

1 my notes, I just took two swabs at the same time, moistened
2 with sterile water, and I swabbed the lip area and the entire
3 outside body of the bottle, of each bottle.

4 Q. Of each bottle?

5 A. Independently.

6 Q. Okay. Did you put the swabs down inside the lip area
7 as well?

8 A. Yes, just inside the lip. And then I concentrated
9 mostly on the outside of the bottle.

10 Q. Okay.

11 MS. FULLER: Pass the witness, your Honor.

12 THE COURT: Anything further?

13 MR. HOCHGLAUBE: No, Judge.

14 THE COURT: Call your next.

15 MS. FULLER: The State calls Clay Davis.

16 THE COURT: All right. You may proceed.

17 MS. FULLER: Thank you, your Honor.

18 CLAY DAVIS,
19 having been duly sworn, testified as follows:

20 DIRECT EXAMINATION

21 BY MS. FULLER:

22 Q. Good afternoon, Mr. Davis. Would you introduce
23 yourself to the jury.

24 A. My name is Clay Davis.

25 Q. And, Mr. Davis, who are you employed by?

1 A. The Houston Police Department crime lab.

2 Q. Can you tell us what your job duties are at the crime
3 lab?

4 A. I'm a criminalist or a DNA analyst, which means I
5 will also test evidence for the presence of bodily fluids and
6 then take any of those items that are positive on to DNA
7 analysis.

8 Q. Can you tell the jury a little bit about your
9 educational background.

10 A. I have a bachelor's degree in biology from Louisiana
11 Tech University and a master's degree in forensic DNA and
12 serology from the University of Florida.

13 Q. And what did you do right after you got your master's
14 degree?

15 A. I was still working at HPD when I got my master's,
16 but prior, or after the bachelor's degree I was working for
17 Baylor College of Medicine here in town on the human genome
18 project, which was sequencing the DNA of a human.

19 Q. All right. And tell me a little bit about what you
20 did with that project, or with that?

21 A. It's basically just getting the genetic code of the
22 human, and putting all the A's, C's, T's and G's in order, and
23 we also did several other animals, including the monkey, the
24 rat, the mouse, the dog, and several bacteria.

25 Q. And from that experience did you have any articles

1 published?

2 A. I did. I'm on four papers with doing independent
3 research.

4 Q. Are you a member of any professional organizations?

5 A. I am. One of 'em is SWAFS, the Southwestern
6 Association of Forensic Scientists, and AFDAA, which is the
7 Association of -- sorry -- American Association of DNA Analysts
8 and Administrators.

9 Q. Have you testified as an expert witness before?

10 A. Yes, I have.

11 Q. On few or many occasions?

12 A. This is in my thirties, so I guess many.

13 Q. Okay. And have you been deemed an expert by the
14 courts in Texas?

15 A. Yes, I have.

16 Q. And in Harris County, Texas?

17 A. Yes, I have.

18 Q. All right. Can you start by telling the jury exactly
19 what DNA is.

20 A. DNA is the genetic material contained in all
21 nucleated cells. You get half from your mother and half from
22 your father, so of course your DNA is the same from the time
23 that you're born until the time that you die.

24 Since your DNA is the same throughout your body, we
25 can take DNA from hair, skin cells, saliva, blood, and all of

1 it should be the same within that person.

2 Q. And what can you do with DNA in a forensic setting?

3 A. In a forensic setting we can take an unknown DNA,
4 like from evidence, and compare it to a known sample, which
5 would be a blood sample or a buccal swab from the cheek, and do
6 the comparison to see is that individual consistent within the
7 evidence sample or not.

8 Q. When you're testing for DNA, can you explain a little
9 bit about what portion of DNA you're looking at and how many
10 locations of DNA you're looking at.

11 A. So we don't look at the entire DNA. We look at short
12 regions called STRs, which are short tandem repeats. These are
13 repeats of the DNA within the chromosomes. So we look at about
14 eleven different chromosomes, and we're looking at how many of
15 those repeats are within those sets.

16 Q. All right. And when you're comparing to pieces of
17 DNA, how does that comparison actually work?

18 A. So we will look at the first location, and you'll get
19 a number, and that number indicates how many repeats are at
20 that location. And so we look at 15 different regions,
21 including a sex determining region that will tell me either
22 male or female, and then the process is taking the evidence
23 samples, determining what kind of a profile it is, and then
24 comparing the knowns to that profile.

25 Q. Is this a -- is DNA a recognized field of expertise?

1 A. Yes, it is.

2 Q. By scientific organizations and from the courts?

3 A. Yes, in the forensic community definitely.

4 Q. Okay. And had the scientific theories that are the
5 underlying principles of DNA, have they been validated?

6 A. Yes. There's many journal articles written on this
7 process.

8 Q. About how long has DNA been around?

9 A. Some of the first DNA testing was done probably in
10 the late '80's, and those were -- like I said, it wasn't the
11 system that we're using now.

12 Q. Okay. I want to turn your attention to this case
13 specifically, and we can kind of talk through exactly how DNA
14 is tested and compared, but were you the DNA analyst that was
15 assigned to incident No. 119305210?

16 A. Yes, I was.

17 Q. All right. And there was a lot of evidence submitted
18 in this case. Is that fair to say?

19 A. Yes.

20 Q. Okay. I want to specifically draw your attention to
21 the fourth laboratory test that's dated March 28, 2011. And
22 you received some swabs from Juli Rehfuss; is that correct?

23 A. Correct.

24 Q. And tell us, starting from the beginning of what you
25 would have done, what your process is for testing one of these

1 swabs.

2 A. So this is the same process whether it's an evidence
3 sample or a known sample. And so the first step we'll do is an
4 extraction process, which is breaking open the cells, releasing
5 the DNA, and getting the DNA out of that cell.

6 The next step is determining how much DNA was
7 released, how many cells actually broke open, how much DNA I
8 actually got, and that's called quantification, so this is
9 telling me how much DNA is actually there.

10 The next step requires a specific amount, so I want
11 to know what I'm starting with. The next step is
12 amplification. This is where I'm copying my 15 regions plus my
13 sex determining location, and I'm making billions of copies of
14 those.

15 The next step is separation. I'm separating the DNA
16 based on size and charge, and it's running through, like, a
17 gel-like polymer, and so it will separate, those locations will
18 separate.

19 The last step is interpretation. This is me looking
20 at the DNA profile, going do I need to do more work? Is this a
21 single source or is this a mixture profile? Based on just the
22 quantification value and what would I -- what would I see when
23 I'm analyzing that profile.

24 And then the last step is just comparing the known
25 profiles to the actual evidence and writing a report and making

1 a comparison.

2 Q. So starting back with extraction, in these cases,
3 were you the only DNA analyst that worked these case -- the
4 evidence in this case?

5 A. Yes. For that report dated April 28, 2011, I did all
6 the extraction, quantification, amplification, and loaded the
7 machines for the separation.

8 Q. Okay. And you mentioned machines. Throughout these
9 steps are you utilizing machines to help you to separate the
10 DNA and amplify the DNA and copy the DNA?

11 A. Yes, I am, there are machines involved on all of
12 these.

13 Q. Okay. Starting with extraction, is there a machine
14 used for extraction?

15 A. There's a couple instruments. There's, you know,
16 pipettes, which is, you know, it's a -- it's kind of like a
17 turkey baster, brings up the volume, expels the volume.
18 There's heat block, it just kind of maintains the temperature
19 when they incubate overnight. There's centrifuge that will
20 spin the tubes to get the liquid off the lid so that when you
21 open it there's no liquid on the lid.

22 Quantification has a machine called a 7500. It's a
23 closed machine hooked up to a computer. It's PCR based,
24 polymerase chain reaction based, so it is copying and so that's
25 telling me how much DNA is there.

1 Amplification has a machine, it's a thermocycler.
2 It's -- heating and cooling, separating the DNA and amplifying.
3 And then of course the last machine is the 3100, which is the
4 separation machine.

5 Q. All right. And while you're running all these tests
6 and using all these machines are there standard protocols,
7 first of all, for how to use the machines?

8 A. Yes, there is.

9 Q. Okay. And is that a standard protocol that is given
10 to you by HPD crime lab?

11 A. Yes. It is well documented. It is in our SOP, or
12 standard operating procedures, and you were trained on that as
13 you go through training.

14 Q. All right. And are there safeguards for controls to
15 make sure that the, for example, extraction was done properly
16 so you can now move on to the next step?

17 A. Yes, there are. There are reagent blanks processed
18 with each evidence sample and each known sample, and so the
19 reagent blanks are there to make sure that the chemicals and
20 the reagents that are added are DNA free, there's nothing in
21 there once you're adding the reagent, and those reagent blanks
22 are carried through the entire process all the way to the end.

23 Q. So, for instance, if you're on amplification and you
24 receive something, a result that is outside of your standards,
25 what would you do if that were to occur?

1 A. We always step back one step. So if I see something
2 within the interpretation or the analysis of something within
3 the reagent blank, then we'll step back one step and see is it
4 in the amplified product. Was it just a -- a carry-over
5 between maybe two wells while you were pipetting between two
6 wells. And so we just step back one step. We will reamplify
7 it, and if it's still there then you go back to the actual
8 extract. If it's in the extract, then we will take a
9 completely new cutting of the evidence and start completely
10 over.

11 Q. Now, if -- the first step in DNA is just going
12 through serology; is that correct?

13 A. Yes.

14 Q. Okay. And if a piece of evidence does not make it
15 through serology, meaning no biological material is either
16 detected or found while doing presumptive testing or visually
17 looking at something, if no biological material is found, what
18 happens with that piece of evidence in terms of moving forward?

19 A. If nothing is found, whether it's blood or semen, or
20 if it's not suspected of being, like a contact sample, then the
21 sample stops. We retain it, and it's there for testing if you
22 need to.

23 Q. Okay. So if items of evidence are tested and they
24 don't even make it out of serology, they then don't make it to
25 you for DNA testing because there's nothing detected for you to

1 test. Is that fair to say?

2 A. Correct.

3 Q. Okay. Now, kind of back to the question about the
4 machines, sorry to jump around, but if you were to receive any
5 type of indicators on the machine that would indicate that you
6 needed to step back and do a step over again, would you
7 document that in your file?

8 A. Oh, absolutely, there's definitely documentation of
9 all of those.

10 Q. Okay. And also in terms of documentation, do you
11 have documentation that you keep in terms of maintenance logs
12 for each of these machines to make sure that they're running in
13 or being maintained the way that they're supposed to be?

14 A. Yes, they are. They're stored in the laboratory.

15 Q. Okay. I want to turn your attention to the lab
16 report that's dated March 28, 2011, and talk through that. You
17 received some swabs from Juli Rehfuss; is that correct?

18 A. Correct.

19 Q. And what were those swabs from?

20 A. I received item 1.1.1.1, portion of swabs from
21 shorts; item 1.1.2.1, portion of reddish brown stain from
22 shorts; item 8.2.1.1, portion of swabs from beer bottle;
23 8.3.1.1, portion of swabs from beer bottle; 8.4.1.1, portion of
24 swabs from malt liquor bottle; 8.5.1.1, portion of swabs from
25 beer bottle; 11.1, portion of known saliva swabs from Julie

1 Ostlund; and 12.1, portion of known saliva swabs from Mary
2 Ostlund.

3 Q. And previous to that, had you received any biological
4 evidence from the victim, Flora Ryan?

5 A. Yes. I received a bloodstain card, item 10.1.1.

6 Q. Okay. And when you received that bloodstain card,
7 were you able to obtain a DNA profile for Flora Ryan?

8 A. Yes, I was.

9 Q. Okay. So now you've got a known sample of the
10 victim, Flora Ryan; is that correct?

11 A. Correct.

12 Q. And from the swabs that you were given by Julie
13 Ostlund and Mary Ostlund, you're now able to get their DNA
14 profiles as well; is that correct?

15 A. Correct.

16 Q. Okay. So, you've got three known samples now.
17 Additionally, were you at another time given the known buccal
18 swabs of the defendant, Dean Wood?

19 A. Yes, I was. Item 3.2.1.

20 Q. Okay. So you've got his DNA profile as well?

21 A. Correct.

22 Q. Okay. I want to turn your attention to the swabs
23 from the shorts. And if you could, you've talked about the
24 process by which you would be able to obtain some DNA from
25 those shorts. Now, tell us what you do after you get those

1 results, I guess this would be your interpretation stage.

2 A. So I would start interpreting the DNA profile, is it
3 a mixture? Because since you get half your DNA from your mom
4 and half from your dad, you should only have two numbers in one
5 location that I'm looking at. And so if there's more than two
6 numbers, I know there's a mixture of individuals, maybe at
7 least two, and so we start off just by assessing the profile
8 from that standpoint, is it a mixture? What was the quant
9 value? Can I reamplify and get, you know, more of the numbers
10 coming up, you know, is it a good profile, and then just do the
11 analysis based on that and then start comparing the knowns to
12 this profile.

13 MS. FULLER: May we approach the bench?

14 THE COURT: You may.

15 MS. FULLER: Just briefly.

16 (The following proceedings were had at the bench:)

17 MS. FULLER: Okay. I didn't go out but Steven did go
18 out in the -- Steven went and talked to Clay about not
19 mentioning the positive for the semen, so I just wanted that to
20 be known. And kind of whisper into his ear again real quick to
21 make sure I don't ask anything.

22 THE COURT: Why don't we take a break.

23 (The following proceedings were had in open court:)

24 THE COURT: Ladies and gentlemen, I'm sorry, we
25 cannot handle this legal argument quietly enough. So if you'll

1 just give us a few minutes we can address it and then we'll get
2 you right back out here.

3 (Jury out.)

4 MS. FULLER: Thank you. I'm sorry, I didn't want to
5 say the wrong thing.

6 THE COURT: I appreciate so much you being careful.

7 MR. HOCHGLAUBE: No, I appreciate it too.

8 THE COURT: Go ahead on.

9 MS. FULLER: So just wanted to make sure that we're
10 not going to talk about any of the presumptive positive for the
11 semen on the shorts.

12 THE WITNESS: Okay.

13 MS. FULLER: That was something that we had agreed to
14 prior to because there were bleach stains and a lot of other
15 things on the shorts, so before we got into your analysis of
16 what you found on the shorts, I just wanted to make sure that
17 you knew don't -- we're not talking about the presumptive
18 positive presence for semen.

19 THE WITNESS: Right.

20 MS. FULLER: And you didn't test for semen anyway.

21 THE WITNESS: No.

22 MS. FULLER: So I just wanted everyone to be on the
23 same page so that we didn't -- so that I didn't ask you
24 something that would elicit that by mistake.

25 THE WITNESS: Okay.

1 MS. FULLER: Does that make sense?

2 THE COURT: It does.

3 (Pause.)

4 (Jury in.)

5 THE COURT: All right. You may be seated.

6 You may proceed.

7 MS. FULLER: Thank you, your Honor.

8 Q. (By Ms. Fuller) Okay. So before the break we were
9 talking about item -- the shorts, and how you took the swab and
10 you went from the extraction all the way through the steps that
11 you described to us earlier, and you obtained some data. Is
12 that fair to say?

13 A. Correct.

14 Q. Okay. What did you do with that data once you
15 obtained it?

16 A. So once the data was obtained, I would start doing a
17 comparison between the known samples that I have and the
18 profile that I obtained from the shorts.

19 Q. Okay. So let's talk first about the profile that you
20 obtained from the shorts. What can you tell us about that
21 profile that you obtained?

22 A. I know it's a mixture of DNA from at least two
23 individuals. At least one's male, and Flora Ryan cannot be
24 excluded as a contributor to the major component of this
25 mixture, which means she donated more DNA than the other

1 individual that's on the shorts.

2 Q. Okay. So it's a mixture, and Flora Ryan, her DNA is
3 present. Is that fair to say?

4 A. Correct.

5 Q. Okay. Once you find that information, once you
6 determine that information -- well, first of all, did you
7 determine who -- let me back up. Once you obtain a profile and
8 you're able to compare it to a known profile, do you then
9 assign some sort of numeric probability with that known and
10 unknown sample?

11 A. For her, yes. I will do a stats calculation on and
12 kind of give it just a little weight about how she is in --
13 included in the shorts.

14 Q. Okay. And can you tell us what that calculation was.

15 A. 1 in 7.8 trillion for Caucasians, 1 in
16 2.1 quadrillion for African-Americans, 1 in 7.6 billion for
17 Southeast Hispanic, and 1 in 19 trillion for Southwest
18 Hispanics.

19 Q. Okay. So the higher number, what does that -- what
20 does that mean?

21 A. The highest number here is 1 in 2.1 quadrillion,
22 which means 1 in every 2.1 quadrillion individuals would also
23 not be excluded from this mixture.

24 Q. Okay. Does that mean that there are -- that that's a
25 fairly high statistic to say that Flora Ryan's DNA is located

1 on those shorts?

2 A. It is a high statistic, but, you know, I don't know
3 if she has a twin so I can't say without a reasonable doubt
4 that her DNA is on the shorts, because I don't know if she has
5 a twin out there somewhere, but it is a high statistic, yes.

6 Q. Okay. So assuming she doesn't have a twin, fairly
7 high statistic?

8 A. Yes.

9 Q. Okay. And that was on the shorts?

10 A. Correct.

11 Q. Tell us about the beer bottles. I believe -- let's
12 talk about 8.2.1.1, the swab from that beer bottle.

13 A. And this is a partial female DNA profile, which means
14 of the 15 locations that I look at, not all of them produced a
15 result, so that's why it's a partial. And so Flora Ryan cannot
16 be excluded as a possible contributor to that partial profile,
17 and the stats here are 1 in 110 billion for Caucasians, 1 in 34
18 trillion for African-Americans, 1 in 74 million for Southeast
19 Hispanics, and 1 in 270 billion for Southwest Hispanics.

20 Q. So even though you could only obtain a partial
21 profile, again, those numbers, assuming she doesn't have a
22 twin, are fairly high. Is that fair to say?

23 A. Yes.

24 Q. Which makes the probability greater that that is, in
25 fact, Flora Ryan's DNA on that beer bottle?

1 A. I could not exclude her, no.

2 Q. Back to the shorts. Was that a full DNA profile or
3 was that only a partial DNA profile?

4 A. So this was a mixture of DNA of at least two. So, I
5 mean, mixture of DNA is mixture of DNA, and so it's not a
6 partial. So I did get a result at every location, but it is a
7 mixture of at least two people.

8 Q. Okay. Moving on to 8.4.1.1, what were the results
9 on, I believe that was the malt liquor bottle?

10 A. Yes. So this is actually a partial DNA mixture.
11 Again, mixture, more than two, more than two numbers at any
12 location, and partial because not all of the locations produced
13 a result. And Flora Ryan could not be excluded as a possible
14 contributor to this potential DNA mixture, and the stats are 1
15 in 890 for Caucasians, 1 in 4100 for African-Americans, 1 in
16 280 for Southeast Hispanics, and 1 in 8200 for Southwest
17 Hispanics.

18 Q. The other two beer bottles, 8.3.1.1 and 8.5.1.1, were
19 you able to receive any DNA data off of those two swabs?

20 A. No, I was not.

21 Q. Okay. And going back to 8.2.1.1, which is one of the
22 beer bottles, were you able to get the defendant's DNA off of
23 that beer bottle?

24 A. 8.2.1.1?

25 Q. Yes.

1 A. No. Dean Wood, Julie Ostlund, and Mary Ostlund are
2 excluded as possible contributors to this partial DNA profile.

3 Q. Okay. So the only person that you could get on
4 8.2.1.1 was Flora Ryan?

5 A. Correct. Her DNA was consistent.

6 Q. Okay. And Dean Wood is excluded as is Mary Ostlund
7 and Julie Ostlund?

8 A. Yes, that is correct.

9 Q. Now, 8.4.1.1, can you tell us about the defendant on
10 that one? That would be the malt liquor bottle.

11 A. Dean Wood cannot be excluded as a possible
12 contributor to this partial DNA mixture. And the stats are 1
13 in 11 million for Caucasians, 1 in 160 million for
14 African-Americans, 1 in 100,000 for Southeast Hispanics, and 1
15 in 93 million for Southwest Hispanics.

16 Q. Okay. So assuming that Dean Wood doesn't have a twin
17 out there, and he's Caucasian, his statistics that were
18 assigned to that was 1 in 11 million; is that right?

19 A. Yes. So 1 out of every 11 million people would also
20 not be excluded from this mixture.

21 Q. Okay. And how about Mary and Julie at 8.4.1.1?

22 A. Julie Ostlund and Mary Ostlund were excluded as
23 possible contributors to this DNA mixture.

24 Q. Okay. They're excluded?

25 A. Correct.

1 Q. Now, going back to the portion of the swabs from the
2 shorts, 1.1.1.1, did you also compare those to Mary, Julie, and
3 the defendant?

4 A. Yes. Julie Ostlund and Mary Ostlund are excluded as
5 possible contributors. And Dean Wood cannot be excluded as a
6 possible contributor. And his stats are 1 in 8100 for
7 Caucasian, 1 in 5100 for -- sorry -- 51,000 for
8 African-American, 1 in 9700 for Southeast Hispanics, and 1 in
9 74,000 for Southwest Hispanics.

10 Q. Now, are those probabilities, the statistics that you
11 assigned to each of these pieces of evidence, how do you get
12 those statistics?

13 A. So on the DNA profile we take each number that I'm
14 giving, whether it's in a mixture or a single source, and each
15 of those numbers, which we call alleles, there's an estimated
16 frequency within the general population. So if you take the
17 number ten, and let's say one out of every ten people have that
18 number ten in their DNA profile, and so since you should have
19 two numbers at any location, there's got to be a second number
20 hopefully, could be a ten but it could be a, let's say an
21 eleven. And let's say that eleven is also one in ten to make
22 it easier, so now we're looking at a one in a hundred chance
23 that any individual would have those two numbers. And so for a
24 DNA profile I will take all of the frequencies for all of the
25 15 locations, and it will be calculated, and that's how you get

1 the larger number.

2 Q. And are -- is there a formula that you use? Is there
3 a computer software that you use?

4 A. There's a formula and there is a computer software
5 that is monitored by the FBI. It is by the FBI, it's called
6 Popstats, and these are the ones that give us the statistics,
7 the numbers.

8 Q. Okay. Now, did you do any testing on the rape kit?

9 A. For DNA?

10 Q. Yes.

11 A. No, I did not.

12 Q. Okay. And would there have been a reason for that?

13 A. If the presumptive test for the rape kit were
14 negative, then it would not have been passed on to DNA.

15 Q. Okay. And can you tell from your notes if, in fact,
16 the rape kit was passed on for DNA?

17 A. No, it was not.

18 Q. Okay. So that means that there was no presumptive
19 test that came back positive to then forward something on to
20 you to test?

21 A. Correct.

22 Q. All right. How about the complainant's fingernail
23 clippings?

24 A. I did test those.

25 Q. Okay. And what information did you get after testing

1 those?

2 A. For item 10.4.1.1, this is the full single source
3 female DNA profile, and Flora Ryan cannot be excluded and Dean
4 Wood is excluded from this DNA profile.

5 Q. Okay.

6 A. On item 10.3.1.1 is a partial female DNA profile.
7 Flora Ryan cannot be excluded, and Dean Wood is excluded from
8 this profile.

9 Q. Okay. So he's excluded from both of the fingernail
10 clippings?

11 A. Correct.

12 Q. Going back to the rape kit, if in fact the serologist
13 had seen some sort of biological material, which could be
14 blood, semen, something along those lines, if they had seen
15 that and had gotten a presumptive positive test, then it would
16 have been forwarded to you for the DNA?

17 A. Correct.

18 Q. Okay. And in this case, nothing was found so DNA
19 wasn't even initiated?

20 A. No, it was not processed at this time, but it is
21 available to be tested.

22 MS. FULLER: Pass the witness.

23 THE COURT: Cross-examination.

24 MR. HOCHGLAUBE: Thank you, Judge.

25

1 CROSS-EXAMINATION

2 BY MR. HOCHGLAUBE:

3 Q. We meet again, Mr. Davis.

4 A. Here we are.

5 Q. The -- I want to start by -- by just covering how
6 extensive the enormity of evidence that was sent to your lab
7 was, okay?

8 A. Okay.

9 Q. So there's been mention of a rape kit, right?

10 A. Correct.

11 Q. And that involved, as best I can tell, eleven
12 different items, right?

13 A. That is correct, eleven.

14 Q. And basically there's a vaginal smear, there's a
15 vaginal swab, there's an anal smear, an anal swab, an oral
16 smear and an oral swab. There's head hair combings. There's a
17 lot of stuff that gets processed during a rape kit. You know
18 that, right?

19 A. Yes.

20 Q. All right. And there was a lot of stuff submitted to
21 your lab for analysis based on that rape kit, right?

22 A. Yes.

23 Q. Additionally, there were these fingernail scrapings,
24 right?

25 A. Yes.

1 Q. How many different items were submitted for your lab
2 based on that?

3 A. So the fingernail scrapings are inside of a morgue
4 kit and so there are -- four items within that.

5 Q. Okay. And the idea between doing the rape kit and
6 doing the fingerprint -- or fingernail scrapings is you want to
7 sort of cover the complainant's body as thoroughly as possible
8 to try to find evidence, right?

9 A. Yes, to find a foreign DNA profile that's not hers.

10 Q. Sure. And that's what was done in this case, right?

11 A. Correct.

12 Q. There was all kinds of swabs and smears and items
13 taken from her fingers, taken from her genitals, taken from her
14 anus, right?

15 A. Yes.

16 Q. All of this with an idea to try to figure out who had
17 done this to her, right?

18 A. Correct.

19 Q. And basically, none of it, not one shred of the
20 fingernail scraping, of the rape kit, of anything that was
21 found on Flora Ryan's body, not one bit comes back to Mr. Wood?

22 A. No.

23 Q. Now, this stuff was submitted -- I guess on
24 September 22nd is when the testing began; is that right?

25 A. September 14th was the rape kit.

1 Q. Okay. And the fingernails?

2 A. The morgue kit was received, or she started her
3 analysis on September 20th.

4 Q. Okay. But so mid September is when all this stuff
5 gets to HPD's crime lab, right?

6 A. Correct.

7 Q. Okay. When does HPD's crime lab make the
8 determination that there is no DNA from Dean Wood on Flora
9 Ryan's body, when do these results become final?

10 A. Since I didn't do anything on the rape kit, and then
11 the fingernail scrapings were submitted in the first DNA report
12 that I did, and that was January 26, 2011. That was my first
13 report.

14 Q. Okay. Now, you work for the Houston Police
15 Department, correct?

16 A. Yes.

17 Q. And you're a scientist, right?

18 A. Correct.

19 Q. You're not a peace officer, correct?

20 A. No, I'm not.

21 Q. And the idea is that ideally as a scientist you're
22 not influenced by the sort of pressures that law enforcement
23 might have on police officers in its ranks, right?

24 A. Correct, I'm not influenced.

25 Q. Well, that's the whole --

1 A. Or the pressure.

2 Q. I'm not questioning that.

3 A. Right.

4 Q. But nevertheless, you guys use the same computer
5 system, right?

6 A. To --

7 Q. Well, your report, when you come back with this
8 information, it becomes public -- it becomes information to the
9 investigating officers in this case, correct?

10 A. Yes, it is.

11 Q. So we can say that in January 2011 HPD knows that
12 there's none of the defendant's DNA on Flora Ryan's body,
13 right?

14 A. Yes, that is correct.

15 Q. Okay. Now, in addition you did testing not just on a
16 rape kit and on fingernails but on several items that were
17 recovered out of this apartment, right?

18 A. Yes, I did.

19 Q. You did testing on gray shorts that -- well, you may
20 not have done the test, but the HPD lab did testing on gray
21 shorts that were supposedly in a washing machine?

22 A. Yes.

23 Q. Right. And we were just talking about that kind of
24 in passing while the jury was out, right?

25 A. Yes.

1 Q. Okay. So there was gray shorts, there was a blanket,
2 right?

3 A. Yes, multicolored blanket, pillowcase.

4 Q. A pillowcase. There was a white shirt from the
5 complainant, right?

6 A. Yes.

7 Q. And there was -- okay. All right. And so all of
8 this testing, it also happens somewhere in this timeframe up
9 here, right?

10 A. Yes, it is.

11 Q. All right. And basically again, that information,
12 the blanket, the complainant's clothes, the defendant's shorts,
13 none of that has the defendant's DNA on it, right?

14 A. No, none of the items in my first report had any DNA
15 on it.

16 Q. Right. And the blanket and the shirt that are put in
17 the washing machine, they come back with the complainant's DNA,
18 right?

19 A. The shirt and the blanket, yes.

20 Q. And tell us what the number is there?

21 A. 1 in 4.4 quintillion for Caucasians -- and this is
22 Flora Ryan being included -- 1 in 3.8 sextillion for
23 African-Americans.

24 Q. Let's just focus on Caucasians.

25 A. Okay.

1 Q. So that's 4.4 --

2 A. Quintillion.

3 Q. Quintillion, right? That's a big number, right?

4 A. That is a big number.

5 Q. All right. We go, just so everybody's clear, we go
6 billion's, trillions, quadrillions, and then quintillions,
7 right?

8 A. Yes, million, billion, quad, quin.

9 Q. All right. And so I think that's a high enough
10 number that we can say with scientific certainty -- is that the
11 language -- that the DNA found on Flora Ryan's shirt and on her
12 blanket, that that's her DNA, right?

13 A. Yes.

14 Q. Okay. Now, ultimately on these shorts, right -- and
15 these are the blue shorts we're talking about now, right?

16 A. This is item 1.1.1.1.

17 Q. Exactly.

18 A. Okay.

19 Q. There's blood that's found on the outside of Dean
20 Wood's shorts, right?

21 A. Yes, there is blood found on the outside of the
22 shorts.

23 Q. Okay. And who does that come back to?

24 A. This is -- it comes back to Flora Ryan cannot be
25 excluded.

1 Q. And what's the number?

2 A. 1 in 4.4 quintillion.

3 Q. 4.4 quintillion again; is that right?

4 A. Yes.

5 Q. So again, there's no question, right, to a -- tell me
6 the phrasing, a scientific degree of certainty the blood found
7 on the outside of his shorts is Flora Ryan's, right?

8 A. Yes, to a reasonable degree of scientific certainty,
9 Flora Ryan cannot be excluded as a contributor of this DNA
10 profile.

11 Q. Okay. Now, there's also a swabbing done, this is on
12 the outside, right?

13 A. Yes, the reddish brown stain, item 1.1.2.1, is on the
14 outside.

15 Q. And the inside, it comes back to a mixture, right?

16 A. Yes.

17 Q. And that makes sense, doesn't it, that the inside of
18 the shorts would -- would show, number one, Dean Wood's DNA,
19 right, that makes sense?

20 A. That does make sense, yes.

21 Q. Okay. And what's the number for Dean Wood's DNA
22 inside of his shorts?

23 A. 1 in 8100 for Caucasians.

24 Q. All right. And there is also the complainant's DNA
25 found, or a high number that it's likely it's the complainant's

1 found inside, right?

2 A. There is a high number, yes, 2.1 -- sorry -- 7.8
3 trillion.

4 Q. Right. Now, that's a big number also, right?

5 A. Yes, it is.

6 Q. It's not as big as our national debt but it's a big
7 number.

8 A. It's a big number.

9 Q. Okay. And this is the shorts here, correct, that
10 we're talking about?

11 A. Yes, it is, the inside of the shorts.

12 Q. The inside of the shorts. All right.

13 Now, are you aware that these are the shorts that
14 were obtained from Dean Wood at the HPD jail?

15 A. No, I'm not. I just know they were collected. I
16 don't know where they were collected from. I mean, I knew they
17 were his but I don't know where they were from.

18 Q. All right. You're aware that DNA can get transferred
19 pretty easily, right?

20 A. Yes, relatively easy, yes.

21 Q. I mean, I may touch the top of the table and I may
22 leave DNA behind, right?

23 A. You will leave DNA behind, yes.

24 Q. And it's as simple as that, right, just touching?

25 A. Yes.

1 Q. Is that right?

2 Okay. And let me -- you're an expert in this field
3 so I'm going to give you a hypothetical.

4 A. Okay.

5 Q. If Dean Wood was doing CPR on Flora Ryan, right, and
6 she had blood on her, right?

7 A. Okay.

8 Q. It would not surprise you if he had bloodstains on
9 his shorts, would it?

10 A. No, it wouldn't.

11 Q. Right. And it wouldn't surprise you if actually her
12 DNA was -- ended up inside of his shorts along with his own
13 DNA, would it?

14 A. If he had placed his hands in his shorts I could say
15 that, yes.

16 Q. Right. And if there's several hours that go by
17 between when he does the CPR on her and when they end up taking
18 these shorts from him, right?

19 A. Correct.

20 Q. Then that's, all of that is completely within the
21 bounds of reason, right?

22 A. Yes, that is possible, yes.

23 Q. Okay. The -- now, do you know why the shorts and the
24 beer bottles weren't tested until March of 2011?

25 A. No. I know once the first report is issued, you

1 know, they can always ask for other things to be tested. You
2 know, the prosecutors can ask for stuff to be tested. So no, I
3 don't know.

4 Q. Would it be safe to say that HPD basically was
5 surprised, because none of the DNA was coming back to Dean
6 Wood?

7 A. I wouldn't say surprised. I mean, I really don't
8 have any expectations when I'm doing this of that someone is
9 there or someone is not included, or included on a particular
10 piece of evidence. So, I mean, I'd have been surprised in the
11 past but, you know, I don't draw any conclusions right off.

12 Q. Do you know whether or not the police officers in
13 this case were surprised?

14 A. I have no idea.

15 Q. Did you talk to them at all about the lack of
16 evidence coming back to Dean Wood?

17 A. No. I mean, usually they will call me and ask me to
18 interpret the results like I'm doing here, but other than that,
19 the discussion usually goes no further than this is what I
20 found, you know, and then can we test other things, and the
21 answer is yes.

22 Q. All right. And so that's when, basically once all
23 this evidence is not pointing at Dean Wood, that the decision
24 is made, let's test the rest of this stuff, right?

25 A. Yes.

1 Q. Okay. And so that's when the shorts, the blue shorts
2 that he's wearing at the jail when he gets arrested get tested,
3 right?

4 A. Yes, they were tested later.

5 Q. And that's when the three beer bottles and the one
6 malt liquor bottle get tested also, right?

7 A. Correct.

8 Q. Okay. Now, let's talk about the malt liquor bottle,
9 right? It's 11 million to 1 that the defendant's DNA is on the
10 malt liquor bottle, right, for Caucasians?

11 A. Yes, 1 in 11 million.

12 Q. And the complainant is 890, right?

13 A. Yes, that is correct.

14 Q. And not that 890 is insignificant, but it is very
15 different from numbers with millions and trillions and
16 quintillion, correct?

17 A. Correct.

18 Q. Why is that number so low?

19 A. If I could show you the DNA profile I could probably
20 explain it better, but of the 15 locations for the complaining
21 witness, not all the locations could be used in calculating her
22 stat. If I have indications of stuff below our threshold, then
23 those locations are not used, and so that's why her number is
24 lower than his. His number, or his stats could have been most
25 of the locations were used. Hers only some of the locations

1 were used.

2 Q. Okay. Now, are these numbers, all right, consistent
3 with, the 11 million to 1, is that consistent with the
4 defendant drinking that malt liquor inside that bottle and
5 leaving his saliva DNA on the top?

6 A. Yes, it could be from him drinking it, because the
7 entire bottle was swabbed, including the lip area of the malt
8 liquor bottle.

9 Q. And if he drank almost all of it but let Flora Ryan
10 have a sip, would that be consistent with her DNA results
11 coming back as low as they were?

12 A. Yes, that's possible.

13 Q. Okay. The -- now, let's talk about the beer bottles,
14 all right. On two beer bottles basically you don't get any
15 indication that either Dean's or Flora's DNA's is on it, right?

16 A. Yes. 8.3.1.1 there was no DNA profile obtained, and
17 8.5.1.1 there was no DNA.

18 Q. All right. But on one beer bottle you do get the
19 complainant's DNA, right?

20 A. Yes, I did.

21 Q. And if I'm not mistaken, that's a Bud Light bottle?

22 A. Yes, it is a Bud Light bottle.

23 Q. So of all the different bottles here, the strongest
24 DNA is on this one Bud Light bottle, right?

25 A. Yes, that is a high number.

1 Q. And that's, I mean, significantly higher than 890,
2 right?

3 A. Yes.

4 Q. Now, on this beer bottle right here, how much of the
5 defendant's DNA were you able to find?

6 A. Dean Wood was excluded from this beer bottle.

7 Q. This number right here, that's an indication of DNA
8 that's not been degraded, isn't it?

9 A. That is a very high number, and usually we do not get
10 a high number like that with DNA that's degraded unless it's
11 just degraded to the point of maybe I get 14 locations, but
12 usually you don't get that high of a number with degraded DNA,
13 no.

14 Q. And you don't -- and it's not likely that those come
15 from inhibited DNA?

16 A. No, it's not.

17 Q. Because the number's so high, right?

18 A. Right. Inhibited also would have a lower number.
19 You would get more of a partial profile with inhibited or
20 degraded DNA.

21 Q. All right. And so -- and you're aware that -- well,
22 let me ask you this, on all of these items here, right,
23 particularly the beer bottle and the malt liquor bottle, right,
24 was there any testing done to see whether this was a blood cell
25 or a skin cell?

1 A. No. We were just trying to find out who held the
2 beer bottle or contact DNA, and so the beer bottle was just
3 swabbed for DNA or contact cells, epithelial cells. So no
4 testing was conducted to determine whether blood was present.

5 Q. And the fact that there was no presumptive testing
6 for blood, right, is an indication that your lab never
7 suspected there was blood, right?

8 A. No. Once she swabbed it, if she had seen, like, red
9 brown stains, then she would have indicated that in her notes,
10 but that was not indicated in her notes so testing for blood
11 was not done on the beer bottles.

12 Q. And it's because in her mind it was never -- it never
13 even hit her radar that blood would be at issue here, right?

14 A. Right.

15 Q. So tell me the biological fluids, the epithelial
16 biological fluids that this could be other than -- other than
17 blood?

18 A. It could be skin cells.

19 Q. Okay.

20 A. I mean, there's epithelial cells in all of the
21 orifices, anal cavity, vaginal cavity.

22 Q. Saliva?

23 A. Mouth cavity, and so it could be any of the orifices.
24 There's epithelial cells in there. Skin cells. Blood is a
25 different -- is not considered epithelial cells, I mean, it's

1 blood cells.

2 Q. Okay. So there was not blood then that was found on
3 this beer bottle?

4 A. That was not tested on that beer bottle, no.

5 Q. Well, there's no indication that there was blood on
6 that beer bottle?

7 A. Correct.

8 Q. And there's no indication that there was blood on
9 this malt liquor bottle?

10 A. It was not tested for -- any of those were tested for
11 blood.

12 Q. Okay. Again because there's no indication that --

13 A. Correct.

14 Q. -- it was blood, right?

15 MR. HOCHGLAUBE: I'll pass the witness.

16 MS. FULLER: Just briefly, your Honor.

17 THE COURT: All right.

18 REDIRECT EXAMINATION

19 BY MS. FULLER:

20 Q. I want to turn your attention back to the shorts, and
21 specifically item 1.1.1.1 and item 1.1.2.1.

22 A. Okay.

23 Q. These are two different -- two different samples; is
24 that correct?

25 A. Yes, they are.

1 Q. Okay. Sample number one is a swab, and the sample
2 that has the two in it -- the sample with all the ones is
3 the -- is the swab. The sample that's 1.1.2.1 is actually a
4 portion of the reddish brown stain from the shorts?

5 A. Yes, that is correct.

6 Q. Is that correct? Okay.

7 So on both of these you were able to find Flora Ryan
8 present, is that -- that's correct as well, right?

9 A. Yes, she could not be excluded from both of those.

10 Q. Okay. So on the one that is the portion of reddish
11 brown stains, that is the blood that's found on the outside of
12 the shorts; is that right?

13 A. Yes, it did test positive for human blood, and is a
14 reddish brown stain, so yes.

15 Q. Okay. And on portion 1.1.1.1, the swab from inside
16 the shorts, if there were -- if there were any reddish brown
17 stains on the inside of the shorts, would that have been noted
18 either by yourself or by Juli?

19 A. Yes.

20 Q. On that swab in particular?

21 A. Yes. That would have been noted by Juli.

22 Q. Okay. And then would your swab have also noted that
23 it was a reddish brown swab?

24 A. Yes. If there had been a hint of reddish brown
25 staining on the swab, we would have described it that way.

1 Q. Okay. And if you could look to 1.1.1.1, do you
2 indicate at all that there was any type of a reddish brown
3 stain on that swab from the inside of the shorts?

4 A. No. It was not described that way.

5 Q. Okay. So the hypothetical that the defense attorney
6 gave you about the explanation for how her DNA mixture ends up
7 on the inside of his shorts, you had said if he had put his
8 hands down his shorts --

9 A. Correct.

10 Q. -- correct? Okay.

11 So if he is performing CPR on this woman and there's
12 blood everywhere and he then puts his hands down his shorts,
13 would you agree with me that there would probably be some
14 indication of blood or that swab would have some sort of
15 reddish brown tint to it based on the hypothetical he gave you
16 and the answer of you putting -- Dean putting his hands down
17 his pants?

18 A. Yes, I would expect to find some hint of a reddish
19 brown stain on the swab.

20 Q. Okay. So specifically on the two shorts, you've got
21 a test for the outside blood and the swab on the inside of the
22 shorts which also contains Flora Ryan, but nothing in your
23 report indicates that that inside portion contained any blood?

24 A. No, there's nothing indicating even a presumptive for
25 blood on the inside of the shorts.

1 MS. FULLER: Pass the witness, your Honor.

2 THE COURT: Cross-examination?

3 MR. HOCHGLAUBE: Yes.

4 RE-CROSS-EXAMINATION

5 BY MR. HOCHGLAUBE:

6 Q. Mr. Davis, let me give you a different hypothetical,
7 all right. Let's just suppose that the defendant raped and
8 killed Flora Ryan, okay?

9 A. Okay.

10 Q. And let's suppose that the photographs of her showing
11 her profusely bleeding from her vagina, all right -- are you
12 aware of those?

13 A. I did not see those, no.

14 Q. Okay. Well, for the purposes of this hypothetical I
15 want you to assume those to be true.

16 A. Okay.

17 Q. All right. It's the same -- it's the same idea,
18 right, that if he did that, and he got blood all over himself
19 from doing that, then once again you would expect to see blood
20 inside the shorts, right?

21 A. Had he raped her, yes, I would expect to see blood
22 inside the shorts.

23 Q. But you didn't, right?

24 A. Assuming that she was bleeding when she was raped I
25 would expect to see blood inside the shorts.

1 Q. Okay. And again, you didn't?

2 A. I did not.

3 MR. HOCHGLAUBE: I'll pass the witness.

4 MS. FULLER: Just briefly, your Honor.

5 REREDIRECT EXAMINATION

6 BY MS. FULLER:

7 Q. Again, going on that assumption, you said that you
8 would have to assume that she was bleeding at the time of the
9 rape?

10 A. Correct.

11 Q. So at the time of penetration she would have had to
12 have been bleeding, correct?

13 A. Yes.

14 Q. And also it's possible that he could have wiped away
15 blood, cleaned himself up, and it's possible that her DNA still
16 could have been -- could still end up inside his shorts?

17 A. Yeah, that is possible.

18 Q. So there is all kinds of possibilities that we could
19 come to --

20 A. There is.

21 Q. -- to explain why her DNA is on the inside of his
22 shorts?

23 A. Yes.

24 MS. FULLER: Pass the witness.

25

RERECROSS-EXAMINATION

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BY MR. HOCHGLAUBE:

Q. Just that 7.8 trillion, right, that's a pretty high number also, right?

A. Yes, it is.

Q. It's not a number that's consistent with degraded or inhibited DNA either?

A. No, it's not.

Q. And so your testimony is that, as I understood before, is that you would have expected if this was blood to have some visualization of it being blood; is that right?

A. Normally to see blood there is a visualization, yes.

Q. For that number that's that high, 7.8 trillion, right?

A. Are we still talking about the inside?

Q. Right. You'd expect you'd see -- you expect if that was blood you'd be able to see it, right?

A. I mean, there can be trace amounts of blood that you don't see that it's still blood. I mean, you can get those from, you know, epithelial cells too and not just blood. I mean, I've seen high numbers with, you know, contact samples of, you know, someone licking someone's neck, I've seen as high numbers with that, and that's saliva epithelial cells, and so -- blood is a possibility, but epithelial cells are also a possibility.

1 Q. And the bottom line is we don't really know what kind
2 of cells these were because you didn't do any tests, or HPD's
3 lab, I'm not trying to criticize you, but HPD's lab didn't do
4 any kind of testing?

5 A. Right.

6 MR. HOCHGLAUBE: I'm done, Judge, I think.

7 MS. FULLER: As am I.

8 THE COURT: Outstanding. Thank you so much.

9 Call your next.

10 MR. ASLETT: Your Honor, before calling its next
11 witness State offers into evidence State's Exhibit No. 91,
12 which are the complainant's medical records from Bayshore
13 Medical Center, as well as State's Exhibit 92, which are the
14 complainant's medical records from Memorial Hermann Southeast
15 Hospital. These medical records are being offered along with
16 business records affidavits, and they have been on file with
17 the Court for 14 days prior to trial.

18 MR. HOCHGLAUBE: I've reviewed them, Judge, I don't
19 have any objection.

20 THE COURT: State's 91 and 92 are admitted without
21 objection.

22 MR. ASLETT: And permission to publish to the jury,
23 your Honor?

24 THE COURT: You may.

25 MR. ASLETT: For the record, I'm throwing up on the