

1 your next witness.

2 MR. BLEDSOE: State calls Lethenia
3 Meadows.

4 LETHENIA MEADOWS,
5 Having been produced and first duly sworn
6 as a witness, testified as follows:

7 DIRECT EXAMINATION

8 BY MR. BLEDSOE:

9 Q Please the Court. Ma'am, state your full
10 name, please.

11 A Lethenia Meadows.

12 Q What's our occupation or profession?

13 A Forensic crime laboratory analyst in
14 serology.

15 Q Where are you employed?

16 A Florida Department of Law Enforcement in
17 Jacksonville.

18 Q Is that right downtown, ma'am?

19 A Yes, it is.

20 Q How long have you been employed with the
21 FDLE laboratory?

22 A Approximately 15 years, 15 and a half
23 years.

24 Q And you are crime laboratory analyst in
25 the serology section?

1 A That's correct.

2 Q And how long have you been assigned to the
3 serology section as crime laboratory analyst?

4 A Approximately 12 years.

5 Q Would you briefly tell the members of the
6 jury what is the nature of your profession, that is,
7 what do you do as crime laboratory analyst?

8 A As crime laboratory analyst and forensic
9 serology I examine the exhibits that are submitted
10 to the laboratory for the presence of body fluids
11 such as blood, saliva and semen, identify their
12 identity as being blood, saliva or semen and compare
13 it to known blood samples.

14 Q Approximately how many other body fluids
15 examination and comparisons have you conducted over
16 the years?

17 A Thousands.

18 Q What education and training have you had
19 to prepare you for your profession as a serologist?

20 A I have bachelor of science degree from
21 Florida A & M University, I had approximately year
22 of training through Florida Department of Law
23 Enforcement, also had training through the FBI, and
24 continued training through different situs and
25 programs.

1 Q All right. So do you keep abreast of the
2 latest techniques in serology examinations?

3 A Yes, I do.

4 Q And do you subscribe to scientific
5 journals that pertain to your profession?

6 A Laboratory Prescription to Forensic
7 Journals.

8 Q All right. Have you previously testified
9 and been qualified to testify in courts of law as a
10 crime laboratory analyst in serology?

11 A Yes, I have.

12 Q In approximately how many times?

13 A Approximately 53 times.

14 Q And has that been in courts here in Duval
15 County?

16 A Throughout Florida.

17 Q Have you ever been denied qualifications
18 as an analyst and been denied the ability to testify
19 in a case?

20 A No, I have not.

21 MR. BLEDSOE: Your Honor, at this time I
22 would tender the witness as an expert in the
23 field of forensic serology.

24 MR. SHORE: I have no objection, Judge.

25 THE COURT: Proceed.

1 BY MR. BLEDSOE:

2 Q Miss Meadows, what are the characteristics
3 or properties of blood that make it possible to
4 identify question stained as a blood stain?

5 A In question blood stains we identify the
6 stain as being possibly reddish or brownish color,
7 then we identify the proximity activity in that
8 blood stain through a testing chemical test.

9 Q All right. Would you explain ABO blood
10 typing please?

11 A ABO blood typing identifies the blood
12 sample as being from a type A, B or R or AB type
13 person?

14 Q All right, so do all human blood therefore
15 fall in one of those categories?

16 A Yes.

17 Q Can you readily determine the ABO blood
18 type from examining a known liquid blood sample?

19 A Yes.

20 Q And as serologist you're also asked to
21 examine stains on items of physical evidence,
22 correct?

23 A That is correct.

24 Q And what tests or procedures do you use
25 initially to determine whether or not the stain is

1 a blood stain?

2 A Initially you do a visual examination then
3 you do a chemical examination.

4 Q What's a chemical examination that you do?

5 A Chemical examination is called
6 Castle-Meyer phenolphthalein.

7 Q Would you explain that testing procedure,
8 ma'am?

9 A After examining an exhibit for the
10 presence of a blood stain, you then do a testing of
11 that blood stain by making a cutting or a swabbing
12 of the stain and adding phenolphthalein and
13 hydroperoxide and if there is a color change it is
14 positive for the presence of blood or indicates the
15 presence of blood.

16 Q What would be the color change that would
17 indicate the presence of blood?

18 A From a clear to pink.

19 Q Now, are you always able to get a result
20 from a presumptive blood examination of a stain?

21 A Usually it's either positive or negative,
22 you are always able to get one result or another.

23 Q Now, are there also more discriminating
24 methods in the laboratory for examining and
25 determining whether or not a stain is a blood stain

1 and categorizing that blood stain?

2 A Yes.

3 Q And what other methods would that be?

4 A DNA PCR examination.

5 Q PCR DNA examination conducted here in
6 Jacksonville FDLE laboratory?

7 A Yes, it is.

8 Q And have you been trained as well in that
9 technique, ma'am?

10 A Yes, I have.

11 Q Now, in your exams at the -- as a
12 serologist have you been able to examine some items
13 of evidence in connection with the case of state of
14 Florida versus Chad Richard Hines?

15 A Yes, I have.

16 Q Would that have been supplied under
17 94-401711?

18 A Yes.

19 Q And in connection with this case did you
20 receive both known blood samples as well as items of
21 physical evidence with stains on them?

22 A Yes, I did.

23 Q Placed before you at this time, Miss
24 Meadows, are three exhibits, State's Exhibit triple
25 V for identification, and State's Exhibits quadruple

1 A for examination, and State's Exhibit quadruple B
2 for examination, do you recognize each of those
3 exhibits.

4 A Yes, I do.

5 Q All right. Beginning with State's Exhibit
6 triple V for identification, how do you recognize
7 that, ma'am?

8 A I recognize it by the laboratory case
9 number, my exhibit number, the date, and my
10 initials.

11 Q And Miss Meadows, when was that exhibit
12 received into the laboratory would that be your
13 exhibit FDLE number 30?

14 A Yes, it was received in the laboratory on
15 the 21st of April.

16 Q All right. Delivered to your laboratory
17 by a member of the Jacksonville Sheriff's Office?

18 A Yes, it was.

19 Q And who was that?

20 A Detective Hickson.

21 Q All right. And ma'am, was that identified
22 as liquid blood sample as coming from one Tina
23 Heins?

24 A Yes.

25 Q And was that packaging in a sealed

1 condition when you received it?

2 A Yes, it was.

3 Q Would you unseal and examine that exhibit,
4 did you?

5 A Yes, I did.

6 Q Did you analyze the exhibit to determine
7 the ABO blood type of the exhibit?

8 A Yes, I did.

9 Q After you completed your examination did
10 you reseal the exhibit for return to the submitting
11 agency?

12 A Yes.

13 Q If you would examine the exhibit at this
14 time. I ask you is it in the same or substantially
15 the same condition as it was when you examined it,
16 ma'am?

17 A The outer packaging isn't in the same
18 condition but the inner packaging is.

19 MR. BLEDSOE: At this time I would offer
20 State's Exhibit triple V for identification
21 into evidence at this time.

22 THE COURT: Is that V as in Victor?

23 MR. BLEDSOE: Yes, it is, Your Honor.

24 (Tendered to defense counsel.)

25 MR. SHORE: No objection, Judge.

1 (The item last above referred to was
2 received in evidence as State's Exhibit Number
3 66)

4 BY MR. BLEDSOE:

5 Q I'm placing before you State's Exhibit
6 Number 66 in evidence, you indicated you examined
7 that for the ABO blood typing, correct, ma'am?

8 A That is correct.

9 Q And what was the ABO blood type of that
10 particular exhibit?

11 A Demonstrated ABO blood type O.

12 Q All right. Also before you is State's
13 Exhibit quadruple A for identification, when did
14 you receive that into the laboratory, Miss Meadows?

15 A It was received in the laboratory the 18th
16 of April, 1994.

17 Q All right. And that would be your FDLE
18 Exhibit Number 7, correct? You may refer to your
19 report.

20 A That is correct.

21 Q All right. And was that exhibit marked as
22 a known blood sample from Chad Heins?

23 A Yes, it is.

24 Q All right. And was that exhibit in a
25 sealed condition when you received it, ma'am?

1 A Yes, it was.

2 Q Did you unseal it and examine that for ABO
3 blood type?

4 A Yes, I did.

5 Q And did you repackage and reseal the
6 exhibit when you completed the examination?

7 A Yes, I did.

8 Q Is that exhibit in the same or
9 substantially the same condition as it was when you
10 examined it?

11 A Yes.

12 (Tendered to defense counsel)

13 MR. SHORE: I have no objection, Judge.

14 MR. BLEDSOE: Offer in evidence State's
15 Exhibit quadruple A for identification.

16 THE CLERK: 67.

17 (The item last above we have had to was
18 received in evidence as State's Exhibit Number
19 67.)

20 BY MR. BLEDSOE:

21 Q I'm handing you back what's been entered
22 in evidence as State's Exhibit Number 67, Chad
23 Heins' blood sample, what was the ABO blood type of
24 that exhibit from your examination?

25 A It was ABO type B.

1 Q B as in boy?

2 A Yes.

3 Q All right. Also before you is State's
4 Exhibit quadruple B for identification and that's
5 your FDLE number 31, is that right?

6 A That is correct.

7 Q All right. Is that marked as known blood
8 sample of Jeremy Heins?

9 A Yes, it is.

10 Q All right. And when did you receive that
11 into the laboratory?

12 A August 22nd, 1994.

13 Q Was that exhibit in a sealed condition
14 when you received it?

15 A Yes, it was.

16 Q And did you unseal and examine that
17 exhibit for ABO blood type?

18 A Yes, I did.

19 Q After you completed your examination did
20 you reseal and repackage the exhibit for return to
21 the submitting agency?

22 A Yes, I did.

23 Q Is that exhibit in the same or
24 substantially the same condition as it was when you
25 last examined it?

1 A Yes.

2 MR. BLEDSOE: Your Honor, I'd offer
3 State's Exhibit quadruple B for identification
4 in evidence at this time.

5 MR. SHORE: No objection, Judge.

6 (The item last above referred to was
7 received in evidence as State's Exhibit Number
8 68)

9 BY MR. BLEDSOE:

10 Q Hand you back, Miss Meadows, State's
11 Exhibit number 68 in evidence, Jeremy Heins' blood
12 sample, and did you determine the ABO blood type of
13 that exhibit?

14 A Yes, I did.

15 Q What did you determine that to be, ma'am?

16 A It was ABO type O.

17 Q Now, placing before you, Miss Meadows,
18 what had been marked for identification as State's
19 Exhibits double Y, double Z, State's Exhibit 42 in
20 evidence, and State's Exhibit triple B in evidence,
21 ask you if you recognize each of those exhibits?

22 A Yes, I do.

23 Q How do you recognize those exhibit, Miss
24 Meadows?

25 A I recognize them by the laboratory case

1 number, the exhibit number, the date and my
2 initials.

3 Q And when were those exhibits received into
4 the laboratory?

5 A On the 18th of April, 1994.

6 Q And were each of those exhibits in a
7 sealed, packaged and sealed condition when you
8 received them, ma'am?

9 A Yes, they were.

10 Q And did you examine each of those exhibits
11 for the presence of blood staining?

12 A Yes, I did.

13 Q And after doing so did you repackage and
14 reseal each of those exhibits for return to the
15 submitting agency?

16 A Yes, I did.

17 Q And are each of those exhibits, ma'am, in
18 the same or substantially the same condition as they
19 are when you examined them within State's Exhibit
20 double Z are exhibits marked for identification as
21 well as your FDLE numbers 3A, 3B, 3C and 3E, do you
22 see those exhibits inside State's Exhibit double Z
23 for identification, they would be marked Z1, Z2,
24 Z3, Z4 and Z5?

25 A Yes.

1 Q Do you recognize each of those?

2 A Yes, I do.

3 Q And how do you recognize those individual
4 exhibits within State's Exhibit double Z?

5 A The individual exhibits within the exhibit
6 double Z are also marked with the laboratory case
7 number, my initials, the date and the exhibit
8 numbers.

9 Q Okay and what are those exhibits within
10 State's Exhibit double Z, that is State's Exhibit
11 Z1, what is that, ma'am, your FDLE number 3A?

12 A The substance is collected from the
13 bathroom, such as gauze, gauze, and unknown
14 substances and swabbing.

15 Q All right. Now if you'll examine each of
16 those exhibits, are they in the same or
17 substantially the same condition as they were when
18 you examined them?

19 A Yes, they are.

20 Q Did you perform the presumptive blood
21 testing on each of those exhibits placed before you,
22 Miss Meadows?

23 A Yes, I did.

24 (Tendered to defense counsel)

25 MR. SHORE: I have no objection to these,

1 Judge.

2 MR. BLEDSOE: I'd offer State's Exhibit
3 double Y in evidence at this time.

4 THE COURT: Double Y.

5 MR. BLEDSOE: Yes, Your Honor.

6 THE CLERK: 69.

7 MR. BLEDSOE: And within double Z I'd
8 offer in evidence State's Exhibit double Z1 for
9 identification.

10 MR. SHORE: No objection, Judge.

11 MR. BLEDSOE: Double Z2 for
12 identification.

13 MR. SHORE: I have no objection, Judge.

14 THE CLERK: This is 70, 71.

15 MR. BLEDSOE: Double Z3 for
16 identification.

17 MR. SHORE: No objection, Judge.

18 THE CLERK: 72.

19 MR. BLEDSOE: Double Z4 for
20 identification.

21 MR. SHORE: No objection.

22 THE CLERK: 73.

23 MR. BLEDSOE: And double Z5 for
24 identification.

25 MR. SHORE: No objection, Judge.

1 THE CLERK: 74.

2 (The items last above referred to were
3 received in evidence as State's Exhibits 69
4 through 74)

5 BY MR. BLEDSOE:

6 Q Placing before you, Miss Meadows, State's
7 Exhibit 69 in evidence, would you kindly open that,
8 please, ma'am, and just for the record that's --
9 what is that exhibit?

10 A It's a knife.

11 Q All right. And did you examine that
12 exhibit for the presence of blood staining?

13 A Yes, I did.

14 Q Did you observe on a visual examination
15 any blood staining?

16 A No, I did not.

17 Q Was there any blood staining on that
18 exhibit of the knife?

19 A No, it was not.

20 Q All right. Now, beginning with State's
21 Exhibit 70 what is that, Miss Meadows?

22 A State's Exhibit 70 is identified as being
23 gauze from the single drain in the bathroom.

24 Q All right. And Miss Meadows, did you
25 examine that for the presence of blood using your

1 presumptive blood testing?

2 A Yes, I did.

3 Q All right. And did you get a result on
4 that one, ma'am?

5 A Yes, I did, it was positive.

6 Q All right. Thank you. Also before you is
7 State's Exhibit 71 in evidence, what is that?

8 A It is identified as being gauze also from
9 the bathroom drain in the sink.

10 Q Did you examine that for the presence of
11 blood staining?

12 A Yes, I did.

13 Q Use the same technique, the Castle-Meyer
14 phenolphthalein, is that correct?

15 A That is correct.

16 Q And did you get a result on that one,
17 ma'am?

18 A Yes, I did.

19 Q What was your result?

20 A It was positive for phenolphthalein.

21 Q And before you also State's Exhibit 72 in
22 evidence, did you examine that, the presence of
23 blood?

24 A Yes, I did.

25 Q Now what is that described as?

1 A It is described as unknown substance from
2 the bathroom sink.

3 Q All right. And what was the result of
4 your examination?

5 A It tested positive for phenolphthalein.

6 Q Also before you is State's Exhibit 73 in
7 evidence, what is that, ma'am?

8 A It is another unknown substance from the
9 toilet seat.

10 Q And did you examine that for the presence
11 of blood stain?

12 A Yes, I did.

13 Q And what was the result of your
14 examination?

15 A It was negative for phenolphthalein.

16 Q All right. State's Exhibit 74 in evidence
17 placed before you, what is that?

18 A It was identified as being a swabbing
19 sample from the bathtub.

20 Q All right, ma'am, did you examine that for
21 the presence of blood staining?

22 A Yes, I did.

23 Q What was the results of that examination?

24 A It was also positive.

25 Q Also before you is State's Exhibit 42 in

1 evidence, what is that, Miss Meadows?

2 A It's identified as being a light switch
3 cover from the plate from the bathroom.

4 Q All right. And did you examine that for
5 the presence of blood staining?

6 A Yes, I did.

7 Q And what was the result of that
8 examination?

9 A Positive also.

10 Q Also before you should be your examination
11 number five, am I correct?

12 A Yes, that is correct.

13 Q This would be State's Exhibit 50 in
14 evidence, Miss Meadows, what is that?

15 A It is identified as being the drain plug
16 from the bathroom sink.

17 Q Did you perform a presumptive blood test
18 on that?

19 A Yes, I did.

20 Q What was the result of that test, ma'am?

21 A It was positive for phenolphthalein.

22 Q I want to show you what as been entered in
23 evidence as State's Exhibit 49, Miss Meadows,
24 do you recognize that?

25 A Yes, I do.

1 Q What do you recognize that to be?

2 A Toilet seat.

3 Q When did you receive that in the
4 laboratory?

5 A The 18th of April, 1994.

6 Q And did you -- was that in a sealed
7 condition when you received that, ma'am?

8 A Yes, it was.

9 Q Did you examine that for the presence of
10 blood staining?

11 A Yes, I did.

12 Q Did you use the Castle-Meyer presumptive
13 blood test?

14 A Yes, I did.

15 Q And what was the results of that
16 examination, ma'am?


17 A It was positive for phenolphthalein.

18 Q With respect to that is that you have
19 testified to did you do any further examinations of
20 those particular exhibits?

21 A No, I did not.

22 Q What did you do with those particular
23 exhibits?

24 A Swabbings were made from the exhibit and
25 forwarded to PCR DNA.



1 Q All right. So the bulk of the exhibits
2 themselves did not go to the PCR section of the
3 laboratory?

4 A That is correct.

5 Q Just swabbings and samples, correct?

6 A That is correct.

7 Q And with respect to the liquid blood
8 samples you've already identified -- testified as to
9 the ABO blood typing, did you also send those to the
10 PCR department for examination and comparison?

11 A A portion of the liquid blood samples were
12 dried on gauze and made into a blood stain card and
13 the blood stain cards were then forwarded to PCR
14 DNA.

15 Q All right. Show you some additional
16 exhibits at this time, show you State's Exhibit 46
17 in evidence as a composite exhibit, State's Exhibit
18 47 in evidence, State's Exhibit 48 in evidence, do
19 you recognize each of those, ma'am?

20 A Yes, I do.

21 Q How do you recognize them?

22 A I recognize these exhibits by the
23 laboratory case number, the exhibit numbers, the
24 date as well as my initials.

25 Q And when were those exhibits received into

1 the laboratory?

2 A On the 18th of April, 1994.

3 Q Did you examine each of those exhibits --
4 were they in a sealed condition when you received
5 them?

6 A Yes, they were.

7 Q Did you examine each of those exhibits for
8 the presence of blood staining?

9 A Yes, I did.

10 Q After you did so did you reseal and
11 repackage the exhibits for return to the submitting
12 agency?

13 A Yes, I did.

14 Q Were those exhibits in the same or
15 substantially the same condition as they were when
16 you performed your examinations?

17 A Substantially the same.

18 Q Did you take some cuttings from those
19 exhibits?

20 A Yes, I did.

21 Q Other than that are they in the same
22 condition, ma'am?

23 A Yes.

24 Q Additionally showing you State's Exhibit
25 43 and 44 in evidence, do you recognize State's

1 Exhibit 43 in evidence?

2 A Yes, I do.

3 Q How do you recognize that, ma'am?

4 A Again by the laboratory case number, the
5 exhibit number, the date as well as my initials.

6 Q All right. And also State's Exhibit 44 in
7 evidence, do you recognize that, ma'am?

8 A Yes, I do.

9 Q How do you recognize it, ma'am?

10 A By the laboratory case number, my exhibit
11 number, the date and my initials.

12 Q All right. And when did you receive each
13 of these exhibits in the laboratory, State's
14 Exhibits 43 and 44?

15 A 21 April, 1994.

16 Q If you would examine each of these do they
17 appear to be in the same condition as they were when
18 you examined them?

19 A Yes.

20 Q Did you take any cuttings off these
21 exhibits, ma'am?

22 A Yes, I did.

23 Q All right. Did you examine each of these
24 exhibits for the presence of blood staining?

25 A Yes, I did.

1 Q Beginning with State's Exhibit 46, there
2 are two items in here, what are they, ma'am?

3 A Items are beige wash cloth and aqua wash
4 cloth.

5 Q Do you recognize each of those exhibits
6 ma'am, correct?

7 A Yes, I do.

8 Q Did you examine each of those for the
9 presence of blood staining?

10 A Yes, I did.

11 Q And did you got a result from your
12 examination?

13 A Yes, I did.

14 Q What was the result of your examination of
15 the beige hand towel?

16 A Negative for phenolphthalein.

17 Q How about the aqua wash cloth?

18 A It was positive for phenolphthalein.

19 Q That's your exhibit number 12, correct,
20 ma'am?

21 A That is correct.

22 Q How large was the stain on the aqua wash
23 cloth?

24 A There was a very small stain.

25 Q And you cut, you took a cut out?

1 A Yes, I did.

2 Q Of them for examination?

3 A Yes, I did.

4 Q All right. And what is contained within
5 State's Exhibit 48 in evidence, ma'am?

6 A State's Exhibit 48 is a blue wash cloth in
7 the bath room counter.

8 Q Did you examine that for presence of blood
9 staining?

10 A Yes, I did.

11 Q And did you find any?

12 A No, I did not.

13 Q All right. Also before you is your
14 exhibit 14 which would be State's Exhibit 47 in
15 evidence, did you examine that for the presence of
16 blood staining?

17 A Yes, I did.

18 Q And what did you find?

19 A Was also negative for the presence of
20 blood staining, negative phenolphthalein.

21 Q Did you examine the sheets, State's
22 Exhibit 43 in evidence for the presence of blood
23 staining?

24 A Yes, I did.

25 Q And what was the result of your

1 examination on that, ma'am?

2 A Positive phenolphthalein.

3 Q Did you examine this pink blanket for the
4 presence of blood staining?

5 A Yes, I did.

6 Q State's Exhibit number 44 in evidence?

7 A Yes.

8 Q What was the result of your examination?

9 A Positive phenolphthalein.

10 Q State's Exhibit 49 in evidence, did you
11 examine that for the presence of blood staining?

12 A Yes, I did.

13 Q How many stains were there on that one?

14 A There were several stains on the toilet
15 seat.

16 Q Where were they on the toilet seat, ma'am?

17 A They were --

18 Q Did you make a note of that?

19 A Excuse me?

20 Q Did you make a note of where the blood
21 stains were on the toilet seat?

22 A Yes, I did, they are on the lid and on
23 the side.

24 Q Which side, did you mark the toilet seat
25 where you found the staining?

1 A Yes, I did.

2 Q If you would just point to while I hold
3 this up where was the staining?

4 A On my markings in the little brackets and
5 here on the seat on the front.

6 Q Did you upgrade any of those exhibits for
7 PCR DNA examination?

8 A Yes, I did.

9 Q Did you upgrade the aqua wash cloth, your
10 exhibit number 12?

11 A Yes, I did.

12 Q Any other exhibits did you upgrade for PCR
13 DNA testing among those groupings I've placed before
14 you?

15 A Yes, I did.

16 Q What other exhibits did you upgrade for
17 PCR DNA testing?

18 A The sheet, the blanket.

19 Q All right. Now, did you send the bulk
20 items themselves to PCR with respect to these
21 exhibits?

22 A No, I did not.

23 Q Did you take cuttings?

24 A Yes, I did.

25 Q And submit the cuttings for examination?

1 A Yes, I did.

2 Q Now, with respect to the blanket, itself,
3 did you find what appeared to be a semen stain on
4 there, ma'am?

5 A Yes, I did.

6 Q Did you examine that for the presence of
7 semen?

8 A Yes, I did.

9 Q And what test did you perform on that
10 exhibit, ma'am?

11 A On the semen stain I first did a visual
12 examination, then I did a chemical examination, then
13 I went on to do ABO blood typing examination on the
14 stain itself.

15 Q All right. So the initial test you
16 performed on that exhibit was what?

17 A A visual.

18 Q Then second one was?

19 A A chemical.

20 Q All right. Was that acid phosphatase
21 test?

22 A Yes.

23 Q Did you get a result from that particular
24 testing procedure?

25 A Yes, I did. It was positive.

1 Q Excuse me?

2 A Positive.

3 Q Are there any other bodily fluids that
4 contain acid phosphatase that would give you the
5 same result? That's a color test, is it not?

6 A Yes, it is.

7 Q Are there any other body fluids that would
8 give you that same result?

9 A It would not give you the same color
10 change.

11 Q Did you determine, Miss Meadows, from any
12 examination when that particular semen stain
13 was deposited on the material?

14 A No, I cannot.

15 Q How long can a semen stain remain on
16 material and still be subjected to detection
17 through your examination?

18 A If the seminal stain is on a dried -- is
19 dry it can remain there for years.

20 Q And from the examination of semen stain
21 can you determine the ABO blood type of the
22 individual who deposited the stain?

23 A Yes, you can.

24 Q Did you perform ABO blood typing procedure
25 with respect to that stain?

1 A Yes, I did.

2 Q What was the result of your ABO blood
3 typing procedure?

4 A ABO blood typing results were ABO blood
5 type O.

6 Q Would that be consistent with the Jeremy
7 Heins' ABO blood type?

8 A Yes.

9 Q Miss Meadows, did you also receive for
10 examination in the laboratory a sexual assault kit?

11 A Yes, I did.

12 Q Showing you State's Exhibit quadruple F
13 for identification, do you recognize that?

14 A Yes, I do.

15 Q How do you recognize it, ma'am?

16 A I recognize it by the laboratory case
17 number, the exhibit numbers, the date and my
18 initials.

19 Q And when was that exhibit received into
20 the laboratory?

21 A The 21st of April, 1994.

22 Q Was the exhibit in a sealed condition when
23 you received it, man ma'am?

24 A Yes, it was.

25 Q What is contained in that particular

1 package, ma'am?

2 A In this package it contains various items
3 from Tina Sue Heins such as vaginal slides, anus
4 slides, oral slides, swabs, rectal swabs, oral
5 swabbings, genital swabbings and fingernail
6 scrapings.

7 Q Did you examine each of those individual
8 items within that package, ma'am?

9 A Yes, I did.

10 Q And after doing so did you repackage and
11 reseal those particular items for return to the
12 submitting agency?

13 A Yes, I did.

14 Q And is the contents of the package in the
15 same or substantially the same condition as it was
16 when you examined it?

17 A Yes.

18 (Submitted to defense counsel)

19 MR. SHORE: I have no objection, Judge.

20 MR. BLEDSOE: Your Honor, I'd offer
21 State's Exhibit quadruple F in evidence at this
22 time.

23 (The item last above referred to was
24 received in evidence as State's Exhibit number
25 75.)

1 BY MR. BLEDSOE:

2 Q Handing you back now number State's
3 Exhibit Number 75 in evidence, Miss Meadows,
4 did you examine the vagina slides, rectal slides,
5 oral slides, oral swabs and anal swabbings for the
6 presence of semen?

7 A Yes, I did.

8 Q And what was the results of your
9 examination with respect to the vaginal, rectal,
10 oral slides?

11 A I did not detect any presence of semen.

12 Q Did you examine swabs and genital swabs
13 contained within the kit, ma'am?

14 A Yes, I did.

15 Q And what was the result of your
16 examination?

17 A They were positive which indicated
18 presence of acid phosphatase.

19 Q Acid phosphatase you performed?

20 A Yes.

21 Q And so it's positive for the presence of
22 semen, correct? ✓

23 A Acid phosphatase would indicate the
24 presence of semen.

25 Q Okay.

1 A It's a preliminary testing.

2 Q All right. And from any examinations in
3 your laboratory would you be able to tell when that
4 semen was deposited or how old it was?

5 A No, we cannot.

6 Q How long after sexual intercourse would
7 you expect to find semen present in those swabs?

8 A It depends on when the vaginal swabs were
9 taken and if the swabbings were done in the vaginal
10 area, then the semen would tend to break down
11 immediately and if the person had hygiene problems
12 it would break down even faster.

13 Q So from many of your examinations are you
14 able to determine when it was Miss Heins last had
15 sexual intercourse resulting in the semen or
16 positive acid phosphatase results?

17 A No.

18 Q Also within that exhibit that package are
19 the fingernail scrapings you spoke of, right?

20 A Yes.

21 Q Did you examine the fingernail scrapings
22 for the presence of blood stain?

23 A Yes, I did.

24 Q And what testing procedure did you use on
25 the fingernail scrapings?

1 A Phenolphthalein.

2 Q What was the result of your test on the
3 fingernail scrapings?

4 A Positive for phenolphthalein.

5 Q Now, did you perform any further testing
6 on those scrapings?

7 A No, I did not.

8 Q Why is that?

9 A It was very small amount of blood sample
10 present.

11 Q Okay. Were they sufficient or
12 insufficient for further testing?

13 A Insufficient for further testing.

14 Q Could you determine from your examination
15 whether the specimens were dried blood or tissue?

16 A It appeared to be dried blood sample and
17 there did not appear to be any tissue under the
18 fingernail scrapings.

19 MR. BLEDSOE: I have no further questions
20 of this witness, Your Honor.

21 THE COURT: You may cross examine.

22 MR. SHORE: Thank you, Judge.

23 CROSS EXAMINATION

24 BY MR. SHORE:

25 Q Miss Meadows, did Mr. Bledsoe ask you

1 about each and every item that you examined with
2 regard to this case?

3 A No, he did not.

4 Q Do you know how many items you examined in
5 the normal year in your duties as a serologist with
6 the Florida Department of Law Enforcement?

7 A I do not know the number exactly but they
8 can be found.

9 Q Can you estimate that for me or are you
10 unable to?

11 A It's too numerous. It's too numerous.

12 Q Miss Meadows, what is a secretor?

13 A A secretor will have their blood typed in
14 other body fluids, not only including the blood but
15 other body fluids such as saliva, vaginal fluids and
16 semen.

17 Q Did you check any of the blood samples you
18 received to determine whether or not any of the
19 blood from the individual that you tested were
20 secretors?

21 A No, I did not. The laboratory does not
22 have the equipment to do that examination any more.

23 Q Would that have been important for you to
24 be able to run that test?

25 A No, the laboratory decided to do DNA

1 testing instead of blood testing for secretor
2 status.

3 Q And who made that decision?

4 A The bureau chief.

5 Q How many sets of fingernail scrapings did
6 you receive in this case?

7 A Two.

8 Q When did you receive the first set?

9 A The 21st of April, 1994.

10 Q Did you perform any examination on those
11 fingernail scrapings?

12 A Yes, I did.

13 Q When did you perform the examination?

14 A The 19th of April, 1995.

15 Q That's approximately one year after they
16 were received, is that correct?

17 A That's correct.

18 Q Had you initially decided not to test the
19 fingernail scrapings?

20 A That is correct.

21 Q What changed your mind?

22 A It was requested for them to be done.

23 Q Pardon me?

24 A It was requested at a later date for them
25 to be done.

1 Q And who made that request?

2 A I think Steve Bledsoe.

3 Q Did you generate a report with regard to
4 your eventual analysis and examination of fingernail
5 scrapings?

6 A Yes, I did.

7 Q What date is that report?

8 A May 8th, 1995.

9 Q When your deposition was taken in this
10 case on January 25th, 1995 you had not done the
11 examination on the fingernail scrapings, had you?

12 A No, I had not.

13 Q And isn't it true, Miss Meadows, that
14 usually if you have other evidence you don't
15 examine fingernail scrapings?

16 A Usually that is correct.

17 Q And you didn't in this case until a year
18 later at the request of Mr. Bledsoe, correct?

19 A That's correct.

20 Q What type of testing can be performed on
21 fingernail scrapings?

22 A Visual examination is performed, then we
23 can do a chemical testing for blood, and now you
24 can do PCR DNA testing.

25 Q Was that test available PCR DNA test, was

1 that test available back in 1994 through your lab in
2 Tallahassee?

3 A Yes, it was.

4 Q Can you also perform a microanalysis
5 examination of fingernail scrapings?

6 A A microanalysis exam may be done but it's
7 out of my field.

8 Q Can that be performed at your lab?

9 A Yes.

10 Q Do you know whether or not it was?

11 A No, it was not.

12 Q Did you receive more than one knife for
13 testing in this case or just one?

14 A Only one.

15 Q And that's the one you've already
16 testified revealed there was no blood stain?

17 A That is correct.

18 Q In the submissions that were received by
19 you on or about April the 18th, 1994 did you receive
20 an exhibit that reflected that it was a liquid from
21 the bathroom basin?

22 A Yes, I did.

23 Q Did you perform any testing on that
24 exhibit?

25 A No, I did not.

1 Q Why not?

2 A It appeared that the liquid had rusted
3 inside the metal container.

4 Q The liquid had rusted inside the metal
5 container?

6 A Yes.

7 Q Was that submitted to you with all of
8 these other exhibits in April of 1994?

9 A Yes.

10 Q Did you determine upon receipt of that
11 particular exhibit that it was unsuitable for
12 analysis?

13 A Yes, I did.

14 Q Did you perform any test on it whatsoever?

15 A No, I did not.

16 Q Was there more than one container in the
17 exhibit that you received that was designated to be
18 liquid from the bathroom basin?

19 A No.

20 Q There weren't small metal containers that
21 the fluid had leaked out of into a bigger container?

22 A Yes, it was.

23 Q Are you reviewing your report?

24 A My notes.

25 Q Okay. Your notes?

1 A Yes.

2 Q Are your notes contained any place in any
3 of your reports?

4 A The results of my notes are contained in
5 all of the reports.

6 Q But the notes themselves are not?

7 A That is correct.

8 Q Only the results reflected in your
9 reports?

10 A Yes.

11 Q And you're referring now to your notes?

12 A Yes.

13 Q Were there four small sealed metal cans in
14 that exhibit?

15 A Yes, there were.

16 Q And did the exhibit indicate they had all
17 come from the basin?

18 A Yes, it does.

19 Q And isn't it true that leakage from the
20 small metal containers into the larger metal
21 containers made you unable to determine which fluid
22 came from which container?

23 A That is true.

24 Q So as a result you didn't do any analysis
25 on that exhibit at all, correct?

1 A That is true.

2 Q On the items that you testified that you
3 indicated were in your test results positive, what
4 does a positive test result mean to you?

5 A A positive test result for phenolphthalein
6 would indicate the presence of blood staining.

7 Q Does it tell you how much blood is there?

8 A No, it does not.

9 Q Does it tell you where it came from?

10 A No, it does not.

11 Q Does it tell you who put the there?

12 A No, it does not.

13 Q You also received an exhibit in this same
14 package I believe or submission not the exact same
15 number, there was an unknown substance from the
16 toilet seat, was under your exhibit 3D, I believe,
17 at the FDLE?

18 A Yes.

19 Q You determined that was not blood,
20 correct?

21 A That is correct. .

22 Q Did you ever determine what it was?

23 A No, I didn't.

24 Q You testified about a number of slides and
25 swabs that you tested, Miss Meadows, on the

1 vaginal slides, the anal slides, the oral
2 slides, the rectal swabs and the oral swabs, no
3 semen was demonstrated, is that correct?

4 A That is correct.

5 Q In January 1996 did you receive another
6 submission of exhibits?

7 A Yes, I did.

8 Q Can you tell me the first exhibit you
9 received?

10 A A fetus.

11 Q Let me ask you this, first, can you refer
12 to your May 2nd, 1996 report?

13 A Yes.

14 Q You received items on January the 3rd,
15 1996?

16 A Yes.

17 Q From Detective Robinson?

18 A Yes.

19 Q And this is approximately a little over a
20 year and a half after the April 1994 initial
21 submissions to your office, is that right?

22 A That is correct.

23 Q Did you receive what was identified to you
24 as a pair of lady's panties?

25 A Yes, I did.

1 Q Did you perform any examination of those?

2 A Yes, I did.

3 Q What did you do, please, ma'am?

4 A I did a visual examination for the
5 presence of semen, and there was none demonstrated,
6 I also did a chemical examination.

7 Q And the results of that, please?

8 A There was no semen on the panties.

9 Q Did you also receive what was identified
10 to you as right hand nail clippings and left hand
11 nail clippings?

12 A Yes, I did.

13 Q Did you perform an examination on those?

14 A Yes, I did.

15 Q What examination did you perform?

16 A I did a visual and chemical examination
17 for the presence of blood staining.

18 Q And the results of those examinations,
19 please?

20 A There was no blood staining present.

21 Q Did you also receive on January the 3rd,
22 1996, an item identified to you as a tee shirt?

23 A Yes, I did.

24 Q And did you perform an examination on the
25 tee shirt?

1 A Yes, I did.

2 Q What examination did you perform?

3 A I did a visual and a chemical examination
4 on the tee shirt.

5 Q Which chemical examination did you do?

6 A Phenolphthalein.

7 Q The same one you've done on all these
8 other items that Mr. Bledsoe is asking you about?

9 A That is correct.

10 Q And the results of your examination of the
11 tee shirt, please?

12 A Was negative, phenolphthalein or no blood
13 staining was present.

14 Q Were these items identified to you with
15 regard as to who they came from?

16 A On original case tracking form it is
17 identified as being the victim's underwear and the
18 defendant's tee shirt, blue jeans and underwear and
19 defendant's nail scrapings.

20 Q The nail clippings are supposedly of Mr.
21 Chad Heins, correct?

22 A That's correct.

23 Q Everything I'm talking to you about is
24 identified to you as being from Chad Heins except
25 the lady's underwear, correct?

1 A That is correct.

2 Q So if I understand you correctly the
3 right hand and left hand nail clings are negative
4 for blood?

5 A That is correct.

6 Q Tee shirt is negative for blood?

7 A Yes.

8 Q Did you also receive in that same
9 submission a pair of denim shorts or identified to
10 you as denim shorts?

11 A Yes.

12 Q Did you perform an examination on those
13 shorts?

14 A Yes, I did.

15 Q And what examination did you perform?

16 A Phenolphthalein testing on the shorts.

17 Q And also visual examination as well?

18 A That is correct.

19 Q And what were the results of your
20 examination?

21 A Negative for the phenolphthalein.

22 Q No blood staining?

23 A No blood staining, that is correct.

24 Q Did you also receive in the same
25 submission a pair of men's briefs?

1 A Yes, I did.

2 Q Did you test those?

3 A Yes, I did.

4 Q What test did you perform, please?

5 A The same testing, phenolphthalein and a
6 visual.

7 Q And the results of those test, ma'am?

8 A Also negative for the presence of blood
9 staining and negative phenolphthalein.

10 Q Mr. Bledsoe asked you about what you
11 identified to be semen stains on the blanket that's
12 been admitted in evidence, I believe it's exhibit
13 number 44, State's Exhibit 44, I believe it has your
14 number 17.

15 A Yes.

16 Q If I understand you correctly with regard
17 to the semen stain you did a visual analysis --
18 visual inspection of the semen stain, is that
19 correct, ma'am?

20 A That is correct.

21 Q And if I understand your testimony
22 correctly as well you cannot tell if -- when the
23 semen stain was deposited?

24 A That is correct.

25 Q You did some testing of the semen stain in

1 addition to the visual inspection, correct?

2 A That is correct.

3 Q And you found that the semen stain based
4 upon your testing was consistent with Jeremy Heins?

5 A That is correct.

6 Q It's not consistent with Chad Heins, is
7 it, ma'am?

8 A No, it is not.

9 MR. SHORE: If I could have just a
10 second, Judge.

11 (Conferring with co-counsel)

12 MR. SHORE: I don't have any further
13 questions.

14 THE COURT: Anything further of this
15 witness?

16 MR. BLEDSOE: Nothing further, Your Honor,
17 thank you.

18 THE COURT: May she be excused?

19 MR. BLEDSOE: She may.

20 THE COURT: You're free to go, thank you.

21 (Witness excused)

22 THE COURT: Call your next witness.

23 MR. BLEDSOE: State calls Diane Hanson.

24 DIANE HANSON,

25 Having been produced and first duly sworn

1 as a witness, testified as follows:

2 DIRECT EXAMINATION

3 BY MR. BLEDSOE:

4 Q Please state your name, please.

5 A Diane Hanson.

6 Q And where are you employed?

7 A I'm employed for the Florida Department of
8 Law Enforcement.

9 Q How long have you been so employed?

10 A Approximately eight years.

11 Q And what's your current position with the
12 laboratory?

13 A I'm senior crime lab analyst.

14 Q And what particular section are you
15 assigned to?

16 A The serology DNA section of the
17 laboratory.

18 Q All right. And is forensic serology your
19 profession?

20 A Yes, it is.

21 Q What are your duties as analyst in the
22 serology section, ma'am?

23 A I'm sorry, I didn't hear you.

24 Q Your duties are what, to examine liquid
25 known samples and questioned stains, is that

1 correct?

2 A Yes, I examine.

3 MR. SHORE: Let me object, Mr. Bledsoe is
4 leading the witness as to what her own job is.
5 I would object to that.

6 BY MR. BLEDSOE:

7 Q Please tell the members of the jury what
8 your duties are with the FDLE laboratory.

9 A I examine items of evidence for the
10 presence of blood and other body fluids and the
11 identification and typing of those body fluids.

12 Q And what education and training have you
13 had to qualify you for your position with FDLE as
14 serologist?

15 A I graduated from the University of
16 Wisconsin with bachelor of Science degree in
17 bacteriology. I worked as microbiologist prior to
18 my employment with the crime lab in Wisconsin. And
19 I was employed with the crime lab in Wisconsin as a
20 serologist for ten and a half years prior to my
21 employment with the Florida Department.

22 Q All right. And have you had additional
23 training in your area to stay abreast of latest
24 techniques?

25 A Yes. Throughout the years I've attended

1 various schools, seminars and conferences to further
2 my education.

3 Q Now, with regard to blood analysis, have
4 you received the training of the traditional method
5 of ABO blood typing?

6 A Yes, I have.

7 Q Now, and is there more specific and
8 discriminating method known as PCR DNA typing?

9 A Yes, there is.

10 Q All right and is that conducted in your
11 laboratory?

12 A Yes, it is.

13 Q Have you been trained in PCR DNA analysis?

14 A Yes, I have.

15 Q Has this technology been in used by FDLE
16 crime laboratories for some period of time?

17 A It has been used in the FDLE laboratory
18 systems since 1992.

19 Q And does PCR analysis seemed as reliable
20 and accurate method in the scientific community?

21 A Yes, it is.

22 Q Is PCR used in fields other than the
23 forensic area?

24 A Yes, PCR is used in medical diagnostic
25 testing, also used in many different areas of

1 research in both for both human and animal
2 research.

3 Q And have you received training in
4 conducting PCR analysis?

5 A Yes, I have.

6 Q What training have you had in PCR
7 analysis?

8 A I have attended several seminars and
9 conferences for PCR, I've also had hands on training
10 for a week at Seedus Corporation in California that
11 was strictly on hands on in the laboratory
12 training.

13 I've also then came back to our own laboratory
14 and did several hundred samples prior to working
15 cases in the laboratory.

16 Q Approximately how many PCR analyses have
17 you performed with regard to blood stained?

18 A Greater than a thousand.

19 Q Have you been qualified and testified in
20 courts of law specifically in the area of PCR DNA
21 analysis?

22 A Yes, I have.

23 Q Approximately how many times?

24 A Eight times.

25 MR. BLEDSOE: Your Honor, I would tender

1 the witness as expert in forensic serology,
2 specifically PCR DNA analysis.

3 MR. SHORE: Judge, may I inquire of the
4 witness?

5 VOIR DIRE EXAMINATION

6 BY MR. SHORE:

7 Q Miss Hanson, is there any state or
8 national certification of PCR DNA analyst?

9 A No, sir, I have been certified by our
10 laboratory as a serologist in our laboratory.

11 Q Okay and that's the Florida Department of
12 Law Enforcement Laboratory?

13 A Yes, sir, it is.

14 Q So your employer certified you?

15 A Yes, sir.

16 Q Other than what you gave in response to
17 Mr. Bledsoe's questioning have you received any
18 other training whatsoever in this particular field
19 I'm talking about?

20 A The various conferences, and the things
21 which I said.

22 Q Which you've already testified about?

23 A Yes.

24 MR. SHORE: Judge, I don't have any
25 questions. Based upon the qualifications that

1 have been presented to the Court we would
2 object to the certification of this witness as
3 an expert.

4 MR. BLEDSOE: Your Honor, this witness has
5 been qualified and testified before in courts
6 of law, she has had training sufficient to
7 testify in this area, she's simply qualified.

8 THE COURT: Objection overruled.

9 BY MR. BLEDSOE:

10 Q Mess Hanson, what is DNA?

11 A DNA stands for deoxyribonucleic
12 acid and genetic material that our chromosomes are
13 made up of, and it's what makes us human and what
14 makes us different from each other. And it's also
15 what's passed on in generations to generation, our
16 inherited characteristic.

17 Q All right. And where is DNA found?

18 A DNA is found environmentally in every
19 nuclei cell in the body.

20 Q Can you explain that?

21 A That it's found in the chromosomes, the
22 chromosomes are made up of DNA, and the chromosomes
23 are contained in the nucleus of the cell. So in all
24 all nucleus cells then contained DNA.

25 Q Now, is DNA contained in blood cells?

1 A It's contained in the white cells of the
2 blood.

3 Q Is DNA contained in other body fluid such
4 as saliva?

5 A Yes, it is.

6 Q Now, is DNA unique from one person to
7 another?

8 A Not all of DNA is, a lot of the DNA is the
9 same from one person to the other, it's what makes
10 us human, so that we all have two eyes, two ears,
11 two arms and two legs, then some of the DNA is
12 different from person to person, and that's what
13 makes our different characteristic.

14 Q All right. So do twins have the same DNA?

15 A Identical twins have the same DNA.

16 Q How about other siblings like brothers and
17 sisters?

18 A They would not be totally identical, they
19 would share some characteristics because of having
20 the same parents, but not all of their DNA would be
21 alike, only identical twins.

22 Q What is the -- is the process called PCR
23 DNA, what is that?

24 A PCR stands for polymerase chain reaction.
25 And it's a technique which allows us to take a small

1 section of DNA and multiply it many times so that we
2 can start with a very small sample of DNA and then
3 we're able to multiply it into millions of copies so
4 that we can type that area.

5 Q All right. Is PCR DNA, what are the
6 advantages of that as opposed to say ABO blood
7 typing?

8 A Well, ABO blood typing that are four main
9 groups type A, B, AB and type O, when I have used
10 polymerase chain reaction I am typing in the DQAAlpha
11 locus and there are 21 different types. So there's
12 a greater discrimination value, I'm also able to --
13 because we are reproducing or duplicating our area
14 of DNA that we're looking at, I'm able to use very
15 small samples.

16 Q All right. So you can perform this
17 technique on smaller samples whereas ABO blood
18 typing would require larger samples?

19 A Requires more than with PCR typing, yes.

20 Q Now, through PCR you testified there are
21 21 different types, correct?

22 A Yes, sir.

23 Q And is it possible to specifically
24 identify the person who deposited a particular
25 stain through PCR?

1 A No, it's not, you can only include or
2 exclude by comparing it with a known standard.

3 Q Talking about include or exclude as far
4 as groups of individuals?

5 A Yes, sir.

6 Q And you're targeting -- which particular
7 marker are you targeting?

8 A The DQAlpha.

9 Q And what are those combinations called,
10 markers or combinations call?

11 A The genotypes.

12 Q Now, examining and comparing known blood
13 samples with questioned blood stains is a standard
14 procedure you used in PCA analysis?

15 A Yes, there is a standard procedure which I
16 would follow in our examination.

17 Q And is there a separate section within the
18 FDLE laboratory for the performing of the PCR
19 examinations?

20 A Yes, sir.

21 Q Now, with respect to blood stained
22 evidence there's a preliminary test that's done
23 before you receive them for examination?

24 A There is a preliminary testing done on the
25 evidence prior to its contamination by PCR and these

1 are presumptive tests.

2 Q So then the exhibits you receive would be
3 those that tested positive according to the
4 presumptive testing procedure, is that correct?

5 A Yes, sir.

6 Q Now, briefly what procedure do you use in
7 conducting your PCR analysis?

8 A The procedure for conducting an analysis
9 there are three main steps to it. The first is an
10 extraction procedure. And this is where if I am
11 analyzing small sample of blood mostly for the blood
12 from whatever substrate the blood is on, this is
13 done during the extraction procedure and the
14 impurities would then be removed.

15 Then we go on to the next which is the
16 amplification or the duplication. Now, during this
17 step a small portion of the DNA is added to a tube
18 which contains some chemicals, they are some buffers
19 and primers and enzyme and the building blocks that
20 we're going to need to duplicate the DNA.

21 Then this tube is put into an instrument called
22 a thermocycler and this goes through a series of
23 temperature changes. First of all our DNA if you
24 can visual it's double stranded in it's normal state
25 it's in a coil but we're looking at a very small

1 portion of that DNA. So if we have a double
2 stranded piece of DNA they are complimentary
3 strands. The temperature then is first raised to 94
4 degrees and then allows the two strands of DNA to
5 come apart.

6 At that point the temperature is lowered to 60
7 degrees and chemicals called primers are set down at
8 a specific area of our DNA strand and they won't
9 attack any place else they are very specific.

10 Then the temperature is raised to 72 degrees
11 and by the use of an enzyme the building blocks that
12 were this, our mixtures are added to our strand and
13 now you have a double stranded piece of DNA again or
14 many pieces that are in there.

15 Now the cycle repeats itself and these new
16 strands come apart, and it's repeated. Now, this is
17 repeated 32 times. So for instance, if we start out
18 with a hundred copies of our DNA, it -- over the
19 cycles you go from hundred, two hundred, four
20 hundred, eight hundred, so when you start out with
21 a very small number of copies you then end up with
22 millions of copies of the area that you're looking
23 at.

24 Now we need some way to visualize that. So we
25 can type it and that comes to the third step. At

1 this time then I take a portion of the DNA that we
2 have duplicated and I -- this is exposed to a nylon
3 strip. Nylon strip is just a small strip, it will
4 look like a piece of paper but it's a nylon strip
5 and on this nylon strip there are probes -- what are
6 called probes. And these probes are specific for
7 the different forms of the DQAlpha. And when our
8 DNA that we duplicated is exposed to this nylon
9 strip it will attach to the form that it is specific
10 for. And then by the addition of chemicals we're
11 able to color where the DNA has attached. And
12 actually read the typing by looking at a blue
13 colored dot or dots on the nylon strip.

14 Now, there are six different forms of the
15 DQAlpha and we call those 1.1, 1.2, 1.3, a 2, 3, and
16 4 and each person has two forms. One they inherit
17 from their mother and one they inherit from their
18 father. So these can be the same or they can be
19 different depending on what the parents -- what type
20 were the parents.

21 And by this combination then of these six
22 different forms this gives rise to 21 different
23 types.

24 Q All right. How do you go about
25 interpreting when you have a nylon strip?

1 A The interpretation is made by actually
2 looking for the blue dots on the nylon strip.

3 Q Are there controls that are built-in for
4 purposes of validating the testing procedure?

5 A Yes, whenever I run a group of samples I
6 have a negative which goes all the way from the
7 beginning, test all the reagents all the way
8 through.

9 Then I also amplify a positive control and just
10 the mix alone to which no DNA has been added. And
11 these are three controls that go from the beginning
12 -- well one goes from beginning and they go
13 throughout the procedure at their appropriate
14 place. And if there are -- if these controls do
15 not react as you would expect, then the whole run is
16 discarded.

17 Q So if you have that result then is that a
18 valid result then?

19 A Yes, sir.

20 Q If there's a problem would you get no
21 result or what would cause you to have no result?

22 A At times there are no results.

23 Q What would be the factors that would go
24 into their being no result from the examination?

25 A Well, there could be different factors,

1 for instance, there may be not enough -- there may
2 not be enough sample to amplify or there may be some
3 inhibitor in the stain to begin with and so that it
4 would not go through the amplification process.

5 Q All right. And Miss Hanson, once you've
6 determined the genotype of the questioned stain do
7 you then compare that with a known blood sample?

8 A Yes, sir.

9 Q Do you perform the same PCR analysis on
10 the known blood sample?

11 A Yes, same analysis is done on known
12 standards.

13 Q In connection with state of Florida versus
14 Chad Heins did you receive some items for
15 examination?

16 A Yes, I did.

17 Q Did you receive both items with questioned
18 blood stains as well as known blood samples?

19 A Yes, I did.

20 Q With regard to the questioned blood stains
21 did you receive the bulk items themselves or did you
22 receive samples from the questioned stained items?

23 A I received -- I did not receive the bulk
24 items, I received samples from those items.

25 Q And who did you receive the samples from?

1 A From Lethenia Meadows.

2 Q Did she perform the presumptive blood
3 testing procedure?

4 A Yes, she did.

5 Q With regard to the known blood standards
6 did you receive the blood vials themselves?

7 A No, I did not.

8 Q Or what did you receive?

9 A I received stained cards from the known
10 standards.

11 Q And who did you receive those from?

12 A From Lethenia Meadows.

13 Q Did you receive a blood stain card
14 reported to be from Tina Sue Heins?

15 A Yes, did.

16 Q And would that be FDLE number exhibit
17 number 30?

18 A Yes, sir, the blood sample from Tina Heins
19 is FDLE exhibit number 30.

20 Q Who did you receive that blood stain card
21 from?

22 A From Lethenia Meadows.

23 Q Did you perform the three step PCR
24 analysis you previously described?

25 A Yes, did.

1 Q Did you follow the standard protocol?

2 A Yes, I did.

3 Q Were you able to type or classify this
4 particular blood sample?

5 A Yes, sir.

6 Q What did you determine the type to be?

7 A The blood sample from Tina Heins
8 demonstrated the DQAlpha type 2, 4.

9 Q And Miss Hanson, what is the frequency or
10 percentage of the Caucasian population that
11 exhibited this genotype?

12 A It's approximately 7.7 percent in the
13 Caucasian population or one person in 13.

14 Q Did you also receive a liquid -- blood
15 stain card reported to be from Chad Heins?

16 A Yes, I did.

17 Q Who did you receive that from?

18 A From Lethenia Meadows.

19 Q Did you perform the PCR analysis of that
20 stain?

21 A Yes, sir.

22 Q And were you able to classify that
23 particular blood sample?

24 A Yes, I was.

25 Q What was the result of your examination

1 and analysis of that blood sample?

2 A The blood sample from Chad Heins that's
3 FDLE exhibit number 7, was demonstrated to be
4 DQAlpha type 1.2, 4.

5 Q Did you also receive a blood stained card
6 reported to be from Jeremy Heins?

7 A Yes, I did.

8 Q Would that be your FDLE number 31?

9 A Yes, sir.

10 Q Who did you receive that from?

11 A Lethenia Meadows.

12 Q Did you perform PCR analysis on this
13 exhibit?

14 A Yes, I did.

15 Q What was the result of that analysis?

16 A The blood sample from Jeremy Heins DQAlpha
17 type was 1.2, 1.2.

18 Q Going back to the Chad Heins' sample, what
19 is the frequency within the Caucasian population
20 that exhibit that genotype of Chad Heins has?

21 A Approximately 8.5 percent in the Caucasian
22 population or one person in 12.

23 Q And what is the frequency or percentage of
24 the Caucasian population is that has DQAlpha type of
25 Jeremy Heins 1.2, 1.2?

1 A Yes, I don't have that.

2 Q You don't have that, didn't determine
3 that.

4 Did you receive a number of exhibits from
5 Lethenia Meadows for PCR typing, that is, from
6 stained, questioned stained exhibits?

7 A Yes, sir, I did.

8 Q What exhibits did you receive, Miss
9 Hanson?

10 A I received piece of gauze, FDLE exhibit
11 number 3A, second piece of gauze FDLE exhibit number
12 3B, red substance, FDLE exhibit number 3C, another
13 piece of gauze FDLE exhibit number 3E, swab from the
14 light, FDLE exhibit number four, a swab from the
15 drain plug, FDLE exhibit number five, a swab from
16 the toilet lid, FDLE exhibit number six, and portion
17 of wash cloth FDLE number 12.

18 Q All right. Did you perform the standard
19 PCR analysis on each of those exhibits?

20 A Yes, I did.

21 Q What were the results of your examinations
22 of those particular exhibits beginning with the FDLE
23 number 3A gauze from sink drain?

24 A The gauze from the sink drain demonstrated
25 DQAlpha type 2, 4.

1 Q Is that consistent with the Tina Heins'
2 DQAlpha type?

3 A Yes, it is.

4 Q What were the results of your examination
5 of your FDLE exhibit 3B gauze from sink drain?

6 A No results were obtained from that sample.

7 Q Is there a reason for that, Miss Hanson?

8 A I don't know, either there could have been
9 too little sample or there -- or there may have been
10 some inhibitor that the sample did not amplify.

11 Q All right. What was the result of your
12 examination of your FDLE number 3C red substance
13 from sink?

14 A The red substance from the sink
15 demonstrated the DQAlpha type 2, 4.

16 Q Is that consistent with Tina Heins'
17 sample?

18 A Yes, it is.

19 Q What was the results of your analysis of
20 exhibit, your FDLE number 3E swabbing from bathtub?

21 A There were no results.

22 Q And is there a reason for that?

23 A The -- not that I know of particularly,
24 just could be either of the reasons that I gave
25 before.

1 Q And what was the result of your analysis
2 of your FDLE exhibit number four, swab from light
3 switch plate?

4 A The swab from the light switch plate
5 demonstrated DQAlpha 2, 4.

6 Q Is that consistent with the Tina Heins'
7 type?

8 A Yes, it is.

9 Q What's the result of your analysis of the
10 -- your number exhibit number five swab from drain
11 plug?

12 A The swab from the drain plug demonstrated
13 the allele 1.2, 2, 4.

14 Q All right.

15 A This indicates mixture of body fluids from
16 at least two individuals.

17 Q All right. And what are the reasons for
18 that, how can you tell us how you have that type of
19 mixture?

20 A Well, because each person would have two
21 alleles, they could or they two may be the same but
22 because they are demonstrated three alleles here
23 this does demonstrate that there has to be a mixture
24 from at least two individuals.

25 Q So there are three alleles present in this

1 particular specimen whereas only two in the other
2 specimen, is that correct?

3 A That's correct.

4 Q Because you have the 2, 4 allele, could
5 Tina Heins' blood be present in that mixture?

6 A Yes, it could.

7 Q And why is that?

8 A Because her type is type 2, 4, she has
9 both of those alleles, therefore those are present
10 in that mixture and she could have contributed to
11 that.

12 Q All right. Could Chad Heins be a
13 contributor to that DNA mixture?

14 A Yes, he could also be a contributor to
15 that mixture as his type is 1.2, 4 and both of those
16 alleles are present in the mixture.

17 Q Could Jeremy Heins be a contributor to
18 DNA?

19 A Yes, he could because he is 1.2, 1.2, he
20 could also be a contributor to that mixture.

21 Q All right. As brothers do they share an
22 allele?

23 A They share the 1.2 allele.

24 Q If we were to assume, Miss Hanson, there
25 is blood from Tina Heins in the mixture, would the

1 other DNA present also be blood or could it be from
2 some other body fluid?

3 A It could be blood or could be from some
4 other body fluids.

5 Q Could it be, for instance, from saliva?

6 A Yes, it could.

7 Q Through PCR analysis can you distinguish
8 whether the mixture of body fluids came from two
9 blood or blood and some other body fluids?

10 A No, I cannot.

11 Q With regard to your FDLE exhibit six swab
12 from toilet seat, what is the result of your
13 analysis?

14 A The swab from the toilet seat
15 demonstrated the DQAlpha type 2, 4.

16 Q Is that consistent with the Tina Heins'
17 DQAlpha type?

18 A Yes, it is.

19 Q And finally, your FDLE exhibit number 12
20 cutting from aqua wash cloth, what's the result of
21 that examination?

22 A The wash cloth demonstrated the DQAlpha
23 type 1.2, 4.

24 Q Is that consistent with the Chad Heins'
25 DQAlpha type?

1 A Yes, it is.

2 MR. BLEDSOE: I don't have any further
3 questions of this witness, Your Honor.

4 THE COURT: Cross.

5 CROSS EXAMINATION

6 BY MR. SHORE:

7 Q Miss Hanson, it's my understanding from
8 your prior testimony you've been qualified as an
9 expert eight times in court?

10 A In PCR typing, yes.

11 Q Have any of those been for the
12 prosecution?

13 A Yes, sir.

14 Q How many?

15 A I have six.

16 Q Have you testified in any civil trials?

17 A No, sir, I have not.

18 Q What body fluids contain DNA?

19 A The body fluids which are usually typed in
20 our laboratory would be either blood, semen or
21 saliva.

22 Q Do any other body fluids contain
23 sufficient DNA for typing?

24 A Any place where there are enough cells,
25 cellular material we could obtain a DNA typing.

1 Q Could you type skin?

2 A If there were enough cells, yes.

3 Q What about hair?

4 A Yes, sir, if there was enough of the shaft
5 on the end of the hair.

6 Q And in fact, your lab does testing on
7 hair, does it not?

8 A Our laboratory does not, it is done in the
9 FDLE system.

10 Q Does the FDLE lab in Tallahassee do that?

11 A Yes, they do.

12 Q Are there other types of body fluid
13 analysis that are recognized in the scientific
14 community other than the PCR DNA testing?

15 A I'm sorry, I don't know what you mean.

16 Q Mr. Bledsoe asked you if the PCR DNA
17 testing was recognized in the scientific community
18 and you indicated that it was.

19 A Yes, sir.

20 Q Okay. My question is, are there other
21 types of testing of blood and saliva and other body
22 fluids that are recognized in the scientific
23 community that you're aware of or is this the only
24 test?

25 A The only -- for the DQAlpha?

1 Q For typing. In other words, when Mr.
2 Bledsoe asked you the question about it being
3 generally recognized in the scientific community,
4 you indicated that you were aware that it was and
5 everything was fine, correct?

6 A That's correct.

7 Q Are you aware of any other testing that
8 performs the similar analysis on body fluids and
9 materials that is generally recognized in the
10 scientific community?

11 A Certainly, he asked me about PCR testing,
12 and this PCR there are a lot of different things
13 that are done with PCR testing because this is the
14 technology, this is one application for typing of
15 the DQAlpha system.

16 Q Are there other ways that are other
17 scientific test to type for instance, hair, to do
18 testing on hair to determine, to eliminate the
19 amount of the population percentage of the
20 population that the hair could have come from?

21 A For hair examinations they are done
22 either microscopically and now are being done by PCR
23 testing.

24 Q The PCR testing that you've testified
25 about doesn't specifically in any situation narrow

1 the fluid down to a single person, does it?

2 A No, it does not.

3 Q Or a hair or anything of that nature, your
4 testing does not say John Jones, this is your hair,
5 does it?

6 A No, it does not.

7 Q Is it your position, Miss Hanson, that
8 based upon your experience that DNA PCR testing with
9 the procedures that are follows is fallible?

10 A When the procedure is followed it's been
11 my experience that the test is a very good test and
12 very readable test. And one which to a reasonable
13 degree of scientific certainty is correct, yes.

14 Q But it's not infallible, is it?

15 A I really don't know what you could do --
16 let me think about that for a second.

17 I'm not sure that any test is infallible for --
18 that someone could not find some way to do something
19 with.

20 Q Who selected the samples that you tested?

21 A The samples were given to me by Lethenia
22 Meadows.

23 Q Is she the person who selected which
24 samples went to you?

25 A Yes, sir.

1 Q So that's why we have the different
2 numbers that start at 3A, and go to six then jump to
3 12?

4 A Yes, sir.

5 Q These samples were received in your
6 laboratory FDLE laboratory system on April the 18th,
7 1994 and then apparently different samples were
8 received on April 21st, 1994 and August 22nd, 1994,
9 is that correct?

10 A There were different submissions and they
11 were received at different times, yes.

12 Q Do you know which were received on April
13 18th, 1994?

14 A Of the samples that I tested?

15 Q Yes, ma'am.

16 A Yes, sir, I do.

17 Q Which ones?

18 A The exhibits that are listed as 3A, 3B,
19 3C, 3E, 4, 5, 6, 12, and 7.

20 Q Which ones were received on April 21st,
21 1994?

22 A That was our exhibit number 30.

23 Q And that's the blood standard from Tina
24 Heins?

25 A Yes, sir.

1 Q And which one was received on August 22nd,
2 1994?

3 A That was the FDLE exhibit number 31.

4 Q That's the blood standard from Jeremy
5 Heins?

6 A That's correct.

7 Q Blood standard from Chad Heins is number 7
8 which was received with the first group on April
9 18th, 1994?

10 A That's correct.

11 Q The last one you received was
12 approximately four months after that, correct?

13 A Yes, sir.

14 Q And when did you perform urine analysis,
15 Miss Hanson?

16 A Most of my examinations were done in
17 February and March of '95.

18 Q How long did it take you to actually do
19 the examinations?

20 A I did the initial sampling on February
21 15th, and samples were done on subsequent days,
22 looks like through March.

23 Q Did you generate the report on March the
24 27th, 1995?

25 A Yes, sir, I did.

1 Q Did you generate any other reports?

2 I mean, you personally not just FDLE, you
3 personally?

4 A Yes, I did.

5 Q What other report did you generate?

6 A I generated a report on August 24th, 1995,
7 a supplemental report.

8 MR. SHORE: Judge, can I approach the
9 bench briefly?

10 THE COURT: Send the jury out.

11 (Jury excused)

12 MR. SHORE: Judge, I kept every lab
13 report in a separate folder that I've been
14 provided through discovery, I met with Mr.
15 Bledsoe a week or ten days ago to make sure I
16 had all the reports. In fact, he gave me one
17 that was dated '96 report that I hadn't had, I
18 don't have the last report that this witness is
19 talking about, Miss Hanson, I have the first
20 one, I have March 27th, 1995 report, to the
21 best of my knowledge I have not received the
22 August 1995 report.

23 MR. BLEDSOE: Your Honor, I'm not sure
24 which report that is because I don't have it
25 in my file because perhaps Miss Hanson can

1 enlighten us as to what that August report
2 pertains to, I don't have it.

3 THE WITNESS: The exhibit that I testified
4 on that contains exhibit number 3E.

5 MR. BLEDSOE: All right.

6 MR. SHORE: A and for the record --

7 THE WITNESS: There were no results.

8 MR. SHORE: That's the only way I knew to
9 ask that question about whether or not there
10 was another report because March 27th report
11 doesn't refer to 3E so I knew I didn't have
12 something.

13 MR. BLEDSOE: 3E is the one you previously
14 got no results on, correct?

15 THE WITNESS: That's correct.

16 MR. BLEDSOE: So you attempted again?

17 THE WITNESS; Yes, sir.

18 MR. BLEDSOE: And you got the same no
19 result?

20 THE WITNESS: That's correct.

21 MR. BLEDSOE: I don't have that report,
22 Your Honor.

23 MR. SHORE: Judge, she's testified about
24 it and on direct examination.

25 THE COURT: Has she got a report there?

1 MR. SHORE: She indicated she did.

2 MR. BLEDSOE: Apparently she does.

3 THE COURT: Let him see it.

4 MR. SHORE: If I can have just a couple
5 minutes to look at it, Judge.

6 THE COURT: Sure.

7 (Tendered to defense counsel)

8 MR. SHORE: Judge, would it be possible
9 for me to take a minute just to make a copy of
10 it so I could have a copy of it in front of me
11 while I'm examining this witness?

12 THE COURT: Sure.

13 THE COURT: Are we ready?

14 MR. SHORE: Yes, sir.

15 THE COURT: Bring the jury back.

16 (Jury present)

17 BY MR. SHORE:

18 Q Miss Hanson, you've previously testified
19 about an exhibit 3E, can you tell me what that is,
20 please?

21 A It was piece of gauze.

22 Q Is that a different piece of gauze than
23 the exhibit 3A and 3B?

24 A Yes, sir.

25 Q When was 3E the third piece of gauze

1 submitted to you?

2 A At the same time that I received all of
3 the exhibits.

4 Q Did 3E not get tested with the initial
5 test that was done in February and March?

6 A I believe that it did get tested with
7 that but it gave no results and I had said that I
8 would try it again, it also gave no results the
9 second time that I put on a supplemental report.

10 Q Your March 27th, 1995 report doesn't
11 reflect testing of 3E, does it?

12 A No, it does not.

13 Q When did you test it the first time to
14 find it was -- that it gave no result?

15 A I'm sorry, let me correct myself. It was
16 not that it gave no results, the results were that
17 it was inconclusive.

18 Q Okay. When was it tested and the results
19 were inconclusive?

20 A It was initially tested with the samples
21 in February.

22 Q Your March 27th, 1995 report, though,
23 doesn't reflect that, though, does it?

24 A No, sir, it does not.

25 Q Is that standard FDLE procedure if it's

1 inconclusive then it's not included in the report?

2 A No, sir, it was just that I put out report
3 on the samples that I hadn't completed and I issued
4 a supplemental report to cover that sample.

5 Q Your initial report and your initial
6 testing was completed in March 1995 approximately 11
7 months after these items are initially submitted to
8 your agency, correct?

9 A That's correct.

10 Q And approximately 11 months after the
11 event in question occurred, correct?

12 A That's correct.

13 Q The supplemental report that contains
14 information about item 3E was generated on August
15 24th, 1995?

16 A That's correct.

17 Q About a year and four months after the
18 initial submission, correct?

19 A Yes, sir.

20 Q Is it routine in the -- in your division
21 of the Florida Department of Law Enforcement to
22 retest items that are inconclusive?

23 A Many times I retest items or rerun the
24 samples.

25 Q Did anybody request that item 3E be

1 retested?

2 A Yes, sir, I believe that Mr. Bledsoe asked
3 me to rerun 3E.

4 Q When was that request made?

5 A In March when I put out the first report.

6 Q March of 1995?

7 A Yes, sir.

8 Q Miss Hanson, if you followed the
9 procedures that you've described earlier in some
10 detail with PCR DNA testing and receive inconclusive
11 result on the test, do you follow the exact same
12 procedure with regard to the PCR DNA testing when
13 you retest that exact same item?

14 A Yes, sir.

15 Q So sometimes if I understand you correctly
16 you can run a PCR DNA test on blood, saliva,
17 whatever it is you're testing, gauze, and it comes
18 out inconclusive and you can test it again four or
19 five months later and although it didn't in this
20 case I assume it can come out sometimes conclusive,
21 is that what your testimony is?

22 A While the testing is the same, for
23 instance, if you re-extracted you may re-extract a
24 different area from the sample, and sometimes get
25 results.

1 You could also add certain times if you have
2 used a very small portion you can vary the amount of
3 the sample that you actually amplified. And if you
4 have -- when you're reading the statistics there is
5 what's called a control dot on the strip. And you
6 cannot read any dots on the strip unless that
7 control dot is visible because that is designed to
8 be the threshold by which you may read the other
9 dots on the strip. Now, if there is activity but
10 not readable result, if you have amplified a very
11 small amount sometimes by amplifying greater amount
12 you may end up getting a result that's readable.
13 Therefore, there are times when you could have an
14 inconclusive result the first time and you may
15 indeed get results if you redo the sample.

16 Q And that would happen even if you are
17 using, as I understand, this is what you do, you use
18 the exact same test on the exact same sample you get
19 different results, correct?

20 A It is the exact same test but what I said
21 is you're able to vary the amount that you
22 amplified, and by varying that amount, yes,
23 sometimes it does make a difference.

24 Q And who controls the amount that you're
25 amplifying?

1 A Well, when I'm setting up the test I
2 control the amount of sample that I'm adding.

3 Q Miss Hanson, with regard to item 3E then,
4 this third piece of gauze, my understanding is you
5 ran it once, it's inconclusive, Mr. Bledsoe's
6 request you ran it again, still inconclusive?

7 A That's correct.

8 Q Have you run it any more, have you tested
9 it any more?

10 A No, sir.

11 Q After your initial report of March 27th,
12 1995, did you also receive exhibits with FDLE
13 numbers 16, 17 and 18?

14 A Yes, I did.

15 Q What were those?

16 A They were samples from a sheet, blanket
17 and pillow case.

18 Q 16 is the sheet, is that correct?

19 A That's correct.

20 Q And what test did you run on the sheet?

21 A I did attempt to do DQAlpha testing.

22 Q The same test you've testified about
23 previously?

24 A That's correct.

25 Q And what were the results of your testing?

1 A The results were inconclusive.

2 Q Have those been run again?

3 A No, sir.

4 Q Item number 17 is a blanket, is that
5 correct, ma'am?

6 A That's correct.

7 Q What test did you run on it?

8 A I attempted to do DQAlpha testing.

9 Q The exact same test we've talked about
10 previously?

11 A Yes, sir.

12 Q And what was the result of that test?

13 A They were inconclusive.

14 Q Inconclusive, ma'am, and I'm sorry if you
15 could talk right in the microphone, thank you.

16 Have you run a subsequent test on the
17 blanket?

18 A No, sir, I did not.

19 Q And item 18 is the pillow case?

20 A Yes, sir.

21 Q What testing did you do on that?

22 A I attempted DQAlpha testing.

23 Q What was the result of your testing?

24 A And the results were inconclusive.

25 Q Have any further test been run on the

1 pillow case?

2 A No, sir.

3 Q With regard to the blood standard for Tina
4 Heins that was submitted to you as number 30?

5 A Yes, sir.

6 Q You testified, I believe, that the DQAlpha
7 genotype her DQAlpha genotype is 2, 4, is that
8 correct?

9 A Yes, sir, that's correct.

10 Q And I believe you testified also that
11 that genotype is found approximately 7.7 percent of
12 the Caucasian population or one person in 13 of the
13 Caucasian population, is that correct?

14 A That's correct.

15 Q Miss Hanson, can you tell me of the
16 DQAlpha genotype 2, 4 approximately what percentage
17 of the African American population is included in
18 that genotype?

19 A It's approximately 6.5 -- 6 and a half
20 percent of the black population or one person in 15.

21 Q Miss Hanson, you testified I believe that
22 you typed the blood standard for Mr. Chad Heins
23 which was your number 7, is that correct,
24 ma'am?

25 A That's correct.

1 Q Mr. Chad Heins' DQAlpha genotype according
2 to your examination is 1.2, 4, is that correct,
3 ma'am?

4 A That's correct.

5 Q And that genotype is found in
6 approximately 8.5 percent of the Caucasian
7 population or one person in 12?

8 A That's correct.

9 Q So if we had 12 people on this jury, one
10 -- the odds are based on your figures that one
11 person out of this 12 people would have the
12 genotype, correct, if they were all Caucasian?

13 A It does exist in approximately that
14 approximation, approximately 8 and a half percent or
15 one person in 12.

16 Q Well, I understand where did you get the
17 figures?

18 A They were -- the figures came from a
19 Florida database.

20 Q Pardon me?

21 A Florida database.

22 Q Florida database. And these are the
23 figures that you used at the Florida Department of
24 Law Enforcement, is that correct?

25 A Yes, sir.

1 Q All right. Utilizing DQAlpha genotype
2 1.2, 4, which is again what you indicate is the Chad
3 Heins' genotype, can you tell me approximately what
4 percentage of the African American population that
5 is that genotype?

6 A Approximately 21 percent or one person in
7 five.

8 Q Now, with regard to your blood standard
9 for Jeremy Heins' exhibit number -- jury exhibit
10 number 31, I believe you testified he has DQAlpha
11 Genotype 1.2, 1.2?

12 A That's correct.

13 Q That's correct? Can you tell me what
14 percentage of the Caucasian population has this
15 genotype, ma'am?

16 A I don't have those figures, sir.

17 Q Is there a reason that you don't have
18 them, ma'am?

19 A Yes, sir, because none of the questioned
20 sample contain that genotype and I did not put it in
21 my report.

22 Q Did anybody request that you type Mr.
23 Jeremy Heins' blood as well as Tina Heins and Chad
24 Heins' blood?

25 A Yes, sir, that was submitted for testing.

1 Q Did anybody request that you genotype
2 Jeremy Heins' blood, the blood standard?

3 A Yes, sir.

4 Q You just did not obtain the same
5 percentage information for Jeremy Heins' genotype as
6 you did for Chad Heins and Tina Heins?

7 A Actually I could get that information for
8 you very easily but I did not bring the database,
9 all I brought was lab report and in our report in
10 the format I put statistical data only for those
11 comparisons which I have made.

12 Q Maybe I'm misunderstanding you, Miss
13 Hanson, you did not use Jeremy Heins' blood standard
14 for comparison purposes?

15 A Yes, sir, I did, but in the format of the
16 report I put the frequency data for what samples
17 were consistent with a known standard, and for those
18 samples I put in the frequencies, I could certainly
19 obtain that frequency data for you.

20 Q Did Mr. Bledsoe after he got your report
21 -- March 1995 report or anybody in his office call
22 you and ask you to the genotype for percentage
23 purposes just like you did the other two?

24 A This is just a format of our report and
25 this is the way they are always put out.

1 Q This is the way they are always done?

2 A This is the way that I write my reports,
3 and this is the format that is used.

4 MR. SHORE: If I could have just a second,
5 please.

6 (Conferring with co-counsel and defendant)

7 MR. SHORE: I don't have any other
8 questions, Judge.

9 THE COURT: Anything further of this
10 witness, Mr. Bledsoe?

11 MR. BLEDSOE: One moment, Your Honor.

12 No further questions, Your Honor.

13 THE COURT: May she be excused?

14 MR. BLEDSOE: She may.

15 MR. SHORE: Yes, sir.

16 THE COURT: Step down.

17 (Witness excused)

18 THE COURT: There's some construction
19 going on in the courthouse and the air
20 conditioner for this particular courtroom has
21 been blocked out while they remove some
22 asbestos for the next couple days, now tomorrow
23 morning we can use this courtroom and tomorrow
24 afternoon if necessary I'll move to another
25 courtroom after it becomes vacant but each of

1 JODI PHILLIPS,

2 Having been produced and first duly sworn

3 as a witness, testified as follows:

4 DIRECT EXAMINATION

5 BY MRS. COREY-LEE:

6 Q Tell these jurors your name.

7 A My name is Jodi Phillips.

8 Q I need you to lean forward and speak into
9 that microphone because of the fan.

10 What is your occupation?

11 A I'm a latent print examiner.

12 Q How long have you been in the latent print
13 examining field?

14 A In excess of ten years.

15 Q Were you a sworn police officer?

16 A Yes.

17 Q At what point in your career?

18 A From 1981 to 1991.

19 Q Where were you employed?

20 A By the Palm Bay from Brevard County,
21 Florida.

22 Q Did you begin taking on latent print
23 examining duties down at that department?

24 A Yes, I did.

25 Q How did you become trained when you were

1 still employed with that department?

2 A I received 120 hour basic course of
3 instruction from FDLE, Florida Department of Law
4 Enforcement on fingerprint classification, I
5 received a 40 hour block of instruction from the FBI
6 on advanced latent techniques, I attended the FBI
7 academy in Quantico, Virginia, and completed the 120
8 hour course of instruction on administrative
9 advanced latent fingerprints, as well as various
10 course work in crime scene investigation, and other
11 specific investigations.

12 Q When did you come to the Jacksonville
13 Sheriff's Office?

14 A In July of 1991.

15 Q What type of work have you done there?

16 A I'm assigned to the crime lab as latent
17 print examiner.

18 Q How much of your working time with Brevard
19 and now with the Jacksonville Sheriff's Office has
20 been devoted to the type of work you just described?

21 A In excess of ten, 12 years.

22 Q And have you made continuous study while
23 with both departments to keep abreast of new
24 techniques in the area of fingerprint examining and
25 identification?

1 A Yes, I have.

2 Q What type of technical equipment is
3 available for you to use in this work? And I don't
4 need you to tell us everything, just give the jury a
5 brief overview.

6 A Well in our line of work we use various
7 chemicals, fingerprint powders for the purpose of
8 locating and developing latent prints along with
9 equipment such as Magnifiers and in many cases
10 alternate light source which is used to assist in
11 locating physical evidence, body fluids or latent
12 fingerprint evidence.

13 Q And do you have those available to you at
14 the Jacksonville Sheriff's Office?

15 A Yes, they are.

16 Q Have you had occasion to identify persons
17 by comparing latent fingerprints with their own
18 inked fingerprints?

19 A Yes, I have.

20 Q How many times?

21 A I would say I've made in excess of 15
22 hundred identifications.

23 Q And have you previously been qualified as
24 an expert and testified in a court of law in the
25 area of fingerprint and palm print identification?

1 A Yes, I have.

2 Q How many times?

3 A In excess of 50.

4 Q And how many of those were in the courts
5 of the State of Florida?

6 A All have been in Florida.

7 MRS. COREY-LEE: Your Honor, at this time
8 I would tender Jodi Phillips as an expert
9 witness in the area of fingerprint and palm
10 print identification and analysis.

11 MR. SHORE: I don't have any objection.

12 THE COURT: Please proceeded.

13 BY MRS. COREY-LEE:

14 Q Tell the jurors what is a latent
15 fingerprint.

16 A Well, a latent print will be a chanced
17 imprison on an object or item of evidence deposited
18 by touching or coming in contact with that object
19 with a portion of a finger and palm. A contaminant
20 would be present on the fingers or palm and when the
21 surface is touched a reproduction of our fingerprint
22 would be left on the object.

23 Latent is typically a hidden print, we can't
24 see it, and would need to use some type of powder or
25 chemical or alternate light to assist us in locating

1 and viewing that print.

2 Q Sir, is it fair to say then what effects a
3 latent print is what's on the finger and what's on
4 the surface?

5 A Those would be two factors, the surface
6 material as well as any contaminates on the finger
7 or hand as well as environmental conditions.

8 Q What is a known or inked print?

9 A Well, a known or inked print would be an
10 intentional recording of somebody's ridge details on
11 their fingers, this is typically accomplished by
12 placing a thin area of black printer's ink on the
13 fingers and rolling the fingers onto contrasting
14 surface such as white fingerprint card, the
15 resulting image is a record print, known print or
16 inked print, they are all synonymous.

17 Q How are fingerprints compared and
18 identifications made from those comparisons?

19 A Comparisons would be conducted by looking
20 at two prints using some type of magnification,
21 attempting to locate the same characteristic in each
22 print, by doing that you're conducting a comparison
23 of the two prints.

24 Q Is it possible for a person to touch a
25 surface and not leave his prints?

1 A Yes, it is.

2 Q Why is that?

3 A The first thing that comes to my mind is
4 that the person could have gloves on, other factors
5 would be that the person did not have a suitable
6 amount of contaminants on their fingers or could be
7 that the surface is not particularly receptive for
8 latent print deposits to be received.

9 Q Now, based on your training and your study
10 in your experience of experience in fingerprint
11 analysis, have you ever known or heard of any two
12 persons who have the same finger or palm print?

13 A No, I've not.

14 Q Now, sir, when an evidence technician
15 dusts a surface or uses one of the chemical
16 substances that you mentioned earlier to the jury
17 to lift a print from the surface, does that always
18 mean you will be able to get a print that is
19 suitable for identification?

20 A No, it does not.

21 Q What would affect what the evidence
22 technician picks up, I mean, what would make it
23 suitable for identification?

24 A Well, for a latent print to be suitable
25 for identification basically means that the print

1 must have an acceptable amount of specific amount of
2 characteristics or details present that would allow
3 an examiner to compare that latent print to the --
4 an inked print.

5 Q Would an evidence technician who is
6 lifting a print to preserve on a card or by whatever
7 method they preserved at a crime scene know at that
8 moment whether or not it was sufficient for
9 analysis?

10 A I don't believe so, no.

11 Q Now, in your work with the Jacksonville
12 Sheriff's Office were you on duty back on April 17th
13 of 1994?

14 A I was called back to duty on that day,
15 yes, ma'am.

16 Q Was your presence requested at an
17 apartment number 604 at 2553 Mayport Road or State
18 Road A1A out in Mayport, Florida?

19 A Yes.

20 Q Did you respond to that apartment?

21 A Yes, I did.

22 Q Do you recall what time you arrived at the
23 apartment?

24 A I would say approximately 8:34 a.m.

25 Q And who was there when you arrived?

1 A Several police officers were present,
2 however I met with officers, evidence technicians
3 Frascello and Snyder.

4 Q Now, did you actually try to lift any
5 fingerprints or palm print specimens yourself?

6 A No.

7 Q Were you there when the use of what's
8 known as the poly light was used?

9 A Yes.

10 Q Explain to the jurors what a poly light
11 is?

12 A It's a brand name for alternate light
13 source. An alternate light source is an instrument
14 that allows the operator to dial -- dial in a filter
15 and have a specific color of light emitted from the
16 instrument and by altering lighting conditions it
17 may enhance fingerprint evidence, allow you -- us
18 to locate hairs, fibers, evidence of this nature.

19 Q Were you with Officer Frascello and Snyder
20 when they used the poly light inside apartment 604?

21 A Yes.

22 Q Let me take your attention, sir, to the
23 wall area inside and just outside the bedroom as
24 depicted in State's Exhibits 32 and 33 and ask you
25 if you recognize those two photographs?

1 A Yes, I do.

2 Q All right. And let me also ask you to
3 look inside State's Exhibit 42 and ask you if you
4 recognize that exhibit?

5 A Yes, I do.

6 Q All right. What do you recognize State's
7 Exhibit 32 to be?

8 A It's a photograph of the wall area inside
9 the residence.

10 Q And State's 33?

11 A Close up of the light switch.

12 Q And State's Exhibit 42?

13 A The light switch.

14 Q May the witness step down, Your Honor?

15 THE COURT: Step down.

16 BY MRS. COREY-LEE:

17 Q Were you inside the apartment in this area
18 when the evidence technicians used the poly light on
19 this light switch?

20 A Yes.

21 Q Did the aid of the poly light reveal any
22 latent fingerprints to you as you viewed that light
23 switch at the scene?

24 A No, we saw no latent prints.

25 Q And then what attempt was made to preserve

1 that light switch at that time?

2 A The item was collected by the evidence
3 technician and placed in the property room.

4 Q And is it placed into the property room at
5 the Jacksonville Sheriff's Office?

6 A Yes.

7 Q At the State's request did you take that
8 light switch out of the evidence room at the
9 Jacksonville Sheriff's Office on November 20th of
10 1996?

11 A Yes, I did.

12 Q And for what purpose did you take it out
13 on that date?

14 A To process for latent prints.

15 Q Now, would this processing be a more
16 detailed examination to determine if there were any
17 prints that perhaps you did not see at the scene or
18 maybe a better way to say this just a double check?

19 A This was a more advanced technique for the
20 purpose of further processing.

21 Q Tell the jurors briefly what you did with
22 that switch plate on November 20th, 1996.

23 A I got back from the lab, I opened the
24 package, did an initial visual observation of the
25 item, made notes what I saw, smudging.

1 My next step was to conduct an examination with
2 the alternate light source poly light in the lab,
3 check for any latent print that may be present.

4 I found none through that method and then moved
5 on to the chemical process of applying a protein dye
6 stain called amino black which comes from the bluest
7 color on the item in an attempt to locate any
8 fingerprint ridged detail made by protein.

9 Q Did you find any fingerprint ridged detail
10 on this light switch that would have been suitable
11 for ya'll to compare to a known inked print?

12 A No, I could find no ridged detail.

13 Q Could you resume the stand. You went into
14 other areas of the apartment with the evidence
15 technicians to -- with the poly light to use the aid
16 of the poly light?

17 A Yes, we did.

18 Q Other than some hairs I believe and fibers
19 on mattress that it revealed did you ever see any
20 evidence of any latent or left fingerprints on any
21 of the other areas that were poly lighted by the
22 evidence technicians?

23 A No, we did not.

24 Q Let me ask you, sir, can you put a date on
25 a fingerprint even if one is found?

1 A The age of a print I could not determine,
2 no, ma'am.

3 Q That's what I meant, age. So if a print
4 had been lifted without you knowing anything more
5 about it would you have been able to tell when it
6 was placed on that surface?

7 A No.

8 MRS. COREY-LEE: May I have just a moment,
9 Your Honor?

10 (Conferring with co-counsel)

11 BY MRS. COREY-LEE:

12 Q Mr. Phillips, with regard to persons who
13 live inside the area where you are searching for
14 prints, how common is it for a person to leave their
15 prints in their living area?

16 A Extremely common.

17 MRS. COREY-LEE: All right, sir. And
18 that's all I have, Judge.

19 THE COURT: Cross.

20 CROSS EXAMINATION

21 BY MR. SHORE:

22 Q Mr. Phillips, let me just make sure I
23 understand you correctly, how are you presently
24 employed?

25 A As a latent print examiner with the

1 Jacksonville Sheriff's Office.

2 Q How were you employed in April of 1994?

3 A As a latent print examiner with the
4 Jacksonville Sheriff's Office.

5 Q Did you go out to the apartment on any
6 date other than April 17th, 1994?

7 A No, sir, I did not.

8 Q The light switch that you testified about
9 a few minutes ago, which is exhibit number 42, I
10 believe, into evidence, do you know when that was
11 taken into custody and into evidence by the
12 Jacksonville Sheriff's Office?

13 A No, sir, I don't.

14 Q Was it still on the wall when you were out
15 there on April 17th?

16 A I observed it on the wall, yes, sir.

17 Q The examination that you performed on the
18 actual light switch was November 20th, 1996?

19 A Yes, sir.

20 Q Not November 20th, 1994, but about three
21 weeks ago, is that right?

22 A Yes, sir, that's correct.

23 Q Did you participate in the collection of
24 evidence from the body?

25 A I was present but did no collecting.

1 Q Do you recall what was collected?

2 A I do know some hairs and fibers, how many
3 and where I don't know.

4 Q Who collected those?

5 A It would have been the evidence
6 technicians.

7 Q That would be Snyder and Frascello?

8 A Yes, sir.

9 Q Did you find any gloves while you were out
10 there?

11 A I don't recall that we did, no, sir.

12 MR. SHORE: If I could have just a
13 moment, Judge.

14 (Conferring with co-counsel and the
15 defendant)

16 MR. SHORE: I don't have any other
17 questions.

18 THE COURT: Anything further of this
19 witness?

20 MRS. COREY-LEE: Just one.

21 REDIRECT EXAMINATION

22 BY MRS. COREY-LEE:

23 Q Mr. Phillips, you saw no ridged detail on
24 that light switch on the actual morning of the
25 murder with the use of the enhanced light or

1 the poly light, did you?

2 A With the poly light, yes.

3 Q You saw no ridged detail?

4 A No ridged detail.

5 Q And that was the morning of the murder?

6 A April 17th.

7 Q Thank you, sir.

8 MRS. COREY-LEE: No further questions.

9 MR. SHORE: No questions.

10 THE COURT: May he be excused?

11 MRS. COREY-LEE: Yes, sir.

12 THE COURT: Step down.

13 (Witness excused)

14 THE COURT: Going to take a break now till
15 tomorrow, 9:30 a.m.

16 MRS. COREY-LEE: Judge, could we approach
17 before we do that?

18 (Side-bar conference)

19 MRS. COREY-LEE: Darlene Gregory.

20 DARLENE GREGORY,

21 Having been produced and first duly sworn
22 as a witness, testified as follows:

23 DIRECT EXAMINATION

24 BY MRS. COREY-LEE:

25 Q Tell these jurors your name.