A That's correct. I did not extract the sample. I received it or retrieved those extracted DNA samples from the evidence section.

Q When you get it, there's no way for you to tell if it was contaminated in any way?

A Contaminated how?

Q With other DNA coming in contact with it?

A In this particular analysis, I have two sources of DNA. I have a female source and a male source. So I don't have multiple individuals. Bacterial DNA, I don't detect because we look at human specific areas. In my opinion, there's no contamination as far as an extra individual. There are two individuals present in the sample.

Q That's the control you use to find if after you got it it's not contaminated?

A I'm sorry. That's -- which control?

Q That would be a control.

A It's a result. I have two individuals in a sample. In my opinion, there's no extra individuals in the sample.

Q I'm guessing that you're familiar with statistics?

A Somewhat familiar, yes.

Q If you were to say that there -- that finding a person with these numbers the chances are 1 in 6 billion?

A They are. The rareness of this particular

profile is calculated as less than 1 in 6 billion. That's an estimated frequency of that profile, the chance of selecting a random individual walking down the street who was unrelated that would have that particular profile.

Q That's not the same as saying how large of a sample would you have to have in order to find two people with these numbers?

A That's correct.

Q Do you know how large of a sample of persons you would have to have that statistically you could expect to find two of these?

A No. It can be a sample of two or it can be a sample of billions and billions.

Q There's no way for you to know?

A No.

MR. SANDERS: Thank you. No further questions, your Honor.

THE COURT: Redirect.

REDIRECT EXAMINATION

BY MR. THOMAS:

Q As far as that figure that you just gave Mr. Sanders, is that something that the scientific community relies upon or do they look back at the statistical randomness -- statistical randomness of this particular profile coming up?

A I'm sorry. I'm not sure I understand your question.

Q When you gave an answer as far as the sample that you would need in order to find two people with the same profile.

A That's correct. Statistics are an estimate. So you can never say for sure that if I have a sample size of this certain size, I will for sure find this particular result. There is, based on the number of areas that we look at on the DNA molecule, a size where you would expect to find another result the same as that, but you cannot say for sure exactly how size -- how big that population is where you will see this result again.

Q Okay. So the question that Mr. Sanders posed was more of a how sure can you be that in a certain -- like a group of jurors that two people would have the same exact profile.

A If we're speaking of DNA typing profiles, that's what the frequency of occurrence helps to reflect, how common or rare is that particular result. If a result for a DNA typing profile was 1 in 10, and you had 12 people sitting here, then that estimated frequency of occurrence gives you an idea that there is a good chance that you might find somebody else that has that particular result.

The estimated frequency of occurrence is less than 1 in 6 billion gives you an idea of how large a size that you would have to have in order to potentially expect to see that result again.

MR. THOMAS: Nothing further.

THE COURT: Further cross.

MR. SANDERS: No, sir. Thank you.

THE COURT: May this witness be excused?

MR. THOMAS: Yes, your Honor.

MR. SANDERS: Yes, your Honor.

THE COURT: Thank you for being with us. You are excused.

Call your next witness.

MR. THOMAS: People call Susan Anderson.

THE CLERK: You do solemnly state that the evidence you shall give in the matter pending before this Court shall be the truth, the whole truth, and nothing but the truth, so help you God?

THE WITNESS: I do.

THE CLERK: Thank you. Please be seated.

THE BAILIFF: Please state your full name and spell it for the record.

THE WITNESS: Susan Anderson S-u-s-a-n A-n-d-e-r-s-o-n.

THE COURT: Good afternoon, Ms. Anderson.

THE WITNESS: Good afternoon.

THE COURT: Your witness.

MR. THOMAS: Thank you, your Honor.

SUSAN ANDERSON, having been duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. THOMAS:

Q What is your current occupation?

A Currently, I'm a criminalist at the San Bernardino County Sheriff's Department Scientific Investigations Division.

Q What's your current assignment there?

A Currently, I'm assigned to the forensic biology section and my primary duties in that section involve the analysis of DNA from items of biological evidence. I also serve as a technical reviewer for other analysts, DNA case files, and a DNA trainer for newer analysts, as well as our lab's CODIS administrator.

Q When you say your lab's CODIS administrator, what's that?

A CODIS is the DNA database run by the FBI, which contains DNA profiles, which are collected from forensic samples from items from crime scenes as well as offender samples for the purpose of searching these types of profiles against each local, state, and national level in order to try to solve unsolved crimes.

Q Did you have to receive any special training in order to be a criminalist and do what you're doing right now?

A I have a bachelor of science degree in biology from the University of California at Riverside where I

completed undergraduate course work in biochemistry, molecular biology and genetics, as well as statistics.

I have worked at our laboratory for approximately 12 years. For the last eight years, I've been a qualified DNA analyst. My DNA training entailed approximately one year of training in-house at our laboratory under the direct supervision of our DNA technical leader.

Upon completion of my training, I completed a qualifying test, which I correctly completed and commenced case work. I have also attended courses at the California Criminalistics Institute; a one-week course titled, Basic Forensic Serology; another one-week course titled, DNA/STR Analysis and Typing; a two-day course at LA County Sheriff's Department titled, Statistics in DNA Analysis.

Q During these eight years where you were doing DNA analysis, approximately how many times have you analyzed samples for DNA?

A I don't keep count of the samples. I would say hundreds, at least, maybe thousands.

Q Okay. Is it fair to say it's a lot?

A Yes.

Q And you've had to come into court before and testify as an expert in the area of DNA?

A Yes, I have.

Q In this case, did you do DNA analysis regarding certain samples that were given to you?

A Yes, I did.
Q Were you asked to do that analysis by somebody?
A My supervisor assigned me this case to work. As part of the case, certain samples were discussed to be worked.
Q Okay. And you were given a reference sample of a person by the name of John Yablonsky?
A May I refer to my notes?
Q Would that refresh your recollection?
A Yes, it would.
THE COURT: I always think that question is speculative. How do you know it's going to refresh your recollection? I think you should say, I'm going to refer to my notes, and you can refer to your notes anytime you want to. Just tell us when you're testifying from memory as opposed to when you're testifying from your notes.
THE WITNESS: Okay.
MR. SANDERS: Your Honor, I would like to interpose an objection that her answer would be speculative unless there's foundation for her basis of knowledge.
THE COURT: Basis of knowledge as to whether or not she'll understand what is in her notes?
MR. SANDERS: Basis of knowledge as to whether or not the sample came from a particular individual.
THE COURT: So you've got a foundation

objection?

MR. SANDERS: Yes, sir.

THE COURT: Sustained.

MR. THOMAS: Okay.

BY MR. THOMAS:

Q As far as this particular case, were you given a reference buccal swab that was labeled as coming from a certain person?

A Yes, I was.

Q Okay. And who was that person?

MR. SANDERS: Objection, your Honor. That would call for hearsay.

THE COURT: Sustained.

MR. THOMAS: If the Court would like me to, I can put Detective Alexander up and we can do it that way.

THE COURT: Just a minute. We're having way too much conversation in front of the jury on that. There's another way to do it with this witness. Doesn't she have records from this case? She has the DR number and the LR number and LRN or whatever it is.

MR. THOMAS: She has an LR number.

BY MR. THOMAS:

Q In this particular case, what was the LR number?

A 44659.

Q Was there a DR number?

A DR and bar code for that particular sample.

Q What was the DR number?
A 1331036 dash 07.
Q And was there an item that you analyzed that was labeled J-1?
A The item was Item J, and it was a reference buccal swab, which contained two swabs. I sampled half of one of the swabs, and I labeled that sample as J-1.
Q And then as far as that sample was concerned, was there a bar code number that was attached to that particular sample?
A Yes.
Q What was that bar code number?
A This is from my notes, Bar Code Number 0960000071.
Q Was there any other identifying information on that particular item?
A On the front of the envelope is a written description of who the reference buccal swab was collected from, their date of birth, and when the sample was collected, and by whom it was collected, as well as the DR number.
MR. THOMAS: The People are offering this not for the truth of the matter asserted but for identification purposes.
THE COURT: Go ahead.
BY MR. THOMAS:
Q As far as the envelope was concerned, can you give us some of the information that you just explained

NO FOUNDATION

was on the envelope as far as what it said?

A Yes. This is from my notes. The front of the envelope says, reference buccal swabs. It was identified as coming from John H. Yablonsky with a date of birth of 09/30/1963, and do you want when it was collected?

Q Yes.

A 03 -- March 8th of 2009 at 1:15 by Rob Alexander and San Bernardino County Sheriff's Department, DR Number 1331036 dash 07.

Q As far as this particular sample, did you do an analysis of that to see if you could obtain a profile?

A Yes, I did.

Q Were you -- how did you go about doing that analysis?

A First, I extract the DNA from the swab that the DNA was deposited on. I'll then concentrate the DNA once I have extracted it from the material and from the cells. I will quantify it, see how much DNA is present in that sample. I will then amplify or make copies of that DNA and type it or find out what the profile is for that sample.

Q Are those methods you used, is that generally accepted in the scientific community as accurate and reliable?

A Yes, it is.

Q After doing that, were you able to obtain a profile?

A Yes.
Q Was it a partial profile? A full profile?
A Refer to my notes again. It was a full profile.
Q Did you prepare a report regarding that full profile that you obtained for J-1?
A Yes.
Q And I'm going to show you what's been marked Exhibit 45. If you can use the laser pointer that's up there to show the jury the results that you obtained from Item J-1.
(Whereupon Exhibit 45 was marked for identification.)
THE WITNESS: J-1 is here at the bottom of this table for our Profiler Plus system, and these are my results for the various locations that we test. Then for the COfiler system that we test also, this is the results for J-1 here.
BY MR. THOMAS:
Q And then as far as those results for J-1, was there anything that you, during your testing of the sample or during any part of the procedure, that you thought was unusual about the results or that caused you any concern that maybe these results aren't accurate?
A No.
Q And then as far as that particular frequency or not frequency but -- did you do some sort of statistical analysis as to how frequent you would expect that

profile to show up in random individuals?

A Not for the reference sample, no. For the questioned samples, I did.

Q Let's get the questioned samples.

As far as your analysis goes, did you analyze some questioned samples?

A Yes, I did.

Q Where did you get those samples from?

A They were previously extracted DNA from another analyst, so I retrieved that extraction or that extracted DNA from our property section then went forward with the analysis from that step. So I quantified it or found out how much DNA was present in that sample then amplified and typed those samples in order to obtain the DNA.

Q You did similarly to what you did with Item J-1 except you didn't have to extract any DNA from Item A dash 18?

A Correct.

Q As far as the procedure that you used, it was the same procedure that you used that you previously described you used in Item J-1?

A The process was the same, yes.

Q Was there anything that occurred during that process that caused you to have any concerns that the results were somehow inaccurate?

A No.

Q Let's go to the first column, Item A dash 18a.

Can you explain to me what that is?

A With semen stains, typically the type of extraction that we perform will attempt to separate out the sperm cells from the non-sperm cells in order to separate out potential male and female donors, and that is the type of extraction that was done with these samples.

So A-18a is a particular stain from the felt pad that was extracted and in that extraction two subsamples were created from that one stain. So you have a non-sperm fraction and sperm fraction. The sperm fraction will contain DNA from the sperm cells that were present in that semen stain. The non-sperm fraction will contain any epithelial cells or any other kind of cellular material that was present.

What we have here in the non-sperm fraction is a mixture of DNA from two individuals, and I know this based on the number of division I have at any one location because typically one person should only have two variations at a location. Also, it is because of the differences in the strengths of these variations.

So I was able to separate them, and I actually had another chart showing the female profile that I separated out from this, and then in the sperm fraction. There was a single donor profile, which I was able to compare to the reference samples that I had. I found that the sperm fraction from the stain on the felt pad, A-18a, actually matched John Yablonsky by looking at all

the locations that I tested.

If you go down to the COfiler table, I have the exact same samples just a second system that I tested. Again, you can see that for A-18a the sperm fraction is a single donor -- excuse me, I'm sorry. There was a slight contribution from a second donor that was consistent with the female donor, but the majority or the major donor was consistent or matched John Yablonsky.

Q Then as far as there was a profile -- reference profile that you used for the victim in this case, Rita Cobb?

A Yes.

Q You were pointing to what looks like Table I, second to the last column from the bottom; is that correct?

A Yes. The non-sperm fraction from her vaginal swab was used as her reference sample. This is a single-source from a female, from Rita Cobb. This is it here on Profiler.

Q Looking at the sperm fraction, let's say hypothetically you found somebody that had in the -- I guess it would be the third column where you see the numbers 29 and 39 on there.

A It's 29, 30.

Q 30, I mean.

A This one.

Q Let's say you found somebody with the

numbers 24 coma 25 on there on that particular chromosome or that particular location on the chromosome and all the rest of the numbers were correct and they matched, could you exclude that person solely based on the differing numbers in that particular column?

A The profiles have to match exactly at every location that I test for it to be a match.

Q Okay. So if one -- at one location it doesn't match, then that totally excludes that person from being the donor of that particular profile?

A Correct.

Q In this case, the sample that you received, Item J dash 1, matched the sperm fraction from Item A dash 18a exactly?

A Yes. A-18a sperm fraction, the major donor, which is a male, matches John Yablonsky.

Q So you couldn't exclude John Yablonsky from being that person that left the sperm fraction, Item A dash 18a?

A Correct.

Q Okay. Did you do any statistical analysis as to whether or not somebody else might have that same particular profile?

A I calculated a statistic for the -- the major male profile obtained from A-18a sperm fraction.

Q What was that particular statistic?

A It was that I would expect to find that profile once within a population of less than 1 in 7 billion

Caucasian males, once within a population of less than 1 in 7 billion African American males, and once within a population of -- you know, I'm going to give you actual calculated numbers. It's a bigger number. It's -- the 7 billion number is the population of the earth approximately, and the actual calculation for Caucasian males is 190 trillion. So I would expect to find that profile once given a population of 190 trillion Caucasian males, once within a population of 11 quadrillion African American males, and once within a population of 32 trillion Southwestern Hispanic males.

Q As far as Item A dash 18b, that would be a cutting or separate type of DNA analysis than you did in Item A dash 18a?

A That was a separate extraction from I believe a second stain on the felt pad. So I took the extract and went forward with the analysis.

Q You did the same thing that you described to us earlier as you did in Items J dash 1 and A dash 18a?

A Correct.

Q Was there anything that was unusual about the results or the process that caused you any concern that the results might not be accurate?

A No.

Q And then as far as the -- did you have a sperm fraction and non-sperm fraction for Item A dash 18b?

A Yes, I did.

Q Were you able to obtain profiles on both of

those samples?

A Yes.

Q And those are reflected on this chart that's up there, I believe it's Exhibit 45?

A Yes.

Q And as far as the results go, did you do the same comparison between the sperm fraction on Item A dash 18b to the reference sample that you had from a person by the name of John Yablonsky, Item J dash 1?

A Yes. I compared the profile obtained from A-18b sperm fraction to both reference samples and found that A-18b sperm fraction matched Item J-1, which was the reference sample from John Yablonsky.

Q Did you do the calculations like you did in the previous sample, A dash 18a?

A Yes, I did.

Q What were those calculations?

A That I would expect to find a profile -- that profile again within a population of 190 trillion Caucasian males, once within a population of 11 quadrillion African American males, and once within a population of 32 trillion Southwestern Hispanic males.

Q Then all the work and all the statistical analysis that you did, those are all done in accordance with the training that you received?

A Yes.

Q And those are all accepted in the DNA

scientific community as reliable and accurate?

A Yes.

Q And then as far as that particular profile that you obtained from Item J dash 1, would you be able to look at another profile that was obtained from -- prior to -- at a different time than when you did your analysis on Item A dash 11 and have an opinion as to whether or not the person in Item J dash 1 also contributed to that sample?

A Yes.

Q Did you actually do that already?

A As part of some previous -- yes, some previous work.

Q I'm going to put up a mixture of charts it's going to be Exhibit 46. I'm going to ask you to look at Exhibit 46.

As far as Exhibit 46 is concerned, there's a Table I at the top, Profiler Plus; correct?

(Whereupon Exhibit 46 was marked for identification.)

THE WITNESS: Yes.

BY MR. THOMAS:

Q That would be the analysis that you performed on Items A dash 18a and b, and then the reference sample from Item A dash 11 from Rita Cobb and then just below that is Item J dash 1; is that correct?

A Yes.

Q Then underneath, there's another table, also

Profiler Plus, that has Item A dash 11 and has a non-sperm fraction and a sperm fraction; is that correct?

A That's correct.

Q You're familiar with those tables?

A The top table was generated from my report, and the bottom table was from another analyst's report, but I have reviewed it.

Q That analyst would be Monica Siewertsen?

A Yes.

Q Regarding the sperm fraction Item A dash 11, would you be able to do the comparison with Item J dash 1 and just specifically with what's up there on Table I give us an opinion as to whether or not you can exclude Mr. John Yablonsky from contributing the sperm fraction, Item A dash 11?

A Based on the two tables, looking at this row right here and the reference sample from John Yablonsky, looking at the D8, they're both a 12. That matches. Looking at D21 -- I'm referring to the location here. At D21, the 29, 30 and the 29, 30. At D18, which is the location here, you have the 13, 18 and 13, 18. At D3, we have a slight mixture, a 15, 18 with a very weak 17. So that indicates that you have a second weaker contributor. So the 15, 18 would belong to this major donor. That matches the reference sample at D3. VWA 16, 17 and, again, up here at vWA for Reference Sample J-1. FGA 21, 24 and 21, 24. D5, 11, 12 and 11,

12. D13, 9, 11 and 9, 11. D7, a 10, 12 and a 10, 12.

Based on these two tables, I would include Mr. John Yablonsky.

Q Then you would go to Table II and use the COfiler to determine whether or not those -- or this particular profile that's obtained from COfiler is the same as the reference sample that you had from John Yablonsky?

A Yes. You would go to COfiler and see if COfiler matches as well.

Q I'm showing you what's been marked Exhibit 47, and does the same go for Exhibit 47 as Exhibit 46 where the top chart is the analysis that you did excluding the reference sample from Rita Cobb and then the bottom table is the analysis that was done by Monica Siewertsen?

(Whereupon Exhibit 47 was marked for identification.)

THE WITNESS: Yes.

BY MR. THOMAS:

Q Looking at Table II, would you have an opinion as to whether or not you can exclude John Yablonsky from contributing the sperm fraction on Sample Item A dash 11?

A So, again, going through looking at each location, the sperm-fraction donor THO1 is a 7 and coming up to the reference sample THO1 is also a 7. The reference sample at TPOX is an 8 here. On the Item A-11