

COURT OF APPEAL OF THE STATE OF CALIFORNIA  
FIFTH APPELLATE DISTRICT

THE PEOPLE OF THE STATE OF )  
CALIFORNIA, )  
 )  
Plaintiff, )  
 )  
vs. ) Superior Court  
 ) No. 41328  
MARCOS CHAVEZ, )  
ALEJANDRO PRADO, )  
and JAIME GUZMAN, )  
 ) 5 Criminal  
Defendants, ) No.  
 )

APPEAL FROM THE SUPERIOR COURT OF TULARE COUNTY  
HONORABLE JOSEPH KALASHIAN, JUDGE PRESIDING

REPORTER'S TRANSCRIPT ON APPEAL

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APPEARANCES:

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LESIA J. MERVIN, CSR 4753, RMR-CRR  
Tulare County Superior Court  
Visalia, California

1 Dowell to the stand.

2 STEVEN DOWELL,

3 Produced as a witness on behalf of  
4 the People, having been first duly  
5 sworn, testified as follows:

6 **DIRECT EXAMINATION**

7 BY MS. SMITH:

8 Q Good morning. Please state your  
9 full name for the record, spell your last.

10 A Steven Dowell, S-T-E-V-E-N,  
11 D-O-W-E-L-L.

12 Q Sir, what is your occupation?

13 A I'm employed as a research  
14 criminalist at the Los Angeles County Department  
15 of Coroner.

16 MR. MACIAS: Excuse me, I don't believe  
17 the witness has been sworn.

18 THE COURT: He has.

19 BY MS. SMITH:

20 Q What is research criminalist?

21 A It's my responsibility to examine,  
22 collect, and analyze certain items of physical  
23 evidence. I have two areas of expertise; one is  
24 in tool mark analysis and the other is in gunshot  
25 residue analysis.

26 Q Do you work at the forensic

1 laboratory part of the coroner's office?

2 A Yes, I do.

3 Q How long have you been a research  
4 criminalist?

5 A Approximately the last 19 years.

6 Q What type of education do you have  
7 with respect to being a research criminalist?

8 A I have a bachelor of science degree  
9 from University of California. Member of the  
10 scanning electron microscopy society and the  
11 member of the microbial analysis society.

12 Q What about your training and  
13 experience with respect to being a research  
14 criminalist?

15 A My experience particularly in the  
16 area of gunshot residue, I have been the  
17 principal gunshot residue analyst at the medical  
18 examiner's office for the last 19 years, and I  
19 would estimate that I have analyzed somewhere in  
20 the neighborhood of about 7,000 cases for gunshot  
21 residue.

22 Q Have you previously qualified as an  
23 expert before?

24 A Yes, I have.

25 Q In Los Angeles County?

26 A Actually, in the counties in the

1 area of gunshot residue in the counties of San  
2 Diego, Los Angeles, Riverside, San Bernardino,  
3 Ventura, Santa Barbara, Tulare, San Francisco,  
4 Sacramento, Marin and Alameda.

5 Q That's in the superior court,  
6 correct?

7 A Correct.

8 MS. SMITH: Your Honor, at this time I  
9 would ask that Mr. Dowell be -- we offer him as  
10 an expert.

11 MR. KORDELL: I stipulate, your Honor.

12 MR. PEREZ: So stipulated.

13 MR. MACIAS: Stipulated.

14 MS. SMITH: Thank you.

15 BY MS. SMITH:

16 Q Now, did you receive several what's  
17 called gunshot residue kits for testing in early  
18 1998 from the Tulare County Sheriff's Department  
19 Detective Jim Schwabenland, case Number 97-97574?

20 A Yes, I did.

21 Q First of all, can you tell us what  
22 a gunshot residue kit is?

23 A Actually, I have a kit, if I might  
24 just demonstrate what the kit is.

25 Q Sure.

26 A The kit I'm going to show you is of

1 one particular form, but it's a generic kit for  
2 the collection of gunshot residue; gunshot  
3 residue being actually a family of particles that  
4 are generated during the detonation of a  
5 cartridge. So the technique for sampling  
6 surfaces to attempt to recover those particles is  
7 basically composed of vials, stoppered vials.

8           If I remove the stopper on the vial  
9 marked "left hand," on the under surface of the  
10 plastic cap there's an aluminum disk that's in  
11 this case about half an inch in diameter on which  
12 there is double sticky tape. So in gunshot  
13 residue kits that are going to be analyzed by the  
14 technologies that I use, samples are submitted on  
15 sticky tape. So this is called a sticky tape  
16 lift method for the collection of gunshot  
17 residue.

18           If I were going to select a sample  
19 off of my left hand, I would take the vial marked  
20 "left hand," remove the stopper, and then just  
21 repeatedly bring the sticky tape with the contact  
22 with the surfaces that I wanted to sample. So if  
23 I were going to collect my left hand, I just  
24 repeatedly bring this sticky tape in contact with  
25 whatever area of my left hand I wanted to sample.

26           If I were sampling this counter

1 top, I would simply do the same thing, take  
2 another kit, open it up, dab the counter top  
3 several times. So whatever might be on the  
4 surface of this top or on the surface of my hand,  
5 some of that material ends up on the sticky  
6 tape. So this is a general kind of gunshot  
7 residue collection kit using the sticky tape lift  
8 method.

9 Q Okay. And so gunshot residue can  
10 also -- it cannot only be taken off of hands, can  
11 it also be taken off of surfaces you just  
12 testified, the table surface you use? Can it be  
13 taken off of automobiles?

14 A Yes, it can.

15 Q Any type of hard surface?

16 A Hard or soft surface. Basically  
17 almost any type of surface might be able to be  
18 sampled for gunshot residue.

19 Q Where does gunshot residue come  
20 from?

21 A Again, it comes from the detonation  
22 of a cartridge. A cartridge is an object that we  
23 sometimes mistakenly call a bullet, but which is  
24 actually composed of a number of different  
25 elements. There's a metal casing. In the metal  
26 casing is the gunpowder. At one end of the metal

1 casing is a material called the primer, and at  
2 the opposite end from the primer is the bullet  
3 itself.

4 So when this cartridge in the usual  
5 fashion is detonated in a firearm, something  
6 strikes the primer material. That causes the  
7 primer to burn. The burning of the primer causes  
8 the gunpowder to burn. There's a rapid increase  
9 in the temperature and the pressure in the  
10 casing, and it forces the bullet out of the  
11 casing and down the muzzle of the firearm.

12 So during that process of the  
13 burning of the primer, the burning of the gun  
14 powder and the forcing of the bullet, a number of  
15 particles are generated from all of those  
16 components that are collectively called gunshot  
17 residue particles.

18 Q Okay. I'd like to show you what's  
19 marked People's 56 for identification.

20 Mr. Dowell, what is this?

21 A This is a diagram of a cartridge  
22 showing the different components of the cartridge  
23 and those different components are labeled  
24 appropriately.

25 Q Okay.

26 MS. SMITH: I would ask that People's

1 66 be admitted at this time.

2 MR. KORDELL: No objection.

3 MR. PEREZ: No objection.

4 MR. MACIAS: No objection.

5 (Whereupon, People's Exhibit 66 was  
6 received into evidence.)

7 BY MS. SMITH:

8 Q If I could have you come down  
9 here. We have a diagram here. Showing you  
10 People's 66 up on the screen here, what you were  
11 talking about is the primer powder and how people  
12 mistake a cartridge and a bullet. They get the  
13 two mixed up. Could you explain to the jury here  
14 what it is that you were talking about with  
15 respect to where gunshot residue comes from?

16 A So in the diagram here, the overall  
17 object is formally called a casing -- a  
18 cartridge, which is composed of a number of  
19 different elements. This element that I'm  
20 outlining now is basically the casing of the  
21 cartridge. The bottom at this end, the base end  
22 of the cartridge, this area that I'm outlining  
23 now is the primer material.

24 The circles within this region of  
25 the casing, the circles are to represent  
26 particles of gunpowder. This object at the top

1 end of the casing that I'm outlining now is  
2 basically the bullet.

3 The casings can be made of  
4 different components. Basically they're brass,  
5 copper, and zinc combinations. Bullets can be  
6 made of lead or combinations of lead and  
7 antimony. They can be steel. They can be  
8 jacketed with stiff things. Gunpowder is  
9 basically nitrocellulose.

10 The primer material -- it's the  
11 chemical composition of the primer material that  
12 can give rise to particular kinds of particles  
13 that are only found from -- in primer material  
14 from cartridges. So the whole object is called a  
15 cartridge and it's broken up into its various  
16 components as I've just described.

17 Q Okay. So the entire thing is a  
18 cartridge and then part of it is the powder which  
19 contains the particles; is that right?

20 A Actually, the particles are  
21 generated from all of the components, the primer  
22 material, the gunpowder and the bullet itself.  
23 So when the cartridge is discharged, the process  
24 of the explosion produces particles from all of  
25 these different components. They end up  
26 collectively called the gunshot residue cloud.

1 Q Okay. And the casing is what  
2 basically goes around a good majority of the  
3 cartridge; is that correct?

4 A The bullets. The casing goes  
5 around the majority of the cartridge, yes.

6 Q All right. Great. Thank you.  
7 Now, what happens when the cartridge is loaded in  
8 the gun and it's fired? What happens as far as  
9 the powder and the particles are concerned?

10 A Okay. So when the firearm is  
11 discharged, it then depends on the type of  
12 firearm it is. If we're talking about handguns,  
13 handguns come in basically two flavors. One's  
14 called a revolver and the other one is called a  
15 semiautomatic. They're different in their  
16 construction.

17 So if you have a revolver, if my  
18 hand represents a revolver, sort of in this  
19 portion of the revolver there's something called  
20 a cylinder. It's the cylinder that holds the  
21 cartridges. And through mechanisms in the  
22 handgun the cylinder can rotate and present  
23 another cartridge to be discharged, but the  
24 difference being there's a space between the end  
25 of the cartridge and the beginning of the  
26 muzzle.

1                   So when the cartridge is  
2 discharged, gunshot residue can then leak out of  
3 this firearm, the revolver, in several different  
4 places. It can leak out between the cylinder and  
5 the muzzle. It can leak out from the trigger  
6 housing of the firearm, and certainly out the  
7 muzzle direction gunshot residue particles can  
8 leak.

9                   So when a handgun is discharged, a  
10 revolver in particular, gunshot leaks can leak  
11 out from the cylinder area, the trigger housing  
12 area, and the muzzle area. In general that space  
13 in which you're likely to find gunshot residue  
14 particles is approximately anywhere from touching  
15 the handgun to a distance of two and a half feet  
16 to the side, top, back and bottom, and about zero  
17 to five feet in the muzzle direction. So any  
18 object in that space, a counter top, a door,  
19 another individual, the shooter's hand or other  
20 parts of shooter's body, might receive gunshot  
21 residue particles when the firearm is discharged.

22                   In the semiautomatic, the  
23 construction of the semiautomatic is a little  
24 different. So it doesn't have a cylinder, but it  
25 has something called a slide. And so in the  
26 operation of the semiautomatic when the cartridge

1 is discharged, part of the energy is used to  
2 bring us what's called a slide back on the  
3 firearm to eject the spent casing and then load  
4 another cartridge.

5 So during that process of the  
6 sliding of the slide and the casing being  
7 ejected, gunshot residue particles can basically  
8 leak out of this region of the semiautomatic,  
9 maybe out of the trigger housing, but certainly  
10 out of the muzzle end.

11 So handguns leak or tend to leak  
12 gunshot residue in general. It's just a matter  
13 of where it might be leaking from based on the  
14 particular design of that handgun.

15 Q Let me go back. You said that the  
16 first type of gun is a revolver. Would that be  
17 like when we see the western movies on television  
18 with the spin barrel of the cylinder? Is that  
19 what you're talking about with respect to a  
20 revolver that you're talking about?

21 A Yes.

22 Q You can have gunshot residue that  
23 can come out near the trigger or near where the  
24 cylinder is; is that right?

25 A That's correct.

26 Q And when the other weapon or type

1 of weapon that you're talking about, the other  
2 type is a semiautomatic pistol, correct?

3 A Correct.

4 Q And with respect to that the  
5 difference between a semiautomatic pistol and a  
6 revolver is that on a semiautomatic it has the  
7 slide on the top part; is that correct?

8 A Correct.

9 Q What's the difference between a  
10 semiautomatic and a revolver?

11 A Well, the semiautomatic has a  
12 different mechanism for loading another  
13 cartridge. So in that process it ejects the one  
14 that has just been discharged. So when the slide  
15 slides back, it ejects the casing. So during  
16 that moment of ejection gunshot residue particles  
17 can leak out of that portion of the firearm,  
18 in addition to whatever else might leak out from  
19 the firearm.

20 Q Okay. Because in a revolver the  
21 casing does not eject; is that correct?

22 A That's correct.

23 Q It just continues to revolve around  
24 in the cylinder?

25 A Correct.

26 Q Now, so on a semiautomatic with the

1 slide on top, the casing actually ejects out of  
2 the gun and that's where you're talking about the  
3 gunshot residue particles can be ejected?

4 A Correct.

5 Q And I believe they call that an  
6 ejection port?

7 A Yes.

8 Q I want to show you what's been  
9 marked as People's 67 for identification. Did  
10 you bring a photograph with you here today, which  
11 is People's 67?

12 A Yes, I did.

13 Q What is that a photograph of?

14 A This is a photograph that shows a  
15 moment during the discharge of in this case the  
16 semiautomatic handgun. It shows and depicts at  
17 least in the muzzle direction there is a variable  
18 shaped white portion in the muzzle direction  
19 which represents the gunshot residue cloud in  
20 that region of the firearm at that particular  
21 moment.

22 What's not well depicted in this  
23 particular Xeroxed copy of the photograph is that  
24 also in the ejector port region of this firearm  
25 there are -- there can be seen what are just a  
26 few white spots, but in the actual photograph is

1 a greater amount of gunshot residue leaking out  
2 from the ejection port during the discharge of  
3 this weapon.

4 Q Why don't I have you, if I could  
5 have People's 67 admitted --

6 MR. KORDELL: No objection.

7 MR. PEREZ: No objection.

8 MR. MACIAS: No objection.

9 MS. SMITH: Thank you.

10 BY MS. SMITH:

11 Q I'll have you come down if you can  
12 show the jury what you're talking about here on  
13 People's 67?

14 A Again, so this is a semiautomatic  
15 type handgun. The ejection port is in this  
16 region right here that I'm pointing to with the  
17 green pen. What is hard to see in this Xerox  
18 copy, but in that region there are depicted a few  
19 little white specks in the actual photograph,  
20 this is a much more enlarged cloud of gunshot  
21 residue particles that are being ejected or being  
22 lost in this particular region of the firearm.  
23 But certainly in the muzzle direction this  
24 whitish, misshapen cloud here are gunshot residue  
25 particles that are being ejected in the muzzle  
26 direction during the discharge of this firearm.

1 Q Have you ever heard anyone refer to  
2 this whitish area in the exhibit as like a flash?

3 A Well, there may be a flash  
4 component in that region of the firearm, yes.

5 Q Okay. So when you're referring to  
6 the eject port here, that's because that's  
7 where --

8 MR. PEREZ: Your Honor, I'm going to  
9 move to strike the response as being  
10 nonresponsive.

11 THE COURT: Overruled.

12 MS. SMITH: Thank you.

13 BY MS. SMITH:

14 Q With respect to this exhibit here  
15 on the top part, the ejection port, that is where  
16 the casing would be shot out of and you would  
17 have -- you may have particles in that area; is  
18 that correct?

19 A That's correct.

20 Q Are you aware in which direction  
21 the casing would be shot out of the ejection  
22 port?

23 A I think it depends on the  
24 particular firearm and where that ejection port  
25 is. But I think they can go in different  
26 directions. It depends on the firearm.

1 Q Okay. Just so we're clear, with  
2 respect to a revolver, you wouldn't ever have a  
3 casing that would come out. It would actually  
4 stay in the gun after it was -- after the  
5 cartridge was fired, isn't that right?

6 A It stays in the cylinder area,  
7 yes.

8 Q Okay. Thank you. Mr. Dowell, how  
9 is that -- well, you've already talked about a  
10 little bit about what a gunshot residue kit is  
11 and how you collected it. Is there certain  
12 procedure of protocol that's supposed to be  
13 followed with respect to that to preserving the  
14 evidence, the integrity of it, to ensure there's  
15 no contamination?

16 A Yes.

17 Q Can you tell us about that?

18 A Well, samples that are sent to us  
19 for analysis are sent in a sealed condition.  
20 That is each kit is sealed. The box that they  
21 come in is sealed. It remains sealed and locked  
22 in my laboratory until it's going to be  
23 analyzed. The seal is then broken. The kit is  
24 prepared for analysis, analyzed and then resealed  
25 sometime after the analysis is performed and then  
26 reshipped back to the agency that submitted the

1 samples.

2 Q Just for clarification, has the  
3 office in which you work, the LA County Coroner's  
4 Office Department of the Coroner, have you had  
5 any problems as far as the integrity of evidence  
6 or analyst drafting any false reports there where  
7 you work?

8 A Not in our departments, no.

9 Q Are you aware of any laboratories  
10 in the Los Angeles area that have experienced  
11 that or gone through that?

12 A I've heard of allegations of such  
13 things. I know nothing personally in which  
14 there's -- that any of those allegations were  
15 accurate, no.

16 Q Have you heard of allegations made  
17 against LAPD laboratory?

18 A Yes.

19 Q That's not the same office that you  
20 work in; is that correct?

21 A It is not.

22 Q Okay. So can you tell us when you  
23 received the gunshot residue kit how it is that  
24 it is analyzed?

25 A Yes. The samples are analyzed  
26 using two scientific instruments that are

1 connected to one another. One is a scanning  
2 electron microscope, and the other is an energy  
3 dispersive X-ray spectrometer. So the bottom  
4 line is that the sample is physically placed into  
5 an electron microscope. In the electron  
6 microscope I can magnify the surface of the tape  
7 anywhere from tens of times to actually hundreds  
8 of thousands of times. So the sample is  
9 prepared, physically placed into the scanning  
10 electron microscope. I perform a visual search  
11 of the surface of the tape looking for small  
12 particles.

13                   When I find a particle of interest,  
14 the second part of the instrument, the energy  
15 dispersive X-ray spectrometer, allows me to  
16 determine the chemical composition of that  
17 discrete particle. So the analysis is both a  
18 visual examination of the surface, looking for  
19 particles, and then finding a particle of  
20 interest, the chemical composition of that  
21 discrete particle is determined. Then based on  
22 the chemical composition of that particle, I make  
23 a decision as to whether or not that might be a  
24 particle of gunshot residue.

25                   Q    Okay. So then after that you draft  
26 a report with your conclusions; is that correct?

1           A    Correct.

2           Q    Now, you talked about the particles  
3 that you examined. Do you break them down into  
4 classifications?

5           A    Yes. Gunshot residue particles  
6 basically come in two general categories. One is  
7 a unique particle of gunshot residue. A unique  
8 particle of gunshot residue has a chemical  
9 composition such that that particle with that  
10 chemical composition only comes from the primer  
11 material of cartridges. So if I find a unique  
12 particle of gunshot residue, I know that that  
13 particle came from the primer material of a  
14 cartridge.

15                   The other category, the other  
16 general category of gunshot residue particles,  
17 would be consistent particles of gunshot  
18 residue. Consistent particles may come from  
19 gunshot residue, or they may come from some other  
20 source. An example of that would be lead. Lead  
21 is found in the primer material of the cartridges  
22 and also found frequently in the bullet material  
23 of cartridges. So lead may come from the  
24 discharging of a cartridge. But lead may also  
25 come from certain hobbies or occupation. If I  
26 worked in a lead smelter, if I was a certain kind

1 of machinist, I might have lead on my hands and I  
2 did not discharge a firearm.

3 So the consistent particle of  
4 gunshot residue might come from gunshot residue  
5 or it might come from certain hobbies or  
6 occupations. Typically when a cartridge is  
7 discharged, it generates both unique and  
8 consistent particles of gunshot residue. So what  
9 happens is all the material enters into an  
10 explosion. It separates out, and it can  
11 recombine into various combinations. Some of  
12 those combinations are -- have the unique  
13 chemical composition and some of them don't.  
14 Some of them have a consistent chemical  
15 composition.

16 So cartridges, when they're  
17 discharged, produce generally both consistent and  
18 unique particles of gunshot. There are some rare  
19 exceptions in .22-caliber ammunition, but I won't  
20 go into that right now unless I need to.

21 Q Okay. Well, let me ask you a  
22 question. Are you able to tell from examining  
23 particles what type of a gun was used?

24 A Generally not. Only in the rare  
25 case in which you had a particular hypothetical  
26 situation where someone was discharging, say, a

1 brand new .22-caliber firearm and they were using  
2 a particular brand of ammunition called federal  
3 brand ammunition, then Federal brand ammunition  
4 in .22-caliber has the ability to generate unique  
5 particles of gunshot residue.

6 Or if you were firing certain other  
7 kinds of ammunition, typically from China, it  
8 contains certain elements that so far we've only  
9 seen in ammunition that comes from China. But  
10 aside from those two examples, basically all the  
11 rest of ammunition generates essentially the same  
12 kinds of particles. So I can't really tell the  
13 difference unless in those extreme cases.

14 Q So you can't tell us what type of  
15 gun and you wouldn't really be able to tell us  
16 what type of ammunition, other than you've talked  
17 about the .22-caliber Federal brand?

18 A That's correct.

19 Q And that is the .22-caliber Federal  
20 brand ammunition is what is contained in the  
21 unique particle or is not?

22 A It's -- it has unique -- the primer  
23 in that generates unique particles of gunshot,  
24 yes.

25 Q Okay. Is it fairly costly to run a  
26 gunshot residue?

1           A    Los Angeles County charges about  
2           \$328 to do one of these kits.

3           Q    Now, the kits that you received,  
4           I'd like to show you a series of exhibits.  
5           Showing you People's 34 for identification.  
6           First, did you receive a gunshot residue kit that  
7           was collected from defendant by the name of  
8           Marcos Chavez?

9           A    Yes, I did.

10          Q    Did it appear to be intact and  
11          sealed, properly sealed at the time that you  
12          received it?

13          A    Yes, it was.

14          Q    And did you also receive, showing  
15          you People's 36, a gunshot residue kit, completed  
16          on suspect Alex Prado with a date -- Alex Prado  
17          with the date of birth of 9/18/79?

18          A    Yes.

19          Q    And that also appeared to be  
20          properly sealed?

21          A    Yes.

22          Q    And People's 35 for identification,  
23          did you also receive a gunshot kit that was  
24          collected from a Jamie Guzman?

25          A    Yes, I did.

26          Q    And no problems with that kit?

1 A Correct.

2 Q And People's 37 for identification,  
3 did you also receive a gunshot residue kit on  
4 Alex Prado, Jr.?

5 A Yes.

6 Q And that would be, I'm sorry, with  
7 a date of birth of 11/7/78?

8 A Correct.

9 Q You received those packets on  
10 individuals. Did you also receive some gunshot  
11 residue kits that were collected from a Honda  
12 Civic, license plate 3UUF021?

13 A Yes.

14 Q And I'm referring to People's 38  
15 and People's 39 for identification; is that  
16 correct?

17 A That's correct.

18 Q And both of those appear to be  
19 intact, sealed, properly submitted to you?

20 A That's correct.

21 Q Okay. And after you tested all of  
22 these gunshot residue kits, did you come up with  
23 an opinion with respect to whether there were any  
24 gunshot residue particles present in any of those  
25 kits?

26 A Yes, I did.

1 Q Let's start with your first report  
2 on defendant Alex Prado. What, if any,  
3 conclusions did you reach with respect to  
4 Mr. Prado?

5 A Yes. This is Mr. Prado with a date  
6 of birth of 9/18/79. There was one unique  
7 particle and two consistent particles of gunshot  
8 residue on the left hand adhesive sample, and two  
9 consistent particles of gunshot residue on the  
10 right hand sample.

11 Q Okay. So let's go back a second.  
12 With respect to the left hand, you found one  
13 unique particle, which you've already talked to  
14 us about. That means that it only came from --  
15 that particle came from the primer material in  
16 the cartridge, right?

17 A That's correct.

18 Q So going back to People's 66, that  
19 would be the bottom portion of this cartridge  
20 that you described for us, right?

21 A That's correct.

22 Q And that was on the left hand and  
23 on the right hand you found consistent particles  
24 of gunshot residue?

25 A Yes, two consistent particles.

26 Q What, if any, opinion are you able

1 to formulate based upon examining and determining  
2 that there were unique and consistent particles  
3 located in Mr. Prado's GSR kit?

4 A That he either discharged a firearm  
5 or otherwise had his hand in an environment of  
6 gunshot residue.

7 Q Okay. I just want to ask you a  
8 question with respect to gunshot residue. Is it  
9 easy to be transferred from one object to  
10 another?

11 A It can be transferred, yes. If I  
12 had gunshot residue on my hands and I touched  
13 this top or I shook hands with somebody or  
14 touched somebody, the particles can be  
15 transferred, yes.

16 Q What is the best time that you  
17 would look for as far as collecting gunshot  
18 residue kits from an individual after they've  
19 discharged a firearm?

20 A In live individuals the optimum  
21 time to collect a sample is as soon as possible,  
22 within minutes to within a short amount of time.  
23 The normal activities that we do as live people,  
24 whether we're intentionally do it to remove --  
25 intentionally doing it to remove gunshot residue  
26 particles or not, can remove the particles.

1           So if I rub my hands together, if I  
2 put my hands in my pockets, certainly if I wash  
3 my hands, the particles can be removed rather  
4 easily. So in live individuals, in my  
5 experience, that are sampled a few hours after an  
6 alleged event, it's rare to find gunshot residue  
7 particles on their hands. It can be found. I've  
8 found particles on people that have been  
9 sampled -- live people five hours later. But in  
10 general the longer it is from the event that  
11 they're trying to measure something about, the  
12 less likely it is to find particles -- gunshot  
13 residue particles on the hands of live  
14 individuals.

15           Q     So the best time for a collection  
16 would probably be half an hour to an hour after  
17 discharge of the weapon?

18           A     Yes.

19           Q     And are you aware as to when the  
20 gunshot residue kit was collected on defendant  
21 Alex Prado?

22           A     Well, there is an information sheet  
23 that accompanied the kit. If I read from that  
24 kit, it -- the spaces that are filled in it says  
25 date and time of shooting it lists the date and  
26 it lists the time of 0040. So like 40 minutes

1 after midnight was when the shooting allegedly  
2 took place. And it says the sample was collected  
3 at 0308. So three o'clock in the morning. So  
4 about two hours and 20 minutes or so, two hours  
5 and 30 minutes, because it's actually 3:08 in the  
6 morning. So that's about two hours and 30  
7 minutes -- 28 minutes.

8 Q So you were provided that  
9 information by Detective Jim Schwabenland?

10 A Yes. It's on the information sheet  
11 that accompanied the kit, yes.

12 Q And so we're kind of talking about  
13 somewhere around a two to three hour time  
14 interval here. Without intentionally trying to  
15 do so, is it easy to get rid of gunshot residue?

16 A It is. Something else I need to  
17 mention, although in the diagram where we show  
18 the weapon being discharged and the gunshot  
19 residue being generated, the amount that is  
20 generated in the same handgun or same weapon from  
21 discharge to discharge varies. So just because I  
22 discharge a weapon ten times, the same weapon ten  
23 times, doesn't mean I'm going to have ten times  
24 as much gunshot residue on it as if I discharged  
25 it one time.

26 To begin with there's a variable

1 amount of gunshot residue on the hand. So not  
2 knowing how much is there to begin with, what  
3 intervening circumstances took place, the  
4 efficiency of the kit maximum is about 70  
5 percent. So when you factor in all of those  
6 components, the absence of particles in live  
7 individuals is not surprising, and it's a common  
8 occurrence for me to not find particles on the  
9 hands of live individuals who have been sampled  
10 greater than two to three hours after the event.

11 Q So it's not uncommon because it can  
12 just easily wipe it off or wash it away; is that  
13 correct?

14 A That's correct.

15 Q You keep saying "live"  
16 individuals. Have you had cases where you've had  
17 corpses that you've had to do gunshot residue  
18 on?

19 A Yes.

20 MR. KORDELL: Objection, relevance.

21 THE COURT: Sustained.

22 BY MS. SMITH:

23 Q So it's not -- you indicated, I  
24 believe, you indicated 70 percent. What were you  
25 talking about with respect to 70 percent,  
26 Mr. Dowell?

1           A     Well, 70 percent would be the  
2     number of -- approximately the number of negative  
3     cases that I see on hand samples from live  
4     individuals, gunshot residue samples from live  
5     individuals.

6           Q     So you know or you believe that an  
7     individual shot the weapon and it came back  
8     negative; is that what you're referring to?

9           A     That's what's being alleged, yes.

10          Q     So then you only have 30 percent  
11     success rate, I guess, is what we're saying, or  
12     30 percent positive findings?

13          A     In live individuals, yes.

14          Q     Okay. Now, when you testified with  
15     respect to defendant Alex Prado that your  
16     conclusion was that he either discharged a  
17     firearm or had his hands otherwise in an  
18     environment of gunshot residue, if Mr. Prado was  
19     near other individuals who were shooting weapons,  
20     it's likely that some of those particles may have  
21     gotten onto his hands as well. Is that why that  
22     conclusion is being reached?

23          A     Yes. By the statement "otherwise  
24     had his hands in an environment of gunshot  
25     residue," I generally mean one of about three  
26     things. As I mentioned earlier, if this handgun

1 is going to be discharged, any object within  
2 actually touching the handgun to two and a half  
3 feet to various dimensions and five feet in the  
4 muzzle direction, any object in that space might  
5 receive these particles, although it did not  
6 discharge the firearm. So if I'm in close  
7 proximity to a firearm when it's discharged, I  
8 might receive these particles.

9 If I handle a previously discharged  
10 firearm that has gunshot on it, simply the  
11 handling of that firearm can transfer particles  
12 to my hands. That would also be the environment  
13 of gunshot residue, and I also mentioned earlier  
14 that the particles can be transferred.

15 So if I'm with someone who did  
16 discharge a firearm and they touch me, the  
17 particles could be transferred. So, again, those  
18 general possibilities of close proximity,  
19 touching a handgun or being touched by somebody  
20 in general, constitute an environment of gunshot  
21 residue in which I might receive these  
22 particles.

23 Q Again, you can't tell us if it's  
24 your opinion that he discharged a firearm,  
25 whether it was a nine millimeter or .38-caliber;  
26 is that right?

1           A    I cannot.

2           Q    Okay. With respect to the  
3 examination that you conducted on the gunshot  
4 residue kit for defendant Marcos Chavez, what, if  
5 any, results did you find with respect to his  
6 kit?

7           A    On Mr. Chavez I found no particles  
8 of gunshot residue on either the right or the  
9 left hand sample.

10          Q    Based upon the analysis revealing  
11 no particles, what, if any, conclusions or  
12 opinions did you formulate?

13          A    The finding of no particles of  
14 gunshot residue is really an inconclusive finding  
15 for the various possibilities -- I might not have  
16 any gunshot residue on my hands because I did not  
17 discharge a firearm, I was not in the environment  
18 of gunshot residue, so I've got no reason and I  
19 have no particles on my hands.

20          A    A second possibility is that I  
21 actually discharged a firearm, but no particles  
22 were deposited onto my hand. It depends on the  
23 type of firearm you're discharging. It depends  
24 on that particular firearm. But I can actually  
25 discharge a firearm and not receive any gunshot  
26 residue particles on my hands.

1                   A third possibility is in fact I  
2 did discharge a firearm, but between the time I  
3 discharged the firearm and had particles on my  
4 hands, I either washed my hands, wiped my hands,  
5 or in some way the particles were lost by the  
6 time I was sampled. So the finding of no  
7 particles I can't reach any conclusion because I  
8 don't know -- I don't know why there might not be  
9 any particles. It could be any one of those  
10 possibilities that I listed.

11                  Q    Again, did you receive any  
12 information as to the time that the gunshot  
13 residue kit was collected on Marcos Chavez?

14                  A    Yes, again, reading from the  
15 information sheet that accompanied the kit,  
16 again, it says the time of the shooting was 0040  
17 hours, and the time of the sampling was 0355  
18 hours. So that would be like three hours and 40  
19 minutes.

20                  Q    Okay. After the shooting?

21                  A    Yes. Well, actually three hours  
22 and 15 minutes.

23                  Q    Okay. With respect to defendant  
24 Jamie Guzman, after you examined the gunshot  
25 residue kit collected from Mr. Guzman, what, if  
26 any, results can you obtain?

1           A    Yes, again, no particles of gunshot  
2 residue on either the right or the left hand  
3 sample.

4           Q    Again, your opinion would be that  
5 it's possible he, one, did not fire the gun, or,  
6 two, could have fired the gun and washed his  
7 hands or wiped his hands, and the third one was  
8 that there's just a possibility the particles  
9 were not deposited on his hands when the gun was  
10 fired?

11           A    Correct.

12           Q    And with respect to the gunshot  
13 residue kit that was collected on Alex Prado,  
14 Jr., you have him listed as number two. Do you  
15 have the date of birth with respect to that  
16 gunshot residue kit?

17           A    Yes. The date of birth is  
18 11/7/78.

19           Q    And after examining that gunshot  
20 residue kit, what, if any, conclusions did you  
21 reach?

22           A    Yes, on Alex Prado, Jr., no  
23 particles of gunshot residue on either the right  
24 or the left hand sample.

25           Q    Now, I just want to make sure that  
26 I'm clear with respect to the possibility of

1 hands being in otherwise an environment of  
2 gunshot residue. You talked about the close  
3 proximity would have to be -- could you tell us  
4 again how far away?

5 A Right. In general terms it's about  
6 from actually touching the handgun to two and a  
7 half feet to the side, top, back and bottom, and  
8 about zero to five feet in the muzzle direction.  
9 So if you can imagine that amount of space, it's  
10 that amount of space in which any object that's  
11 in that proximity to the firearm might receive  
12 these particles.

13 Q Okay. I wanted to make sure I'm  
14 clear. Now, with respect to the two gunshot  
15 residue kits that you received on the Honda  
16 Civic, license number 3UUF021, did you -- was one  
17 of the first gunshot residues that you collected  
18 from the right front door and window area?

19 A That was one of the samples that I  
20 received, yes.

21 Q And let me just go back a second.  
22 I apologize for having to go back. On the Jamie  
23 Guzman GSR that was collected, do you have a time  
24 as to when that was taken by Detective  
25 Schwabenland?

26 A Yes, 0350.

1 Q That would be 3:50 in the morning?

2 A Yes.

3 Q And what about Alex Prado, Jr.,  
4 where a date of birth of 11/7/78?

5 A The collection time was 0320.

6 Q Do you have a time frame as to when  
7 the sample of the gunshot residue kit was taken  
8 on the Honda Civic on the right front door and  
9 window area?

10 A Yes. Again, reading from the  
11 information sheet, it says that it was sampled on  
12 11/23, the alleged date of the Information of the  
13 shooting 11/23/97, and the time of the collection  
14 was 1415 hours. So 2:15 in the afternoon.

15 Q Okay. Well, all the other samples  
16 that you've talked about as far as time frames,  
17 those were all collected on the morning of the  
18 23rd of November; is that right?

19 A That's correct.

20 Q Of '97?

21 A Yes.

22 Q After looking at the gunshot  
23 residue kit on the right front door and window,  
24 what, if any, conclusions did you reach,  
25 Mr. Dowell?

26 A On the right front door there were

1 four samples submitted from that area. One was  
2 inside the door. And on that sample there were  
3 several unique particles of gunshot residue. On  
4 the sample from outside the door there were no  
5 particles of gunshot residue.

6 There was a sample from inside  
7 glass, and there were no particles of gunshot  
8 residue on that sample. And there was a sample  
9 from outside glass. There were no particles of  
10 gunshot residue on that sample.

11 Q So several unique particles were  
12 found on the inside right front door of the Honda  
13 Civic?

14 A That's correct.

15 Q And based upon that analysis, what,  
16 if any, conclusions or opinions did you  
17 formulate?

18 A That the inside door was in the  
19 environment of gunshot residue.

20 Q Now, the several unique particles  
21 that were found on the inside of the door, is  
22 that finding consistent with a firearm that's  
23 been discharged in such a manner or way that it  
24 ejects particles somewhere near the inside of the  
25 door?

26 A Yes.

1 Q And you wouldn't be able to tell us  
2 if the gun was actually -- the person's entire  
3 arm was extended outside of the window, would  
4 you?

5 A No.

6 Q But you would be able to tell us  
7 that those findings are consistent with being  
8 somewhere near the inside of the door?

9 A One possibility for why the  
10 particles are on the inside of the door is that a  
11 firearm was positioned in such a way that when it  
12 was discharged, those discharging particles ended  
13 up on the inside of that door, yes.

14 Q Okay. Now, there was nothing found  
15 on the outside door. Is it possible that after  
16 shooting if an individual drives a car back, say,  
17 going 50, 60, 70 on the freeway, that those  
18 particles on the outside door could blow away?

19 A That's certainly a possibility.  
20 The particles are like any kind of particle.  
21 They can be removed by wind or such a thing.  
22 It's also depends on, I think, where the firearm  
23 was discharged and what was going on with the  
24 car. If the car's moving when the firearm is  
25 discharged, and this surface that I'm pointing to  
26 is simply the outside of the door, it might

1 depend on where that firearm is in relation to  
2 what the wind currents are like on the outside of  
3 that car as to where those particles are going to  
4 end up.

5           So the particles are under pressure  
6 and under a certain amount of force and being  
7 forcefully deposited out of the firearm. But  
8 they're still under all the other conditions of  
9 wind and everything else. And so it might be  
10 just that the firearm was discharged in such a  
11 way it might have been discharged inside the car  
12 so that the particles didn't have an opportunity  
13 to get there, or it might have been discharged  
14 outside of the car. But the wind currents or  
15 something else might have blocked that  
16 deposition. But either of those are possible, or  
17 that there were particles there, but during a  
18 subsequent activity, like driving the car, the  
19 particles were removed, yeah.

20           Q     If -- let's just say, for example,  
21 hypothetically speaking, a nine millimeter is  
22 involved and although you can't really tell us  
23 anyway from what type of gun it is, but let's  
24 just say that it jams. Are you going to have any  
25 type of gunshot residue particles?

26           MR. KORDELL: Objection, vague. Jams

1 before or after discharge?

2 THE COURT: Sustained.

3 BY MS. SMITH:

4 Q Let's say if a gun jams before  
5 discharge, are you going to have any gunshot  
6 residue particles?

7 A Well, if we're talking about the  
8 particles that are going to be generated during  
9 the event that's on the screen, that discharging  
10 of the firearm, if the firearm doesn't -- if that  
11 doesn't occur, then there isn't an opportunity  
12 for any of those particles to be formed. So if  
13 the firearm doesn't discharge, we're not going to  
14 get any particles like seen on the screen.

15 Q Okay. But if a gun is fired, a  
16 pistol is fired, and there's discharge and then  
17 it subsequently jams, you would have gunshot  
18 residue particles; is that correct?

19 A Certainly out of the muzzle end.  
20 What happens in the ejection port part, how that  
21 jamming occurs, whether it doesn't allow the  
22 slide to move back or -- and it doesn't open, or  
23 it opens partially and jams, it can jam I think a  
24 number of different ways. It would then -- how  
25 much comes out of the ejection port would depend  
26 on how it might have jammed in that particular

1 event.

2 Q And when we're talking about  
3 "jammed," we're using the word "jammed," do we  
4 mean for instance a cartridge could be in there,  
5 it could be discharged and then because of a jam  
6 it prevents another cartridge from being loaded;  
7 is that correct?

8 A Correct. I'm not a firearms  
9 expert. But the way it works is the cartridge  
10 gets discharged and there's a mechanism that then  
11 goes into operation that's intended to take the  
12 spent casing back from its original position,  
13 move it back, and then eject it out and then load  
14 another cartridge. So that's the jamming means  
15 any -- I think in general means any interruption  
16 of that mechanism at any point that blocks that  
17 overall process from happening.

18 Q Okay. Thank you. Now, with  
19 respect to the last gunshot residue kit that you  
20 were -- that you examined on the Honda Civic,  
21 license 3UUF021, on the right rear part of the  
22 car did you receive samples that were collected  
23 from the right rear door, as well as the window?

24 A Yes.

25 Q And when were you -- when did you  
26 receive information with respect to the time of

1 collection on that?

2 A Again, the information sheet that  
3 accompanied the kit indicates that it was  
4 collected on 11/25/97 at 10:35 hours.

5 Q That's different than the previous  
6 one, correct?

7 A Right. It's a day later. It's in  
8 the morning. It's two days later, actually. I'm  
9 sorry.

10 Q Two days? I'm sorry.

11 A Two days later. The sample on the  
12 right front was collected 11/23 in the afternoon  
13 and the right rear was collected on the 25th at  
14 10:35. That's what I'm reading off the form.

15 Q Okay. And after examining that  
16 gunshot residue kit, what, if any, results were  
17 concluded from that?

18 A On the sample on the inside of the  
19 door there were no particles of gunshot residue.  
20 On the sample from the outside of the door there  
21 were several consistent particles of gunshot  
22 residue.

23 On the inside glass sample there  
24 were several unique particles of gunshot  
25 residue. And on the outside glass sample there  
26 was one unique particle and several consistent

1 particles of gunshot residue.

2 Q Now, with respect to the inside  
3 glass, you said several unique particles of  
4 gunshot residue. Again, that means that that  
5 material came from the primer?

6 A Correct.

7 Q All right. Is it possible,  
8 Mr. Dowell, that a window could have been lowered  
9 -- when you lower a window all the way there's  
10 the black rubber part that kind of covers over  
11 the window. When a window's rolled up is it  
12 possible that gunshot residue may be collected on  
13 the window as it's being rolled up?

14 A Sure. If that rubber material has  
15 gunshot residue on it or the window has gunshot  
16 residue on it and it wipes against that rubber,  
17 particles can be transferred in that kind of an  
18 action, yes.

19 Q And then on the outside glass you  
20 found both unique and consistent particles as  
21 well?

22 A That's correct.

23 Q And is that finding consistent with  
24 somebody who may have had to actually put their  
25 arm outside of the window to shoot a firearm  
26 based upon the fact that the particles are on the

1 outside portion of the vehicle?

2 A That's -- yes, that's one way to  
3 get the particles out there, yes.

4 Q Okay. And the other way would be  
5 possibly from you were talking about earlier the  
6 wind blowing?

7 A Right. The wind blowing or even if  
8 I'm firing from inside the car, again, it depends  
9 on what the wind activity is in that region as to  
10 whether or not the particles might end up on that  
11 part of the door, or in this case if somebody's  
12 firing out of the front window, you know, maybe  
13 those particles are drifting back to the back  
14 door. It's a possibility, too.

15 Q Okay. What, if any, opinions did  
16 you -- opinions or conclusions did you reach  
17 after finding those particles?

18 A Right there for the inside and  
19 outside glass were in the environment of gunshot  
20 residue, and the outside door which had  
21 consistent particles of gunshot residue may have  
22 been in the environment of gunshot residue.

23 Q Now, it's not unusual for there to  
24 be a few particles that are found, correct?

25 A Correct. Again, there's a  
26 variation as to how many particles are generated

1 to begin with. There's intervening circumstances  
2 that can remove particles intentionally or not.  
3 And then there's the efficiency of the kit to  
4 retrieve the particles. So even though  
5 theoretically when a firearm is discharged, there  
6 might be hundreds to thousands of particles  
7 generated.

8 Commonly the finding on hand  
9 samples of both live individuals and deceased  
10 individuals on other surfaces, even during test  
11 firings, can be large numbers of particles to  
12 very small numbers of particles.

13 So the findings in this case of few  
14 particles or one particle are not uncommon  
15 findings. You cannot rely on the absolute number  
16 of particles to tell you who discharged a  
17 firearm, when it was discharged, or how many  
18 rounds were discharged because there's so much  
19 variability into -- as to about how all of those  
20 things occur. So we can't rely on the absolute  
21 numbers that are retrieved in samples.

22 Q Hypothetically speaking, let's say  
23 that somebody discharged a firearm or a pistol at  
24 approximately 8:45 p.m., and a gunshot residue  
25 kit was collected the following morning at around  
26 three a.m. Is it likely that you would give

1 gunshot residue particles on an individual's hand  
2 in that time period?

3 A On a live individual that  
4 discharges a handgun, say, one to ten times under  
5 that time constraint that was just discharged, I  
6 would not expect to find particles on their hands  
7 after that length of time has gone by, unless  
8 their hands are particularly isolated in some way  
9 to protect the particles. But in normal  
10 activities I would not expect to find particles  
11 on a live individual's hands, no.

12 Q And it doesn't matter how many  
13 rounds were discharged, correct?

14 A Well, it does. If they discharged  
15 50 rounds or more, then you might recover some  
16 particles. But like I say, one through ten, I  
17 would expect that not to be the case.

18 Q Okay. So if I were to tell you  
19 hypothetically speaking one round was discharged,  
20 then it would not be likely that you would find  
21 gunshot particles on the individual's hand at  
22 three o'clock in the morning?

23 A Correct.

24 Q Okay. Thank you.

25 THE COURT: We're going to take our  
26 morning recess. Remember the admonitions.

1 (Whereupon, a recess was taken.)

2 THE COURT: Mr. Kordell?

3 MR. KORDELL: Thank you.

4 **CROSS-EXAMINATION**

5 BY MR. KORDELL:

6 Q Good morning. I represent an  
7 individual who you tested that there was no GSR  
8 on either the right hand or left hand samples.  
9 You indicated that rather than showing the  
10 results of the test showing that he had not fired  
11 a firearm, that it was inconclusive.

12 You said there were three  
13 possibilities: He may not have discharged; he  
14 may have discharged a firearm, but no GSR  
15 particles were deposited; thirdly, he may have  
16 discharged, but the particles were removed by  
17 washing or wiping or whatever.

18 With what degree of scientific  
19 certainty can you tell this jury that Mr. Chavez,  
20 based on your test, may have discharged a  
21 firearm?

22 A Again, I cannot reach any  
23 conclusion as to which one of those is more  
24 likely or less likely based upon the negative  
25 findings. So I cannot answer.

26 Q So you can't give us any degree of

1 certainty whatsoever that he did or did not?

2 A I cannot.

3 Q If you were to take a gunshot  
4 residue kit and collect from the hand of the  
5 court reporter, who sits in front of you right  
6 now, and you were to come back with exactly the  
7 same result here, no particles of GSR on the  
8 right or left hand, would you conclude the same  
9 thing, that she may have discharged a firearm,  
10 but she has no particles on her?

11 A Yes.

12 Q And you equally could have  
13 concluded from taking the sample from the court  
14 reporter's hand right now that she may have  
15 discharged the firearm, but she could have wiped  
16 her hands and/or washed her hands?

17 A Yes.

18 Q All right. Now, you were given  
19 evidence tests taken from the Honda Civic  
20 automobiles basically from two areas of it, the  
21 area where the right front passenger would've sat  
22 and you came back with several unique particles  
23 inside the door there. And you were also given  
24 some samples collected from the area where the  
25 right rear passenger would've sat, and you came  
26 back with consistent particles, several uniques

1 and one unique and several consistent from  
2 various places.

3 A Yes.

4 Q Of course you weren't directing  
5 this investigation and you couldn't tell the  
6 police what parts of the car to pick up samples  
7 from. So you were pretty much at the -- a  
8 captive audience at the mercy of what the  
9 investigative agency did here as far as  
10 submitting things to you, right?

11 A Correct. I only analyze the  
12 samples that were given to me, yes.

13 Q And for some reason they never gave  
14 you any samples that were taken from the driver's  
15 side of the car, did they?

16 A I received none of those, no sample  
17 like that, no.

18 MR. KORDELL: Thank you. I have  
19 nothing further.

20 **CROSS-EXAMINATION**

21 BY MR. PEREZ:

22 Q Mr. Dowell, you were being somewhat  
23 demonstrative with your hands up there. Can you  
24 tell me what it was that you were simulating with  
25 your right hand?

26 A At what time?

1 Q Earlier in your testimony when you  
2 were referring to how the gases come out of the  
3 slide or out of a revolver.

4 A Well, I was using my hand as an  
5 example of a firearm in trying to just  
6 demonstrate to you where certain features of the  
7 firearm were or are, and where those gases might  
8 leak out of.

9 Q By putting your thumb in the upward  
10 position and your index finger in the outward  
11 position and curling the bottom three fingers,  
12 you're simulating a firearm; is that correct?

13 A Yes.

14 Q Now, with respect to your finding  
15 on Jamie Guzman, let's take the hypothetical  
16 here, you believe that, A, he could have washed  
17 his hands, and that's why there was no particles  
18 at all found, B, there was no deposit of  
19 particles at all, or, C, he did not fire a  
20 firearm, correct?

21 A Yes.

22 Q Now, if you knew that somebody had  
23 washed their hands or if you believed that they  
24 had washed their hands, are there not alternative  
25 sites from which you can take gunshot residue  
26 samples?

1           A    Well, samples can be taken from any  
2 one of a number of different areas. So other  
3 sites can be sampled, yes.

4           Q    In fact, your testimony was that  
5 it's basically about two and a half feet  
6 backwards; is that correct?

7           A    Correct.

8           Q    So they could have taken gunshot  
9 residue tests from the elbow or the shoulder or  
10 even the clothing; is that correct?

11          A    Yes.

12          Q    And that didn't occur in this case;  
13 isn't that correct?

14          A    I did not receive any samples from  
15 Mr. Guzman from those areas, no.

16          Q    Okay. And there's other  
17 possibilities as well; is that correct? In fact,  
18 I believe you said that the speed of a vehicle  
19 can be a variable as to whether or not the  
20 discharge will deposit particles on a person; is  
21 that right?

22          A    Yes.

23          Q    And the wind created by the vehicle  
24 cutting the air, right?

25          A    Yes.

26          Q    And so if I'm discharging --

1 hypothetically if I'm discharging a weapon up  
2 into the air, the wind caused by the air being  
3 cut by the car could cause those particles to be  
4 deposited substantially behind me; is that  
5 correct?

6 A Yes.

7 Q And not at all on the hand?

8 A Possible.

9 Q That's one scenario?

10 A Yes.

11 Q Another scenario is he didn't shoot  
12 at all?

13 A Yes.

14 Q And with respect to the findings  
15 relative to unique particles and consistent  
16 particles being found on the rear glass and the  
17 exterior of the rear door, that may well be  
18 consistent with the five -- excuse me, with the  
19 two and a half feet backwards if somebody were  
20 discharging a weapon from the front seat; is that  
21 correct?

22 A Yes.

23 Q So really your findings are  
24 inconclusive as to whether or not anybody was in  
25 the back seat firing a firearm; is that correct?

26 A Correct.

1           Q    In fact, because of the speed of  
2 the vehicle, again, the hypothetical being  
3 approximately 50 miles an hour, the particles  
4 could have gone substantially backwards, farther  
5 than the two and a half feet that you normally  
6 say -- well, two and a half feet is normal you  
7 said.

8           A    Yes.

9           Q    So the wind velocity could cause it  
10 to be five feet behind, right?

11          A    Yes.

12           MR. PEREZ: Thank you. I have no  
13 further questions at this time.

14                   **CROSS-EXAMINATION**

15           BY MR. MACIAS:

16           Q    Mr. Dowell, the analyst of the GSR  
17 kit conducted in this case, do you or did you, if  
18 the samples were given, conduct any testing to  
19 determine there was present cotton fiber on any  
20 of the swabs on any of the collected samples?

21          A    I did not.

22           Q    Do you normally do that?

23          A    No.

24           Q    Did you attempt to analyze or did  
25 you analyze for the presence of cleanser on the  
26 sample, hand cleanser, for example?

1 A No, I did not.

2 Q Do you normally do that?

3 A No.

4 Q Now, you were asked a question just  
5 a moment ago about the two and a half foot  
6 radius, if you will, of consistent particles.  
7 That is equally applicable to someone who is  
8 presumably firing from the back seat of a car to  
9 two and a half feet in front of that person,  
10 correct?

11 A Correct.

12 Q So if somebody were firing a weapon  
13 from the back seat of the Civic vehicle we  
14 discussed today, it's conceivable that that  
15 weapon would have deposited the particles you  
16 described as having been found on the right front  
17 door of the Civic, true?

18 A That's a possibility, yes.

19 MR. MACIAS: Thank you. I have no  
20 further questions.

21 **REDIRECT EXAMINATION**

22 BY MS. SMITH:

23 Q With respect to, let's say,  
24 somebody -- hypothetically speaking someone goes  
25 in and washes their hands after firing a gun, is  
26 it likely -- and then they dry their hands with

1 the towel, is it likely that you're going to find  
2 any type of gunshot residue on that towel?

3 MR. PEREZ: Your Honor, I'll object as  
4 this misstates the evidence. If it's a  
5 hypothetical I will withdraw it.

6 MS. SMITH: I just said  
7 hypothetically.

8 THE COURT: Go ahead.

9 THE WITNESS: It would depend on if I  
10 wash my hands and I wash off all the particles,  
11 then I don't have any particles on my wet hands.  
12 Now I use the towel and wipe the towel, dry my  
13 hands on the towel, then I'm assuming I can't  
14 transfer anything that isn't there. So if I  
15 effectively washed off all the particles, then  
16 they're gone and they're not available to be  
17 deposited onto the towel.

18 BY MS. SMITH:

19 Q Again, because of the way that this  
20 test is with the efficiencies I think you said  
21 only 70 percent, an individual could have  
22 hypothetically fired a gun and not had any  
23 gunshot residue on their hands, correct, at that  
24 point?

25 A Well, if we're factoring in the  
26 efficiency of the kit, they could actually have

1 gunshot residue on the hands but the kit didn't  
2 happen to get those particles. Let's say it's  
3 only going to pick out, you know, seven out of  
4 ten particles. It could've missed those  
5 particles because it just didn't get them. So  
6 you could have particles on your hand and the kit  
7 doesn't get them, yes.

8 MS. SMITH: Thank you.

9 MR. KORDELL: One more question. A  
10 couple more.

11 **RE CROSS-EXAMINATION**

12 BY MR. KORDELL:

13 Q Mr. Dowell, again, getting back to  
14 the results on the kit that you looked at for  
15 Marcos Chavez, hypothetically if I were to say to  
16 you, Mr. Dowell, there is zero evidence that  
17 Mr. Chavez fired a gun on the day in question, do  
18 you have anything in front of you that could  
19 contradict that?

20 A No.

21 MR. KORDELL: Thank you. Nothing  
22 further.

23 **RE CROSS-EXAMINATION**

24 BY MR. PEREZ:

25 Q Now, you indicated that two and a  
26 half feet -- when you used this example, in fact

1 it's still up on the Elmo, you used this example  
2 here saying that normally you have about two and  
3 a half feet of blow back, correct?

4 A You might use that term, yes. It's  
5 two and a half feet of gunshot residue cloud,  
6 yes.

7 Q The spread of the particles?

8 A Yes.

9 Q Is that more accurate?

10 A Yes.

11 Q And about five feet forward?

12 A In the muzzle direction, yes.

13 Q Okay. And what I believe you're  
14 saying, clarify for me if I'm wrong, what I  
15 believe you're saying is that under normal  
16 circumstances, with no particular environmental  
17 conditions affecting it, that we have two and a  
18 half feet this way and five feet this way, right?

19 A Three dimensionally, yes.

20 Q Okay. Actually, it would be more  
21 of a radius, correct?

22 A Well, I'm talking about the radius,  
23 yeah. The radius two and a half feet. So we're  
24 talking about five feet.

25 Q I'm just expanding on what you  
26 said. Now, let's add this factor. Let's make

1 this handgun travel at 50 miles an hour with the  
2 appropriate wind into the muzzle. This five feet  
3 is no longer five feet, is it?

4 A Probably not.

5 Q In fact, it might be as small as  
6 now six, 18 inches or something like that; is  
7 that right?

8 A Could be that. Could be less than  
9 that.

10 Q Okay. However, a blow back would  
11 be enhanced substantially, correct?

12 A There's a certain amount of  
13 material coming out of that firearm when it's  
14 discharged. It's going to go somewhere. It's  
15 either going to go in the directions I've talked  
16 about or it's going to go in the directions of  
17 the wind or forces that are moving it in. It's  
18 an X amount of material. It's going to get  
19 deposited. Where it actually goes, it depends on  
20 all these factors, yes.

21 Q And in my scenario, taking an  
22 additional factor of the velocity now into the  
23 muzzle, we're talking about it being blown back  
24 and substantially more than the two and a half  
25 foot radius you talked about, correct?

26 A I would think so, yes.

1 Q With respect to your comment about  
2 the towel, you mentioned if you effectively  
3 washed off the particles, they wouldn't go onto  
4 the towel; is that right?

5 A Right.

6 Q Nonetheless, a person will normally  
7 not be able to get all of the substance off their  
8 hands that they're washing, will they? A matter  
9 of common knowledge, isn't it?

10 A It depends on how well you wash  
11 your hands.

12 Q Have you ever checked your towel  
13 after your kids have washed their hands?

14 A I've seen their hands, and I know  
15 it depends.

16 Q Towel's not white anymore, is it?

17 A Correct.

18 MR. PEREZ: I have no further  
19 questions.

20 MR. MACIAS: I don't have any  
21 questions. Thank you, Mr. Dowell.

22 **REDIRECT EXAMINATION (Further)**

23 BY MS. SMITH:

24 Q When we're talking about radius, as  
25 Mr. Perez brought up, hypothetically if someone's  
26 sitting in the back seat of a car and shoots off

1 seven rounds out of the back right seat area,  
2 approximately seven rounds, would you expect to  
3 have some type of gunshot residue on that window  
4 or door?

5 A I think so. I think that the  
6 firearm, even in the extreme, if I'm leaning all  
7 the way out the window, depending again on the  
8 wind factors, and I discharge that weapon,  
9 there's an opportunity for some of those  
10 particles to come back into the car. None of us  
11 do illegal things like throw trash out of our  
12 moving cars, but if you've ever done that,  
13 sometimes it comes right back in the back window  
14 or wherever you throw it from.

15 So I know that those particles can  
16 move around and come back into the car. So,  
17 again, it depends if I'm firing from anywhere but  
18 other than the completely extended position out  
19 of the car, there's ample opportunity for some of  
20 those particles to end up on the back surfaces of  
21 the glass door, etc., yes.

22 Q So your mother told you don't ever  
23 spit into the wind, basically, because it can  
24 come back at you?

25 A Yes.

26 Q If an individual takes the gun out

1 of the -- using the same hypothetical, the  
2 individual sitting in the back right seat takes  
3 the gun out of the window and points it up in the  
4 air, show us -- you said two and a half feet.  
5 Can you put your hands two and a half feet how  
6 far that would be for the jury?

7 A Well, two and a half feet I guess  
8 is somewhere about this distance here from the  
9 tip of my fingers to where my left hand is maybe  
10 is about two and a half feet.

11 Q Okay. So if an individual fully  
12 extended their arm and shot a gun out of the back  
13 window, it's unlikely that there would be gunshot  
14 residue inside on the right door; is that right,  
15 or the right window?

16 A I think under the circumstances  
17 we've been talking about a moving car. If  
18 somebody actually fully extends their hand out  
19 and discharges the firearm under all those wind  
20 conditions, I think it's unlikely that it's going  
21 to come back into the car.

22 Q Okay. But shooting seven rounds  
23 directly at someone out of the window or at a  
24 moving object, it's likely that you will have  
25 gunshot residue in the area of that door?

26 A That's correct, yes.

1 MS. SMITH: Nothing further.

2 MR. KORDELL: No questions.

3 RECROSS-EXAMINATION (Further)

4 BY MR. PEREZ:

5 Q Let's just readdress the  
6 conclusiveness of your findings. You have no  
7 idea where those shots came from, the front  
8 window or back window, do you?

9 A I do not.

10 Q And none of the information or  
11 evidence in front of you can allow you to make  
12 any kind of an opinion with any degree of  
13 certainty; isn't that true?

14 MS. SMITH: I'm going to object as  
15 vague.

16 THE COURT: Sustained.

17 BY MR. PEREZ:

18 Q Well, can you quantify any of your  
19 opinions in terms of degree of accuracy?

20 MS. SMITH: Objection, vague.

21 THE COURT: Any of them he's talked  
22 about today?

23 BY MR. PEREZ:

24 Q Any of your opinions with respect  
25 to where the shots may have been fired.

26 THE COURT: You can answer.

1 THE WITNESS: I cannot quantify any of  
2 my opinions about that, no.

3 BY MR. PEREZ:

4 Q Meaning you're totally uncertain?

5 A I'm certain about my analysis and  
6 the particles that I found. How the particles  
7 got on the surfaces that were sampled, I've given  
8 you explanations as to various hypotheticals that  
9 have been raised. But it's actually how the  
10 particles got there. From my testing I cannot  
11 tell you that.

12 MR. PEREZ: I have no further  
13 questions.

14 MR. MACIAS: No questions.

15 MS. SMITH: No further questions.

16 THE COURT: Thank you.

17 MS. SMITH: Your Honor, may this  
18 witness be excused so he can return to LA?

19 MR. PEREZ: No objection.

20 MR. KORDELL: No objection.

21 MR. MACIAS: No objection.

22 THE COURT: You're excused. Thank  
23 you.

24 MS. SMITH: The People would call  
25 Detective Chamberlain to the stand.

26 DEBBIE CHAMBERLAIN,