Jennifer Clay - May 3, 2012 Cross-Examination by Mr. Martin

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Why don't you do your bathroom breaks if that's
 1
     break.
     what you need and ring us when you are finished and you
 2
     are all ready to come back out. All right?
 3
                     (Jury out.)
 4
 5
                     (Short recess.)
 6
                     (Jury in.)
 7
                     THE COURT: Call your next witness.
 8
                     MS. EPLEY: Kimberly Zeller.
 9
                     (Witness sworn.)
10
                     MS. EPLEY: May I proceed?
11
                     THE COURT: Yes, you may.
12
                          KIMBERLY ZELLER,
     having been first duly sworn, testified as follows:
13
                         DIRECT EXAMINATION
14
     BY MS. EPLEY:
15
16
          Q.
                Please state your name for the jury.
                Kimberly Zeller.
17
          Α.
                Ms. Zeller, where do you work?
18
          Q.
19
                I'm employed by the City of Houston in the
          Α.
20
     Houston Police Department Crime Laboratory.
21
               Are you from Houston originally?
          Ο.
22
          Α.
               No, ma'am.
23
               Where are you from?
          Ο.
24
          Α.
                Illinois.
25
               How long have you been in Texas?
          Q.
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1 A. About four years.

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- Q. What kind of education do you have?
- A. I have a bachelor's degree in biological sciences from Southern Illinois University.
  - Q. What brought you to Houston?
  - A. Job opportunity.
    - Q. Is that the one with HPD you have now?
  - A. Yes, it is.
    - Q. So, what's your title?
- 10 A. Criminalist.
- 11 Q. What's a criminalist do for the crime lab?
- A. A criminalist in the firearms section where I
  work examines firearms and firearms-related evidence.
- Q. Can you briefly explain what examining a firearm or firearm evidence entails?
  - A. Yes. A firearm is received into the laboratory, is assigned to an analyst and we inspect the firearm for functionality. We examine the safety of the firearm and also test-fire the firearm. We will determine the trigger pull of the firearm.
  - Q. What kind of training does someone go through to have your job?
  - A. We have an in-house training program that lasts approximately two years. We also take armors courses. I've taken courses from Sig Sauer, Colt, High

Point and Glock. And we also have an independent 1 2 casework portion as well as a supervised casework period. 3 Would you mind moving that microphone just a 4 Ο. 5 little bit away from you so it won't ring. That better? 6 Α. 7 As long as I can still hear you. Ο. 8 Α. Okay. 9 Do you belong to any professional Q. organizations? 10 11 Α. Yes. I'm a member of the Association of Firearms and Tool Mark Examiners. 12 13 Q. Do you have any certifications? 14 Α. I do. I'm certified by the American Board of Criminalistics. 15 16 Q. And have you been certified as an expert before? 17 I'm sorry? 18 Α. 19 Have you testified on few or many occasions? Ο. Few. 20 Α. 21 So, you are fairly new at testifying? Ο. 22 Α. Yes. 23 But does the type of analysis that you do, is Ο. 24 that based on the same types of information that other

experts in your field rely on?

1 A. Yes.

- Q. So, you want to say types of testing that we do nationally?
  - A. Yes.
- Q. Is any conclusion that you draw based on a reasonable degree of scientific certainty?
  - A. Yes.
- Q. If you have shell casings or a bullet jacket and then you have a firearm, what type of analysis would you do to see if these items match?
- A. First, I would test-fire the firearm and examine the firearm safeties just to make sure they are all functioning properly. The test-fire includes a set of known cartridge cases and bullets that we would compare back to the evidence to see if there was a match.
- Q. What types of things do you look for on a casing or a bullet jacket itself?
- A. First I would look at the class characteristics. Are you speaking of what I am comparing to the known test-fires?
  - Q. Yes.
- A. First I would examine the class

  characteristics. I might need to explain that. Class

  characteristics are overall characteristics of items.

For example, let's use shoes as an example. The class characteristics would be size. Everybody wears shoes, but we all wear different sizes. So, I can group those shoes in different categories.

Let's say we all wear size six shoes.

So, we're all wearing the same size, that's one class characteristic; but we all have different colored shoes.

Some of us have black shoes. Some of us have white shoes, brown and red. Those are different classes I can separate the shoes into.

Same thing with evidence. We have class characteristics. Could be caliber, the width of the lands and grooves on a bullet. The firing pin shape is a class characteristic. I break it down to those general characteristics first.

- Q. Let's start with the gun.
- MS. EPLEY: May I approach, Your Honor?

  THE COURT: Yes, you may.
  - Q. (BY MS. EPLEY) Ms. Zeller, I'm showing you what has been premarked as State's Exhibits 86 and 87 and already admitted into evidence. Let's start with 87. Just looking at this gun, what can you tell us about it?
    - A. May I pick up the firearm?
- Q. Please.

This is a semiautomatic CZ pistol, Model 27 1 Α. 2 firearm. Semiautomatic. Can you tell from the outside 3 Ο. what caliber of bullet it will hold? 4 5 I can. It's typically written -- oh, caliber 6 7.65, which is a .32 automatic. 7 So, it's a .32 caliber semiautomatic firearm? Ο. Uh-huh. 8 Α. What about State's Exhibit 86? 9 Q. This is a Smith & Wesson revolver. It's a .38 10 Α. 11 Special. And it would hold .38 caliber bullets? 12 Ο. 13 Α. Yes. Are you familiar with State's Exhibits 86 and 14 Ο. 15 87 other than bringing it to court today? 16 Α. Yes. This is evidence I examined in this 17 case. And what other evidence did you examine in 18 this case? 19 20 Α. In this case I also had one jacket, one fragment and two cartridge cases. 21 22 MS. EPLEY: Your Honor, may I approach 23 the witness? 24 THE COURT: You may. 25 Q. (BY MS. EPLEY) You only found two casings,

- 1 | correct? Or you were only provided two casings?
  - A. Yes.

- Q. State's Exhibit 74 and State's Exhibit 73, do you recognize these items?
  - A. Yes, I do.
  - Q. Just by simply looking at them, can you tell what caliber they are?
    - A. I can.
      - Q. And what caliber are they?
    - A. These are .32 auto cartridge cases.
  - Q. Now, for those of us who don't know the difference between a revolver and a semiautomatic, can you tell whether those items would come from a revolver or a semiautomatic?
    - A. Typically a .32 auto cartridge is a semiautomatic type cartridge; however, firearms have a lot of variability. There are some revolvers that can fire cartridges that are more designed for semiautomatic pistols. Under a microscope, I would be able to tell more likely if this was fired in a revolver versus a semiautomatic. I can get into that if you would like me to.
  - O. Sure.
- A. Okay. A semiautomatic firearm, like this
  firearm right here, how a semiautomatic firearm works is

there's a magazine, which holds the cartridges, is inserted into the bottom of the firearm. Then the firearm needs to be cycled, which is back and forth, it slides one cartridge into the chamber from the magazine. One pull of the trigger allows the hammer to fall forward, strikes the firing pin, which hits the primer of the cartridge, causing the firing sequence and as the gas and the pressure push the bullet forward and the cartridge casing backwards, there is an extraction and an injection process. Those leave marks on the cartridge case that I can look at on a microscope.

On a revolver --

- Q. Actually, if you don't mind, before we get to the revolver, I see you brought a demonstrative in regards to how a bullet might go through the chamber of a gun.
  - A. Yes.

- Q. Can you use that to help explain to the jury what happens when a bullet is fired from that semiautomatic, for example?
- A. Sure. This is the model of the cartridge.

  The whole thing is called a cartridge. Some people refer to it as a bullet. That's incorrect. It's a cartridge. There's several components. There is a primer on the bottom of the cartridge case. The bullet

portion and on the inside is where we hold the powder.

During the firing process, the firing pin in the firearm is striking the firearm. It's going to cause a small flame, which ignites the powder inside the cartridge case and that causes a fire basically. The gases and the pressure push the bullet out of the firearm. Those gases also push the cartridge case back towards the breech face of the semiautomatic pistol.

- Q. When you say "breech face," is that the hard part on the back of the gun the casings would eject from?
- A. The breech face is back here on the firearm.

  It's also where the firing pin comes through. There is markings that would be left on the face of the cartridge case.
  - Q. Sorry if I interrupted you.
- A. That's okay. I'm trying to remember where I stopped.

So, the bullet is expelled from the bore of the firearm. The cartridge case is now pushed back against the breech and that pressure also cycles the firearm. So, the slide is going to go backwards. The slide goes rearward and there is an extractor and ejector here.

The extractor grabs onto the lip of the

cartridge case down here, pulls it backwards and then there is an ejector that's going to hit and pop it out of the firearm through the ejector port, which is this opening right here as the firearm is open.

So, to reiterate, the bullet leaves the bore of the firearm, cartridge case slams back against the breech face and the pressure allows the firearm to open, pulls the cartridge case backwards and popping it out of the ejection port, too. As the slide comes back forward, the next cartridge is loaded into the chamber of the firearm from the magazine and starts to fire again with a pull of the trigger.

- Q. In this case, did you look at both State's Exhibit 73 and 74 under a microscope?
  - A. Yes, I did.

(Pausing.)

MS. EPLEY: For the record, I'm opening State's Exhibit 74 and removing the casing; State's Exhibit 73 and removing the casing.

- Q. (BY MS. EPLEY) Now, Ms. Zeller, when you are looking at a casing and a bullet, you mentioned that you looking for characteristics outside of size and color, correct, to compare it to a gun, for example?
- A. The class characteristics, is that what you are referring to?

- Q. Well, I don't know. So, if it's other than the caliber and the color, what sort of things do you look for on a casing?
- A. The color was just reference to the shoes. It was just an example. We do look at caliber. We look at the type of breech face lines. There is parallel lines that run horizontally across the breech face. There is arches. It depends upon the manufacturer of the firearm as to what markings are even left on the head stamp by the firing pin.
  - Q. Are there things called lands and grooves?
  - A. Those aren't bullets.
    - Q. So, that's not specific to the case here?
- A. No.

- Q. What type of analysis did you in regards to these two bullet casings and the guns that you received as part of the evidence in this case?
- A. After I test-fired the firearm, I created my set of known cartridge cases. And the class characteristics, these being .32 auto and then I also had the .32 auto firearm, that's where I begin. It made sense. They are both the same caliber; so, that's where I started my examination.

I first examined my test-fired cartridge cases for reproducing marks to see how well the firearm

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made markings on the cartridge casings. Under my
 1
     comparison microscope, which is two microscopes hooked
 2
     together on an optical bridge, and I then put one piece
 3
     of evidence on one side of the microscope and another on
 4
 5
     the other side, and I'm able to see them together in my
 6
     oculars on the microscope.
 7
                     So, I line them up together and I look
 8
     for reproducing markings on my test-fires.
                                                   I found
 9
     markings that produced quite well. So, then I took my
     evidence including my test-fires and I also lined them
10
11
     up and made a comparison.
12
          Ο.
               So, you test-fired the gun that you're
13
     provided and you compare that to the casings found at
     the scene?
14
15
          Α.
               Correct.
16
          Ο.
               When you are doing that, were you able to make
17
     a determination?
               Yes, I was.
18
          Α.
19
               What were the results?
          Ο.
20
          Α.
               Items -- I don't have the State's exhibit
21
     numbers.
               I'm sorry.
22
          Q.
               That's all right.
23
                    MS. EPLEY: May I approach, Your Honor?
24
                     THE COURT: You may.
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(BY MS. EPLEY) Let me give you this first.

25

Q.

- I'll offer it in a moment and I'll get you the numbers.

  The casings themselves are Items 73 and 74.
- A. Items 73 and 74 were fired in State's Exhibit
  No. 87.
- Q. Now, is there any weight that you can provide to that? Is there a qualifier? Are you sure that these items were fired from that gun?
  - A. I'm certain they were fired from this gun.
  - Q. Did you do the same type of analysis in regards to the .38?
- 11 A. To the bullet fragments?
- 12 O. Yeah.

8

9

- 13 A. Yes.
- Q. And a .38 revolver, is it going to eject a casing?
- 16 A. They have to be manually ejected.
- Q. So, you would not expect items like that to be found at the scene if the gun leaves the scene?
- A. Not unless the individual took them out him or herself.
- Q. What type of evidence, bullet, jacket,
  fragment or otherwise, have you found from a .38 at a
  crime scene?
- A. All of the above. You couldn't find a jacket, a bullet or a casing. It just depends if they are

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ejected or not.
 1
               Were you provided any items of evidence in
 2
     this case that you were able to use as an analysis
 3
     against the .38 Smith & Wesson?
 4
 5
          Α.
               There were fragments I compared to the .38
 6
     Smith & Wesson.
 7
                    MS. EPLEY: May I approach, Your Honor?
 8
                     THE COURT: You may.
                    MS. EPLEY: For the record, I have opened
 9
     State's Exhibit 75 and removed the fragment.
10
11
               (BY MS. EPLEY) Are you familiar with this
     item?
12
13
          Α.
               May I look at it?
14
          Ο.
               Please.
15
          Α.
               Yes.
16
          Q.
               Now, for the jury, what we looked at in
17
     regards to the .32 using your demonstrative, is the
18
     casing or external portion that would have been ejected
     from the qun, correct?
19
20
          Α.
               Yes.
21
               When you are looking at something like this,
22
     this fragment in regards to the .38, what portion of the
     cartridge are you looking at?
23
               Just the lower portion right here.
```

MS. EPLEY: Permission to publish, Your

24

25

Α.

Honor? 1 THE COURT: You may. It's already been 2 admitted? 3 MS. EPLEY: Yes, Your Honor. 4 5 THE COURT: Okay. 6 MS. EPLEY: Just for purposes of the 7 record, I wanted to make it clear. 8 0. (BY MS. EPLEY) Okay. When you look at 9 State's Exhibit 75, the fragment, what are you looking 10 at in regards to comparing this item to the gun you 11 received in evidence? 12 Α. I test-fired the firearm again, created my set 13 of known cartridge casings and bullets. Then I used the 14 bullets, test-fired bullets, compared to each other to 15 find reproducing marks and compared them under the 16 microscope, then I looked at known test-fires compared 17 to the fragment under the microscope. 18 Q. After looking at the test-fire compared to 19 this bullet fragment, were you able to discern any 20 result? The bullet fragment was fired in the 21 Α. Yes. 22 revolver. 23 Again, I'm going to ask you: Is there some 24 sort of statistical weight that you recall from it or 25 you identified that this bullet was fired from this gun?

I identified it was fired from that gun. 1 Α. 2 Ο. Did you produce some sort of report? 3 Α. Yes. Is that the item I left with you a moment ago? 4 Q. 5 Α. Yes. 6 MS. EPLEY: May I approach, Your Honor? 7 THE COURT: Yes, you may. 8 0. (BY MS. EPLEY) In looking at State's Exhibit 9 79, is this the report that you had generated? 10 Α. Yes. 11 Now, it's not signed, correct? Q. 12 Α. Correct. Why is that? 13 Ο. 14 We did hand signatures. I have the signed Α. 15 report and you have a copy. 16 You have the original here in Court and State's Exhibit 79 is a copy? 17 18 Α. Correct. 19 Is it a true and correct copy? 0. 20 Α. I will compare it to verify. 21 Yes, it is. 22 Is this document kept in the regular course of Q. 23 business? Do you keep these on most of the analyses 24 that you do? 25 Α. In the case file, yes.

1 Q. Is it routine to create it on most of your cases? 2 3 Α. Yes. The information here, was that made at or near 4 Ο. 5 the time that you did the test-fire comparison? 6 Α. Yes. 7 Was it made by a person with actual knowledge? Ο. 8 Did you do it? 9 Α. Yes. MS. EPLEY: State offers State's Exhibit 10 11 79, tenders to opposing counsel for objection. 12 MR. MARTIN: We have no objection. THE COURT: State's 79 is admitted 13 14 without objection. 15 MS. EPLEY: Permission to publish? 16 THE COURT: You may. 17 Q. (BY MS. EPLEY) I'm going to direct your 18 attention here to the results of analysis. Now, there 19 was a fragment that you found that you were not able to 20 compare to anything, correct? 21 Α. Yes, you're correct. 22 Q. So, there was no discernible characteristics. 23 We don't know who fired it or what was it fired from. 24 Α. That is correct. 25 But you were able to make conclusions which Q.

```
were documented in the report?
 1
          Α.
               That's correct.
 2
               Okay. And to be very clear, it's that State's
 3
          Ο.
     Exhibit 86, the .38 Smith & Wesson revolver, is the item
 4
     that fired State's Exhibit 75, the fragment?
 5
 6
          Α.
               Oh.
                    Yes. I'm sorry. I didn't realize you
 7
     were asking me that.
 8
          Ο.
               And, again, State's Exhibit 87, the .32
 9
     caliber semiautomatic, is the weapon that fired State's
     Exhibits 73 and 74, the two spent casings?
10
11
               That is correct.
               Is it traditional for someone else to check
12
          Ο.
13
     your work?
14
          Α.
               We have a verification process, yes.
15
               I phrased that poorly.
          Ο.
16
                     It's not specific to you.
                                                 It's
17
     procedure?
18
          Α.
               Yes.
19
               Did someone check your work in this case?
          Ο.
20
          Α.
               I was verified by another firearms examiner.
21
                     MS. EPLEY: No further questions.
22
                     THE COURT:
                                Thank you, Ms. Epley.
23
                     Mr. Martin.
24
                    MR. MARTIN: Yes, Your Honor.
25
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## CROSS-EXAMINATION

## BY MR. MARTIN:

- Q. Ms. Zeller, the two .32 cartridges, I think it's State's Exhibit 74 and 75, .32 auto?
  - A. Yes, sir.
- Q. Does that mean that that ammo is just for an automatic?
- A. The nomenclature for cartridge cases is very varied. That's what this particular one is called.

  There are many different names for different cartridge cases. This is .32 auto is the name of this cartridge.
- Q. It's the name of it. So, you could use it in a revolver?
  - A. It is possible. I do not know of a revolver off the top of my head that could fire this cartridge case. There are revolvers that are capable of firing semiautomatic pistol cartridges. I'm not aware of a revolver at this time that does fire a .32 auto.
  - Q. So, by and large, if you see a cartridge that says .32 auto on it, it's meant to be fired in an automatic or semiautomatic pistol?
    - A. Typically, yes.
    - O. And not a revolver?
- A. Yes.
- MR. MARTIN: Thank you, ma'am.

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Pass the witness.
 1
                                Nothing further, Ms. Epley?
 2
                     THE COURT:
                     MS. EPLEY: Nothing further, Your Honor.
 3
                     THE COURT: Okay. You're excused.
 4
                                                          Thank
 5
     you for coming.
                     Call your next witness.
 6
 7
                     MR. BURDETTE: State calls Officer Kevin
 8
     Carr.
 9
                     (Witness sworn.)
                     THE COURT: Mr. Burdette.
10
11
                            KEVIN CARR,
12
     having been first duly sworn, testified as follows:
                         DIRECT EXAMINATION
13
     BY MR. BURDETTE:
14
               All right. I learned yesterday not everyone
15
          Ο.
16
     is "Officer." Is it Officer or Sergeant?
               Officer.
17
          Α.
18
          Q.
               All right. Got Sergeant Chappell and Officer
19
     Carr?
20
          Α.
               Yes.
21
          O.
               How are you?
22
          Α.
               Pretty good. How are you?
23
               Good. Please introduce yourself to the ladies
24
     and gentlemen of the jury.
25
               My name is Kevin Carr. I'm an investigator
          Α.
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