. pistol or rifle).

2. Research over the past decades yields new insights into how successful performers in a variety of occupations make decisions in urgent situations. The research reveals that conscious deliberation does not account for all decisions; it may account for only a small portion (Janis & Mann, 1977; Kibele, 2006; Poplu, Baratgin, Mavromatis, & Ripoll, 2003; de Vries, Witteman, Holland, & Dijksterhuis, 2010). To perform at a expert level, both the athlete and the military or law enforcement officer, particularly in combat or ambush situations must have well developed abilities to: (1) Rapidly identify patterns that have meaning; (2) Use that information to anticipate what will happen; and (3) Use their experience and training to rapidly identify and, with little conscious effort, drive forward workable solutions to the problems that conform to their trained values and ethics. Well-trained officers perform just as well-trained athletes perform. Vickers (2007) said the good athlete knows what is going to evolve, where it is going to evolve, how it is going to evolve and when. This is especially true in rapidly evolving situations where neither the athlete nor the officer has either the time or the opportunity to let a situation fully unfold before they need to react.

3. Based on training and experience, all humans make predictions about the outcomes of circumstances unfolding before them. A multitude of examples can be found in the common experience of driving an automobile. For instance, when coming upon an intersection and seeing a car rapidly approaching a stop sign on a cross-street, a driver must quickly evaluate whether the approaching driver will stop (and therefore they need not take evasive action) or the approaching driver will drive through the stop sign (in which case they will likely "react" and initiate an action to protect their safety). Humans engage in prediction as an adaptive response to the reality that waiting for complete and confirmatory information may leave us without time to react and safeguard ourselves. Turning to examples from athletics brings the action/reaction paradigm into clearer focus. Successful baseball batters predict the ball's path of travel as it leaves the pitcher's

hand. If they were to wait to confirm the path of the ball as it went by them they would, of course, be too far behind the action to have their "reaction" of swinging the bat be effective.

4. Humans rely to a large extent on pattern recognition as a basis for perception and also to deriving meaning about an event. (Kibele, 2006) Patterns may be static (as in a photograph) or stretched over time (as in a movie). Contemporary training in law enforcement, as well as experience in handling firearms, generally provides officers with a considerable store of information to use for the purpose of detecting threatening movements and patterns of behavior. In the absence of a consequential threat and time compression, officers may seek confirmatory information and engage in a comparison of options before initiating a response. However, when the threat is perceived as substantial and urgent, officers are likely to reflexively initiate a response that they have learned, through training and experience, to be an appropriate response to the threat.

5. As part of my professional focus I have interviewed or consulted with firearms instructors from the CIA, Secret Service, FBI, elite police units in the UK and the U.S., including firearms instructors and leaders in the US military including Delta Teams. Two years ago I was in London consulting with a specialist team that was using our research as they were practicing to protect high profile individuals during the London Olympics, from a particular type of terrorist attack. We have conducted research on some of these teams and assessed their reaction times, decision process and memory to a sudden, unexpected and rapidly evolving threat. These exceptionally trained teams, if given the time, engage in decision making that is consciously competent and reasoned. If they are required to react immediately they rely on "pattern recognition" based on their training and experience to know what, where, when and how the threat is going to unfold so they can efficiently and effectively cope with rapidly evolving, highly threatening and time compressed threats.

6. Any attack they or other officers may face can occur very quickly, for example, the movement of an untethered or unholstered gun, rising up to a target, such as by an assailant quickly pointing a gun at an officer. This particular motion has been a topic of scientific inquiry for over a decade (Blair, 2011; Hontz, 1999; Lewinski, 2000; Lewinski, 2002; Lewinski, Dysterheft, Seefeldt, & Pettitt, 2013). An early study by Hontz (1999) found that a subject could move a gun from a bootleg position (held down, beside the leg), raise and fire it in 0.59 seconds. Blair et al (2011) found that a subject raising and firing a gun that was held in the same position as in Hontz's study accomplished this task in just over one-third of a second. Additionally, Lewinski and the Force Science Institute (2000) found that a subject could point and fire an untethered handgun from a similar bootleg position (held behind the thigh), or placed in a waistband position, or from a position from a console in a car and fired out a vehicle window, would all in approximately 0.25 seconds. A recent study involving an assailant in a vehicle during a simulated traffic stop, demonstrated that the assailant driver could move a weapon from a hidden hand position by the console, and point it towards the officer conducting the traffic stop, in an average time of approximately one-third of a second (Lewinski et al,

2013). Researchers also found that if the officer began to move, forcing the assailant to readjust the gun, the discharge of the assailant's firearm still occurred in under 0.50 seconds (Lewinski et. al, 2013). Overall, the results of these studies demonstrate the movement time from a resting position to a shooting position in untrained individuals, who are simply pointing a handgun and shooting, can range from 0.25 to 0.50 seconds or from a quarter to a half a second. – As a point of reference, in a professional baseball game a fastball will travel from the pitcher's mound to home plate in approximately a half a second.

7. Long barreled weapons such as an AK 47, M 16 or tactical or patrol rifle can be shifted from a low, off target position (pointed downward toward the ground) to an aimed point and fire position in approximately a second. In a study being completed as of this writing Force Science found the mean or average time for this action to be .99 seconds, the S.D. to be .20 and the range to be from a maximum of 1.35 seconds to a minimum of .63 seconds.

8. An officer in an incident such as this one is not a mind reader. After the incident is over, the true nature of the threat and the apparently threatening person might be ascertained, but as it is developing, the officer has to predict the outcome of the situation as they are reading it. Plus they have to engage in whatever course of action they can to react to stop the threat if they can. Most of the officer's behavior in this type of situation is automatic as the officer perceives, judges and then reacts in a trained, reflexive fashion with action that they believe to be life saving and all of this has to occur in an extremely short period of time.

9. The type of decision-making that occurs in this type of situation is similar to a variety of crisis situations across a number of professions including fire fighters, the military, emergency room physicians and even athletes. An officer in this situation would quickly grasp the nature of the threat and then engage in the most reactive and appropriate response. The speed with which the incident is unfolding and the urgency of a need for a response, deprive the officer of the ability to fully and completely process all of the elements in the situation, and then weigh or evaluate a number of choices, etc. Subsequently, given the constraints of this type of encounter, the officer's first response is often perceived in the immediacy of the encounter as their best option.

10. Further, in these types of circumstances, humans who are responding as rapidly as they can to save their life or someone else's cannot simultaneously critically analyze the information they are processing, the behavioral options open to them and some of their actions. Because all of their attentional resources are focused on pushing forward their trained responses, under the immediate urgency to stop the threat, they have little time and few cognitive resources left for review and reflection on their action or the detection of change on the part of the person they are shooting at or the implications of any further movement of the person. This is especially relevant within the very brief period of time and the visual and behavioral complexity of this type of incident.

11. Also, it is a normal part of human behavior for any officer in this type of situation to have a limited perception and then recall about anything else except that on which they are directly and intently focused. For instance in one of our studies (Vickers & Lewinski, 2012) we placed eye scan equipment on a very elite European counter terrorism team and also on regularly trained officers. In the middle of a simulated gunfight, their self selected focus on their weapon or on the person shooting at them had a profound effect on their perception of the incident, shooting accuracy, judgment and memory.

12. In this incident, which was visually complex, dynamic and very threatening, the deputy informed us that he was focused first on the tactical rifle and then the behavior of Mr. Lopez. Mr. Lopez was not immediately responding to the commands and then began to turn, apparently in defiance of the commands, while beginning to raise the barrel of the weapon toward the deputy. Deputy Gelhaus then apparently (based on his interview) shifted his focus to his shooting response, to save his life. Apparently because of his focus on the threat and then his response to that threat he was unable to immediately note whether the apparent weapon in Mr. Lopez's hand even finished it's upward arc. The fact it took some time to do this (to start and then to stop his response) and the reported limited perception and memory is a classical example of the limitation of human perception and performance by a very well trained professional operating under high stress conditions such as were present in this incident. In the police world the limitations of this focus of attention are known as "tunnel vision" and "tunnel hearing." In the scientific world they are called selective attention and inattentional blindness. An earlier term was "sensory gating." The inability to immediately start and stop in reaction to a stimulus is known as "the reactionary gap."

13. The level of threat and the officer's attentional focus to engage that threat also informs us about the ability of that officer to stop their action. In our research on time to start and stop shooting, conducted under ideal laboratory conditions, the officers, who were engaged in firing as rapidly as they could, knowing that they would have to instantly stop, took approximately a third of a second to recognize the change and stop. This means they fired an additional one to two rounds while detecting the signal that indicated they were to stop and they then completed the action of stopping. This research is available on the Force Science website under Articles. There are several iterations but the simplest version is entitled the "Tempe Study." It is elaborated upon more completely in our peer reviewed article, also on our website, entitled, "New Developments in Understanding the Behavioral Science Factors in the 'Stop Shooting' Response." We are about to submit another analysis on the same topic to a peer-reviewed journal.

14. In our research the stimulus to stop was expected by the officers and was very simply and clearly presented. Again, in a dynamic, real world circumstance, such as this incident, where an officer is uncertain about the behavior, the outcome, or when or even if their action will stop the threat, that officer is going to have a much more difficult time identifying that elements within the incident have changed. In real world research related to recognizing cues while driving and initiating the stopping of a vehicle, a response to an expected signal to stop took seven to eight tenths of a second. A response

to an unexpected cue to stop took a second and a half. Even the shortest time in real world research to recognize a cue to stop, begin to stop and then completely stop an action took the equivalent for an officer in a shooting situation of three trigger pulls. No one can start or stop anything instantly particularly when they are reacting to the behavior of others. The reader might note that every intersection that has a stoplight has an amber warning light that precedes the onset of the red light. This is done to warn the driver that they will soon have to stop. In the U.K. they also have a amber to warn the driver that a green light is about to be illuminated. All of this facilitates the flow of traffic both to start and stop.

15. Expecting an officer in this situation to note the movement of a person while they were shooting to stop the threat is the equivalent to asking a batter to determine the location and movement of the pitcher or the pitcher's non throwing hand, while they are attempting to hit a fastball in a professional baseball game – as the ball is coming toward them. Therefore, from the Force Science peer reviewed research on attention and perception and the well founded principles that undergird that research we can state that an officer who is focused intently on shooting to stop a threat, like a batter in an important game, is not likely to note anything else except that on which they are directly and intently focused. Subsequently they would also be unable to immediately stop any action they had just started.

16. Similarly, Deputy Gelhaus informed us that he was attentionally focused on attempting to avoid being shot and shooting to prevent any injury to himself and his partner. In the brevity of this encounter he was aware that it all occurred very quickly. He apparently was so focused on avoiding being injured and shooting to respond to the perceived threat that he could not report on precisely where his shots went and the location and angle at which his bullets struck Mr. Lopez. That was until he detected Mr. Lopez was no longer a threat to him and then he stopped shooting.

17. Research during the last half century, informs us that once a well trained person intently focuses on something, it becomes very difficult for them to simultaneously focus on other things. In the civilian world the reader might consider all of the research on the use of cell phones and driving. In the police world, this includes our own peer reviewed research on attention conducted in London, England, and our research in Belfast which used sophisticated eye scan equipment that has been used on Olympic and professional athletes, and can also be seen in our study on focus, attention and exhaustion with Winnipeg Police. The liabilities of focused attention also includes an extreme difficulty in the ability to immediately detect and react to something on which the officer is not focused.

18. The implications of the limitations of perception and attention and the delay in an immediate stopping time – is that an officer who is genuinely shooting until the threat stops, will despite their best efforts, continue to fire a number of shots while a person is initiating a fall and then falling toward the ground. This can result in bullet path patterns that may seem unusual, such as downward or upward shots through the torso.

19. An illustration out of athletics for this phenomenon is the concept of the fake or juke. Every time an offensive player jukes and a defensive player is "faked out" the reason is that the defensive player had to read and anticipate an interception point with the offensive player and missed the point. By time the defensive player commits to an action the offensive player has changed their action and the defensive player cannot stop the action they are committed to in time to set up another more appropriate intercept point. This is a well studied phenomenon in the world of perception/cognition and well used in athletics, driving, the airline industry, etc. and utilizes the principles that all action takes time, action often beats reaction, even the briefest decision and action take time and stopping an action is something that cannot be done immediately. As noted in the time to stop article with Redmann, no human can stop something immediately, whether it be in shooting, driving or athletics.

DURATION OF THE SHOOTING:

1. Lewinski (2008) (2014) found that an officer's ability to perceive the initiation and then ending of a threat is based on the officer's attention to the specific activities in an event that would elicit a perception about the beginning and then the ending. Vickers and Lewinski (2012) found that it was not just the attentional process but also the specific location of the officer's gaze that determined their ability to perceive an evolving threat and respond, or the cessation of that threat and then a termination of their response. This means that an officer is going to start shooting when they independently perceive a threat and stop shooting when they realize the threat has ceased. This realization takes time and requires a specific visual focus to detect. An illustration in this incident is the perception/detection of Mr. Lopez and then each deputy's positioning/decision/action in this incident, based on their perception, understanding of the threatening action and then their individual response pattern to that threat. For instance Deputy Schemmel was in the driver's seat. Getting out of the passenger side of a squad car as Deputy Gelhaus did is a much faster action than getting out of the driver's side of a squad car, as Deputy Schemmel did. This is primarily because of the obstruction of the steering wheel, the duty belt of the officers and the general cramped quarters of the driver's side. Both deputies came to the same decision and response to the apparent threat but arrived at their responses to that threat at different times, with Deputy Schemmel reportedly arriving at the start of his response about the time Deputy Gelhaus was completing his.

2. From the research on assailant behavior in a shooting situation, which has been referred to previously, the average time for an assailant to point and fire a long barreled weapon – at this distance, where a gun doesn't necessarily need to be aimed – is approximately a second. However, an average officer who has already decided to shoot, can't react and complete the defensive act of shooting (aligning a gun on target, aiming and then shooting), in response to an evolving threat, for seven tenths of a second or longer. If the officer has to bring their weapon on target and aim it as Deputy Gelhaus said he did, then it would take the average officer over a second to respond to the threat of a long barreled weapon being pointed at them.

3. Therefore, from a behavioral science perspective, if Mr. Lopez had the weapon he was perceived to have and the intent to fire on the officers as was perceived and Deputy Gelhaus had not responded, but waited until Mr. Lopez had actually started to point or point and fire his perceived AK47 – by the time Deputy Gelhaus could respond with gunfire, if Deputy Gelhaus was still able to – he could be shot at multiple time before he could respond back and fire one shot.

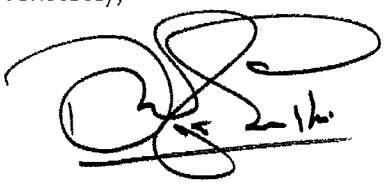
4. The average officer can fire a short stroke semi-automatic handgun at a cadence of a quarter of a second per round. (Lewinski & Hudson, 2003) (Bumgarner, Lewinski et al, 2005) (Lewinski et al. 2014). This means that if the first bullet fired started the timing, an officer firing five rounds would fire all five shots in one second. An average officer who has practiced using a shorter stroke, semi-automatic handgun such as the Smith and Wesson, M&P 9 used in this incident, can rapidly fire at a cadence of approximately a quarter of a second per shot, especially in a reasonably close encounter. Therefore in this instance an average officer firing rapidly at the distance of this incident could have fired all eight shots in approximately one and three quarters of a second or less. We do not have any indication that Deputy Gelhaus did anything other than align and shoot as quickly as was possible until he detected that Mr. Lopez was no longer a threat. If that were the case then the average time of one and three quarter seconds is relevant. However given the training and experience of Deputy Gelhaus the duration of gunfire may have been even shorter.

CONCLUSION:

Given that Deputy Gelhaus identified the replica assault rifle (absent of any markings to identify it as a replica) as a actual assault rifle with a ballistic capability that would penetrate his vehicle and vest; given that he gave commands which were not complied with; given that Mr. Lopez then turned toward him and whether inadvertently or not began to elevate and point the barrel of the gun toward the officers – from a behavioral science perception and an action/reaction paradigm Deputy Gelhaus had to respond to stop the perceived threat. Further, if Deputy Gelhaus had waited to confirm that the weapon being pointed in his direction was an actual weapon and it was, he and his partner could be shot multiple times before he could respond.

If I can provide any further information, please contact me. I reserve the right to amend this report should further information become available to me.

Sincerely,



William J. Lewinski, Ph.D.

APPENDIX E

CURRICULUM VITAE

REESE T. JONES, M. D.

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University of California, San Francisco
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Education

1950-54	University of Michigan, Psychology Honors Program		
1954-58	University of Michigan, Medical School	Student	M.D.
1958-59	Philadelphia General Hospital	Intern	Rotating General
1959-61	National Institute of Mental Health, NIH	Physician	Psychopharmacology
1961-62	University of California, San Francisco	Resident	Ob-Gyn, Anesthesiology
1962-65	University of California, San Francisco	Resident	Psychiatry
1965-67	University of California, San Francisco	Sr. Resident	Psychiatry

Positions and Appointments

1959-61	National Institute of Mental Health	Research Physician	Psychopharmacology
1967-72	University of California, San Francisco	Assistant Professor	Psychiatry
1972-77	University of California, San Francisco	Associate Professor	Psychiatry
1977-2011	University of California, San Francisco	Professor	Psychiatry
2011-present	University of California, San Francisco	Professor Emeritus	Psychiatry

Licensure and Certifications

California Medical License, 1961
American Board of Psychiatry and Neurology, Diplomate (Psychiatry), 1969

University Service

Committee on Human Research (IRB), University of California, San Francisco, 1974 to 1978; Chair, 1988 to present

Other Positions and Service

Federal and State

2005-2014	National Institute on Drug Abuse	Data Safety Monitoring Board Member
2004	National Institutes of Health	Ethics Research Grant Review Committee
2001-2005	National Institute of Drug Abuse	Ad Hoc Grant Reviewer, at six IRG meetings
2000	National Institute on Drug Abuse	Medication Development Research Subcommittee
1996-1999	National Institute on Drug Abuse	National Advisory Council on Drug Abuse

1993-1996	National Institute on Drug Abuse	Board of Scientific Counselors of the Addiction Research Center
1993-1996	National Institute on Drug Abuse	Extramural Science Advisory Board
1987-1993	NIH General Clinical Research Center Program	Ad Hoc Reviewer (seven site visits)
1990-1992	NIH Office of Scientific Integrity	Expert Advisory Panel
1982-1986	Food on Drug Administration	Drug Abuse Advisory Committee
1983-1985	Veterans Administration	Merit Review Board for Mental Health and Behavioral Sciences
1982-1985	National Research Council	Committee on Toxicology, Panel on Psychochemicals
1980-1981	National Academy of Sciences, IOM	Committee for Study of Health-Related Effects of Marijuana Use
1975-1979	National Institute on Drug Abuse	Drug Abuse Study Section Member
1978-1982	American Cancer Society	Advisory Committee on Clinical Investigations
1974-1977	National Academy of Science	MRC, Committee on Vision
1970-1974	National Institute of Mental Health	Small Grants Study Section Member
2005-2014	NIDA and NIH	Frequent (2/year or more) ad-hoc reviewer on K, Center and Translational research review Committees

Military Service

U.S. Public Health Service Commissioned Corps, Senior Surgeon, Stationed NIH, Bethesda, 1959 to 1961

Scholarships and Fellowships

Regents Scholarship, University of Michigan, 1953
U.S.P.H.S. Medical Student Research Fellowship, 1954 to 1958
NIMH Research Scientist Development Award, 1967 to 1977

Other Awards and Achievements

Morton Prince Award, American Psychopathological Association, 1973
NIH and NIDA Research Scientist Awards, 1977 to 2009

Professional Organizations

1972-2014,	American College of Neuropsychopharmacology (Fellow Emeritus)
1976-2014,	Collegium Internationale Neuro-Psychopharmacologicum (Fellow Emeritus)
1993-2014,	College on Problems of Drug Dependence (Fellow)

Editorial Activities

1995- 2005	National Institute on Drug Abuse Editorial Advisors Board
1983-1988	Editorial board, Annual Review of Medicine
1975-1991	Editorial Board, National Institute on Drug Abuse Research Monograph Series
1972-1989	Advisory Board, Psychopharmacology
1972-1988	Editorial Board, Quarterly Journal of Studies on Alcohol
1970-1988	Editorial Advisory Board, Schizophrenia Bulletin

2000-2014 Ad hoc referee for Drug and Alcohol Abuse, Biological Psychiatry, Neuropsychopharmacology, Psychopharmacology, JAMA, Archives of General Psychiatry, Science, Psychophysiology.

Personal Publications

A. Original Investigations and Theoretical Treatises

1. Herbst ED, Harris DS, Everhart ET, Mendelson J, Jacob P, Jones RT. Cocaethylene formation following ethanol and cocaine administration by different routes. Exp Clin Psychopharmacol. 19(2):95-104, 2011

2. Li L, Everhart T, Jacob, III P, Jones R, Mendelson J. Stereoselectivity in the human metabolism of methamphetamine. Br J Clin Pharmacol. 69(2):187-92, 2010

3. Harris DS, Everhart T, Jacob P 3rd, Lin E, Mendelson JE, Jones RT. A phase 1 trial of pharmacologic interactions between transdermal selegiline and a 4-hour cocaine infusion. *BMC Clin Pharmacol.* 9:13, 2009

4. Jones, R.T., Hallucinogen-Related Disorders. In: Comprehensive Textbook of Psychiatry, Chapter 11.7. Saddock BJ, Kaplan VA, Ruiz P, Eds., Philadelphia: Lippincott Williams and Wilkins, pp. 1238-1247, 2009.

5. Mendelson JE, McGlothlin D, Harris DS, Foster E, Everhart T, Jacob P 3rd, Jones RT. The clinical pharmacology of intranasal l-methamphetamine. BMC Clin Pharmacol. 8:4-9, 2008.

6. Harris DS, Reus VI, Wolkowitz OM, Jacob, III P, ET Everhart ET., Wilson M., Mendelson JE, Jones RT. Catecholamine response to methamphetamine is related to glucocorticoid levels but not to pleasurable subjective response. Pharmacopsychiatry, 39:100-8, 2006

7. Mendelson JE, Uemura N, Harris DS, R.P. Nath RP, Fernandez E, Jacob, III P, Everhart ET, Jones RT. Human pharmacology of the methamphetamine steroisomers. Clinical Pharmacology and Therapeutics, 80:403-20, 2006

8. Harris DS, Reus VI, Wolkowitz OM, Mendelson JE, Jones RT. Repeated psychological stress testing in stimulant-dependent patients. Prog Neuropsychopharmacol Biol Psychiatry. 29:669-677, 2005

9. Uemura, N., R.P. Nath, M.R. Harkey, G.L. Henderson, J. Mendelson, and R.T. Jones. Cocaine levels in sweat collection patches vary by location of patch placement and decline over time. Journal of Analytical Toxicology, 28:253-259, 2004.

10. Harris D.S., J.E. Mendelson, E.T. Lin, R.A. Upton, and Reese T. Jones. Pharmacokinetics and subjective effects of sublingual buprenorphine, alone or in combination with naloxone, are not dose proportional. Clinical Pharmacokinetics, 43:329-340, 2004.

11. Harris, D.S., E.T. Everhart, J. Mendelson, and R.T. Jones. The pharmacology of cocaethylene in humans following cocaine and ethanol administration. Drug and Alcohol Dependence, 72:169-182, 2003.

12. Harris, D.S., V.I. Reus, O.M. Wolkowitz, J.E. Mendelson, and R.T. Jones. Altering cortisol level does not change the pleasurable effects of methamphetamine in humans. Neuropsychopharmacology, 28:1677-1684, 2003.

13. Harris, D.S., H. Boxenbaum, E.T. Everhart, G. Sequeira, J.E. Mendelson, and R.T. Jones. The bioavailability of intranasal and smoked methamphetamine. Clinical Pharmacology and Therapeutics, 74:475-486, 2003.

14. Mendelson, J. and R.T. Jones. Clinical and pharmacological evaluation of buprenorphine and naloxone combinations: Why the 4:1 ratio for treatment? Drug and Alcohol Dependence, 70:S29-S37, 2003.

15. Jones, R.T. Cardiovascular system effects of marijuana. Journal of Clinical Pharmacology, 42: 1S-6S, 2002.

16. Jacob, P., III, M. Wilson, L. Yu, J. Mendelson and R.T. Jones. Determination of 4-hydroxy-3-methoxyphenylethylene glycol 4-sulfate in human urine using liquid chromatography-tandem mass spectrometry. Analytical Chemistry, 74:5290-5296, 2002.

17. Lester, L., N. Uemura, J. Ademola, M.R. Harkey, R.P. Nath, S.J. Kim, E.Jerschow, G.L. Henderson, J. Mendelson and R.T. Jones. Disposition of cocaine in skin, interstitial fluid, sebum, and stratum corneum. Journal of Analytical Toxicology, 26:547-553, 2002.

18. Harris, D.S., M. Baggott, J.H. Mendelson, J.E. Mendelson, and R.T. Jones. Subjective and hormonal effects of 3,4-methylenedioxymethamphetamine (MDMA) in humans. Psychopharmacology, 162:396-405, 2002.

19. Delucchi, K.L., S.L. Batki, J. Moon, P. Jacob, III, and R.T. Jones. Urine toxicology samples in cocaine treatment trials: How many need to be tested? Journal of Addictive Diseases, 21:17-26, 2002.

20. Lester, S.J., M. Baggott, S. Welm, N.B. Schiller, R.T. Jones, E. Foster and J. Mendelson. Cardiovascular effects of 3,4-methylenedioxymethamphetamine. A double-blind, placebo-controlled trial. Annals of Internal Medicine, 133:969-973, 2000.

21. Harris, D.S., R.T. Jones, R. Shank, R. Nath, E. Fernandez, K. Goldstein and J. Mendelson. Self-reported marijuana effects and characteristics of 100 San Francisco medical marijuana club members. Journal of Addictive Diseases, 19:89-103, 2000.

22. Harris, D.S., R.T. Jones, S. Welm, R.A. Upton, E. Lin and J. Mendelson. Buprenorphine and naloxone co-administration in opiate-dependent patients stabilized on sublingual buprenorphine. Drug and Alcohol Dependence, 61:85-94, 2000.

23. Dempsey, D.A., B.L. Hajnal, J.C. Partridge, S.N. Jacobson, W. Good, R.T. Jones and D.M. Ferriero. Tone abnormalities are associated with maternal cigarette smoking during pregnancy in in utero cocaine-exposed infants. Pediatrics, 106:79-85, 2000.

24. Fattinger, K., N.L. Benowitz, R.T. Jones and D. Verotta. Nasal mucosal versus gastrointestinal absorption of nasally administered cocaine. European Journal of Clinical Pharmacology, 56:305-310, 2000.

25. Panganiban, K., P.Jacob, III, E. T. Everhart, E. C. Tisdale, S. L. Batki, J. E. Mendelson, R.T. Jones. Sulfonium Salts as Derivatizing Agents. 3. Quantitation of the cocaine metabolite benzoylecgonine in urine using gas chromatography with ion-pair extraction/on column alkylation: An outcome measure in cocaine dependence treatment programs. Journal of Analytical Toxicology, 23:581-585, 1999.

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27. Everhart, E.T., Shwonek, P., Jacob, P., III, Rowbotham, M.C. and Jones, R.T. Quantitation of levorphanol in human plasma at subnanogram per milliliter levels using capillary gas chromatography with electron-capture detection. Journal of Chromatography B, 729:173-181, 1999.

28. Everhart, E.T., P. Jacob, III, J. Mendelson and R.T. Jones. The synthesis of deuterium-labeled cocaine, cocaethylene and metabolites. Journal of Labelled Compounds and Radiopharmaceuticals, 42:1265-1275, 1999.

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65. Rowbotham, M.C., Hooker, W.D., Mendelson, J. and Jones, R.T. Cocaine-calcium channel antagonist interactions. Psychopharmacology, 1987, 93:152-154.

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