THE WITNESS: Yes, ma'am. I will make myself available.

THE COURT: Thank you. You're free to go to today. Thank you so much.

THE WITNESS: Thank you.

THE COURT: I suggest we take the afternoon recess until 3:15.

All rise, please, for the jury.

(Recess)

(Open court, defendant and jury present)

THE COURT: We need the witness back on the witness stand.

MS. KNECHT: It's a new witness.

THE COURT: I'm sorry. Your next witness.

MS. BRUCHMILLER: The State calls Diana Wolfshohf Gonzalez.

THE BAILIFF: Judge, she has not been sworn.

THE COURT: Thank you.

(Witness sworn)

THE COURT: Thank you. Please have a seat on the witness stand.

Thank you.

MS. BRUCHMILLER: May I proceed?

THE COURT: Yes, ma'am.

DIANA GONZALEZ WOLFSHOHF,

having been first duly sworn, testified as follows:

DIRECT EXAMINATION

BY MS. BRUCHMILLER:

Q. Good afternoon.

A. Hello.

Q. Would you please state your name for the jury?

A. My name is Diana Gonzalez Wolfshohf.

Q. Would you spell your last name for the court reporter?

A. W-o-l-f-s-h-o-h-f.

Q. And did you recently change your last name?

A. About a year ago.

Q. How are you employed?

A. I work for the Harris County Institute of Forensic Sciences.

Q. And is that formally the Harris County Medical Examiner's Office?

A. Yes.

Q. How long have you been there?

A. For approximately six-and-a-half years.

Q. And what division at the office are you in?

A. I work for the DNA department.

Q. And what do you do for the DNA department?

A. I'm a DNA analysis.

Q. What does that mean?
A. I do any type of DNA testing as well as interpretation of data that's received.
Q. Now, could you briefly tell us about your background that enables you to hold that kind of position?
A. Yes. I have a bachelor's in science, in clinical laboratory science from the University of Texas El Paso. And I have a master's of science in forensic science from Sam Houston State University.
Q. Now, did you have to take any kind of training or courses in order to work on DNA?
A. Yes. We have training, on-the-job training as well.
Q. And how long do you have to go through on-the-job training to work in the DNA department?
A. You have to train for each section. And there is different sections within the DNA department. For example, extraction, differentials. Any type of different process that we do there, we have to do training for each section.
Q. How many sections are there?
A. There is serology, there's extraction, amplification, and there is interpretation.
Q. Are you able to work any of those departments?

A. I can work in all of them.
Q. What enables you to work in all of them?
A. All my training that I have done and also any proficiencies that I have done.
Q. What does it mean to have done proficiencies?
A. There's proficiencies testing to make sure that you are adequate in what you are doing.
Q. Now, is that proficiency testing that's specifically for your laboratory or is it a greater group that requires this kind of proficiency testing?
A. Those are external proficiency tests.
Q. External by who?
A. There are different agencies. For example, CTS is one of this.
Q. What is CTS?
A. I don't know exactly what it stands for at the moment, but it's an external laboratory that tests to make sure -- it's a check-and-balance to make sure that I know what I'm doing.
Q. Now, is your laboratory accredited?
A. It is.
Q. And in order for it to be accredited, do the analysts have to go through this proficiency testing?
A. Yes.
Q. How often do you have to pass proficiency

testing?

A. We have to pass twice a year.

Q. And you said you've been there for over six years?

A. Yes.

Q. And have you passed your proficiency testing -- or had to have pass proficiency testing twice a year for each of those six years?

A. Yes.

Q. Now, for your specific laboratory, are there detailed protocols that you have to adhere to for testing DNA?

A. Yes.

Q. Would you briefly tell us about that?

A. Yes. As far as every section or --

Q. Just an overview of that.

A. As far as quality control?

Q. Yes.

A. We need to make sure that everything is clean in the laboratory. All the benches need to be wiped down with bleach and ethanol. A new batch of paper is used for every case that we process and every single item that we process. Also, everything is clean. So, as far as -- we wear lab coats, shoe covers, head covers, masks to make sure we don't contaminate, and

gloves.

Q. And you said so it doesn't get contaminated. What is the concern with testings becoming contaminated?

A. We don't want to contaminate it ourselves. So, for example, if I had something out, I don't want to be talking over the item and leave my DNA on the sample. And also, I don't have to cross-contaminate it between any item, which is why we bleach and ethanol everything and make sure we don't have multiple items open at one time.

Q. Do you bleach and ethanol once a day or do you do it on a more frequent basis?

A. More frequently.

Q. Do you do it after you pull out every single item that you are doing testing on?

A. Yes.

Q. And is that a protocol required within your laboratory?

A. Yes.

Q. Is there a standard operations procedure that you have to follow for your laboratory?

A. Yes.

Q. And is that required of all accredited laboratories?

A. Yes.

Q. Now, let's talk a little bit about your specific area that you work in. Briefly, what is DNA? What does that stand for?

A. DNA stands for Deoxyribonucleic acid. It is the blueprint of life. It's what makes humans humans. You get half of it from your mother and half of it from your father.

Q. And where is DNA found in a body?

A. It's found in different -- in your cells, blood, saliva, semen, any type of excretions that you might have.

Q. Now, can DNA change throughout a body or is it stable?

A. It's stable.

Q. So, the DNA that would be present in my fingertips, is that the same DNA present in my toes?

A. Yes.

Q. When is your DNA profile set? When is established?

A. From birth.

Q. At the creation of your body?

A. Yes.

Q. Do individuals have -- do we have the same DNA or is different per person?

A. It's different per person, with the exception

of twins, identical twins.

Q. Do identical twins have the same DNA?

A. Yes.

Q. Is that the only situation in which you will find identical DNA?

A. Yes.

Q. And, specifically, within a cell where is this genetic material or DNA located?

A. In the nucleus.

Q. Now, turning your attention to the procedure of evidence, you have talked about the cleaning steps that you go through in your laboratory, but let's start even before then. How does the evidence get to you? When an officer gathers evidence at a crime scene and brings it to the Institute of Forensic Sciences, how does it get to the DNA lab?

A. First it gets collected and then it goes to a DNA vault. From there, I can go and pick it up once a case has been assigned to me and the evidence can be processed.

Q. How does it get assigned to you?

A. They're assigned by supervisors.

Q. And are there specific individual numbers that are assessed to each case that you are working on?

A. Yes.

Q. And are those laboratory or police report numbers or both?
A. Both.
Q. So, there is a separate laboratory number in addition to the separate police report number; is that correct?
A. Yes.
Q. Are any steps taken within your laboratory to prevent any kind of tampering with evidence?
A. Yes.
Q. What steps?
A. We have a chain of custody.
Q. What does that mean?
A. We have a bar coding system as well as the chain of custody associated. The evidence comes in, it's assigned a specific number and a bar code. And from there, that bar code is scanned every time that evidence is moved or handed to anybody.
Q. Is evidence also sealed in a certain way that helps prevent against any kind of tampering?
A. Yes, it's sealed.
Q. And what is the significance of evidence being sealed?
A. It means nobody can go into it. It's specific evidence tape, which means that once it's broken you can

tell. In addition, we initial and date the seal to make sure that it hasn't been tampered with.

Q. Is that something that you look at whenever you obtain evidence from the vault?

A. Yes.

Q. You mentioned contamination, that you don't speak over your evidence that you are working on so your DNA doesn't go into that evidence. Are there other steps that are taken within the lab to prevent contamination from one piece of evidence to the other?

A. Yes. I mean, besides the cleaning and the personal protective equipment, we still have controls to make sure there isn't any type of any contamination. We have negative controls to check for foreign DNA from anywhere and then we have positive controls as well.

Q. When you say "controls," are those chemicals or substances that you use in your testing?

A. Yes.

Q. When you first receive evidence, let's say it's a towel where you're looking for DNA in a towel and you have a suspect's known DNA sample. Which of those two substances would you work on first?

A. I would work on the evidence sample first, the towel.

Q. Why?

A. To avoid any type of cross-contamination. A known sample will be saturated because it's taken specifically from someone's mouth or blood. So, it should be saturated with a lot of DNA. A towel will probably have a lower amount of DNA on it. So, you want to make sure you process that first just in case the saturated sample won't cross-contaminate in any way.

Q. So, you would work on the item that would have the least amount of DNA on it first and then work on the item with the highest number or the known sample; is that correct?

A. We work on evidence samples first. Whether it happens to have more or less, depends on the sample, but the known should be more saturated.

Q. And when you say "known sample," you're referring to -- are you referring to a DNA sample directly from a person?

A. Yes.

Q. Let's talk a little bit about DNA analysis. How do you go about doing the DNA testing itself? What is the first step?

A. The first step is serology. And that's when it's first received and it goes through a screening process to see if there's any type of biological fluid on it.

Q. Once you determine whether or not there is biological fluid on an item, where does that item go next?

A. It goes to DNA for extradition.

Q. And what does DNA extraction mean?

A. That's where you separate the actual DNA from any other type of stuff that's in there. For example, you mentioned a towel. If we were to take a cutting from a towel, we were separating through the process of chemicals all the DNA from the actual towel that we won't need any more.

Q. Once you are able to extract the DNA, what is the next step in your process?

A. Quantification.

Q. What does that mean?

A. We're trying to see how much DNA is actually in that sample.

Q. What do you do to determine how much DNA is in a sample?

A. It also goes through chemical reactions to see the specific number of how much DNA we have.

Q. Where does it go once you determine how much DNA?

A. It goes through application, through a method called PCR, or polymerase chain reaction?

Q. Preliminary chain reaction?
A. Polymerase chain reaction.
Q. Thank you for correcting me.
A. Sorry.
Q. No, no. That's exactly what you need to do.
What happens next?
A. From there, it's multiplied. So, if we have a low amount of DNA, it's multiplied so we have lots of it. So, it's amplified so that we have a large amount of DNA. From there, it can go to the next stop where we'll separate it by size and we can actually see a person's profile.
Q. What's the importance of seeing a person's profile?
A. We can compare it to a known sample so that we can tell if the profiles are consistent with each other.
Q. Now, how long does this process take? Because we see on CSI or on TV they do it pretty quickly. In your lab, in reality, how long does it take?
A. It depends on the number of samples that you have, but, usually, it takes about two to three weeks to get it all through.
Q. And when you say "all through," is that from serology all the way to interpretation?
A. Yes.

Q. And does it go just through one person or more than one person within your lab?
A. More than one.
Q. What's the purpose in that?
A. We actually work with the batching system. It's just more efficient.
Q. Does that allow for checks and balances within your system?
A. Yes.
Q. Now, did you actually do an evaluation on evidence involving Lab Report No. IFF11-02651F1?
A. Yes.
Q. Okay.
MS. BRUCHMILLER: Your Honor, may I approach the witness?
THE COURT: You may.
Q. (By Ms. Bruchmiller) I'm handing you what's been pre-marked as State's Exhibit 23. Do you recognize this (indicating)?
A. Yes.
Q. And are you actually the person who created this laboratory report?
A. Yes.
Q. And are you familiar with all of the data contained within?

A. Yes.

Q. Is this an exact copy of the original report that is kept within your office?

A. Yes.

MS. BRUCHMILLER: Your Honor, at this time I'd offer State's Exhibit 23 and tender to opposing counsel for any objection.

(State's Exhibit No. 23 Offered)

MR. OWMBY: No objection, Your Honor.

THE COURT: Admitted.

(State's Exhibit No. 23 Admitted)

MS. BRUCHMILLER: May I publish on the system?

THE COURT: Yes, ma'am.

Q. (By Ms. Bruchmiller) I'm showing on the overhead what has been admitted as State's Exhibit 23. Can you explain to the jury what we're looking at here (indicating)?

A. This is the report that I created for this case.

Q. How do you know it's your report?

A. It has my name on it.

Q. Listed under analyst?

A. Yes.

Q. And we see some initials. Are those your

initials (indicating)?
A. Yes.
Q. There is a laboratory number towards the top of this report. Is that what you were referring to when you said that each case is assigned a laboratory number unique to the Institute of Forensic Sciences?
A. Yes.
Q. Is that also linked to the police report that is investigating whatever offense has been alleged?
A. Yes.
Q. Okay. Is that contained in this report as well?
A. Yes.
Q. Under the offense report number?
A. Correct.
Q. There is a case officer. And would these names -- why are there officers' names on there?
A. These are the officers that are listed in the submission form.
Q. As well as the agency who has worked on the case; is that correct?
A. Yes.
Q. Now, within the next section we're seeing items submitted. Under K-1, the known saliva of suspect, Albert Thompson. Is that correct?

A. Yes.
Q. Okay.
MS. BRUCHMILLER: Your Honor, may I approach?
THE COURT: You may.
Q. (By Ms. Bruchmiller) I'll hand you State's Exhibit 22. Do you recognize this (indicating)?
A. Yes.
Q. What is that?
A. This is the known saliva swabs.
Q. How do you know that's what's contained within that box?
A. It should contain the case number, date, initials of the analysts, and the item number.
Q. Okay. And you said "it should." Now, are you actually seeing that on the box?
A. Yes, I see it on there.
Q. Okay. And have you come into contact with this box before?
A. I personally have not, but it did go through the office. I recognize the initials.
Q. And are there control measures in place with this box that can ensure that this hasn't been tampered with?
A. Yes.

Q. And we talked about that earlier with tape. Is that what we're seeing in yellow on this box?

A. Yes.

MS. BRUCHMILLER: Your Honor, may I approach?

THE COURT: You may.

Q. (By Ms. Bruchmiller) Ms. Wolfshohf, I'm handing you what's been marked as State's Exhibit 33. Are you familiar with this bag (indicating)?

A. Yes.

Q. And what are we looking at here? Is this an evidence bag (indicating)?

A. Yes, it is.

Q. And contained on the outside I see a bar code. Is that what you were describing earlier that is used within your laboratory?

A. Yes.

Q. Now, have you seen this specific bag before or ones like it?

A. Oh, ones like it.

Q. Okay. Going back to specifically your report, were there items that were submitted to you to be compared against the known saliva sample of a suspect?

A. Yes.

Q. What items were submitted to you?

A. The handle swabs, the trigger swabs, and the black hat.

Q. Did you do testing on those specific items?

A. Yes.

Q. Specifically in regards to the hat, what kinds of testing was done on the hat that was submitted to you listed as Item No. 5-A-1?

A. It went through serology and they observed it to see if there was any type of stain on it and then it was swabbed for any possible touch DNA.

Q. Now, when you say "swabbed," let me show you State's Exhibit 14, the hat. Can you show us where on State's 14 you would have swabbed in order to see if there is any DNA?

A. Actually, the entire hat is swabbed. All the top part of it and then when you flip it over, the inside is also swabbed.

Q. What is it swabbed with?

A. TWO cotton swabs.

Q. What are those swabs? Do they look like giant Q-tips?

A. Yes.

Q. Based on the swabbing that was done on the black hat listed on 5-A-1, were you able to develop a DNA profile from swabs off of the hat?

A. Yes.
Q. And are those results contained within your report?
A. Yes.
Q. Looking at Page 2 of State's Exhibit 23, are these the summaries of those results from what came off the swab of the hat?
A. Yes.
Q. What were those results?
A. DNA results were obtained from 5-A-1. We could not conclude there were DNA results from more than one individual. Albert Thompson cannot be included as a possible contributor to these results.
Q. When it says, "Albert Thompson cannot be excluded as a possible contributor to these results," what does that mean?
A. It means he could not be excluded as a contributor to these results.
Q. You don't use the words "he matches the DNA found in the hat"?
A. Correct. It's not the wording that we use in the Institute of Forensic Sciences.
Q. I'm sorry?
A. It's not the wording that we use in our laboratory.

Q. Does the DNA profile found within the black hat have similar characteristics to the DNA found in the profile interpreted from the sample from Mr. Thompson?
A. They're consistent.
Q. What do you mean by "consistent"?
A. He could not be excluded.
Q. When you are doing DNA interpretation, what are you looking for?
A. We're looking at the loci with different alleles in it.
Q. What is a loci?
A. A loci is a location of a chromosome.
Q. Where is your DNA located on a chromosome?
A. I'm sorry?
Q. Are there different locations that you're looking for to match up DNA profiles?
A. Yes, there are.
Q. How many different locations do you look at?
A. We look at 13.
Q. Is that the standard number?
A. Yes.
Q. When you are looking at -- let me show you the third page of your report. Page 3 of State's Exhibit No. 23, what are we looking at here (indicating)?
A. These are the results of the actual locations

and alleles that we located in the profile.

Q. When you are determining whether or not someone's DNA profile cannot be excluded from a sample that you are looking at, and you are looking at these 13 different locations, are you trying to see if they're similar in numbers?

A. Yes.

Q. Specifically, in Item No. -- for the black hat, the numbers we're seeing across the top beginning with DAS1179, is that a location (indicating)?

A. Yes.

Q. Okay. So, all along the top here listed where I'm running my finger, from DAS1179 all the way to FGA, are those different locations that you are comparing (indicating)?

A. Yes.

Q. And there is 13?

A. Well, actually, on this one, there are more.

Q. Okay.

A. There's 15 plus amelogenin.

Q. The numbers contained in each of these columns beginning with the first column that say 13, what are those called?

A. Those are alleles.

Q. And what are alleles?

A. It's a part of the locus. You get one from your mother and one from your father. In this case, they're both 13. That's why it's just showing up once.

Q. So, for each different location, are you looking at different alleles?

A. Yes.

Q. And listed as the last item number, K1-A-1 and K1-B-1, it says: This is the known saliva of suspect, Albert Thompson. Correct?

A. Yes.

Q. Let's see if I can zoom in a little bit clearer so we can all see that.

And we're seeing the number 13 at that location, correct?

A. Yes.

Q. Right above that is listed Item 5-A-1, black hat, correct?

A. Yes.

Q. So, that would be the swab taken from the black hat?

A. Yes.

Q. Now, we're also seeing the number 13 there, correct?

A. Yes.

Q. And you said in your lab you-all don't use the

word "that matches," you say: Therefore, he can't be excluded as a contributor, correct?

A. Yes.

Q. Okay. And the next spot, the next loci, it says: Allele 27, correct?

A. Yes.

Q. And that's found from the sample taken from the black hat, right?

A. Correct.

Q. All right. Underneath that, taken from the known sample of suspect is 27 and 30, right?

A. Right.

Q. So, therefore, for that he can't be excluded?

A. Well, we don't look at it one locus at a time. We actually look at it as a whole. So, when you say for each one, I wouldn't necessarily say he cannot be excluded for each specific location.

Q. Do you take it as a whole?

A. Yes.

Q. The whole 13?

A. Yes.

Q. Okay. And are there several within this list where the numbers are the same?

A. Yes.

Q. Okay. Is that how you come to your

determination that he cannot be excluded as a contributor?

A. Yes.

Q. On the other two items that were tested, Item 1-1 and 2-1 -- 1-1 says handle swabs and 2-1 says trigger swabs -- were you able to come to any conclusions based on the testing done on those two items?

A. There was not sufficient information to determine whether Albert Thompson was excluded from this.

Q. So, what does that mean, not sufficient information; not enough recovered from that?

A. Right. It was a low level of DNA that was obtained. As you can see on the table that she's showing, there is a lot of alleles that are missing. The "ND" means we didn't get any results for that specific location. And the other locations that have a caret means they were very low level. They would below our threshold, which means there could be some dropout. So, we can't use those for any type of statistical purposes.

Q. So, there wasn't enough substance in order to make a conclusion regarding those two swabs?

A. Correct.

Q. Let's talk about cells for a moment. Now, the substance you were looking at recovered in the black hat, was that from swabs or from a hair particle left in the hat?

A. From swabs.

Q. And when you swab something, what are you recovering?

A. Epithelial cells or skin cells that might fluff off, or sweat, or just your skin.

Q. Is it something that can necessarily be seen with the naked eye?

A. No.

Q. Do we necessarily leave our DNA on every surface that we touch?

A. Theoretically, you leave some. If it's enough for a DNA profile, that's a different story.

Q. As you stated on the first two swabs that you tested there wasn't enough substance left on those items in order to do any kinds of testing. Is that correct?

A. I'm sorry. Could you repeat the question?

Q. There wasn't enough -- as you stated earlier on Items 1-1 and 2-1, there wasn't enough substance in order to create a DNA profile from those substances, correct?

A. Well, we created a DNA profile insufficient to

make the comparison to make any type of conclusion.

Q. Looking at Page 2 of State's Exhibit 23, back at your summary. It talks about the frequency of an occurrence of unrelated randomly-selected individuals who could be a contributor to the STR mixture on Item 5-A-1, which is the hat, is approximately -- and then it gives you some data. For Mr. Thompson, it would be 1 in 423 African-Americans. What does that number mean?

A. This is the probability of finding the same profile in the world -- in the populations. Sorry.

Q. So, statistical analysis of how often you might fine same DNA profile; is that correct?

A. Yes.

MS. BRUCHMILLER: Pass the witness.

THE COURT: Thank you.

MR. OWMBY: Can I see --

MS. BRUCHMILLER: Sure.

CROSS-EXAMINATION

BY MR. OWMBY:

Q. So, basically, as far as any result -- I'm sorry. Good afternoon.

A. Hello.

Q. Basically, as far as the results of any examination, we're only talking about the black hat?

A. Yes. The other two samples were inconclusive.

Q. And by "inconclusive," obviously, you mean you can draw no conclusions from them?

A. No. I could only say that there is insufficient information to determine whether Albert Thompson is a contributor to the results.

Q. So, it's not that you can say what about the other two? There was insufficient information to conclude that Albert Thompson was a contributor; is that correct?

A. Correct.

Q. So, it would not be fair to say that because we find some alleles in location that are the same as the known and the same as the handle or trigger, that it might be but. It's just not conclusive at all? You can't draw any conclusion from these analyses?

A. For this specific known sample, which was Albert Thompson, that is correct. There was insufficient information.

Q. Okay. Now, you -- all you know about the evidence is where -- all you know is what's in front of you in the laboratory. In other words, you don't know and are not concerned with where this black hat was found, are you?

A. Sometimes some information is revealed, but not all the time.

Q. But it does not make a difference in your analysis?

A. It does not, no.

Q. Because you are not telling or confirming or issuing an opinion on when this sample was left, or, obviously, where it was left, except it was left on the item that you have in the lab. Is that correct?

A. Right. We don't know where it was collected from.

Q. All right. So, you are not here to say anything at all about how this hat relates to whatever conclusions that the submitter needs to verify or debunk or otherwise examine, are you?

A. Right.

Q. Okay. And, in general, I assume you would be -- it would be fair if you were asked to caution the jury that because DNA is a highly-developed science, it is not an answer to every question of identification; is that correct? By that I mean this: You don't know whether there was a hat found at a bank or in a house or wherever. It's just a hat, correct?

A. Right.

Q. So, DNA is not telling you anything about a solution to an offense or it's not necessarily adding to the strength of a case or the weakness of a case. It is

just a fact; is that correct?

A. Yes.

Q. Now, even in this examination, you examined -- was it 13 alleles or 13 locations?

A. There is actually 15 in addition to the gender alleles -- I'm sorry -- location, which is amelogenin.

Q. So, 15 including the gender?

A. Sixteen with the gender.

Q. Sixteen with the gender.

And these locations, out of all the locations on a strand of DNA, were selected. And by "selected," by protocol were selected because they offer some diversity; is that correct.

A. Yes.

Q. You are more likely to find these differences among individuals; is that correct?

A. Right.

Q. So, if you examined -- if you were to compare -- if you were to take a sample from Albert Thompson today and compare it to the known sample that was previously taken, each location would be the same; is that correct?

A. Yes.

Q. And there would be a probability on each of those locations that's been researched and given to you,

there would be a probability of how many people in the population carry that particular allele, right?

A. Yes.

Q. And you multiply those locations and you come up with a number that would be very, very high, wouldn't it?

A. Yes.

Q. And if you were comparing Albert Thompson's known previously-taken swab to a swab you took today, what would that number be?

A. I cannot give you a number.

Q. But it --

A. It would be huge.

Q. It would be huge?

A. Yes.

Q. It would be some millionth to the tenth power huge?

A. Yes.

Q. All right. What you actually got in this case, however, was for African-Americans, 1 in 423; is that correct?

A. Correct.

Q. And compared to the percentage for identifying a person -- and you don't use the word "math," but if you had all the locations the same, compared to that, 1

in 423 is an extremely low probability, isn't it?

A. It's low.

Q. Now, you said -- and maybe I misunderstood. I thought I heard, and correct me if I'm wrong, you said there was a mixture of DNA?

A. Oh, actually, I said we cannot include whether there was a mixture or not. It's a very low level sample of DNA. So, it's difficult to tell sometimes when it's that low if there's actually a mixture, another person could be in there, or if it's a single-source profile.

Q. And this, of course, we're talking about on the hat; is that correct?

A. On all of them. On the hat and also on the handle and the trigger.

Q. All right. But I'm setting aside the trigger and the handle because we could not reach any conclusion as to those; is that correct?

A. Yes.

Q. Talking about the hat, you can't tell whether there is more than one person contributed to the DNA on that hat?

A. I can't conclude that either way.

Q. Can't conclude either way?

A. Right.

Q. So, at different locations you are seeing -- whether they're statistically significant or not, at different locations you are seeing alleles that are not consistent with a known sample from Albert Thompson; is that correct?

A. No. Actually, we did not see any foreign alleles. We just saw some possible peaks that may be low threshold. Because of that, we could not conclude whether it was one or more persons.

Q. And what do you mean by possible peak?

A. When a profile goes through electrophoresis, we hit peaks that come out through a graph. Each peak is actually a representation of alleles. We have thresholds to tell if that peak is an actual peak or not. And these -- there was some blips or smaller peaks that appeared to be low threshold. And to give the benefit of the doubt and not make something more rare than it is, we say that it could possibly be a mixture, but we can't conclude either way.

Q. And this threshold is a preset limit on the -- what is -- it's a preset standard. It's not something that you are guessing at. This is not high enough to count. There is a standard that you are given that says if it doesn't come to here, you can't make this?

A. Yes. We create the thresholds in the

laboratory when it goes through validations to make sure that's the appropriate threshold for detection.

Q. So, what you are seeing could be other alleles, other contributors, or can it could not?

A. Right. We could not conclude.

Q. Can you conclude whether Albert Thompson, if he -- if this -- if he left the DNA and not some other of these randomly-selected individuals out of these 423, if he did leave the DNA, whether or not he touched that hat on March 3rd, 2011?

A. I wouldn't know that.

Q. So, you wouldn't know whether he touched it March 3rd, 2011, or earlier?

A. I wouldn't know when he touched it.

MR. OWMBY: No further questions of this witness, Your Honor.

THE COURT: Thank you. Redirect?

MS. BRUCHMILLER: Nothing further, Your Honor.

THE COURT: Thank you.

Is this witness excused for all purposes?

MS. KNECHT: Yes, Your Honor.

MR. OWMBY: Yes, Your Honor.

THE COURT: Thank you.

And you are released as a witness. Thank