A. He's sitting on the table with the three individuals and he has the pin-striped gray suit with the white shirt.

MS. EPLEY: May the record reflect he has identified the defendant?

THE COURT: It will.

MS. EPLEY: No further questions.

THE COURT: Mr. Martin.

MR. MARTIN: We have no questions.

THE COURT: Okay. Thank you, Mr. Bailey.

THE WITNESS: You're welcome, Your Honor.

THE COURT: Call your next witness.

MS. EPLEY: Jennifer Clay.

THE COURT: Jennifer Clay.

(Witness sworn.)

THE COURT: Ms. Epley.

MS. EPLEY: Thank you, Your Honor.

JENNIFER CLAY,

having been first duly sworn, testified as follows:

DIRECT EXAMINATION

BY MS. EPLEY:

Q. Hi.

A. Hi.

Q. Please introduce yourself to the jury.

A. My name is Jennifer Clay. I'm employed with

the Houston Police Department crime laboratory, specifically in the DNA/serology section of the lab.

Q. How long have you been employed there?

A. A little over six years.

Q. What kind of training or education does one have in order to do your job?

A. I attended the University of Houston in Clear Lake where I received a bachelor's of science in biology. Prior to working at HPD, I was employed for a biotech company in The Woodlands, Sigma-Genosys. And we did -- I did DNA verification for them. After that, I get hired on at HPD.

Q. At what about your education?

A. I attended the University of Houston in Clear Lake.

Q. Have you testified in this county before?

A. Yes.

Q. On few or many occasions?

A. I'll say many at that point.

Q. Have you been qualified as an expert in DNA?

A. Yes, I have.

Q. Are you a member of any groups or societies specific to your education or your training and experience?

A. Yes. I'm a member AFDAA, which is the

American -- I think it's -- gosh, I can't remember the letters. I have it here. We meet once a year at least, but we are required by the standards, DNA standard to attend at least eight hours of training every year as part of our continuing education. AFDAA is one of the agencies that actually I am a member with, but I have also attended training in different areas for, like, familiar statistics and familiar statistics as well as training in different types of extractions and things of that nature.

Yes, AFDAA is the Association of Forensic DNA Analysts and Administrators.

Q. And you mentioned that you worked for HPD crime laboratory?

A. Yes, I do.

Q. Is that lab accredited?

A. Yes, we are.

Q. Who is it accredited by?

A. ASCLD/LAB.

Q. Have there been any problems or issues with that lab recently that we should address in court?

A. No. The ASCLD/LAB accredited the laboratory in May of 2005 for serology or screening and then the DNA portion was accredited in June of 2006.

Q. And are serology and screening both relevant

to DNA in cases like this?

A. Yes. Serology is basically the intake of the evidence items. Specifically in our laboratory, we test for blood and semen; but we also retain samples for possible contact DNA. That could be from just touching or coming in contact with an item from a crime scene or possibly saliva sample, things of that nature, or, like I said, blood and semen.

Q. And you guys were accredited in 2005 to do that?

A. For serology in 2005 and then for DNA in 2006.

Q. Can you explain to the jury in layman's terms -- you and I have spoken once before, right?

A. Yes.

Q. You were trying to educate me in regards to how DNA works. Can you please help me explain to the jury what you start with in order to do a DNA comparison?

A. Okay. Well, there is four main procedures for analyzing a sample for DNA. There is first the extraction where they are basically opening up the cell or slicing open the cell in order to get to the nucleus where the DNA is stored.

Then you're isolating the DNA, cleaning up the sample. And the next step would be quantifying

the DNA; so, just basically, we're just trying to determine how much DNA is present and how much did we obtain from that sample.

Once we know how much we obtained, then we amplify the sample. Basically, it's like making xerox copies of the DNA so that we can have enough DNA in order to have enough present in order for the instruments to read DNA profiles.

Once we do all that of that, then we analyze the DNA. At that point we hope to get a DNA profile where we'll do a comparison of unknown samples from a crime scene compared to a known reference sample taken from an individual related to the crime scene.

Q. Can DNA be used, not only to convict someone or make them present at a crime, but also to exclude them?

A. Yes. Like I said, it is a comparative analysis. We will take a reference sample and compare the reference samples from that case, whether it's a suspect, complainant or witness, and compare them to the evidence samples and either draw conclusions stating they cannot be excluded or they are excluded from the sample or no conclusions.

Q. Is this type of DNA analysis used for things other than crimes?

A. DNA analysis can -- we specifically use it in criminal cases, but we do paternity testing in criminal paternity cases. But private agencies can also do it if there is a question of paternity. The medical field also uses different various types of DNA testing for their purposes as well.

Q. It seems like an obvious question, but is DNA different among each person?

A. Yes. Basically from one individual to another, 99 percent of our DNA is the same. It's basically what makes us human, not a dog or cat or a bird. It is the one percent that we look at that is variable from one individual to another with the exception of identical twins, which would share the same DNA profiles.

Q. Are you familiar with the facts pertaining to this case?

A. Yes.

Q. How are you are familiar with them?

A. I issued the DNA report in reference to this case.

Q. You explained that there were four steps: Extraction, quantification, amplification and then you run the samples on the instruments, correct?

A. Yes, ma'am.

Q. Do you know what kind of items were found at the scene that you lab referenced?

A. Yes. Do you want me to list the items we received?

Q. Please.

A. Okay. Received Item 6.1, which is portion of the exterior driver door swabs.

24.1.1, which was a portion of swab from a magazine.

34.1.1 was a portion of swabs from a .32 caliber pistol.

35.2.1 was a portion of the Smith & Wesson .38 Special.

Item 38.1 was a known buccal swab from Brshai Peters.

Item 39.1 was a known buccal swab from Jasmine Stelly.

Item 40.1 was a portion of the known buccal swab from Norris Briscoe.

And Item 41.1 was a portion of the buccal swab for Nicholas Aker.

Q. Once you have known buccal swabs that are attributed to a specific person and then you have unknown items located on pieces of evidence, what do you do to begin that process of extraction or to start the

comparison?

A. Once all the samples have been through the entire DNA process, meaning they have been extracted, quantified, amplified, and they have been run so we actually have a DNA profile, that's when I sit down. In this case I specifically did it, sat down and draw conclusions one at a time comparing each individual to each piece of evidence, then stating whether or not they are included, excluded or no conclusions can be made.

MS. EPLEY: Your Honor, may I approach the witness?

THE COURT: You may.

Q. (BY MS. EPLEY) Ms. Clay, I'm showing you what's been marked as State's Exhibit 78. Do you recognize this?

A. Yes.

Q. What do you recognize it to be?

A. This is a copy of my DNA report.

Q. Is it a true and correct copy of the report that you originally generated?

A. Yes. The only thing that is missing from my official is the signature.

Q. Is this the type of document that's kept in the regular course of your business?

A. Yes, it is.

Q. Is it routine for you to create such a document?

A. Yes, it is.

Q. Was it made at or near the time that you did the actual analysis?

A. Yes.

Q. And I know you said it was by you, but a person who has actual information that the document contains?

A. Yes. I crafted this record.

MS. EPLEY: Your Honor, at this time State offer State's Exhibit 78, tenders to opposing counsel for objection.

MR. MARTIN: We have no objection.

THE COURT: State's Exhibit 78 is admitted without objection.

Q. (BY MS. EPLEY) And you have a copy of your own?

A. Yes, I do.

Q. You said the only difference between State's Exhibit 78 and the copy you have is that yours is signed?

A. Right. This is the official copy that's kept in the case file.

MS. EPLEY: Permission to publish, Your

Honor?

THE COURT: You may.

Q. (BY MS. EPLEY) A moment ago we spoke about the various items that your lab looked at in regards to this case. Is that a complete list of the items that you listed a moment ago?

A. Yes. These are the items that are listed.

Q. And beneath it, we talked about the fact that you come to results of interpretations for each of the particular items, correct?

A. Correct.

Q. On the back page of the third form, we have a large chart. I'll zoom in to relevant areas, but can you explain to me overall what this chart represents?

A. Yes. This is the numerical values taken from the DNA profiles that we obtained and transcribed onto my -- what we call "the little table."

So, this demonstrates -- it has a list of all the items and then what the profiles were obtained from all those items, including both evidence and the reference samples in this case.

Half of your DNA is inherited by your mother and half is inherited by your father. So, take a look at the reference samples. They're listed on there. And then as you can see from I think the first four

samples are the evidence samples in this case.

Q. If you don't mind, I'm going to have you pause for just one second.

A. Okay.

Q. On the left-hand side, this column here, it says: Case items, correct?

A. Correct.

Q. If you come just down this left-hand side, again, it's the items we previously mentioned, the buccal swabs, anything that was found on the gun, for example, the .38?

A. Correct.

Q. Here across the top, we have numbers that don't seem on their own to make sense. What do those numbers, for example, D21S11, what does that represent?

A. Those are actual locations on DNA. Those are the locations that we're looking at.

Q. Are those locations that would be -- they are portions of DNA that everyone would have?

A. These are portions of DNA that are highly variable from one individual to another. They are selected by the FBI. They show high variability. That's why we look at these regions.

Q. When you say "high variability," it's that one percent that makes each of us different?

A. Correct, with the exception of identical twins.

Q. When you look at a particular location, what is it you are looking for?

A. What we're looking for are the alleles calls for the numbers that are present. So, if you look at Item 6.1 right under D8 -- that's just where we refer to it as D8 for short -- there is a 13,15. Looking at this profile, I determined that that profile in Item 6.1 was a single-source profile. So, that means to me that one individual contributed to the profile. That particular individual either inherited a 13 or a 15 from either their mother or their father.

If there is just one number, instead of that being 7, there is just an 8 present. That means they inherited the 8 both from their mother and their father.

Q. Okay. I'm going to draw your attention specific to 41.1, the portion of the known buccal swab of Nicholas Aker. That would bring you up to the .38 Special Smith & Wesson. Okay?

A. Yes.

Q. There are various numbers, at least two, across each of those locations that you spoke to?

A. Yes.

Q. When you look at the numbers attributed to Nicholas Aker, when you look at the numbers found on the .38 Special Smith & Wesson, were the numbers attributed to Nicholas Aker also found in that location?

A. I could not exclude Nicholas Aker from the DNA profile obtained from 35.2.1.

Q. Would it be fair to say there was a mixture on that item?

A. Yes. Absolutely. As I said previously, usually one you get your DNA half from your mother, half from your father. In fact that at one location we have 7 and 6 alleles or numbers being called. That's an indication that it is a mixture of at least three individuals.

Q. Is it fair, in summary, to say, although he couldn't be made the only person who touched the weapon because several people's DNA was found there, he could not be excluded from the weapon?

A. Correct. I could not exclude him entirely from being a possible contributor to the weapon.

Q. I'm now going to turn you back to State's Exhibit 78 and we're going to quickly go through each item.

A. Okay.

Q. So, in regards to your results and

interpretations, you would begin looking at your chart and then from that, you draw conclusions, correct?

A. Correct.

Q. So, let's begin looking at your Item 6.1, the exterior door swab.

A. A full single-source male DNA profile, of unknown origin, was obtained from this item.

Q. So, could people be included or excluded based on what you found?

A. Mr. Aker, Mr. Briscoe, Mr. Peters and Ms. Stelly were excluded as possible contributors to this profile.

Q. Again, this seems pretty obvious, but just because someone's DNA is not on an item doesn't mean they did not touch it, correct?

A. There is no evidence at this time from the swabs that their DNA is present on the item.

Q. I don't want to give misinformation. But, for example, if I touch this can, I set it down and I wipe it down, the absence of my DNA or my fingerprints doesn't mean I never had it, right?

A. Right. Sometimes people will come in contact with items where you just don't leave enough DNA behind in order for me to develop a profile.

Q. But in this case, whatever DNA you found on

that door does not come back to the suspects?

A. Correct. The four individuals I tested were excluded.

Q. It could have been the victim's or it could have been another person's?

A. It could have been anybody's.

Q. Right. So, look at Item 24.1.1, portion of swab from the magazine of the gun.

A. In that item, no DNA profiles. There weren't enough DNA present or left behind in order for me to get a profile.

Q. Look at Item 34.1.1, portion of the swab from .32 caliber pistol. What results did you find?

A. I obtained a mixture of three individuals, at least one of who is male. Mr. Peters and Ms. Stelly could not be excluded as possible contributors to the mixture.

Did you want me to read their statistics for this?

Q. Please.

A. Their statistics for them being possible contributors to the mixtures are one in 5600 for Caucasians, one in 5300 for African-Americans, one in 110 for Southeast Hispanics, and one in 5100 for Southwest Hispanics.

Q. What is the purpose of the statistics you give when you include or exclude someone?

A. The statistics are basically calculated from the frequency that their alleles or their numbers appear in the population.

So, I can calculate statistics at different location on a DNA. Their alleles are being called or their numbers are present on that evidence item and also that there is no activity probably below threshold. So, there's no indication that there is anybody dropping out. That person could be a possible contributor to the mixture.

Q. Is it fair to say that the statistics give weight to whatever conclusion you're drawing?

A. Yes. So, while I can say that somebody cannot be excluded from a profile, the statistics give weight to the probability of seeing somebody else that maybe could not be excluded from that profile as well.

Q. So, how many random people would you expect to have to get DNA swabs from, information from, in order to come up with this mixture again?

A. So, you would expect to see the probability of seeing somebody who wouldn't be -- who could also not be excluded in the profile is just what I read from the statistics. So, for Caucasians, it would be 1 in 5600.

For African-Americans, it would be 1 in 5300. For Southeast Hispanics, it would be 1 in 110 and for Southwest Hispanics, it would be 1 in 5100.

Q. Before you could find someone you could exclude?

A. Before you would expect to see them as a possible contributor in that profile as well.

Q. When we come to Item 35.2.1, the portion of swab from the Smith & Wesson .38, where do we start at?

A. I also should point out that Norris Briscoe could not be excluded either. His statistics were calculated separately, however, from the previous item because his profile was coming up at different locations. So, his profile could not be excluded and Nicholas was excluded from that profile.

Q. This document will go back to the jury. So, when they look at it and when they read about it, they will see the statistics available?

A. Yes. They are available under each description of the item.

Q. Turning to the Smith & Wesson .38 --

A. Yes.

Q. -- that we spoke to a moment ago. This is the DNA that came from those three individuals, right?

A. Yes.

Q. At least one of them was male? Nicholas Aker cannot be excluded as a possible contributor, but you don't identify him as a contributor on here either, right?

A. No, I don't make my source statement regarding Nicholas.

Q. Can you help us understand the statistics or the weight that you have given these results?

A. For that item specifically?

Q. Yes.

A. Well, I said he could not be excluded, but the statistics for his inclusion, the probability that an unrelated individual would be included as a possible contributor to this DNA mixture is 1 in 3 for Caucasians, 1 in 2 for African-Americans, 1 in 3 for Southeast Hispanics and 1 in 3 for Southwest Hispanics.

Q. So that number is much smaller than it is for the prior item, correct?

A. Yes.

Q. What is the significance of that?

A. For one reason that the -- and my little table, it's up there, but there is so many people contributing to this mixture, now I have to account that anybody that has any combination of those numbers that are being called could possibly be included.

Well, so as we include more people possibly contributing, it opens up the door for more people possibly being included. And, also, I could not calculate statistics. It's our policy not to calculate statistics when we have activity above the threshold. This just means we have an interpretation threshold where we can call a number and label it on the little table. If it is below that, we can indicate it by putting an asterisk on our little table where we exclude that location from the statistics. So, while the individual's numbers may appear on the profile, I cannot calculate statistics at that location because I have to take into account there could be other people contributing as well.

Q. One moment.

A. Okay.

(Pausing.)

Q. Specific to the .38 where we learn Nicholas Aker's -- his alleles coming in also in the mixture --

A. Yes.

Q. -- those numbers were low, the 1 and 3 as opposed to DNA cases where you get one in a million?

A. Correct. They are lower.

Q. So, although he cannot be included and excluded, many people can come back on this profile?

A. Yes. One in two people could come back as a possible contributor.

Q. Which just means it is a mixture of DNA that could be found on -- I don't want to say on any item.

A. Mixtures always produce lower statistics because you have more than one person contributing. You have a profile of just one person, of course, the statistics can be much higher.

Q. So, the difference here is that many profiles or several profiles of DNA were found on the gun?

A. There was a mixture of three individuals. To top that off, I also had a lot of activity below threshold, causing me to exclude the -- calculate the statistics at those locations as well.

Q. Can you also explain for us how DNA is left on various items?

A. We receive all different kinds of items. I mean, it can be left by somebody coming in contact, just touching items. Wet, saliva, urine, blood, semen. So, depending on the circumstances of the case, it could be deposited in a number of ways.

Q. So is that contact DNA by coming in actual contact with something, I can leave my DNA, correct?

A. It is a possibility you can.

Q. What is transfer of DNA?

A. The theory of transfer DNA is stating, like, if I go -- if I shook one of your hands and then went and opened the door handle that possibly your DNA is on the door handle because I came in contact with you and then came in contact with another item.

Q. Is there anything about the way your lab functions or the ability of DNA to detect whether it's transfer or contact DNA?

A. I can't make the determination whether it's transfer or contact DNA. I just know that DNA is present.

Q. So, earlier when you were speaking, for example, about the door, if I walked up and touched the door, I open it up, then you come up behind me and touch the same door, the next item you touch could have my DNA on it?

A. It's a possibility.

Q. Because it's possible to transfer my DNA to the door I touched and then you touched simply by having been present there?

A. It is a possibility, if you assume you left enough behind, so on and so forth.

Q. So, the same thing could have, in theory, happened to the gun?

A. I mean, anything is possible. Somebody could

have come in contact with someone else and then touched the weapon. They could have directly touched the weapon. I can't tell that from my results.

MS. EPLEY: No further questions.

THE COURT: Okay. Mr. Martin.

MR. MARTIN: Very briefly.

CROSS-EXAMINATION

BY MR. MARTIN:

Q. When you are looking at the .38 Special, when you talk about the probability that a randomly chosen, unrelated individual could be included as a possible contributor to this DNA mixture is approximately one in two for African-Americans, are you saying that 50 percent of the African-American population could have left that DNA that you found?

A. I'm saying there is a lot of people that could have possibly left that DNA profile.

Q. Go back to the bottom of page one, the .32-caliber pistol. I think that's Item 34.1.1.

A. Yes, sir.

Q. Where you say Jasmine Stelly cannot be excluded as a possible contributor to this DNA mixture, are you saying that there's a possibility -- did you find her DNA on there?

A. I cannot exclude her as a possible

contributor. Yes, sir, that's correct.

Q. And when we go to percentages, that's the -- I don't know the percentage of chance that it was hers that was there?

A. I don't have the percentages. The statistics -- would you like me to read off the statistics?

Q. Just for African-Americans.

A. For African-Americans on Item 34.1.1, statistics for Jasmine Stelly were one in 5300 for African-Americans.

Q. Which means on average, if you had 10,600 people and African-Americans touched that .32, two of them would leave some DNA?

A. Well, yes. If you tested 5300 people, you would expect one in that group of 5300 to possibly be a contributor to the profile.

MR. MARTIN: That's all I have. Pass the witness.

THE COURT: Thank you, Mr. Martin.

Further, Ms. Epley?

MS. EPLEY: No further questions.

THE COURT: Thank you, ma'am. You're excused.

It's time for a break. Myrna needs a

break. Why don't you do your bathroom breaks if that's what you need and ring us when you are finished and you are all ready to come back out. All right?

(Jury out.)

(Short recess.)

(Jury in.)

THE COURT: Call your next witness.

MS. EPLEY: Kimberly Zeller.

(Witness sworn.)

MS. EPLEY: May I proceed?

THE COURT: Yes, you may.

KIMBERLY ZELLER,

having been first duly sworn, testified as follows:

DIRECT EXAMINATION

BY MS. EPLEY:

Q. Please state your name for the jury.

A. Kimberly Zeller.

Q. Ms. Zeller, where do you work?

A. I'm employed by the City of Houston in the Houston Police Department Crime Laboratory.

Q. Are you from Houston originally?

A. No, ma'am.

Q. Where are you from?

A. Illinois.

Q. How long have you been in Texas?