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25

1 THE WITNESS: Number three, stocking from  
2 Clifford Street and I have noted it is a dark colored  
3 nylon stocking recovered at 166 Clifford Street, Newark  
4 New Jersey. Evidence is as stated and generally soiled  
5 with cardboard like debris. No holes present in  
6 stocking.

7 One swab used to collect possible e-cells  
8 from outside.

9 One swab used to collect possible e-cells  
10 from inside.

11 And I have WEP and return to B. bag. What  
12 this means, it is wrapped in exam paper and returned to  
13 B. bag, which would be a brown paper bag.

14 And then under that I have sample 3-1 is the  
15 outside one swab. And I have a witness initials and  
16 date. And anytime we remove a sample for DNA testing,  
17 if it is cut out or just swabbed, we have another  
18 scientist come and verify markings on the packaging to  
19 make sure everything's correct and that's what the  
20 witness is for.

21 And Number 3-2 is inside one swab with the  
22 witness initials and date and I have that I set these  
23 up for DNA typing.

24 Q Just to be clear, can you tell the ladies and  
25 gentlemen, how many times you swabbed the stocking?

1 A Once on the inside and once on the outside.

2 Q And can you just tell us what you do exactly  
3 when you're swabbing it?

4 A What I do, I take the swab, looks like a Q-tip,  
5 for the outside swabbing, I will just rub the Q-tip  
6 over the outside surface of the stocking, then do the  
7 same thing all over the inside surface of the stocking  
8 with a different Q-tip.

9 Q Now, after you did this swabbing, you  
10 testified that you had put them inside the items that  
11 you identified as S-50 and S-51. Did you send the  
12 stocking to the DNA lab?

13 A No, I did not.

14 Q Why didn't you send the stocking to the DNA  
15 lab?

16 A My function is to recover stains that I feel would  
17 be probative for the investigation and that way, they  
18 don't have to deal with all the bulky evidence in the  
19 DNA Unit. They're getting just little packages like  
20 this with whatever stains that I swab or cut out for  
21 them.

22 Q And what, if any, protocol is there with  
23 respect to photographing items when a forensic  
24 scientist like yourself tests them in the Serology  
25 Unit?

1 marked D-3, just take a moment and tell us if it  
2 refreshes your recollection?

3 A No. I did not receive a buccal control from Elmo.  
4 What was the last name?

5 Q Rivadeneira?

6 A Rivadeneira, no.

7 Q Going back to the stocking, you said that in  
8 your notes it was basically consistent with what was  
9 observed, did you make any conclusion with regard to  
10 what appeared to you to be inside versus the outside?

11 A No. With things like the stocking and latex  
12 gloves, I can't really tell what manner they were worn  
13 in. I just swabbed the inside and outside as I receive  
14 it.

15 Q And let me ask you, Ms. Mac Donald, do you  
16 know if you examined a cervical swab in conjunction  
17 with this case?

18 A I did. No, I did not. I am sorry. I misspoke.

19 Q And what, if any, observations do you recall  
20 about the cervical swab in conjunction with this case?  
21 Did you receive one?

22 A I have a special note, cervical specimens listed  
23 as collected on nurse's notes. No envelope present and  
24 empty cervical swab box with seemingly unused slide in  
25 the bottom of kit box.



1 A Okay.

2 Q You indicated there was a brownish substance  
3 on the outside of the bag, the fingers?

4 A Correct.

5 Q And the overalls by the leg area, you  
6 indicated those also had brownish stains, correct?

7 A The inside of the overalls, yes.

8 Q Item two?

9 A You're talking about the inside?

10 Q The overalls, stain?

11 A On the front of the legs and outside of the seat,  
12 negative for blood.

13 MR. ZUNIC: Thank you.

14 Q Item 3, the stocking, you wrote that it was  
15 generally soiled with cardboard like debris?

16 A Correct.

17 Q Do you recall the stocking in this case? I  
18 know it is five, six, years ago?

19 A No.

20 Q The soil meaning dirty?

21 A Yes.

22 Q A cardboard like debris, do you know what you  
23 meant by that when you wrote it?

24 A Little particles, if you were to have a packing  
25 box, there was the tiny particulate of cardboard.

1 at all?

2 A No, I did not.

3 Q And what was the conclusion with respect to  
4 the inside of the stocking just to be clear?

5 A Sure. The inside of the stocking was a mixture of  
6 at least two people and Alexis T. could not be excluded  
7 as a possible contributor to that DNA profile.

8 Q Did you calculate any statistics using the  
9 product rule to quantify the level, the inability of  
10 Alexis to be excluded?

11 A Yes, I did.

12 Q And off the top of your head, would you be  
13 able to say what those statistics were?

14 A No, I don't believe so.

15 Q Now, I am going to just ask you to take a  
16 look at S-47, does S-47 contain your conclusions that  
17 were in a separate report regarding Specimen Number 3-2  
18 which is identified as the outside of the stocking?

19 A Yes. I was thinking 3-2 is the inside.

20 Q Sorry about that. With respect to that, what  
21 was considered to be the inside of the stocking? What  
22 did you conclude with respect to that specimen?

23 A So I concluded that Alexis T. could not be  
24 excluded as a possible contributor and the statistics  
25 that went along with that.

1 Q Would you be able to say them off the top of  
2 your head even if I gave you this S-47 and took it back  
3 from you, would that refresh your recollection? Would  
4 you be able to memorize that?

5 A I don't think I trust my memory on that.

6 Q When you did your report, were those  
7 calculations put into writing and notated?

8 A Yes, they were.

9 Q And when you took those, when you made those  
10 calculations, did you use a computer?

11 A I did.

12 Q And was that information from the computer  
13 put into your report?

14 A Yes, it was.

15 Q And this S-47 contains these statistics, the  
16 same statistics that were in your report, correct?

17 A That is correct.

18 Q Could you please read what you concluded to  
19 be the statistical conclusion with respect to Specimen  
20 Number 3-2?

21 A Yes. Based on the loci which we said are  
22 locations that we looked at, based on the loci which  
23 include all of the alleles from Alexis T. the number of  
24 people who cannot be excluded as having contributed to  
25 his mixture is approximately 1 in 4.21 million of the

1 African-American population.

2 1 in 107 thousand of the Caucasian population, and  
3 1 in 259 thousand of the Hispanic population.

4 Q And let me ask you, was this conclusion after  
5 your test result? Did you conclude that there was a  
6 mixture?

7 A I did.

8 Q And when you concluded that was a mixture,  
9 were you able to identify a major contributor versus a  
10 minor contributor?

11 A Not in this sample, both contributed about the  
12 same amount of DNA.

13 Q Now, as a result of the analysis which you  
14 concluded therefore a mixture, you did the statistics,  
15 was any decision made to test another item?

16 A Yes. There was.

17 Q What item was that?

18 A That was item 3-1 which would be the other side of  
19 the DNA stocking.

20 Q Inside or outside?

21 A That would have been the outside, I believe.

22 Q And just to be clear, whether it was inside  
23 or outside, that was just basically determined based on  
24 the way it was given to Courtney Mac Donald?

25 A Typically, that's how when we said inside, it is

1 usually inside as received when there's no real  
2 distinction between inside and outside.

3 Q Now, did you write a report in conjunction  
4 with the test of 3-1?

5 A Yes, I did.

6 Q And when did you write that report? Do you  
7 recall off the top of your head?

8 A I don't.

9 THE COURT: Is there any objection if she  
10 reads the results from that test, sir?

11 MR. ZUNIC: From the 11-2-05?

12 MR. MULKEEN: Correct.

13 MR. ZUNIC: No.

14 MR. MULKEEN: Thank you, your Honor.

15 A That report was dated November 2nd, 2005.

16 Q And what did you conclude?

17 A This specimen also reacted as mixture. This time  
18 however, there was slightly more contribution from one  
19 person than another which allows you to separate the  
20 two DNA profiles, and I was able to do that in this  
21 case. I then compared it to the buccal standard I had  
22 for Alexis T. She was included. She could not be  
23 excluded as a possible contributor to the DNA mixture  
24 profile that I found.

25 Q And were statistics, could you read the

1 section on the statistics?

2 A Sure. So like I said, I was able to separate it  
3 into two components, a major or minor. And the major  
4 DNA profile occurs in approximately 1 in 606  
5 quadrillion of the African-American population.

6 One in 23.5 quadrillion of the Caucasian  
7 population.

8 One in 4.96 quadrillion of the Hispanic population.

9 Q Now, did you ever receive a buccal swab of a  
10 Elmo Rivadeneira in connection with this case?

11 A No.

12 Q Now, what I'd like to ask you to do next, I  
13 am going to put something on the viewing screen. Well,  
14 let me ask you a few questions first?

15 A Okay.

16 Q S-46, do you recognize what S-46 is?

17 A I do.

18 Q What is it?

19 A It is a summary of what we call an allele table  
20 which is a list of locations that we look at the  
21 alleles that we got at each of those locations,  
22 basically to us is the complete DNA profile that we  
23 examined.

24 Q Could you just explain how many different  
25 columns are there in this table?

1 A That, I am not clear on, but that sounds like a  
2 reasonable number.

3 Q Thank you.

4 Now, is it possible you may have already shed  
5 some of your skin cells or hair cells while you have  
6 been sitting there?

7 A Yes, it is possible, particularly things I have  
8 touched or come into contact with, depends how long you  
9 come into contact with something, maybe how vigorous  
10 you touch the friction? It is not definitive but yes.

11 Q Specimen 3-2 is the inside of the stocking,  
12 correct?

13 A That is correct.

14 Q That react as mixture, correct?

15 A It did, yes.

16 Q Now, this mixture, can you tell us whether it  
17 contained only the DNA of two persons or more than two  
18 persons?

19 A No. It could have more than two. As I said,  
20 there's at least two people in there and because some  
21 people D3 any number of people might have 15 repeats.  
22 So depending on how people share alleles, you might not  
23 be able to tell if there's more than two people. You  
24 can see there's at least two.

25 Q Okay. Let me show you what's been marked D-4

1 If two peaks belong together, came from the same  
2 person, generally the same, right, generally speaking,  
3 this one we have a 14, that's an 85, significantly  
4 lower, that would also indicate to me that there's  
5 another person in there.

6 Q So potentially, people, three persons?

7 A Potentially, two people potentially, three, yes.

8 Q D-5 looks similar, but I ask you take a look,  
9 tell me if you recognize that document?

10 A I do.

11 Q Okay. Tell us what it is?

12 A It is, again, electropherogram we created at the  
13 laboratory.

14 Q Is there -- does this basically refer to the  
15 same series of alleles that were on the board before,  
16 just a different page of it?

17 A Yes, it does.

18 Q Again, I ask you to look at the lower left  
19 corner which has a ten, 12 and 11; can you tell us what  
20 those are?

21 A Again, we have, this time we have four peaks, a  
22 seven, a ten, and 11 and a 12, the seven and the 11  
23 have peaks that are above a thousand, and the 10 and  
24 the 12 are 162 and 449 respectively in the hundred  
25 height range they're both.

1 Q Do these numbers signify how many persons DNA  
2 specimens are on that item?

3 A Well, there are at least two people in that  
4 specimen. As I said, people can have up to two each  
5 and there's four, there's at least two people there.

6 Q And potentially four?

7 A There could be potentially four.

8 Q Again, we are referring to 3-2 which is the  
9 inside of the stocking?

10 A That is. Now, we give samples another number when  
11 we start working on them. That's not listed  
12 specifically. So I am not sure without looking at my  
13 notes if that refer specifically to 3-2 that you just  
14 showed me.

15 Q Okay. Fair enough.

16 I'd like to show you what's been marked D-6 and  
17 D-7 for Identification, first, I would ask you to take  
18 a look at D-6 and tell me if you recognize what that  
19 is?

20 A I do. It's the statistic calculation that was  
21 created for 3-1 which is the outside of the stocking  
22 and in relation particular to the minor component of  
23 that mixture.

24 Q Now, it says, strike that. Where did we get  
25 these two series columns of alleles from?

1 Q So that DNA we're talking about here, is it  
2 possible that it's from a person of Hispanic ethnicity,  
3 correct?

4 A That is correct.

5 Q It is also possible that it is from a person  
6 of Caucasian ethnicity or race?

7 A Yes.

8 Q It could be African-American, remote?

9 A Slight, more remote. All these numbers are quite  
10 large and most of these profiles exist only -- these  
11 are just approximations.

12 Q In fact, what was the number we referred to  
13 before as to the Hispanic population?

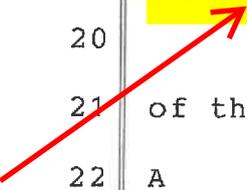
14 A In reference to 3-2?

15 Q Yes?

16 A In respect to the Hispanic population, 1 in 259  
17 thousand.

18 Q Not a extreme number by DNA standards? 

19 A No, it's not.

20 Q As I see right above of the 1 in 107 thousand  
21 of the Caucasian population? 

22 A It does, yes.

23 Q Now, you told us that it was possible that a  
24 Alexis T. was a contributor to the mixed profile in the  
25 inside of the stocking, correct?



1 A That is correct.

2 Q So it is possible she could be a contributor.

3 It is also possible she is not a contributor?

4 A That is true.

5 Q You indicated that she could not be excluded  
6 based on the loci?

7 A Loci.

8 Q Of the victim, correct? I am sorry. You  
9 told us that she could not be excluded based on her  
10 loci, correct?

11 A That is correct.

12 Q Are there 13 loci?

13 A There are 13 loci that we look at, looked at, at  
14 the time.

15 Q In this case, am I correct, that only four  
16 actually matched out of the 13?

17 A I would have to look at the allele table again to  
18 be sure.

19 Q Let me show you S-54 for Identification, let  
20 me know if that's the right chart?

21 A It is.

22 Q Just out of curiosity, out of the 13 loci,  
23 how many matched?

24 A In reference to which sample?

25 Q Alexis T.

1 Is it possible that she's a contributor to  
2 that mixture?

3 A That is correct.

4 Q But then it is also possible that she is not  
5 a contributor to that mixture?

6 A That is correct.

7 Q Did you ever see the actual glove in this  
8 case?

9 A I did not see the actual glove, just swabbing.

10 Q Did you ever see the stocking?

11 A I did not see the stocking.

12 Q Did you ever see a white rag or ever given a  
13 white rag to test?

14 A No.

15 Q How about a cervical specimen?

16 A Not to my knowledge, no.

17 MR. ZUNIC: One second, Judge. I just need  
18 to review my notes.

19 THE COURT: Take your time, sir.

20 MR. ZUNIC: I have no more questions.

21 THE COURT: Do you have redirect?

22 MR. MULKEEN: Yes, sir.

23 REDIRECT EXAMINATION BY MR. MULKEEN:

24 Q Ms. Schiffner, Mr. Zunic asked you if you  
25 had ever seen the stocking in this case. The fact that

1 there was inside and outside.

2 Q I would show you what's been marked S-46.

3 THE COURT: Show it to her?

4 Q Have you seen S-46 before?

5 A Yes, I have.

6 Q Do you recognize it?

7 A Yes, I do.

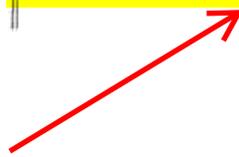
8 Q : If this will refresh your recollection  
9 regarding whether 3-1 was considered to be the outside  
10 or inside?

11 A 3-1 was the swabbing of the outside of the  
12 stocking. 

13 Q Were there any notes associated with item  
14 Specimen 3-1 explaining what it was when you did your  
15 reading of the other scientist reports in connection  
16 with this file?

17 A Clifford Street notes, but we don't get a whole  
18 lot of information about each specimen.

19 Q Now, with respect to your conclusion  
20 regarding the comparison of the DNA profile that you  
21 created from the buccal swab of the suspect Elmo  
22 Rivadeneira, what, if any, conclusion did you reach  
23 regarding a comparison between it and the DNA profile,  
24 the major DNA profile that was obtained from a swabbing  
25 of the outside of the stocking as reported by Linnea



1 Schiffner?

2 A Specimen Number 3-1 reacts as a mixture. Within a  
3 reasonable degree of scientific certainty, Elmo Maurice  
4 Rivadeneira is identified as the source of the major  
5 DNA profile obtained.

6 The major DNA profile obtained from this specimen  
7 occurs in approximately 1 in 605 quadrillion of the  
8 African-American population.

9 One in 23.5 of quadrillion of the Caucasian  
10 population.

11 And one in 4.96 quadrillion of the Hispanic  
12 population.

13 Q How did you calculate the statistics?

14 A We calculate statistics at the New Jersey State  
15 Police using a database that the FBI has created. So  
16 within the database that are allele frequency, number  
17 frequency for the numbers that you're going to see or  
18 may have already seen on the chart 15, 17, so those  
19 numbers have a frequency in a given population.

20 So, for example, an allele might have a frequency  
21 of .012 in the Caucasian population, using these  
22 numbers, we generate an estimate of frequency of each  
23 of the locations that we are looking at on the  
24 chromosome, then we combine each location by  
25 multiplying those numbers together to get an estimate

1 Q Now, I just want to ask you, you said you  
2 performed DNA test on the buccal swab you identified  
3 S-58 as an extract?

4 A Yes.

5 Q If you wanted to do a test again of this  
6 extract, would you be able to?

7 A Yes.

8 Q I am going to ask you with respect to your  
9 testing of the buccal swab, what you identified as Elmo  
10 Rivadeneira, to your knowledge, did you consume the  
11 entire swab when you did your DNA test?

12 A No. We always leave a portion of the swab knowns  
13 or unknowns to be re-tested if need be.

14 Q Let me ask you about your other conclusions,  
15 with respect to Specimen Number 3-2, specifically  
16 referring to the swabbing of the inside of the  
17 stocking, what, if any, conclusion did you reach with  
18 respect to that?

19 A Specimen Number 3-2 reacts as a mixture. Elmo  
20 Maurice Rivadeneira cannot be excluded as a partial  
21 contributor to the mixed DNA profile obtained.

22 Based on the loci which include all the alleles  
23 from Elmo Maurice Rivadeneira, the number of people who  
24 cannot be excluded as a contributor to this mixture is  
25 approximately 1 in 240 million of the African-American

1 population.

2 One in 5.84 million of the Caucasian population.

3 And 1 in 14.5 million of the Hispanic population.

4 Q What, if any, conclusion did you make  
5 regarding specimen -- do you recall Specimen 2-1 was a  
6 pair of overalls?

7 A Yes.

8 Q And what, if any, conclusion did you reach  
9 regarding Specimen 2-1?

10 A Specimen Number 2-1 reacts as a mixture. Elmo  
11 Maurice Rivadeneira is excluded as a possible  
12 contributor to the mixed DNA profile obtained from this  
13 specimen.

14 Q With respect to Specimen 4-1, are you  
15 familiar with this being a glove?

16 A Yes.

17 Q What, if any, conclusion did you reach with  
18 respect to that?

19 A Specimen Number 4-1 reacts as a mixture. Elmo  
20 Maurice Rivadeneira is excluded as a possible  
21 contributor to the mixed DNA profile obtained from this  
22 specimen.

23 Q Now, are all of the opinions and all your  
24 testimony today based within a reasonable degree of  
25 scientific certainty?

Colloquy

CERTIFICATION

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