THE COURT: Thank you. Please be seated.

MR. LEONARD: May I proceed?

THE COURT: Yes, sir.

MR. LEONARD: Thank you.

ROBIN GUIDRY,

having been first duly sworn, testified as follows:

DIRECT EXAMINATION

Q. ***(BY MR. LEONARD)*** Good afternoon, Ms. Guidry.

A. Good afternoon.

Q. Please introduce yourself to the jury.

A. My name is Robin Guidry. That's G-U-I-D-R-Y. I am the DNA technical leader with the Houston Police crime laboratory, biology section.

Q. And how long have you been with the Houston Police Department crime lab?

A. Just made five years.

Q. And what exactly is it that you do in your role?

A. As a technical leader, I don't do a whole lot of casework anymore. It's almost entirely a supervisory role. I'm responsible for the technical protocols that are used in the laboratory, and I do directly supervise several casework analysts.

Q. Okay. Tell the jury a little bit about your background and your training.

A. Sure. I have a Bachelor of Science degree in biology from Loyola University in New Orleans. I also have a Master of Science from the University of Florida in forensic serology and DNA.

I'm a fellow with the American Board of Criminalistics in molecular biology. In addition to the educational requirements that I have to be a DNA analyst, I also have all of the training requirements that are needed to be a forensic DNA analyst.

In any forensic laboratory that's accredited, in order to perform a particular procedure on casework, you must be competency and proficiency tested, meaning I have demonstrated an ability to do that procedure successfully.

Q. Have you taken any continuing education as a part of your training and professional experience?

A. I have. Again, because we're accredited, we are required to have at least eight hours a year. In the last year, I have received at least a week's worth of external training on new technologies and sort of current issues in the forensic DNA field.

Q. I want to talk to you a little bit about

your role in this particular case. What is it -- what is it that you were responsible for?

A. My role was extremely limited in this case. I simply helped one of my coworkers by loading some DNA product onto the genetic analyzer instrument. So, I simply took amplified DNA product and put it into a genetic analyzer.

Have those concepts been explained?

Q. Sure. We have talked about the extraction process. We have talked about quantification. We have talked about amplification. And the final step would be interpretation.

I guess at what point during the process would your role come into play?

A. Sure. In this particular case, an analyst amplified some reference samples. So, she took extracted DNA, which is a cleaned-up form of DNA, and made millions and millions of copies of it. I took that amplified product and loaded it into a genetic analyzer. There is an instrument that separates DNA fragments -- DNA is inherently negatively charged. So, when an electrical field is applied, it will migrate to a positive source; and that's how we interpret our DNA.

We separate it in fragments, and

simply I took the amplified product, put it on the instrument; and that was the extent of my role here.

Q. Okay. And when you say you took the amplified product, where did you get it from?

A. We -- in the DNA laboratory -- forensic DNA laboratory, you have two distinct areas. One is pre-amplification, and one is post-amplification. The pre-amplification area is where you do the extraction and quantities set. Post-amp is the area where the amplification occurs, where the millions of copies of DNA are being made. And it's critical that the areas are separated because in theory you have a lot of DNA. In our post-amp -- and you don't want that DNA to get into your pre-amp area and potentially contaminate.

So, within that post-amp area, I retrieved her amplification plate, either off of the thermal cycle itself or one of the refrigerators and prepared a load plate to put the samples onto the genetic analyzer. I would not have taken her entire amp product but simply a portion of her amp product and loaded it onto the instrument for separation.

Q. And what sorts of safeguards would you be using to make sure that there is not cross-contamination or disturbing the samples that

you are testing?

A. We go through great lengths to ensure that we maintain a contamination-free environment. At a minimum, the analysts are wearing coats and gloves and facemasks to prevent ourselves from contaminating the samples; and also protect ourselves from the samples because sometimes we have biohazardous materials like blood.

But in addition to that, samples that are known to be of a high level, such as a reference sample, would not be handled next to a sample that is low level because we would not want that potential contamination to occur. Then -- so, we do all these things to prevent contamination; but we also have mechanisms in place to detect it if it were to occur. And if we detected contamination, we would not use that data.

The most important control that we use for that is called react points, and that is a sample that we sort of introduce into the process at the very beginning. We load all the same chemicals that we apply to the samples. We just don't put DNA. It goes through the entire process, and at the end it has to be free of DNA. If it is free of DNA, we can have confidence that a DNA profile obtained on a

sample came from that sample and not from reagents that we introduced in the laboratory.

Q. And were you involved in reading any of the results with regards to the reagent blank that was used in this particular case?

A. In this case, I did no interpretation, simply loaded the samples.

Q. Okay. What did you do after you loaded the samples?

A. I would have created the plate, put it on the instrument, set the instrument up, and given the reporting analyst the name of my run file so that they could retrieve the data and perform interpretation.

Q. And did you make notes with regards to your work in this case?

A. I -- there is not a worksheet for what I did. We have what we called injection list that shows what samples I loaded and the type of reagents that I used to load it, and it has my name -- or initials and date that I loaded.

Q. Okay. And have you had an opportunity to review that information before you have testified?

A. Yes, I have.

Q. Did you do anything else with regards to

the DNA testing that was done for this particular case?

A. No, sir. That was the extent of it.

Q. Okay.

MR. LEONARD: I pass the witness.

THE COURT: Thank you.

CROSS-EXAMINATION

Q. ***(BY MR. SMITH)*** Would you agree you're the person who loads the evidence into the plate that goes into the genetic analyzer; is that right?

A. In this case it was reference samples; but, yes, I loaded the sample into the plate for the genetic analyzer, yes.

Q. So, you loaded the reference samples into the plate; is that right?

A. Correct.

Q. Now, what about the evidentiary samples? Did you do that, too?

A. I did not.

Q. Okay. And were -- and you have reviewed the files; is that right?

A. I have reviewed my portion of the file.

Q. Can you tell us if the evidence samples were included with -- within this -- what do you call -- again, what kind of plate is it called?

A. For the genetic analyzer?

Q. I know, but the plate -- you know, the plate which has the little slots that you put all the particular items of evidence in.

A. We call it a 96 well plate. Simply a little small rectangular plate, probably 4 inches by 7 inches; and it's got 96 wells in it.

Q. Okay. So, what you do is you take the tubes that the sample has been quantified in -- has been placed in, right?

A. Actually, when the samples are amplified, they're amplified on a 96 well plate; and I simply take a portion of that amp product and transfer it to another 96.

Q. So, you take a pipe -- or a tube, you know, and you take some of that out and then you drop that into a spot on the amplification plate; is that right?

A. On the genetic analyzer plate, yes, sir.

Q. Genetic analyzer plate.

And you do that with each sample that you do; is that right?

A. Correct.

Q. Now, in this instance, did you do all 96 samples?

A. No, sir. It was not a full plate. There were a total of 48 samples, so about half of a plate.

Q. Okay. Did you -- did this -- did this plate have a reagent blank?

A. Yes. At least one, possibly more; but I can tell at least one.

Q. Okay. Okay. Do you do any kind of interpretation of what happens with the reagent blank?

A. In this case, I did not.

Q. Okay. The reagent blank is there to determine whether or not there is cross-contaminations; is that correct?

A. It can help determine if there was contamination from sample to sample, potentially, and also if your reagents are contaminated.

Q. Okay. And, basically, the purpose of the reagent blank is it's supposed to come back showing a value of zero; is that right?

A. We -- not necessarily a value of zero.

Q. Okay. Now, based -- let's kind of talk a little bit about the genetic analyzer just for a little bit so we can give the jury an idea on how it works.

A. Sure.

Q. Basically, you load the plate into the genetic analyzer; is that right?

A. Correct.

Q. And it takes that particular DNA out of those tubes and then analyzes it; is that correct?

A. The DNA is injected into the instrument through --

Q. It's basically the same thing as a gas chromatograph; is that right?

A. It's similar. It's not a direct transfer of liquid into the capillary, rather the ions -- the kinetic injection so the DNA in the liquid, liquid is not transferred to the instrument, but rather the fragment, the charged particles, which would be your DNA, is injected into the capillary of the instrument and each sample in its own capillary. And then when that field is amplified, the DNA will partially migrate because of that electrical force.

Q. Okay. So, it doesn't consume anything; is that right?

A. Correct.

Q. Now, these tubes have to be sterilized; is that right?

A. We do purchase plastics that are DNA free. We also take measures in the lab to -- like with

tubes, we autoclave them as a secondary precaution to make sure they are free of DNA. With plates, we can't really autoclave them because plastic might melt, but we would radiate them with UV to help ensure that there is no DNA in that plate.

Q. Basically what you do is you replace -- you use new tubes each time you use this particular machine; is that right?

A. Yes. We would use -- never reuse a plate in post-amp.

Q. Which basically means use a plate only once?

A. Correct.

Q. Okay. Now, you -- this machine has to be calibrated; is that right?

A. The machine is serviced; and we do perform calibrations and regular maintenance on it, yes.

Q. And was it working properly when this particular test was done?

A. It would appear so, yes.

Q. Okay. You have no -- the limit of your role is -- in this particular case was just loading into the genetic analyzer; is that right?

A. That's correct.

Q. You do not know what the results were; is

that correct?

A. I have heard bits and pieces about this case, but not directly.

Q. Okay. You have not -- you did not have any -- you did not have any role in the analysis of the end result; is that correct?

A. That's correct.

Q. Okay. Let's talk a little bit about what PCR means.

A. Sure.

Q. Okay. PCR stands for polymerase chain reaction; is that correct?

A. Correct.

Q. That is a process -- that is the amplification process; is that correct?

A. Correct.

Q. A lot of people say that the amplification process is like running the DNA through a copying machine a bunch of times; is that right?

A. I have heard that analogy, yes.

Q. That's -- what's better is to compare it to a virus, how a virus multiplies; is that correct?

A. I like that analogy better.

Q. Basically, it expands expedientially; is that right?

A. It does increase expedientially, yes.

Q. And that is one of the reasons you have to be so careful about cross-contamination; is that right?

A. Absolutely. Absolutely, yes.

Q. Now, items can be cross-contaminated in the lab. That's why you take all that precaution; is that right?

A. That's correct.

Q. And they can also be cross-contaminated in the collection process; is that correct?

A. Yes, sir.

Q. And by that I mean the evidence collection process in the field; is that right?

A. Sure. Yes.

Q. Items can also be cross-contaminated before they are collected, if they come into contact in the world; is that right?

A. Yes.

Q. And you know nothing about what the results were personally? You have no personal knowledge of the results?

A. Correct.

Q. Okay.

MR. SMITH: Pass the witness, Your

Honor.

THE COURT: Thank you.

Redirect?

MR. LEONARD: Nothing further from this witness.

THE COURT: Is this witness excused?

MR. SMITH: She may be released, Your Honor.

MR. LEONARD: This witness is excused.

THE COURT: Thank you so much.

THE WITNESS: Thank you.

THE COURT: You're free to go.

(Witness released)

THE COURT: Thank you. We will take an afternoon recess until about 3:15, a little shorter than usual. Okay. Thank you.

All rise, please, for the jury.

(Jury released)

(Recess taken)

(Jury enters the courtroom)

THE COURT: Thank you. Please have a seat.

Your next witness, Mr. Leonard?

MR. LEONARD: Yes, Judge. The State calls Priscilla Hill.

THE COURT: Thank you.

THE BAILIFF: Judge, this witness has not been sworn.

THE COURT: Thank you. Come up this way, please. If you would face the jury, I will give you the oath.

(Witness Duly Sworn)

THE COURT: Thank you very much. You may have a seat.

You may begin.

MR. LEONARD: Thank you, Judge.

PRISCILLA HILL,

having been first duly sworn, testified as follows:

DIRECT EXAMINATION

Q. ***(BY MR. LEONARD)*** Good afternoon, Ms. Hill.

A. Good afternoon.

Q. Would you please introduce yourself to the jury?

A. Hi. My name is Priscilla Hill, and I work for the Houston Police Department crime laboratory.

Q. How long have you been working for the Houston Police Department crime lab?

A. Approximately seven and a half years.

Q. And what do you do there?

A. I'm a DNA analyst.