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JOYCE GILCHRIST,

called as a witness on behalf of the State, of lawful age, who
being first duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. ALBERT:

Q. State your name for the Court and jury.

A. My name is Joyce A. Gilchrist.

Q. And, how are you employed, Ms. Gilchrist?

A. I'm a forensic serology chemist for the Oklahoma City Police Department.

Q. And, how long have you been employed as a forensic chemist and serologist for the Oklahoma City Police Department?

A. For well over six years.

Q. All right. Will you very briefly tell the ladies and gentlemen of the jury what your education, training and experience has been in this field.

A. First of all, I got a Bachelor of Science in forensic science which I obtained from Central State University in Edmond, Oklahoma. My professional background/training includes going to various schools. I've attended the FBI Academy in Quantico, Virginia, on several occasions where I received training in forensic serology and the examination and identifications of hairs, fibers and other types of textile materials. I've attended the -- and, also, later on, I had to

1 go back for updates on new techniques in the state of the arts
2 for hair examinations. I've also attended the Serological
3 Research Institute in Emoryville, California, on two separate
4 occasions, received training in advanced electrophoretic
5 techniques of forensic serology and blood-stain analysis.
6 Also, the electrophoretic techniques of semen analysis. I've
7 attended the Central US Police Institute here in Oklahoma City
8 where I received training in the geometric interpretation of
9 blood stains and their flight patterns. I've attended the
10 Southwest Homicide Investigative Seminars held in Oklahoma City
11 and Norman and I've also been instructor in those same
12 seminars. I conducted my forensic science practicum at the
13 Oklahoma City Police Department. I've been certified by the
14 Counsel on Law Enforcement Education and Training as a police
15 instructor for the state of Oklahoma.

16 Q. Okay. Now, let me ask you again because I've forgotten,
17 and I apologize. How many years have you worked with the
18 Oklahoma City Police Department as a forensic chemist?

19 A. Well over six years. Six and a half years.

20 Q. Okay. And, tell the ladies and gentlemen of the jury
21 very briefly what your duties as a forensic chemist and
22 serologist involve.

23 A. As a forensic chemist or serologist, I analyze the
24 evidence that's submitted to our laboratory in cases of rapes,
25 homicides, indecent liberty, other types of sexual assaults.

1 and hit and runs. Most of the evidence that I analyze is going
2 to be blood, either in a liquid or dried state, semen stains,
3 vaginal secretions, saliva samples, and hairs and fibers, and
4 my full time and attention is devoted to examining that type of
evidence.

5 Q. Okay. Now, Ms. Gilchrist, have you testified in the
6 courts of this county before as an expert witness?

7 A. Yes, I have.

8 Q. On how many prior occasions have you made microscopic
9 comparison of hairs and fibers?

10 A. How many times?

11 Q. How many approximate cases have you done in the six
12 years that you've worked with the Oklahoma City Police
13 Department?

14 A. Several hundred, hundreds. I don't keep a running count
15 of that exact number.

16 Q. Hundreds of cases. On how many occasions in all of
17 those cases have you made individual comparison of hairs and
18 fibers?

19 A. That would be ten times as much. Probably about a
20 thousand times or more.

21 Q. Thousands of times.

22 A. Right.

23 Q. And, you have testified as an expert in courts before on
24 matters of forensic science.

1 A. Yes, I have.

2 Q. Are you a member of any associations or organizations in
3 that given discipline?

4 A. Yes, I am.

5 Q. And, what are they?

6 A. I'm a member of the Southwest Association of Forensic
7 Scientists, the American Academy of Forensic Scientists, and I
8 am president of the International Association for
9 Identification, the Oklahoma City division.

10 Q. Okay. Now, I omitted a while ago when I was asking you
11 about hairs and fibers on how many occasions, how many cases
12 you've been involved in the analysis of those, how many cases
13 have you been involved in the analysis of body fluids, semen,
14 blood and other body fluids?

15 A. Again, that be several hundred cases because those types
16 of cases usually involve both body fluids and hairs and fibers
17 and I examine both.

18 Q. You've testified as an expert witness on matters of
19 serology in the courts of this state on prior occasions.

20 A. Yes, I have.

21 Q. All right. Now, Ms. Gilchrist, let me show you what has
22 been marked for identification purposes only as State's Exhibit
23 Number Thirty-two and I'd ask you if you would to look at that
24 and if you can tell the Court and jury what it is.

25 A. This is a sexual assault evidence envelope which

1 contained body samples obtained from Sandra Burton.

2 Q. Okay. And, from whom did you receive State's Exhibit
3 Thirty-two?

4 A. I picked this evidence up from the hospital myself and
5 submitted it to our laboratory.

6 Q. Okay. What hospital did you pick it up from?

7 A. Oklahoma Memorial Hospital.

8 Q. And, what was the condition of the sexual assault
9 evidence kit at the time you picked it up?

10 A. It was in a sealed condition. I opened it and sealed it
11 back, this portion of the envelope, when I finished my
12 examination, but I never broke the seal here. This envelope
13 was in a sealed condition.

14 Q. The original seal's never been broken.

15 A. No, it hasn't.

16 Q. Now, the stapled part of the bottom, you did open that.

17 A. Yes, I did.

18 Q. But, was it in a sealed condition when you received it
19 from the hospital?

20 A. Yes, it was.

21 Q. Was there anything about the appearance of State's
22 Exhibit Number Thirty-two that caused you to think it had been
23 tampered with or otherwise interfered with from the time it was
24 sealed by Dr. Wall until it came into your possession in a
25 sealed and closed condition?

1 A. No, there wasn't.

2 MR. ALBERT: Okay. We would offer in evidence, Your
3 Honor, what has been marked and identified as State's Exhibit
4 Number Thirty-two.

5 MR. BURGER: No objection.

6 THE COURT: State's Exhibit Number Thirty-two will be
7 admitted there being no objection.

8 Q. (By Mr. Albert) Okay. Ms. Gilchrist, let me hand you
9 what has been marked for identification as State's Exhibit
10 Thirty-three. Can you tell the Court and jury what that is.

11 A. Yes, I can. It's evidence envelope containing the
12 reference body samples obtained from Jeffrey Todd Pierce.

13 Q. Okay. And, when were those known body samples of
14 Mr. Pierce obtained?

15 A. I collected them on March 1st, 1986.

16 Q. And, do you see the Mr. Pierce in the courtroom today
17 from whom you took those known body samples?

18 A. Yes, I do.

19 Q. Will you point him out and tell the Court and jury where
20 he's seated and how he is dressed.

21 A. Seated at defense table, he's got a dark-blue suit on
22 and a yellow tie.

23 MR. ALBERT: Your Honor, may the record reflect she's
24 identified the Defendant, Mr. Pierce.

25 THE COURT: Let the record reflect that the witness

1 has identified the Defendant.

2 Q. (By Mr. Albert) What items did you take from Mr. Pierce
3 at the time you took those body samples contained in State's
4 Exhibit Thirty-three?

5 A. I myself collected vial of blood, saliva samples and
6 some scalp hairs, and then I left the room and Detective Koonce
7 collected the pubic hairs.

8 Q. Okay. You were outside the room at that point.

9 A. Yes.

10 Q. And, Detective Koonce delivered to you a bindle
11 containing the known pubic hairs of the Defendant, Mr. Pierce.

12 A. That's correct.

13 Q. Were all of those items placed inside State's Exhibit
14 Number Thirty-three?

15 A. Yes, they were.

16 Q. Did you seal it at that time?

17 A. Yes, I did.

18 Q. And, what did you do with the envelope after you placed
19 each of those items in there and sealed it?

20 A. I took it to our laboratory and put it in our evidence
21 drop box, our refrigerator.

22 Q. Did it stay in your exclusive control and possession
23 until such time as you opened it to make your analysis?

24 A. Yes, it did.

25 Q. Was there anything about this envelope when you opened

1 it at a later time to do your forensic analysis that caused you
2 to think it had been tampered with or otherwise interfered
3 with?

4 A. No. The original seal, I sealed it across here and
5 dated it, put a piece of tape. It's never been opened. Opened
6 it from the opposite end and I restapled it after I finished my
7 examination.

8 Q. All right. Let me hand you what has been marked for
9 identification State's Exhibit Thirty-four and I would ask you
10 to tell the Court and jury what that is.

11 A. Evidence envelope containing some more reference scalp
12 hairs I took from Jeffrey Todd Pierce.

13 Q. On what date?

14 A. July 30th, 1986.

15 Q. Is that the same Mr. Pierce you previously identified on
16 the record?

17 A. Yes, it is.

18 Q. Okay. And, it contains only reference --

19 A. Scalp hairs.

20 Q. -- scalp hairs.

21 A. Yes.

22 Q. And, did you seal and close that envelope after
23 obtaining those additional scalp hair, known scalp hair samples
24 from Mr. Pierce?

25 A. Yes, I did.

1 Q. And, what did you do with the envelope at that point?

2 A. Took it to our laboratory and submitted it.

3 Q. Stay in your possession, control, until such time as you
4 opened it to do your analysis?

5 A. That's correct.

6 Q. Were the seals intact at that time?

7 A. Yes; they still are.

8 Q. Was there anything about the envelope that caused you to
9 think it had been tampered with or otherwise interfered with?

10 A. No, there was not.

11 Q. Let me show you what's been marked for identification as
12 State's Exhibit Thirty-five and I would ask you to tell the
13 Court and jury what that is.

14 A. Evidence envelope containing a reference saliva sample
15 from Sandra Kay Burton.

16 Q. And, on what date did you take that additional reference
17 saliva sample?

18 A. June 21st, 1985.

19 Q. I'm assuming, of course, you did it.

20 A. I did. I collected it and I submitted it for the lab.

21 Q. And, did you close and seal the envelope at the time you
22 put that additional saliva sample of Ms. Burton's inside?

23 A. Yes, I did.

24 Q. And, did it stay in your exclusive possession and
25 control until such time as you opened it to do your analysis?

1 A. Yes, it did.

2 Q. Was there anything about State's Exhibit Thirty-five,
3 the appearance of it, that caused you to think it had been
4 opened or tampered with in any way during that interim time?

5 A. No, there was not.

6 MR. ALBERT: Your Honor please, the State would offer
7 at this time what has been marked and identified as State's
8 Exhibits Thirty-three, Thirty-four and Thirty-five.

9 MR. BURGER: No objection.

10 THE COURT: There being no objection, State's
11 Exhibits Thirty-three, Thirty-four and Thirty-five are admitted
12 into evidence.

13 Q. (By Mr. Albert) Before I get into the analysis of what
14 you did, -- well, strike that.

15 Did you, from the known body samples -- Ms. Gilchrist,
16 when I refer to something as a "known" body sample, do you
17 understand what I mean?

18 A. Yes, I understand what you mean.

19 Q. Will you tell the Court and jury what you understand
20 that to be.

21 A. A "known" body sample signifies or identifies a sample
22 as having positively come from an individual, either being
23 pulled or taken from the interior portion of the person's body.
24 That's all that means.

25 Q. Okay. Now, when you opened the sexual assault kit

1 submitted by Dr. Wall, did you find a known blood sample taken
2 from the body of Ms. Burton?

3 A. There was a vial of blood in there with her name label
4 on it, on the label, yes.

5 Q. Now, did you submit that to a test to determine her ABO
6 blood type?

7 A. Yes, I did.

8 Q. And, tell the Court and jury briefly how you performed
9 that test.

10 A. On that particular sample, I had to do a dried stain
11 because -- I have to back up a little bit.

12 When the evidence was submitted to our laboratory on the
13 10th of May, 1985, the evidence set in the refrigerator for a
14 while. Later on, since no suspect had been brought in, the
15 evidence was put on hold, so that stuff was put in the freezer.
16 I had to do a dried typing. I had to make a dried stain and do
17 a typing from the dried stain. And, using that, I put some
18 blood on a piece of clean cotton and then stick that to a
19 little dish that we use, disposable dishes that we use, and
20 treat that with respective antiserum, let that absorb
21 overnight. It's an overnight process. Wash off the unabsorbed
22 stuff on that and elute out the absorbed antibody antigen
23 reaction and then treat it with some indicator cells and rotate
24 it and read the results microscopically in order to find the
25 blood, determine the blood type of the victim. Her case, she's

1 type O.

2 Q. Type O.

3 A. Yes.

4 Q. Now, the method that you have described, is that a
5 standard procedure used by forensic chemists, generally, to
6 determine the blood type of a person from a dried stain as you
7 have described it?

8 A. That is correct, yes.

9 Q. Okay. Now, did you determine the secretor status of
10 Ms. Burton?

11 A. On her saliva and her oral wash I could, but not on a
12 blood sample.

13 Q. Okay. Now, before I get into that, I want you to
14 explain to the ladies and gentlemen of the jury what "secretor
15 status" is, what being a "secretor," --being a "non-secretor"
16 means.

17 A. Okay. Very briefly, there's a test that we use in our
18 laboratory called the Lewis Status Test and that test is
19 normally done on whole blood samples. It's a test that can be
20 done -- is done in microtubes and takes about ten to fifteen
21 minutes to get the results once you've prepared the sample.

22 A Lewis status is something that we all inherit. It's
23 another genetic information that we all inherit, and you're
24 either a secretor or a non secretor, usually, or you can be A-
25 or B-. That means nobody can tell what the secretor status is

1 on the Lewis method.

2 A "secretor" is someone whose blood type can be detected
3 in his other body fluids like your saliva. Women, in the case
4 of vaginal secretion. Men, it's going to be seminal fluid. A
5 "non secretor" is simply a person whose blood type cannot be
6 detected in appreciable quantities using the standard
7 absorption inhibition test, okay. So, that's what a non --
8 So, it means you cannot -- non secretor blood type cannot
9 usually be picked up in the regular saliva or vaginal/semen or
10 seminal fluid secretions.

11 Q. Now, generally, what percentage of the population
12 secrete their ABO blood type in their other body fluids?

13 A. Generally about eighty percent of the total
14 population -- black, white, Indian, otherwise -- are classified
15 as secretors. Twenty percent that same general population are
16 classified as non secretors.

17 Q. Okay. Now, a secretor, then, would, in addition to
18 secreting the ABO blood type in semen on the part of a man,
19 would also secrete it in his saliva, tears or other body
20 fluids; is that correct?

21 A. That's correct.

22 Q. Okay. Now, did you determine the secretor status of the
23 victim, Sandra Kay Burton?

24 A. Yes, I did.

25 Q. And, how did you do that?

1 A. Using her saliva and her oral washing that was collected
2 at the hospital. We have a test that's done -- we call it
3 secretor test but it's really called absorption inhibition
4 test -- and that's done substances that are water soluble --
5 the samples that are water soluble, I should say -- and I was
6 able to detect the ABO blood group substance H which is
7 indicative type O from her oral wash and the saliva samples.

8 Q. So, because you detected the blood antigen H, you
9 determined that she was a person who secreted her blood type in
10 her saliva.

11 A. That's correct.

12 Q. As a secreter type person.

13 A. That's right.

14 Q. Okay. Now, I would like to move to the known blood and
15 saliva sample of the Defendant, Mr. Pierce, blood you took from
16 him, the saliva sample you took from him personally. Did you
17 analyze his blood to determine his ABO blood grouping?

18 A. Yes, I did.

19 Q. And, did you use the same method to do that in his case
20 that you did in Ms. Burton's?

21 A. At a later time, I did on dry grouping, but I had a
22 fresh liquid sample from him, so I could type his blood a lot
23 quicker.

24 Q. Okay. And, explain very briefly the method and
25 technique you used to determine the blood type of the

1 Defendant, Mr. Pierce.

2 A. Okay. I used a -- first of all, clean microscopic
3 slides. I used specific antiserum that we use especially for
4 blood typing and drop of blood on each slide mixing it. In a
5 matter of seconds, I can tell what a person's blood type is,
6 what blood group antigens I'm going to be able to detect. I
7 was able to detect blood group antigens A, B and AB on the
8 forward which indicated to me that he was a type AB individual.

9 Q. Okay. Did you cross check that in any way?

10 A. Yes, I did. I ran my -- examined the serum for the
11 antibodies and I detected no antibodies, so that's a cross
12 check in itself there.

13 Q. Okay. So, Mr. Pierce is, on the scale of an ABO blood
14 characterization, he is an AB type person.

15 A. That's correct.

16 Q. Did you determine Mr. Pierce's secretor status?

17 A. Yes, I did.

18 Q. And, did you use the same method in doing that that you
19 used to determine Ms. Burton's secretor status?

20 A. Yes, I did.

21 Q. And, did you determine whether Mr. Pierce is or is not a
22 secretor?

23 A. I determined that he is a non secretor.

24 Q. So, he does not secrete his AB blood type in his semen,
25 tears, saliva or other body fluids.

1 A. That's correct. In appreciable levels sufficient for us
2 to be able to detect.

3 Q. Okay. There is a test that you can use on non-secretor
4 substances to identify blood antigens.

5 A. That's correct.

6 Q. What is that test called?

7 A. It's called absorption allusion test. It's much more
8 sensitive but you have to have appreciable -- you have to have
9 enough for the sample there in order to be able to detect the
10 ABO typing.

11 Q. Okay. So, you knew, then, that you had a victim who was
12 an O secretor and you had the known samples of Mr. Pierce who
13 was an AB non secretor.

14 A. At a much later date, though, yes.

15 Q. What do you mean?

16 A. The evidence -- I examined the evidence admitted June,
17 1985. I didn't get Mr. Pierce's evidence until March of '86.

18 Q. I understand that.

19 A. Okay.

20 Q. You knew the victim's blood type and secretor status
21 long before you knew Mr. Pierce's.

22 A. That's correct.

23 Q. Okay. Now, having that information, Ms. Gilchrist, did
24 you then submit to scientific analysis the vaginal swabs taken
25 from the body of Sandra Kay Burton?

1 A. Yes, I did.

2 Q. Okay. Tell the Court and jury what your analysis
3 revealed to you and your findings and conclusions on the
4 vaginal swabs.

5 First, let me ask you: How many vaginal swabs did you
6 have?

7 A. I have a total of four vaginal swabs.

8 Q. From what area of Ms. Burton's body?

9 A. I have two vaginal swabs from the posterior fornix and
10 two from the cervix.

11 Q. Okay. Did you submit all four to scientific testing?

12 A. I examined -- I probably used up quite a bit. I don't
13 know how much is left of that. I took one from each of the
14 packets and examined them, though.

15 Q. Okay. And, were you able to identify the presence of
16 semen on those swabs?

17 A. No. On the fornix swab, no sperm was found. I got a
18 weak reaction on acidphosphotase which indicated seminal fluid
19 but I couldn't confirm it. I do a microscopic search looking
20 for spermatazoa. I found none.

21 Q. Okay. Now, if you find the presence under the
22 microscope of spermatazoa, then you know you have the presence
23 of semen; is that right?

24 A. Yes. Spermatazoa is a positive identification for
25 semen.

1 Q. Spermatazoa live and flow in the seminal fluid.

2 A. That's correct.

3 Q. So, if you're examining a swab for the presence of semen
4 and you see and can identify spermatazoa, then you know you
5 have seminal fluid.

6 A. Yes.

7 Q. But, if you're examining a fluid that you find no
8 spermatazoa in, do you then do the acidphosphotase test to see
9 if it's positive for the presence of seminal fluid?

10 A. I do the acidphosphotase test first, then I do my
11 microscopic search.

12 Q. All right. You did the acidphosphotase test here.

13 A. Yes.

14 Q. And, it was positive for the presence of semen.

15 A. Yes.

16 Q. Even though you did not find spermatazoa.

17 A. I found no spermatazoa.

18 Q. Now, was that true on all of the vaginal swabs taken
19 from the vaginal canal of Ms. Burton?

20 A. Yes.

21 Q. Okay. Did you then submit to scientific testing the
22 anal swabs taken from Ms. Burton?

23 A. Yes, I did.

24 Q. Okay. Did you do the same tests on those that you did
25 the vaginal swabs?

1 A. Yes.

2 Q. I don't believe I asked you and I'm going to ask you to
3 be very brief, but I want you to explain to the ladies and
4 gentlemen of the jury the technique, the method that you use to
5 make those determinations of the presence of semen or
6 spermatazoa.

7 A. First of all, we have a reagent we use called
8 acidphosphotase spot test. It's a color reaction. I can put a
9 drop of fluid or wet, moisten a piece of filter paper and touch
10 a swab and to transfer some of that substance on to the surface
11 of the filter paper, put a drop of my reagent on that and wait
12 for a color reaction to occur and usually occurs in about five
13 to ten seconds, and, if I get a purple reaction, that tells me,
14 indicates to me I've got seminal fluid there. I then take a
15 cutting of that either swab or clothing, if it's clothing,
16 whatever that substance is on, and make an extract, make a
17 solution, okay, in a little tube, soak that out for certain
18 length of time and then spin it down and take small portion of
19 it off and put a drop on a microscope slide and do microscopic
20 search after staining the slide.

21 In the meantime, the rest of that extract I'm going to
22 be using to do my other test, absorption inhibition for
23 secretor typing or allusion for the antigen typing. I also
24 will take from that extract, I'll run a test called
25 electrophoresis. That breaks that information down just a

1 little further to help me greater identify who this substance
2 could have come from. "Electrophoresis" is just an application
3 where it's like having real thin slab of jello spread across a
4 plate on a pre-determined length, dimension and thickness, put
5 holes in the jello and I put my samples in there and hit it
6 with electricity for a pre-determined length of time and
7 allowing the protein bands from those samples to move out a
8 certain distance on the plate. I develop it with chemical
9 overlays thereby being able to determine a person's genetic
10 markers and I compile all that information together when I make
11 by completions.

12 Q. You did an electrophoretic analysis of all of the liquid
13 body substances submitted to you in this case; is that correct?

14 A. Yes, I did.

15 Q. All right. And, that's to identify blood proteins and
16 enzymes that go beyond the ABO blood classification.

17 A. That's correct.

18 Q. Okay. Now, did you make a vaginal slide from the swabs
19 submitted to you by Dr. Wall?

20 A. From the vaginal swab?

21 Q. Yes.

22 A. Yes, I did.

23 Q. And, did you examine that under microscope?

24 A. Yes, I did.

25 Q. Did you find the presence of spermatazoa on the vaginal

1 slide that you made?

2 A. On neither the fornix swab or the cervical swab, I found
3 no spermatazoa.

4 Q. All right. Now, did Dr. Wall submit to you the two
5 slides that he made at the hospital during the examination of
6 Ms. Burton?

7 A. Yes, he did. He submitted a vaginal slide and a rectal
8 canal slide.

9 Q. All right. Did you do anything in addition to those
10 slides that he did not do?

11 A. Yes, I did.

12 Q. What did you do to them?

13 A. He fixed the slide and stained it and then I examined it
14 under oral emersion 1000 power looking for spermatazoa.

15 Q. Did you find spermatazoa present on the dried and
16 stained vaginal slide that was submitted by Dr. Wall?

17 A. No, I did not.

18 Q. Did you find the presence of spermatazoa on the anal
19 swab that you dried and stained that had been submitted to you
20 by Dr. Wall?

21 A. On the rectal slide, yes, I did find sperm.

22 Q. And, were they whole-bodied sperm? Did you identify the
23 heads, tails?

24 A. You could identify the heads. I don't recall if the
25 tails were still intact. The tail's usually first thing will

1 break off on a sperm head, but the heads are pretty durable and
2 they'll stick around a while.

3 Q. Okay. And, you have no question in your mind that what
4 you saw under the microscope was spermatazoa.

5 A. No, I don't.

6 Q. Okay. Now, I want to go back to the rectal swabs that
7 were submitted to you by Dr. Wall. Did you make a scientific
8 test of those in the same manner that you did the vaginal swabs
9 using the same methods and techniques that you've already
10 described to the jury?

11 A. Yes, I did.

12 Q. All right. What did you find on your analysis of the
13 vaginal swabs?

14 A. On the rectal swabs or the vaginal?

15 Q. The rectal swabs.

16 A. Okay. On the rectal swabs, I got two rectal swabs, one
17 in -- in individual packages, so I identified them separately
18 and I analyzed them separately.

19 On item number eight, semen present, identified the ABO
20 blood group antigen H which is indicative of type O blood.

21 Peptidase A-1, esterase D-1, phosphoglucomutase 1, and detected
22 the ABO secretor blood group substance H.

23 On my item number nine, the second rectal swab, semen
24 present, identified the ABO blood group antigen H, peptidase
25 A-1, esterase D-1, phosphoglucomutase 1. No ABO secretor blood

1 group substances detected.

2 Q. Okay. Now, Ms. Gilchrist, I'm not going to try to
3 pronounce those.

4 A. You can abbreviate them PGM for phosphoglucomutase, ESD
5 for Esterase D and PEPA for Peptidase A.

6 Q. Those are enzymes; is that correct?

7 A. Yes.

8 Q. And, you were able to identify those by your
9 electrophoretic analysis of the liquid found on the swabs.

10 A. That's correct.

11 Q. Okay. Now, you say you found the presence of antigen H.
12 What do you mean by that?

13 A. That means that I did absorption allusion test to pick
14 up the blood group antigen. It's a cellular-bound membrane
15 substances.

16 Q. Now, would you expect to have found the presence of H
17 antigen where the victim herself is an ABO O type person?

18 A. Yes, I would.

19 Q. Explain that, please.

20 A. Well, as I said, -- I'll go back, though.

21 We have four different blood types, type A, type B, type
22 O and type AB. Person's type A secretor, you'd expect to have
23 the A and H antigens present in type A person. Type B, you
24 expect a B and H antigen. You don't always pick up the B. You
25 expect to find the B and H. Type O, you only get the H

1 antigen, and type A you can pick up all three, A, B and H.

2 Q. Now, did you do an electrophoretic analysis of the blood
3 taken from Mr. Pierce?

4 A. Yes, I did.

5 Q. Were you able to identify any blood enzymes in the known
6 sample of Mr. Pierce's blood?

7 A. Yes, I was.

8 Q. All right. What blood enzymes did you identify in
9 Mr. Pierce's blood?

10 A. Okay. I'll abbreviate for you. I found PEPA (1), ESD
11 (1), PGM (2-1).

12 Q. Did you find the presence of any of those blood antigens
13 on the rectal swabs taken from Ms. Burton's body?

14 A. Well, I found -- they each have some enzymes, two
15 enzymes, that are alike in that their PEPA (1) and ESD (1).
16 The fact that he's a PGM (2-1) and she's a PGM (1), I did not
17 detect any PGM (2-1) activity on these swabs. I'd have to say
18 all that information was coming from the victim.

19 Q. Okay. So, what you were finding on the rectal swabs was
20 information coming from the victim.

21 A. Aside from the semen. The enzyme activity is from the
22 victim.

23 Q. Semen is a foreign substance to a woman.

24 A. That is correct. That is correct.

25 Q. She cannot produce that within her own body.

1 A. No, she can't.

2 Q. Okay. Now, did you examine the swab that Dr. Wall
3 submitted on the swabbing of the skin in the thigh area of
4 Ms. Burton?

5 A. Yes, I did.

6 Q. What were your findings?

7 A. Identified the presence of semen, the ABO blood group
8 antigen H, again indicative type O blood, PGM-(1), no-ABG
9 secretor blood group substances detected.

10 Q. Okay. Now, on all of these swabs that you examined, you
11 did not find the presence of any body fluids that would have
12 indicated an AB-type person.

13 A. No, I didn't.

14 Q. Now, but you knew that Mr. Pierce was a non secretor; is
15 that correct?

16 A. Not then I didn't.

17 Q. Not at that time.

18 A. No.

19 Q. When you did Mr. Pierce's body samples, examined them,
20 you knew that he was a non secretor.

21 A. Yeah. After I examined his samples, I knew he was a non
22 secretor.

23 Q. Would you have expected to have found any AB blood
24 antigens on any of the swabs or evidence taken from the body of
25 Ms. Burton if the donor of the semen found in her rectal area

1 was a non-secretor person?

2 A. Would I have expected to find the AB?

3 Q. Yes.

4 A. No, I wouldn't if he's a non secretor and also if there
5 was enough of that substance there for me to detect a blood
6 type.

7 Q. All right. So, your findings, then, were consistent
8 with the donor of the semen, among other things, of being a
9 non-secretor type person.

10 A. Well, I can't exclude that. I couldn't exclude that
11 possibility.

12 Q. Okay.

13 A. Okay. The fact that I'm picking up this information and
14 is all consistent with the blood type and secretor status of
15 the victim and genetic markers are the same as hers, that
16 information leads me to believe that either, if I've got enough
17 there, that either the semen donor's a type O or he's a non
18 secretor because I don't have enough of the foreign substance
19 to say anything definitive about the blood type of semen donor.

20 Q. Okay. You had enough of the H antigen to have
21 determined whether the donor of the semen would have been an
22 O-type secretor, would you not?

23 A. Well, I can't separate that out. The victim is O and
24 what I'm picking up is indicative type O and it's either an O
25 person, the semen donor is either type O or he's a non

1 secretor.

2 Q. Okay. And, of course, Mr. Pierce is a non secretor.

3 A. He is.

4 Q. And, the victim herself could have contributed the H
5 antigen.

6 A. That's correct.

7 Q. Okay. Now, did you examine clothing submitted to you in
8 the laboratory, clothing submitted by Officer Wortham taken
9 from the victim, Ms. Burton.

10 A. Yes, I did.

11 Q. And, did you examine those for any kind of stains,
12 first?

13 A. Yes.

14 Q. Did you find any stains on any of the items of clothing
15 submitted to you?

16 A. Found a small blood stain on the shirt, the sleeve of
17 the shirt of the victim.

18 Q. Okay. Did you make an attempt to identify the blood
19 type of that blood found on her shirt?

20 A. Yes, I did.

21 Q. And, what did you find?

22 A. My ABO blood grouping tests were negative.

23 Q. What do you mean by that?

24 A. First of all, I positively identified blood, but,
25 pulling the threads from that stain, there were like two small

1 stains and I think it's on the left arm of the shirt, I can't
2 recall exactly, but pulling the threads from that, there wasn't
3 enough sample there for me to get a blood type information
4 from. That's all that means.

5 Q. Did you examine any of those items of clothing for the
6 presence of semen?

7 A. Yes, I did.

8 Q. Did you find semen on any of the clothing of Ms. Burton?

9 A. No, I did not.

10 Q. Let me direct your attention to your item number twenty-
11 three, the robe.

12 A. Oh, I forgot about that. I'm thinking of the shirt.

13 Yeah.

14 Q. Did you find the presence of semen on the robe of
15 Ms. Burton?

16 A. Yes, I did. There were four stain areas on the back of
17 that robe. I did find semen there.

18 Q. Okay. Let me show you what's been introduced in
19 evidence as State's Exhibit Number Seventeen. I'd ask if you
20 would to examine that a minute. Do you recognize it?

21 A. I can identify it, yes.

22 Q. Is that the robe that you examined --

23 A. Yes, it is.

24 Q. -- submitted to you by Officer Wortham?

25 A. Yes.

1 Q. Okay. Where did you find the semen stains on that
2 garment?

3 A. They were found in an area that I've cut out circled in
4 blue. Blue marks are mine. Okay. (Indicating.) And, there
5 were four areas that I examined. Think everybody can see that.

6 Q. Let me hold it up.

7 A. Okay.

8 Q. If you need to, you may step down off the witness stand.

9 A. Okay. There are, like I said, there were four areas.
10 My marks are the blue ones here. This is my unstained control
11 I took and my mark here, here, here and here. I took cuttings
12 and made an extract and examined for the presence of semen, ABO
13 typed it or attempted to ABO type it, and also tried to get the
14 genetic marker information from it.

15 Q. Now, these cuttings you did; is that correct?

16 A. Some of them I did, yes.

17 Q. You did all of them, didn't you.

18 A. No, I didn't.

19 Q. This robe had holes in it when it was submitted to you?

20 A. No, sir. This is re-examined --

21 Q. All right. It's been examined by another chemist for
22 the Defendant; is that correct?

23 A. Yes, sir.

24 Q. And, he took separate cuttings from the robe.

25 A. I guess he did take some separate cuttings on that.

1 Q. Okay.

2 A. The one looks like he's taken part of mine.

3 Q. Now, were you able to determine from the examination of
4 those cuttings first if semen was present on the gown?

5 A. Yes, I was. Semen was present.

6 Q. Did you find the presence of spermatazoa under the
7 microscope?

8 A. Yes.

9 Q. Okay. Were you able to examine that stain
10 scientifically to determine the ABO blood type of the semen
11 donor?

12 A. I detected the ABO secretor blood group substance H.

13 Q. Okay. Now, that's consistent with the body fluids of
14 Ms. Burton.

15 A. Consistent with the blood type secretor status of
16 Ms. Burton, yes.

17 Q. Now, did you have a sufficient quantity of semen stain
18 to have made an analysis for the blood type of the semen donor?

19 A. Again, open to subjection, that semen donor's going to
20 be a type O or he's going to be a non secretor.

21 Q. Okay. Now, did you find semen stains on any of the
22 other clothing submitted to you by Officer Wortham?

23 A. No. Nothing on the skirt, bra, panties, slip,
24 pantyhose, shirt or belt.

25 Q. Okay. And, you did examine the swab taken in the thigh

1 area of Ms. Burton.

2 A. Yes, I did.

3 Q. Did you find that that swab contained semen?

4 A. Yes, it did.

5 Q. Okay. Did you see the presence of spermatazoa?

6 A. Yes.

7 Q. Were you able to determine the ABO blood type of the
8 donor of the semen found on her body?

9 A. I was able to identify the ABO blood group antigen H.
10 No ABO secretor blood group substances could be detected.

11 Q. Same answer you gave on the other stains.

12 A. That's correct.

13 Q. So, the donor of that semen would have either been an
14 O-type person --

15 A. Or non secretor.

16 Q. -- or non secretor.

17 A. (Nods head.)

18 Q. And, you also had as part of sexual assault kit the oral
19 washing taken from Ms. Burton; is that correct?

20 A. Yes.

21 Q. Did you submit that to scientific testing?

22 A. Yes, I did.

23 Q. Did you find the presence of semen or other foreign
24 substances in that oral wash?

25 A. No semen was present.

1 Q. Now, did you do any other scientific examination of any
2 other body fluids that you have not been asked about?

3 A. No, don't think so. I, again, used the oral wash,
4 detected the H substance. You didn't ask me about the vaginal
5 aspirate.

6 Q. All right. Did you do a scientific testing of the
7 vaginal aspirate?

8 A. Yes, I did.

9 Q. Did you find the presence of semen or sperm in that
10 aspirate?

11 A. No, I did not.

12 Q. Did you find the presence of the H antigen?

13 A. Yes, I did.

14 Q. That would be consistent with the victim's blood type.

15 A. That's correct.

16 Q. Okay. Now, based on your training, experience and
17 education and based on all of the tests that you made of body
18 fluids on all of those items that were taken from the body of
19 Ms. Burton, were you able to reach any conclusion or finding as
20 to the donor of the semen that you found on those items where
21 it was contained?

22 A. Yes.

23 Q. What is it?

24 A. Again, the blood type of the semen donor either be a
25 type O or non secretor. But, in my opinion, I don't have a

1 quantity of semen -- the level was insufficient for me to say
2 anything about the blood type of the semen donor because all
3 the information, genetic marker information I'm getting, is
4 consistent with that of the victim. He's either got to be the
5 same blood type and secretor status and PGM marker information
6 as the victim or he's going to be a non secretor and I can't
7 say anything about the blood typing because the quantity's just
8 not sufficient.

9 Q. Okay. So, he's either going to be a person with the
10 identical blood type and genetic markers of Ms. Burton --

11 A. Correct.

12 Q. -- or he's going to be a non secretor.

13 A. That's correct.

14 Q. And, Mr. Pierce is a non secretor.

15 A. Yes, he is.

16 Q. Okay. Now, I'd like at this time to move to the
17 microscopic hair analysis that you did, okay?

18 A. Okay.

19 Q. Now, you had submitted to you various items of clothing
20 and bindles of hair found and collected by Officer Wortham; is
21 that right?

22 A. Yes.

23 Q. Okay. Let me show you what has been marked and
24 introduced into evidence -- Before I get into that, let me ask
25 you if you had in a sexual assault kit submitted to you a pubic

1 combing of Ms. Burton.

2 A. Yes, I did.

3 Q. Did you receive it in a sealed condition?

4 A. Yes.

5 Q. Okay. Now, you have had the known scalp and pubic hair
6 samples of Ms. Burton in your possession; is that correct?

7 A. It was included in the rape kit, yes.

8 Q. And, you also had, as you've testified, the known scalp
9 and pubic hair samples that you took, the pubic hair samples
10 having been taken by Detective Koonce at your direction, from
11 the Defendant, Mr. Pierce.

12 A. Yes.

13 Q. Okay. Let me ask you first if you did a microscopic
14 examination of the pubic hair that was found in the pubic
15 combing of Ms. Burton at the hospital.

16 A. Yes, I did.

17 Q. Did you compare it against her known pubic hairs?

18 A. Yes.

19 Q. Were the -- what did you find in the pubic combing? Did
20 you find the presence of pubic hair, loose pubic hair?

21 A. Yes, I did.

22 Q. Did you determine whether it was foreign to Ms. Burton?

23 A. I determined that there were some foreign hairs found in
24 the pubic combing.

25 Q. Okay. And, how did you do that?

1 A. Microscopic search.

2 Q. All right. Explain very briefly how this microscopic
3 examination is conducted.

4 A. Very briefly, the hairs are placed on a clean
5 microscopic slide and cover slip put on them. There's a glue,
6 a sealant we use, that makes a permanent mount on them, and,
7 after they dry, then we place them on microscope and examine
8 them under 250/400 power looking at the internal
9 characteristics of those hairs and developing a range for
10 reference or known hair samples far as the characteristics that
11 we see when we're viewing these hairs under microscope.

12 Our microscope is such that it's a comparison microscope
13 and allows me to look at two different specimens at the same
14 time if I want to or I can look at one specimen at a time. We
15 do our side-by-side comparisons using comparison microscope,
16 and that's how I conducted my analysis in this case also.

17 Q. Okay. Did you compare the loose pubic hairs taken in
18 the pubic combing against the known pubic hairs of Ms. Burton?

19 A. Yes, I did.

20 Q. Did you find any of the loose pubic hairs to be
21 microscopically consistent with Ms. Burton's known pubic hair?

22 A. Yes.

23 Q. Okay. Did you also find in the pubic combing pubic
24 hairs that were foreign, that did not match the known pubic
25 hairs microscopically of Ms. Burton?

1 A. Yes.

2 Q. Okay. Did you compare those unknown pubic hairs against
3 the known pubic hair sample taken from Mr. Pierce under your
4 microscope?

5 A. Yes, I did.

6 Q. All right. Tell the Court and jury how you did it and
7 what your findings and conclusions were.

8 A. Again, using comparison microscope, side-by-side
9 comparisons, having unknowns on one side of the microscope, the
10 known on the other side, I was able to conclude that one pubic
11 hair taken from the pubic combing of Sandra Burton was found to
12 be microscopically consistent with the pubic hairs obtained
13 from Jeffrey Todd Pierce, and, therefore, this hair could have
14 come from Pierce.

15 Q. Now, in making that determination, can you describe for
16 the ladies and gentlemen of the jury what it is that you saw
17 that led you to believe and conclude that the microscopic
18 characteristics were consistent in all respects?

19 A. Basically, as I said just earlier, we look at the hairs,
20 scalp hairs and pubic hairs, separately. We look at the shape
21 of the cuticle, the size and shape and arrangement of
22 pigmentation, a substance that gives each of us our hair color,
23 and the occurrence, if it's going to be laying smooth, uneven or
24 towards the sides, edge of the hair, and we establish a range
25 for a person's reference hairs because no two hairs on an

1 individual's head's going to be exactly alike. You're going to
2 have some differences. So, therefore, we have to establish a
3 range. And, I make my little notations when I'm making notes,
4 but we always fix a range for those reference hairs and I go
5 back and compare the unknown hairs to those reference hairs to
6 see. I go from one end to the other, from root end out toward
7 the tip end of the hair, to see if I find similarities there.
8 Okay. And, based on that, by side-by-side comparisons, I can
9 conclude whether or not a hair is consistent with or
10 inconsistent with a particular reference hair sample.

11 Q. And, what is the nomenclature of the human hair? How is
12 it structured?

13 A. Okay. A hair, briefly, can be likened to a pencil, to
14 simple yellow pencil. The rubber portion, the eraser part of
15 the hair, is consistent with the root-end of our hair. The
16 yellow paint on the outside of the pencil is likened to the
17 cuticle of our hair. Now, cuticles on hairs are either thin,
18 thick or almost not there at all, can be standing up or laying
19 down real nice and neat or going to be slightly layered or
20 looped. We even have some hairs look like a rope fashion under
21 the microscope. The interior portion of the pencil, the wood
22 portion, is what we call in hair the cortex. It's in that
23 cortex that all the information in everybody's hairs can be
24 found. And, down the center of that hair just as down the
25 center of the pencil, you have that piece of lead. Down the

1 center of the hair is what we call a medulla. That medulla may
2 or may not be present in a hair, and, if it is, it may be
3 continuous or broken up or just present at certain parts of the
4 hairs. And, from all this information that we see, I can tell
5 whether or not a hair's been, also if it's been died or
6 bleached out or if it's sunbleached. You can tell, basically,
7 if a hair's been cut by razor or scissors and you can tell if a
8 hair's been pulled out or if it fell out naturally or if it's
9 been burned, and you can tell race from hairs, you can also
10 tell body origin.

11 Q. Okay. So, you could tell in the pubic combing there was
12 at least one foreign pubic hair and a fragment of a foreign
13 pubic hair.

14 A. There was a fragment of a scalp hair in the pubic
15 combing.

16 Q. In the pubic combing. Were you able to do any kind of a
17 microscopic examination of the scalp hair fragment that was
18 found in the pubic combing of Ms. Burton?

19 A. Yes, I was.

20 Q. All right. And, did you use the same method in doing
21 that that you did on analyzing the unknown pubic hair that was
22 in her combing?

23 A. Yes, I did.

24 Q. What were your findings and results?

25 A. I found that one scalp hair fragment taken from the

1 public combing was microscopically consistent with scalp hairs
2 obtained from Jeffrey Todd Pierce. Therefore, this hair could
3 have come from Pierce.

4 Q. Okay. In the pubic combing, you had a fragment of a
5 scalp hair and one pubic hair that was in all respects
6 microscopically consistent with the known pubic hair of the
7 Defendant, Mr. Pierce.

8 A. That's correct.

9 Q. Now, if there had been any inconsistency whatsoever,
10 would you have made that finding?

11 A. No.

12 Q. Okay. Now, let's go to the clothing.

13 Did you inspect each item of clothing submitted to you
14 by Officer Wortham to the presence of any kind of foreign hairs
15 or other substances?

16 A. I inspected each item for the presence of hairs. Now,
17 whether they're foreign or not, I couldn't tell until I done my
18 microscopic exam.

19 Q. Okay. And, tell the Court and jury how you did that,
20 how you collected those hairs from the clothing.

21 A. I literally picked the hairs off the clothing myself
22 with either my fingers or my tweezers, placed them in a paper
23 bindle and then, later on, I made my slides for my microscopic
24 examination.

25 Q. Okay. Now, I would like to go to -- Did you have in

1 the sexual assault kit a bindle of hairs taken from the left
2 side of Ms. Burton's head?

3 A. Yes, I did.

4 Q. That was submitted to you by the doctor?

5 A. Yes.

6 Q. And, closed, in a sealed condition.

7 A. Yes.

8 Q. And, did you test that hair under microscope to see if
9 it was microscopically consistent with the known scalp hair of
10 Ms. Burton?

11 A. There were a total of three scalp hairs in that bindle.
12 I did my microscopic comparisons using Ms. Burton's and
13 Mr. Pierce's hairs as references and I was able to determine
14 that one scalp hair taken from the loose hairs found on the
15 left side of the victim's head to be microscopically consistent
16 with the scalp hairs obtained from Sandra Burton. Therefore,
17 these hairs could have come from Burton. Three of those hairs
18 that were taken from the loose hairs were found to be
19 microscopically consistent with the scalp hairs obtained from
20 Jeffrey Pierce. Therefore, these hairs could have come from
21 Pierce.

22 Q. Microscopically consistent in all respects.

23 A. That's correct. In all respects.

24 Q. All three hairs.

25 A. Yes.

1 Q. These were removed from the body of Ms. Burton.

2 A. From the left side of her head is the way the envelope
3 was labeled, yes.

4 Q. Okay. Now, did you find any hairs on Ms. Burton's shirt
5 that has been introduced into evidence?

6 A. Go back to my numbers here. Sixteen. Yes, I did.

7 Q. Okay. How many hairs did you find and from what part of
8 the body?

9 A. Okay. I found a total of four scalp hairs taken from
10 the shirt.

11 Q. Let me ask you if you made a notation of where those
12 hairs were on the shirt when you took them off.

13 A. No, I don't. It's not possible to identify every exact
14 region when you're pulling hairs off an item.

15 Q. Okay. But, you found four loose hairs on her shirt.

16 A. Four hairs on the shirt, yes.

17 Q. All right. Did you compare those hairs against her
18 known scalp and pubic hair samples?

19 A. Yes, I did.

20 Q. And, what was your findings and conclusions?

21 A. I found that three of the scalp hairs taken from the
22 shirt to be microscopically consistent with the scalp hairs
23 from Sandra Burton. Therefore, these hairs could have come
24 from Burton.

25 Q. All right. Did you have another hair that you examined?

1 A. Yes.

2 Q. That came from her shirt.

3 A. Yes.

4 Q. And, did you use the same method under the microscope
5 that you had used on all the other hairs up to this point?

6 A. Yes.

7 Q. All right. What did you find in the microscopic
8 comparison of that fourth hair taken from her shirt.

9 A. One scalp hair taken from the shirt was found to be
10 consistent microscopically with the scalp hairs obtained from
11 Jeffrey Pierce. Therefore, this hair could have come from
12 Pierce.

13 Q. There was not even a scintilla of inconsistency under
14 the microscope.

15 A. No.

16 Q. There had been, that would have excluded him as a
17 possible donor of the hair; is that correct?

18 A. That's correct.

19 Q. All right. Let's go to the bra submitted to you by
20 Officer Wortham. Did you find any hairs on the brassiere that
21 was submitted to you?

22 A. Yes, I did.

23 Q. Okay. Tell the Court and jury how many hairs you found.

24 A. I found two hairs.

25 Q. Okay. Did you examine both of those hairs taken from

1 her brassiere under the microscope and compare them to the
2 known scalp hairs of Ms. Burton?

3 A. Yes, I did.

4 Q. What were your findings and conclusions?

5 A. The hair taken from the bra was not consistent with the
6 hair, reference scalp hairs, of Ms. Burton.

7 Q. Okay. Did you compare it to the known sample of scalp
8 hair that you took from the Defendant, Mr. Pierce?

9 A. Yes, I did.

10 Q. Under the microscope.

11 A. Yes.

12 Q. What power of the microscope do you use?

13 A. Maximum is 400. I usually do my comparison at 250.

14 Q. All right. Did you do any of the comparison at 400?

15 A. I always go up to 400 when I'm looking for these little
16 minute differences. When I can't see very clearly, I'll go up
17 to 400.

18 Q. But, when you say 250 or 400, are you talking about the
19 size, the actual size of the object being increase 250 times?

20 A. That's correct. Magnified 250 times.

21 Q. Okay. Now, when you compared the known scalp hair of
22 Mr. Pierce against the hair found on the brassiere submitted to
23 you by Officer Wortham, what was your finding?

24 A. My findings were one scalp hair taken from the bra is
25 consistent microscopically with the scalp hairs obtained from

1 Jeffrey Pierce. Therefore, this hair could have come from
2 Pierce. I also found one limb hair with Caucasian
3 characteristics on the bra.

4 Q. Okay. Did you have any known samples of limb hair?

5 A. No, and we don't do examinations using limb hairs
6 because they don't all afford enough differentiation for us to
7 make any valid conclusions.

8 Q. Okay. Did you find any loose hairs on the half slip
9 that was submitted to you by Officer Wortham that belonged to
10 Ms. Burton?

11 A. If I recall correctly, I think the slip -- the hairs,
12 those things were in the same bag together or something. Slip
13 and pantyhose were in the same sack, so I did take hairs from
14 those items, though.

15 Q. And, did you take hairs from each the slip, --

16 A. Yes. From slip and pantyhose.

17 Q. Okay. And, did you make a microscopic comparison of
18 those hairs against the known scalp and pubic hairs of
19 Ms. Burton?

20 A. Yes, I did.

21 Q. Let me ask you first: What kind of hairs did you remove
22 from the slip and the pantyhose?

23 A. I got scalp hairs and pubic hair.

24 Q. Okay. And, you compared those loose hairs taken from
25 the pantyhose and slip against the known scalp and pubic hairs

1 of Ms. Burton.

2 A. Yes.

3 Q. What were your findings under the microscope?

4 A. I found that one scalp hair and one scalp hair fragment
5 and one pubic hair taken from the slip and pantyhose to be
6 consistent microscopically with the scalp and pubic hairs
7 obtained from Sandra Burton. Therefore, these hairs could have
8 come from Burton.

9 Q. Now, did you have other hairs that had been removed from
10 the slip and panyhose that did not microscopically match
11 Ms. Burton?

12 A. Yes, I did.

13 Q. Did you compare those hairs against the known scalp and
14 pubic hairs of the Defendant, Mr. Pierce?

15 A. Yes, I did.

16 Q. And, what were your findings under the microscope?

17 A. I found that one scalp hair taken from the slip and
18 pantyhose to be consistent microscopically with the scalp hairs
19 obtained from Jeffrey Pierce. Therefore, these hairs could
20 have come from Pierce. I also found one cat hair.

21 Q. Okay. Now, did you examine the skirt submitted to you
22 by Crime Technician Wortham that was taken from the home of
23 Sandra Burton?

24 A. Yes, I did.

25 Q. And, tell the Court and jury did you find loose hairs on

1 that skirt.

2 A. I found a number of hairs on that skirt, yes.

3 Q. All right. Just tell the Court and jury what you did
4 with them, the analysis that you made and what your findings
5 and conclusions were.

6 A. I did the same with these hairs that I did with all the
7 other hairs. I took them off the items, I put them in a bindle
8 at one point, then, later on, I made my slides, did my
9 microscopic examination and comparisons and these are my
10 results: Two scalp hairs and one pubic hair taken from the
11 skirt was found to be consistent microscopically with the scalp
12 and pubic hairs obtained from Sandra Burton. Therefore, these
13 hairs could have come from Burton.

14 I had eleven scalp hairs and two pubic hairs taken from
15 the skirt found to be consistent microscopically with the scalp
16 and pubic hairs obtained from Jeffrey Pierce. Therefore, these
17 hairs could have come from Pierce.

18 One scalp hair showing insect damage taken from the
19 skirt that was found not to be consistent microscopically with
20 the scalp hairs obtained from Burton or Pierce. Therefore,
21 this hair could not have come from either two.

22 One limb hair with Caucasion characteristics was also
23 found on the skirt.

24 Q. Were you able to determine whether that -- all right.
25 You did not examine the limb hair.

1 A. No, I didn't.

2 Q. Okay. Now, you found eleven scalp and two pubic hairs
3 on the skirt consistent in all respects microscopically with
4 the known scalp and pubic hair of the Defendant, Mr. Pierce.

5 A. That's correct.

6 Q. Did you find any hairs on the belt submitted to you by
7 Crime Technician Wortham?

8 A. Yes, I did.

9 Q. Tell the Court what you found, what your analysis and
10 findings were.

11 A. One scalp hair fragment taken from the belt shown to be
12 consistent microscopically with the scalp hairs obtained from
13 Jeffrey Pierce. Therefore, this hair could have come from
14 Pierce.

15 One scalp hair with Caucasian characteristics taken from
16 the belt was found not to be consistent microscopically with
17 the scalp hairs obtained from Burton or Pierce. Therefore,
18 this hair could not have come from either one.

19 Q. Now, did you have submitted to your laboratory a pillow
20 case taken from the home of Ms. Burton?

21 A. Yes.

22 Q. Did you find loose hairs on the pillow case?

23 A. Yes, I did.

24 Q. Tell the Court and jury what you found, what your
25 findings were under the microscope.

1 A. I found on the pillow case -- one pubic hair taken from
2 the pillow case was found to be consistent microscopically with
3 the pubic hairs obtained from Sandra Burton, and, therefore,
4 this hair could have come from Burton.

5 Three scalp hairs taken from the pillow case were found
6 to be consistent microscopically with the scalp hairs obtained
7 from Jeffrey Pierce. Therefore, these hairs could have come
8 from Pierce.

9 Q. They were consistent in every microscopic
10 characteristic.

11 A. Yes.

12 Q. Now, let me show you what has been introduced in
13 evidence as State's Exhibits Twenty-nine and Thirty and I would
14 ask you to look at those, if you will.

15 First, exhibit number twenty-nine, can you tell the
16 Court what that is.

17 A. Yes, I can. The envelope containing hairs taken from
18 the victim's bedroom floor.

19 Q. And, what is item number thirty?

20 A. It's carpet sample and hair from the bedroom floor of
21 the victim's bedroom.

22 Q. Okay. Did you open those bindles and inspect the
23 contents?

24 A. Yes, I did.

25 Q. What did you find inside number twenty-nine?

1 A. Your item number twenty-nine is my twenty-five.

2 I found a total of five scalp hairs, two pubic hairs in
3 item number twenty-nine.

4 Q. Okay. And, did you compare those loose scalp and pubic
5 hair against the known scalp and pubic hairs of Ms. Burton?

6 A. Yes, I did.

7 Q. And, did you compare those loose pubic hairs against the
8 known scalp and pubic hairs of the Defendant, Mr. Pierce?

9 A. Yes, I did.

10 Q. All right. Tell the Court and jury what your findings
11 under the microscope were.

12 A. Found two scalp hairs and two pubic hairs taken from the
13 bedroom floor to be consistent microscopically with the scalp
14 and pubic hairs obtained from Sandra Burton. Therefore, these
15 hairs could have come from Burton.

16 Five scalp hairs taken from the bedroom floor to be
17 consistent microscopically with the scalp hairs obtained from
18 Jeffrey Pierce. Therefore, these hairs could come from Pierce.

19 Q. Consistent in all microscopic respects.

20 A. Yes.

21 Q. And, what about item number thirty, State's Exhibit
22 Number Thirty?

23 A. It's my item number twenty-six. I found four hairs.

24 Q. Okay. Tell the Court and jury what you did with them.

25 A. Microscopic examination and everything. Found that

1 three scalp hairs taken from the carpet to be consistent
2 microscopically with scalp hairs obtained from Sandra Burton.
3 Therefore, these hairs could have come from Burton.

4 One scalp hair from the carpet was found to be
5 consistent microscopically with the scalp hairs obtained from
6 Jeffrey Pierce. Therefore, this hair could have come from
7 Pierce.

8 Q. Okay. Can you tell the ladies and gentlemen of the jury
9 how many total hairs taken from the clothing, from the pubic
10 combing, from the side of the victim's head that was submitted
11 to you in the bindle by Dr. Wall, and from the floor of her
12 bedroom, how many scalp hairs were consistent in all
13 microscopic respects with the known scalp hairs of the
14 Defendant, Mr. Pierce?

15 A. I'm counting twenty-nine here if my count's correct.

16 Q. Counted twenty-nine hurridly there looking at your
17 report.

18 A. Yeah. Very hurridly. But, let me see. Twenty-eight.

19 Q. Okay. How many pubic hairs taken in the pubic combing,
20 from the clothing, from the floor of Ms. Burton's apartment did
21 you find to be microscopically consistent in all respects with
22 the known pubic hair of the Defendant, Mr. Pierce?

23 A. I just said twenty-eight. You asked me about them.

24 Q. Pubic hairs.

25 A. Scalp and pubic hairs combined.

1 Q. Okay. That's both, then.

2 A. Total scalp and pubic hairs.

3 Q. And, you've counted them all as one item. Twenty-eight
4 scalp and pubic hairs.

5 A. A total of twenty-eight scalp and pubic hairs.

6 Q. Okay. Now, Ms. Gilchrist, in your experience in the
7 eight years that you have been a forensic chemist with the
8 Oklahoma City Police Department, in the numerous times that you
9 have made microscopic examination of hairs in other cases, the
10 thousands of hairs that you have looked at, have you ever found
11 two people to have the same microscopic characteristics in
12 their hair?

13 A. First of all, let me correct you. I haven't been there
14 for eight years. I've only been there for six and a half
15 years.

16 Q. I'm sorry. Six and a half.

17 A. But, no, I have never found two different people whose
18 hairs were exactly alike.

19 Q. Under the microscope.

20 A. Under the microscope, no.

21 Q. Okay. Now, when you first examined the unknown hairs
22 that were submitted to you in the sexual assault kit and from
23 the clothing of Ms. Burton and before -- did you make an
24 examination of those hairs before you had the known body hairs
25 of Mr. Pierce?

1 A. Yes, I did; long time ago.

2 Q. Okay. Did you notice anything peculiar about the scalp
3 hairs at the time when you first examined them under the
4 microscope?

5 A. Yes, I did.

6 Q. And, what did you notice about the scalp hairs, all of
7 the scalp hairs that you examined under the microscope that
8 appeared to be unusual to you?

9 A. I noticed that as I went down the length of the hair,
10 from the root end out toward the tip, that the change in
11 pigmentation was uniform. It led me to believe that he was
12 wearing something around his head that kept that shaded because
13 the pigmentation would go from medium brown and then start
14 lightening up and then it would get dark again and then it
15 would lighten up and then at the end it got bright yellow.
16 This is a real bright yellow, really natural blonde person.
17 But, one segment of those hairs for, you know, appreciable
18 length of time, distance, there was an area that kind of -- it
19 was like a banding effect. You have a blonde, but then right
20 there you had a brunette individual or dirty dishwater blonde
21 individual. So, led me to believe that this individual was
22 wearing something around his head and that part of the hair was
23 not exposed to the sun as the rest of the hair was.

24 Q. Let me show you what has been marked for identification
25 as State's Exhibit Number Twenty and I would ask you to look at

1 that, if you would, a composite drawing. Do you see a bandana
2 or some band around the head of the person shown in that
3 composite drawing?

4 A. Yes, I do.

5 Q. All right. The unusual characteristics that you have
6 described for the ladies and gentlemen of the jury that you
7 found in the hair submitted to you before you ever had
8 Mr. Pierce's hair samples, was that consistent with the type of
9 bandana that is shown in that composite around the head of that
10 person?

11 A. It would have been that general area, yes. It is
12 consistent with that.

13 Q. Okay. So, there would be light and then there would be
14 an area where the scalp hair was dark and then it would lighten
15 again as you went --

16 A. No. I go from the root end. It be medium brown, then
17 start lightening up, and then down in here it would get dark
18 and then it will lighten up. About here it just got just real
19 bright yellow. (Indicating.)

20 Q. Okay. And, did you find that darkening area to be
21 uniform on the scalp hairs that you had?

22 A. It occurred about the same area.

23 Q. Okay. Now, when you examined the known scalp hairs of
24 the Defendant, Mr. Pierce, did you see anything unusual in the
25 known scalp hairs of Mr. Pierce?

1 A. I saw that same characteristic.

2 Q. In his known scalp hairs.

3 A. In his known scalp hairs, yes.

4 Q. And, was that characteristic consistent with the banding
5 that you've already described that you found in the hair
6 submitted from the clothing in the apartment of Ms. Burton?

7 A. Yes, it was.

8 Q. Now, Ms. Gilchrist, if you can, the art of microscopic
9 hair comparison, can you identify a person by the microscopic
10 comparison of their hair?

11 A. No, you cannot.

12 Q. You could not take a piece of hair and look at it and
13 measure it against a known sample and say definitely that that
14 hair belonged to the known-sample person.

15 A. No, you cannot.

16 Q. Cannot do that.

17 A. No.

18 Q. It's not like a fingerprint.

19 A. No, it's not.

20 Q. But, can you exclude someone by the microscopic --

21 A. You can positively exclude a person by a microscopic
22 examination of hairs.

23 Q. So, if you had found just one microscopic inconsistency
24 in all the hairs that you found to be consistent with
25 Mr. Pierce, he would have been excluded.

1 A. That would have been excluded as having coming from his
2 head, yes.

3 Q. Okay. But, you didn't find that.

4 A. No, I didn't. Not on the hairs that were consistent
5 with him. I do have some hairs here that are foreign to him
6 and to Sandra Burton.

7 Q. You only have one, don't you?

8 A. I think two. I think there are two hairs that I found,
9 scalp hairs.

10 Q. Then the animal hair.

11 A. Yeah. The animal hair also.

12 Q. Is that unusual, when you do a hair analysis, to find
13 what appears to be the hair of a third party?

14 A. No, it's not unusual finding hairs from residence or off
15 clothing been in contact with the floor, whatever.

16 Q. But, almost all of the hairs that you had off the
17 clothing, off the floor that was submitted to you from the
18 hospital either matched Ms. Burton microscopically or was
19 consistent in every respect with the known hairs of
20 Mr. Pierce.

21 A. That's correct.

22 Q. Okay. So, you could have excluded him by the hair
23 analysis.

24 A. Yes, I could have.

25 Q. He was not excluded.

1 A. No, he wasn't.

2 Q. You could have excluded him by the serological
3 examination.

4 A. I would have. Yes, I could have.

5 Q. But, he was not excluded.

6 A. No, he's not excluded.

7 Q. Now, that's a little more nebulous than the hair.

8 A. That is very much so.

9 Q. But, he is not excluded by the testing of the body
10 fluids that you were able to do.

11 A. No, he's not because of the fact that, you know, semen
12 donor's either O or non secretor.

13 Q. Okay. Now, check my notes.

14 Okay. Now, some of these hairs you had a long time,
15 didn't you. The hairs that were submitted from the body and
16 home and clothing of Ms. Burton.

17 A. I've had them since they were submitted to the
18 laboratory, yes.

19 Q. Well, you had them for many months.

20 A. Yes.

21 Q. Do hairs ever deteriorate?

22 A. Well, animals, insect damage can happen. They won't
23 just break down and decompose, if that's what you mean, no.

24 Q. That's what I'm asking.

25 A. No.

1 Q. So, the hair samples that you had that you did your
2 analysis on were of good quality and there was nothing about
3 them that would have obstructed your microscopic examination in
4 any way.

5 A. No, there was nothing.

6 Q. Did you do all of the tests on the body fluids using
7 those methods commonly accepted within the community of
8 forensic chemists nationwide?

9 A. Yes, I did.

10 Q. Did you use the methods and techniques in making your
11 microscopic hair comparison using those methods and techniques
12 that are commonly accepted by forensic chemists nationwide?

13 A. As established by the FBI. We use their methods, and,
14 yes, I did.

15 Q. Let me check my notes, Your Honor.

16 Now, if you will, Ms. Gilchrist, I would ask you to
17 check your notes. Is there any item that contained any hairs
18 that you analyzed that I have not asked you about of your
19 report?

20 A. Not on hairs, no. You asked me about all the hairs.

21 MR. ALBERT: Your witness, Mr. Burger.

22 THE COURT: All right. Ladies and gentlemen, before
23 Mr. Burger starts, would you stand up and stretch little bit.
24 Maybe get a little circulation back.

25 (Brief recess had.)

CROSS EXAMINATION

1 BY MR. BURGER:

2 Q. Is it Mrs. Gilchrist?

3 A. I answer to Mrs. or Ms. It doesn't matter.

4 Q. I tried to take some notes earlier in you testimony.

5 Because you were talking so fast, I may have made some errors,
6 so correct me if I'm wrong in what I wrote down.

7 I believe you said that you are a forensic serologist
8 chemist.

9 A. That's correct.

10 Q. What's a "chemist?"

11 A. You mean what's a chemist. You want to specify what a
12 "serologist" is or -- we're all classified in the police
13 department as "chemists."

14 Q. I want to know what is a "chemist."

15 A. Scientist that analyzes substances, fluids, solids, it
16 just depends.

17 Q. What is a "serologist?"

18 A. Person that analyzes body fluids.

19 Q. Okay. What is "forensic?"

20 A. "Forensics," very simply put, is the application of
21 science as it applies to law.

22 Q. Well, down to my level, a "forensic chemist" is one who
23 comes into court and testifies; is that right?

24 A. That's one of my jobs, yes.

1 Q. Isn't that what "forensic" means, that you come into
2 court of law and tell jurors what you found in your analysis?

3 A. That's part of my job. That's not my entire job.

4 Q. I understand. But, that's the forensic part of your
5 job.

6 A. Part of the forensic part of my job. I can go to crime
7 scenes and do the same thing, apply the law to science at the
8 same time.

9 Q. And, you received a Bachelor of Science Degree from
10 Central State University and I believe I understood you to say
11 that Bachelor of Science Degree in forensic chemistry?

12 A. Forensic science.

13 Q. Forensic science?

14 A. Yes.

15 Q. What did you take in the schooling, formal schooling you
16 had, that enabled you to be a forensic chemist?

17 A. All the courses I took?

18 Q. Just name me a couple that a regular chemist wouldn't
19 take that a forensic chemist would take.

20 A. I took every course that a regular chemist would take.
21 That's part of the requirements. The only course that I didn't
22 take a regular chemist would take would be P-chem laboratory
23 where I'm blowing glassware. That's the only course I didn't
24 take. Everything else I took.

25 Q. I believe, Ms. Gilchrist, my question was: What did you

1 take as a forensic chemist that other chemists or bachelor of
2 science students would not take.

3 A. I took the forensic science practicum which entailed
4 series of courses, included law course, introduction of
5 forensic science on the college level, and that was about it.
6 Then I had to actually do my practicum at the police
7 department.

8 Q. They don't have any classes that teach you how to maybe
9 talk like a lawyer or be more believable?

10 A. No, Mr. Burger. They don't have that sort of thing at
11 Central State.

12 Q. And, you didn't have any classes as a forensic
13 serologist chemist that had to do with hair comparisons?

14 A. No.

15 Q. Did they teach anything at Central State --

16 A. They talked about it in the introduction of forensic
17 science but they don't have the instrumentation at Central
18 State to do that sort of -- to have that part of it being
19 allowed in the class.

20 Q. If I wanted to, could I go to some school and specialize
21 in hair comparison chemistry?

22 A. You probably could.

23 Q. Do you know of any school?

24 A. Not any on college level. You'd have to go on
25 professional level and there are number of people who offer

1 courses like that, FBI being one of them.

2 Q. And, that's where you studied to become a chemist in
3 hair comparison. Is that what --

4 A. No. That's where I went to get my basic background
5 training. We all have to be taught by the FBI, trained by the
6 FBI.
7

8 Q. What do you mean "we all" have to be taught?

9 A. People who do hair comparisons have to be trained by the
10 FBI.
11

12 Q. Who told you that?

13 A. That's part of the protocol, guidelines in the state of
14 Oklahoma for forensic chemists serologists or hair people.
15

16 Q. I detect when you say "we all have to" that somebody
17 tells you you have to.
18

19 A. That's part of the guidelines that we have to follow.
20

21 Q. I'm trying to find out which body politic tells you that
22 you have to go the FBI school.
23

24 A. Well, my chief of police was Tom Heggy at the time, told
25 me I had to go.
26

27 Q. I see. Well, what I'm really trying to find out,
28 Ms. Gilchrist, is if there is any organization -- like in my
29 profession I've got the Oklahoma Bar Association that tells me
30 what I can do and what I can't do. Do you have such a thing in
31 hair comparison that tells you what you have to do to become a
32 hair comparison person?
33

1 A. Not any one specific organization. We all trained by
2 the FBI. We go by their guidelines. They suggest to us things
3 that we should follow. They don't admonish that you will do
4 this and you will do that. They don't stand around, bash with
5 a board, if that's what you're asking. But, organizations that
6 I belong to, Southwest Association of Forensic Scientists, help
7 us to maintain certain guidelines and codes of ethics that we
8 all must adhere to in order to maintain membership in these
9 organizations.

10 Q. And, who are the members of the Southwest Association of
11 Forensic Chemists?

12 A. Forensic Scientists? I couldn't name you every one of
13 them.

14 Q. Where do they come from, generally, in Oklahoma?

15 A. Southwestern portion of the United States. Oklahoma,
16 United States also. In addition to the police department,
17 there are people at OSBI who are members.

18 Q. Isn't this principally an organization of chemists who
19 work for law enforcement?

20 A. Mainly. We do have some people there who are not into
21 law enforcement who are in private practice.

22 Q. Do you know anybody in our area that is a member of the
23 Southwest Association for Forensic Chemists who is a hair
24 comparison expert?

25 A. Yes, I do.

1 Q. Who?

2 A. Janice Davis is a member of it. She does hair
3 examination.

4 Q. And, who does Janice Davis work for?

5 A. Oklahoma City Police Department.

6 Q. Well, I guess I didn't ask you right. Do you know
7 anybody that belongs to this organization that compares hairs
8 who doesn't work for a police department?

9 A. A police department? Yes, I do.

10 Q. Who?

11 A. Max Courtney.

12 Q. Where does Max Courtney live?

13 A. I have no idea where he lives.

14 Q. Well, I guess what I'm really trying to say,

15 Ms. Gilchrist, if I want to find somebody to talk about what
16 you've just talked about for the Defendant Pierce, where would
17 I look to find such a person?

18 A. I couldn't answer that for you. I don't have
19 everybody's address. I know Max Courtney. He's re-examined
20 evidence before. I know of a John Wilson who's re-examined
21 evidence I've examined before in cases.

22 Q. Are either of those people from Oklahoma?

23 A. No, they're not.

24 Q. Texas?

25 MR. ALBERT: Judge, I think I want to object to this.

1 Court ordered early on that the Defendant had a right to an
2 independent examination of all of the State's scientific
3 evidence.

4 MR. BURGER: Court please, I object to counsel making
5 a speech to the jury.

6 THE COURT: Just a moment, just a moment.

7 MR. ALBERT: He's trying to leave some inference
8 here --

9 THE COURT: Wait just a minute, wait a minute. Just
10 be calm.

11 Now, your objection goes to what, Mr. --

12 MR. ALBERT: It goes to the inference, Your Honor,
13 that he couldn't have had this independently examined --

14 MR. BURGER: If the Court please, I object. He's
15 making a speech to the jury.

16 MR. ALBERT: Well, may we approach the bench.

17 THE COURT: Come on up and make your objection.

18 (At bench, out of hearing of jury:)

19 MR. ALBERT: The objection, Your Honor, goes to the
20 premise that he's leaving an inference before the jury that he
21 could not have had an independent hair examination and that he
22 didn't know how to find a chemist when, in fact, he did send
23 all of the serology to the Serological Institute and those
24 folks out there could have recommended any number of hair
25 experts to him. Counsel's an experienced, highly-experienced,

1 competent lawyer and he's trying to play in front of the jury
2 like he's unaware of these things and I object to this. It's
3 misleading and it's not the facts. He's had an order months
4 ago that gave him the right to have anything the State had
5 examined and he could have done it if he wanted to do it.

6 THE COURT: Mr. Burger go ahead.

7 MR. BURGER: Your Honor, I want to tell this Court
8 that I have tried for four months to find a person, a chemist,
9 an expert in the study of human hairs. I found one in northern
10 California who's booked up in court until after the first of
11 the year.

12 These questions are asked this witness to test her
13 qualifications. They're the basis for me finding out who is an
14 expert in this field. She has made some pretty damaging
15 statements about the comparison of these hairs and I think the
16 jury is entitled to know whether or not she is anywhere near
17 accurate.

18 THE COURT: Well, Mr. Burger, I know that there are
19 some others because they've testified in this court. Public
20 Defender's had them in here.

21 MR. ALBERT: There's many of them.

22 MS. McMURRY: Your Honor, I want to state for the
23 record that I gave Mr. Burger early on this summer Max
24 Courtney's name. He examines hairs, he's an hair expert from
25 the Fort Worth/Dallas area. I supplied that name to Mr. Burger

1 also.

2 MR. BURGER: Supply Mr. Burger with his address and
3 telephone number?

4 MS. McMURRY: You never requested that information,
5 Mr. Burger.

6 THE COURT: Mr. Burger, I know that there's one the
7 Public Defender's had in here testifying in the past, so I know
8 that they're independent.

9 MR. BURGER: I'm not suggesting to Your Honor there
10 are not any, but I'm entitled to show this jury that they're
11 very limited, it's a very strange field. Now, they're entitled
12 to know all about this business she's testifying to.

13 THE COURT: I'm going to sustain his objection to
14 your going into who the members are, who the other people might
15 be.

16 (Within hearing of jury:)

17 Q. (By Mr. Burger) Ms. Gilchrist, is there any
18 governmental agency or body or controlling association that can
19 cast you out if you are not a representative accurate person in
20 comparison of hairs?

21 A. There's an ethics committee established by the FBI
22 Academy and I'm sure if they got number of reports on an
23 individual about their questionable ethics or courtroom
24 presentation or statements, whatever, I'm sure action could be
25 taken. Now, what action they, you know, resort to, I have no

1 idea.

2 Q. So, I assume that your answer to my question there's not
3 any agency of the government, whether it be city, county, state
4 or federal, that can control you as a witness testifying about
5 hair comparisons.

6 A. Control me? I don't understand what you're trying --
7 what do you mean "control?"

8 A. Bar Association controls my conduct.

9 MR. ALBERT: Objection, Your Honor.... Bar Association
10 does not control lawyers.

11 THE COURT: Well, Mr. Albert, I think that what he's
12 getting at is there somebody that you can go to and complain to
13 if your standard falls down below what are acceptable
14 practices.

15 Is that what you're trying to ask?

16 MR. BURGER: Yes, Your Honor.

17 THE COURT: Why don't you ask it.

18 MR. BURGER: If she's licensed, she may be licensed.

19 THE COURT: Go ahead and approach it on that way,
20 sir.

21 Q. (By Mr. Burger) Are you licensed by any governmental
22 agency?

23 A. No, I'm not licensed.

24 Q. So, it can't be taken away, can it.

25 A. An unethical person can be, you know, I'm sure, removed

1 from that area.

2 Q. Well, now, you went the FBI school on hair comparisons
3 and you've testified today at great length that under a
4 microscopic examination you made some findings with reference
5 to scalp and pubic hairs or body hairs as they relate to the
6 Defendant, Jeffrey Pierce, and in each instance you stated that
7 they were consistent and that one hair that you found on a belt
8 or in the pubic combings or other places could be the hair of
9 Jeffrey Pierce.

10 A. That's correct.

11 Q. Are you aware, Ms. Gilchrist, that in every analysis
12 requested by the FBI laboratory where they're asked to compare
13 hairs that in their report to whatever agency is asking for
14 that comparison that they always have the statement, "It is
15 pointed out that hair comparisons do not constitute a basis for
16 personal identification."

17 A. I am aware of that. I also stated that to the jury.

18 Q. Well, but you didn't state it as many times as you
19 stated the consistency deal. Would you tell the jury now is
20 there any way that you know of in this world that you can say
21 that the hair you examined from whatever clothing or body of
22 the victim was the hair of Jeffrey Pierce?

23 A. I can't say that.

24 Q. How close can you come?

25 A. As close as I can come is that it's consistent with and

1 it could have come from. "Could have" is as close as I can
2 come.

3 Q. All right. Let's analyze that. Let me give you an
4 example. You've got a hundred people in a room and somebody
5 takes a blood sample from those hundred people and they are
6 representative, accurately, of the percentages put out by
7 responsible agencies dealing with blood markers and you know
8 there are forty-three of them that are O. Is that the correct
9 percentage?

10 A. No, it's not.

11 Q. What is the O percentage?

12 A. For white or black? It depends on which race you're
13 talking about.

14 Q. I'm talking about a hundred people in this room.

15 A. White or black people is what I'm asking you. The
16 percentages are going to be different.

17 Q. White people.

18 A. Okay.

19 Q. Hundred white people.

20 A. All right.

21 Q. How many of that hundred will have type O blood?

22 A. About forty-eight percent.

23 Q. How many of that hundred people will have type A?

24 A. About thirty-six percent.

25 Q. And, how many type B?

1 A. About twelve percent.

2 Q. And, how many type AB?

3 A. About four percent.

4 Q. So, if a sample is taken from that hundred people and
5 given to you as a chemist and you analyze it and you find out
6 that it is type O, you could say that that analysis is
7 consistent with forty-eight of those hundred people, couldn't
8 you.

9 A. Yes.

10 Q. And, that blood came, could have come, from each of
11 those forty-eight people.

12 A. Yeah, from each of those forty-eight percent. People in
13 that one hundred percentile group. That's all I can say. It's
14 not positive identification.

15 Q. Let's assume for my next question that there are roughly
16 a half a million people in Oklahoma City.

17 A. Okay.

18 Q. And, that you examined a hair from the Defendant,
19 Jeffrey Pierce, and then you examined a hair that you say was
20 consistent with his hair. How many of those half a million
21 people in Oklahoma City would that unknown hair have been
22 consistent with?

23 A. I have no idea.

24 Q. If you have no idea, then perhaps I can say that it
25 would be consistent with half of those people?

1 A. No. I have no idea because I've never examined the
2 other half million people's hairs in Oklahoma City. I've
3 examined Jeffrey Pierce's hairs, and all the time in my work I
4 have never found two hairs from two different people that were
5 exactly alike microscopically. So, although hairs are not a
6 positively identifying, you know, examination, I can exclude
7 other people positively. But, I can't say positively that hair
8 came from Jeffrey Pierce to the exclusion of all other people
9 in the world or Oklahoma City without having examined those
10 hairs.

11 Q. Back to my analogy of the blood, you found out from your
12 analysis it was type O, so you can exclude fifty-two of those
13 hundred and say this blood did not come from them.

14 A. That's correct.

15 Q. How many people, when you examined that unknown hair,
16 its origin, how many people could you exclude from the half
17 million people --

18 A. We don't have any percentages and I haven't examined all
19 the people's hair in Oklahoma City.

20 Q. It would be helpful if you could know that percentage.

21 A. I don't have that kind of time.

22 Q. Is there anybody who writes a book about this subject
23 and gives us some percentages --

24 A. Not to my knowledge.

25 Q. -- general population?

1 A. Not to my knowledge.

2 Q. Isn't that one of the most important things in your job
3 as a chemist, that you know the population percentile of any
4 one particular object that you're examining?

5 A. No, it's not. No, huh uh.

6 Q. Why didn't the blood people think it's important to know
7 what percentage is A --

8 A. Blood is something else. We don't have stats established
9 for hairs. It would be very time consuming and pointless at
10 best. You'd be assuming that everybody who lives in the city
11 of Oklahoma City involved in crime in some way, shape or form.
12 The only hairs that I examine are those hairs of people who are
13 involved in crimes, either victims or suspects.

14 Q. You don't think that a person charged with these crimes
15 entitled to all the time necessary to make that analysis?

16 A. Unless those people are brought in to me, I'm aware of
17 them, that evidence is submitted to me, I don't go out and
18 randomly pick hairs from various people around town and examine
19 those hairs. Those people have to have some kind of connection
20 with the crime or the case involved before I examine any hairs.

21 Q. Let me ask you if that's not one of the problems of
22 forensic chemistry, that most analysts are subject to a certain
23 bias because of the intimately-acquainted details of the crime
24 under investigation and may have formed some opinions regarding
25 the guilt of a suspect and, to be completely objective, you

1 would have to be unaware of any of the case facts in order to
2 be an unbiased, unprejudiced witness. Isn't that essentially a
3 sound statement?

4 A. No, it's not. I disagree with that statement.

5 Q. You have been a forensic chemist for --

6 A. Six and a half years.

7 Q. -- six and a half years. So, you commenced in 1979.

8 A. 1980.

9 Q. Were you aware of this concerted effort to get all of
10 the forensic chemists under some type of control and governing
11 body and this was submitted to all of you folks and the idea of
12 some control over you was overwhelmingly rejected?

13 A. I have no idea what you're talking about, Mr. Burger.

14 Q. About the foundation which was funded by the Enforcement
15 Assistance Administration to correlate all the activity of
16 forensic chemists and to have some governing agency --

17 A. No, I was not aware of that.

18 Q. Are you aware that in most areas outside of Oklahoma
19 that it would take a license from the state government to do
20 what you're doing?

21 MR. ALBERT: Objection, Your Honor. There's no
22 license required. It's irrelevant.

23 THE COURT: Sustained.

24 Q. (By Mr. Burger) When did you open the forensic
25 envelopes that were submitted to you from the doctor?

1 A. The date's on the front of the envelope. I don't have
2 that memorized.

3 Q. You don't have it in your work papers?

4 A. I opened it on the 13th of June, 1985, sexual assault
5 evidence envelope.

6 Q. 13th of June, 1985. That was a month and five days
7 after the evidence was gathered by the doctor?

8 A. That's correct.

9 Q. When did you test the material submitted to you by the
10 doctor?

11 A. Sometime after that. Began my examinations on the 14th
12 of June, you know.

13 Q. When did you do this serology examination of the various
14 swabs and slides involving the fluids submitted to you by the
15 doctor?

16 A. June 17th, 1985.

17 Q. And, when did you complete the studies and examinations,
18 the tests of the fluids and swabs and other serology evidence
19 submitted to you?

20 A. Well, most of those tests take an entire day. I can
21 read my results either that same day or the next morning. But,
22 everything that I did on this case so far as the evidence from
23 the rape kit's concerned --

24 Q. Do you find, Ms. Gilchrist, that the physiological
25 fluids and dried physiological stains degrade almost

1 immediately after they are accumulated and continue to break
2 down and burst and dry and rupture and become almost
3 unavailable for your chemical analysis?

4 A. Depends on the length of time that it's outside the
5 body. As soon as a substance leaves the body, it's going to
6 start decomposing automatically. When we freeze evidence, it
7 slows down the rate of decomposition, a break down of the
8 enzymes so to give, you know, increase the life span of that
9 particular sample for an appreciable length of time, allow you
10 to get some valid information out of it.

11 Q. At best, let me see if you'll agree with this: At best,
12 a chemist has certain margin of error if he's dealing with live
13 blood samples; is that correct?

14 A. Margin of error for what? You mean for making mistakes
15 and not getting any answers?

16 Q. Right.

17 A. Right. With which one.

18 Q. With live --

19 A. I mean not getting any information or making a mistake?

20 Q. Making a mistake.

21 A. You have margin of error every time you examine
22 something, but you also have to use, you know, checks and
23 balances to avoid making mistakes.

24 Q. And, the margin of error increases with every hour of
25 every day that the samples remain untested.

1 A. Depends on what state those samples are in.

2 Q. Well, didn't you agree that they decompose and become
3 degraded, rupture?

4 A. Some decompose faster than others. Liquids will break
5 down probably faster than others, but, if they're frozen, that
6 rate's going to be decreased tremendously. In a dried state,
7 you may not have that problem. Depends on the stain you're
8 having to examine and how much of that substance is still
9 there.

10 Q. Let me ask you this, Ms. Gilchrist: In your profession
11 as a forensic chemist, the margin of error, you attempt to
12 control it, still there.

13 A. It's always there.

14 Q. I noticed in your testimony today that couple of things
15 happened that you didn't seem to think was very important when
16 you were asked about known body samples, described known body
17 samples, and you said those are samples taken from the interior
18 of the body of a known person.

19 A. Or the surface of the body.

20 Q. Well, but you didn't say "or the surface."

21 A. I believe I did.

22 Q. Well, if you didn't say anything other than the
23 interior, you made a mistake, didn't you.

24 A. If I didn't. I do believe I said from the surface or
25 the interior, and interior.

1 Q. And, subsequently, you made the statement in response to
2 something Mr. Albert asked you, said, oh, I forgot about that.

3 A. I'm not infallible.

4 Q. That's the point I'm trying to make. And, in the
5 comparison of hairs, you don't want the jury to believe that
6 you are infallible, do you?

7 A. If you're asking me if I made a mistake on those? Is
8 that what you're asking me?

9 Q. No, ma'am. I'm asking you if you have testified to
10 something that you don't believe is an exact science.

11 A. Have I testified to something I don't believe is an
12 exact science?

13 Q. Yes.

14 A. No.

15 Q. You said that you've never ever had two hairs or two
16 samples of hairs that were alike in your six and a half years
17 as a chemist for the city of Oklahoma City.

18 A. That is correct.

19 Q. When you examined the known body hairs of the Defendant,
20 Jeffrey Pierce, did you put that sample under a microscope and
21 examine every other hair that you've examined for six and a
22 half years to see if they were alike?

23 A. No. I examined the hairs that were related to this case
24 only.

25 Q. Then how can you tell this jury that you've never had

1 two hairs that were consistent with each other?

2 A. If you were listening correctly, Mr. Burger, I believe I
3 told the jury I've never found hairs from two different
4 individuals that were exactly alike. That's what I said.

5 Q. Then my question is: How do you know unless you have
6 compared every hair?

7 A. I have compared other hairs before in other cases, but I
8 didn't do that in every case in this case.

9 Q. Then my question is: How can you say that if you didn't
10 compare them with his hair?

11 A. The times that I looked at other hairs in reference,
12 they were all reference to the same case. I don't go back and
13 pull out all the hairs from every case I've examined. I don't
14 have that kind of time. Those other people aren't involved in
15 the crime. I'm going for the people who are involved in the
16 crime. That's who I compare the evidence with.

17 Q. Let me get at this question. There is a science that
18 you know about that is exact and that's the science of reading
19 fingerprints.

20 A. I'm aware that fingerprints is an exact or positive
21 identification. I know very little about, you know, the codes
22 that they use to identify fingerprints with.

23 Q. I understand. But, we have experts who can say without
24 question that my fingerprint matches a certain fingerprint
25 obtained from a crime scene, can't they.

1 A. Yeah.

2 Q. They know it's me. But, in a hair comparison, we know
3 that you can't do that but we don't know how far away the
4 comparison is, how many other people have hair like mine. We
5 don't know that, do we.

6 A. Not unless you make a definite side-by-side comparison
7 of everybody else, no, you wouldn't know that. But, you can
8 exclude someone, easily.

9 Q. Well, we've excluded those fifty-two As and ABs --

10 A. It falls in the same category, Mr. Burger.

11 Q. That leaves us with forty-three people who might belong
12 to that blood sample.

13 A. What forty-three?

14 Q. Forty-eight, excuse me. But, we don't know which of the
15 forty-eight.

16 A. No, you don't. Serology is not an exact science. You
17 know, it's not positively -- you can't positively identify
18 somebody using hairs and I think that's what you're trying to
19 get at.

20 Q. Well, let's talk about your statement that the hair that
21 you examined from the belt, let's say, of the victim was not
22 inconsistent with the known --

23 A. It was what?

24 Q. Not inconsistent.

25 A. That's a double negative. Doesn't make any sense to me.

1 Q. Well, you said it first. I'm just repeating what you
2 said.

3 A. No.

4 Q. That there was no inconsistency --

5 A. Oh, --

6 Q. -- about the hair.

7 A. -- no inconsistencies.

8 Q. About the two hairs. Is that different way of putting
9 it?

10 A. I was trying to figure out where you were coming from.

11 Q. Do I have a question before you or did we just reach a
12 stalemate?

13 A. I'm waiting for a question. I didn't know where you
14 were going.

15 Q. Okay. What inconsistencies would you expect to find --
16 let me phrase it a different way. We will agree that you can
17 tell with a certain degree of accuracy whether a hair belongs
18 to a race of people, Indian, Mexican, Negroid, Anglo-Saxan,
19 Caucasion. Those are relatively simple, aren't they.

20 A. Not relatively simple, but there are three
21 classifications that hairs fall under: Caucasion, Mongoloid
22 and Negroid, and those three classifications separate hairs.

23 Q. Okay. So, that you can, with a certain degree of
24 accuracy, decide which of those three categories that hairs
25 fall in.

1 A. With a certain degree of accuracy.

2 Q. Let's take an Anglo-Saxan. Tell the jury what would be
3 inconsistent with one Anglo-Saxan's scalp hair with another
4 Anglo-Saxan's scalp hair. What would you look for?

5 Q. Anglo-Saxans, you know, if I put them in the Mongoloid
6 races, let's say, have certain characteristic about their hair
7 that you won't find in Caucasian hairs, for example. That
8 Anglo-Saxan would have, if he's Mongoloid, heavy
9 characteristics, would have basically straight hair, routinely
10 very thick cuticle, very little shaft --

11 Q. Let me interrupt you. I think you're trying to tell me
12 what the difference is between the three different kinds. Now,
13 I'm trying to confine it to one, Caucasian. If you examine a
14 hair from the scalp of a Caucasian, --

15 A. Okay.

16 Q. -- how would it not be alike to another hair scalp
17 sample from another Caucasian?

18 A. It would depend upon the characteristics I saw when I
19 did my microscopic examinations.

20 Q. Do you have any books that have pictures of hairs like
21 we do have prints and they show you, explain to you what the
22 characteristics are of the various races or the groups within
23 the races?

24 A. Not groups within the races, but there is a book that
25 the FBI had, small booklet showing some photographs of some

1 characteristics, not all of them, of some races of hairs. But,
2 you know, we don't have any manual that we can resort to.

3 Q. Did Jeff Pierce, when he was arrested and for several
4 days before he was filed on, voluntarily give body samples to
5 you and to Detective Koonce?

6 A. Yes, he did.

7 Q. You didn't have to get a court order to get those, did
8 you.

9 A. No, I didn't.

10 Q. How old, Ms. Gilchrist, were those semen samples that
11 you found on the robe of the victim, Sandra Burton?

12 A. I can't tell you that. I don't know.

13 Q. You didn't intend to infer that those semen samples were
14 deposited on that robe on May 8th, 1985, did you?

15 A. No.

16 Q. And, if you don't know they were deposited on May 8th,
17 1985, they are of no value to you at all, are they.

18 A. Well, we can't age things. That robe was submitted as
19 part of the evidence in the investigation that crime. Now,
20 when those semen stains were put there, I have no idea. It was
21 my responsibility to examine them and see what kind of
22 information I could glean from those stains on there.

23 Q. My question is: If the semen spots were on the robe
24 before May 8th, 1985, they'd have nothing to do with this case,
25 would it.

1 A. If they were there before May 8th, they probably would
2 not have.

3 Q. And, you don't have any way of knowing.

4 A. I have no way of knowing that.

5 Q. When you consistently testified that the antigen H was
6 found in various tests that you ran, that this was consistent
7 with the blood type of the victim who was an O.

8 A. That's correct.

9 Q. It was also consistent with forty-eight percent of the
10 population, wasn't it?

11 A. Caucasion population, yes.

12 Q. So, if her assailant had been a type O, that could be
13 his semen, couldn't it.

14 A. Yes.

15 Q. But, we know that he's an AB.

16 A. That's correct.

17 Q. So, he couldn't have been the donor if it's an O.

18 A. If it was an O, no, he couldn't have been the donor.

19 Q. Didn't you say that the antigen H was consistent with O?

20 A. It's also consistent with the blood type of the victim;
21 yes, I did.

22 Q. Who is an O.

23 A. Who is an O.

24 Q. And, inconsistent with AB.

25 A. That's correct.

1 Q. So, if I take your discussion and presentation of your
2 evidence on the hair and apply it to the semen, you found
3 consistent semen of blood type O, inconsistent semen with blood
4 type AB.

5 A. I found semen present on various items on this evidence
6 and my statement to the Court was that in my opinion it was
7 either type -- semen donor had to either be a type O or non
8 secretor. In my opinion, there was not enough semen there to
9 say that much about the blood type or anything about the blood
10 type of the semen donor.

11 Q. But, if you had analyzed, if you had made an analyzation
12 of that semen on May the 8th or 9th, 1985, there would have
13 been a better possibility that you could have excluded him as
14 an AB, wouldn't there.

15 A. Probably would have been. My percentages would have
16 gone up, probably.

17 Q. So, when we come to your testimony as it presents a
18 possible exclusion as it does in the blood and the semen, we
19 set that aside, we go over here to the hair where we find a
20 consistency, we can exclude it.

21 A. That is correct.

22 Q. It could be his hair --

23 A. Correct.

24 Q. -- but it wasn't his semen.

25 A. I can't exclude him as being the donor.

1 Q. You can't even tell this jury, can you, Ms. Gilchrist,
2 that the hair that you found on the belt and the skirt and the
3 carpet which was consistent with the victim, Sandra Burton, was
4 her hair.

5 A. No, I can't; sure can't.

6 Q. You can only say it is consistent.

7 A. That's all I can say.

8 Q. And, it could be her hair.

9 A. That's correct.

10 Q. So, if I, as big as I am, get into the ring with Cassius
11 Clay, I could perhaps whip him, but ain't much chance of it, is
12 there.

13 MR. ALBERT: Judge, I'm going to object to that. I
14 don't know the point of that question.

15 MR. BURGER: The point is her report, her testimony.

16 MR. ALBERT: Judge, I object to the form of the
17 question.

18 THE COURT: I'm going to sustain his objection to the
19 analogy that you used, sir, form of the question.

20 Q. (By Mr. Burger) Now, Ms. Gilchrist, part of your
21 testimony that I'd like to ask you about now is when you
22 analyzed these hairs and you said, I believe without any
23 question, that as you examined those strands, that they went
24 from one characteristic to another characteristic to another
25 characteristic depending on whether you're talking about the

1 roots, the middle of the strand or the end, and then you said
2 that the thing that you found was that there was a certain
3 space on that hair strand that was a different color which
4 indicated to you very strongly that the person wore a headband.

5 A. He wore something around his head, yes.

6 Q. And, that would decrease the lightening of the hair
7 from the sunlight or other bleaching ingredients. So, I must
8 suppose from that that you are of the opinion that Jeffrey
9 Pierce wore a headband.

10 A. Yes, I am.

11 Q. And, wouldn't you also say, to be accurate in that
12 analysis, that he wore a headband most of the time?

13 A. He wore a headband apparently enough to allow that part
14 of the hair to shade out like that. Now, how long, how often
15 he wore that, I couldn't say.

16 Q. This, then, is another area of the inconsistent or
17 indecisive analysis of hair examination.

18 A. No.

19 Q. You don't know, do you.

20 A. I don't know, no.

21 Q. But, would you give us an educated guess on how many
22 days a week and how many hours a day and during the daylight,
23 sunlight hours would this person have to wear that headband to
24 change the color of that hair?

25 A. I couldn't answer that. Depends on how long he stayed

1 outside and I don't know that.

2 Q. Wouldn't you say that if he stayed outside for one day a
3 week without a headband that the hair would bleach almost
4 uniformly?

5 A. Depends on brightness of the sun. There are all kinds
6 of factors to take into consideration. I couldn't give you a
7 blanket yes or no to that question.

8 Q. Do you have any evidence that Jeff Pierce wore a
9 headband?

10 A. No, I don't. I sure don't.

11 Q. So, if you're wrong about that, then you're wrong about
12 it being his hair.

13 A. (No response.)

14 Q. Of course, you didn't say it was his hair, did you.

15 A. No, I didn't.

16 Q. But, it would be awfully inconsistent if it's shown that
17 he doesn't wear a headband. That would be inconsistent with
18 your findings, wouldn't it.

19 A. Yeah, it would be inconsistent.

20 Q. Now, did you take into consideration all of the
21 examination of these hairs that you made when you stated that
22 headband was worn.

23 A. Did I take that in consideration?

24 Q. Yes. Of all of the known hair samples that you
25 examined.

1 A. From Mr. Pierce? Every hair that I examined displayed
2 that shading or darkening effect and I made that notation, that
3 something was worn around the section of the hair.

4 Q. Are you aware, Ms. Gilchrist, that the first hair
5 samples you took were in March, 1986?

6 A. I am very much aware of that.

7 Q. And, that was just at the close of the winter.

8 A. Yes.

9 Q. And, the last hairs you took were, what, August?

10 A. July 30th, 1986, believe.

11 Q. Which was way up the middle of the summer.

12 A. (Nods head.)

13 Q. And, yet all the hairs that you took in February or
14 March and on July 30th were the same.

15 A. Yes, they were. The ones in February -- I mean July --
16 show just a little bit more damage to the cuticle, though.

17 Q. Just one question: In the total appraisal of your
18 serological workup on the forensic material furnished you by
19 the doctor who examined the victim, did you find one single
20 solitary item that you can attribute to the Defendant, Jeffrey
21 Pierce?

22 A. That I can attribute to him?

23 Q. Yes.

24 Q. Well, don't know about -- read here. Sure. If I look
25 at rectal swab, I see semen present. A woman can't make that;

1 a man can. But, --

2 Q. Just a minute, now.

3 A. -- secretor typing --

4 Q. Answer my question.

5 A. I'm getting ready to.

6 Q. Well, you said something about it wasn't hers. I didn't
7 ask you that. I asked you the consistency of those
8 examinations with the Defendant, Jeffrey Pierce.

9 A. When I couldn't detect blood group substances, that's
10 consistent with his secretor status. I can't eliminate him.

11 Q. Okay. Then the one thing that you couldn't eliminate
12 him on was because he possibly could have been the donor
13 because he's a non secretor.

14 A. That's correct.

15 Q. Tell the jury what percentage of the population are non
16 secretors.

17 A. The white population, about four percent of the
18 population.

19 Q. Would you be surprised if State, Assistant District
20 Attorney, told this Court before you testified it was twenty
21 percent?

22 A. I would be surprised, yes.

23 Q. He's in error.

24 A. Why should he know the exact percentage? I have to work
25 with it every day and he doesn't. So, . . .

1 Q. Do you have any book that tells us that four percent of
2 the white male population are non secretors?

3 A. I've got a chart with me that tells me that.

4 Q. Well, I'm sure you may have a chart tell me anything.
5 But, you have a book?

6 A. Not with me, no. There's some books in the laboratory
7 with percentages in them.

8 Q. But, you didn't bring any of those.

9 A. No.

10 Q. But, even at your figure of four percent, that would fit
11 a whole bunch of people.

12 A. Not necessarily. Four percent of the white male
13 population's pretty small to begin with. White male population
14 makes it even smaller.

15 Q. Would it be as many as twenty people in Oklahoma City?

16 A. Total people? It could be.

17 Q. As many as fifty people?

18 A. Let me see here. That are non secretors. Based on
19 population stats of Oklahoma I got from the 1984, that's the
20 most recent information I could get, just for the city of
21 Oklahoma City itself, there's 441,000 people, four percent of
22 that's going to be probably about a thousand, 1,600 or 16,000.

23 Q. At the very, very best you can say that there's a
24 possibility he's one out of 16,000?

25 A. Well, no, I can say even better than that. 1,600. I

1 can say he's one out of 709 people.

2 Q. One out of 709.

3 A. Uh huh.

4 Q. That's the best.

5 A. That's the best I can say.

6 Q. Just one question. When you examined the hairs that you
7 took from his scalp in March, 1986, and you examined the hairs
8 taken from his scalp on July 30th, 1986. --

9 A. Uh huh.

10 Q. -- would you tell the jury whether or not that darker
11 brown came further down the strand or is it still up there?

12 A. It was basically in the same range on all the hairs I
13 examined, as I told the Court earlier.

14 Q. So, didn't grow.

15 A. No. His hair did grow. His hair, when I got it the
16 second time, was a lot shorter than the ones I got back in
17 March. It's basically in that same general area.

18 MR. BURGER: That's all I have, Your Honor.

19 THE COURT: All right. Ladies and gentlemen, I'm
20 going to recess for the evening. I want to again remind you of
21 my previous admonition and not discussing this case with
22 anybody, do not watch any news media reports, do not read
23 anything about it in the newspaper, and we'll start again at
24 9:00 in the morning. You're excused.

25 (Jury dismissed, following proceeding had:)

1 MR. ALBERT: I just want the record to show that I do
2 have some redirect examination of this witness and that I will
3 not talk to her now or at any time tonight about this testimony
4 and I intend to redirect her tomorrow without any accusation on
5 Mr. Burger that we talked overnight. Just not going to do it.

6 MR. BURGER: I'm not concerned about you talking to
7 her. I'm concerned about her talking to you.

8 MR. ALBERT: No. Not going to talk about it.

9 I need to have a witness come in, Judge.

10 THE COURT: Let me go ahead and talk to
11 Ms. Gilchrist.

12 Ms. Gilchrist, you understand that you're to return
13 tomorrow morning --

14 WITNESS: Yes, sir.

15 THE COURT: ---at 9:00. We'll resume. At that point
16 in time, Mr. Albert will have the opportunity to have redirect
17 examination and of course Mr. Burger, recross.

18 Of course, you heard the statements of Mr. Albert, so
19 you'll not have any kind of communication with him.

20 WITNESS: I will not, sir. I will not.

21 THE COURT: All right. With that, you're excused.

22 (Evening recess had.)

23 (Proceedings had in open court October 9th, 1986, with
24 same appearances heretofore noted:)

25 THE COURT: State ready?

1 MR. ALBERT: State is ready, Your Honor.

2 THE COURT: Defendant ready?

3 MR. BURGER: Defendant's ready, Your Honor.

4 THE COURT: All right. Ms. Gilchrist, you're still
5 under oath, of course.

6 REDIRECT EXAMINATION

7 BY MR. ALBERT:

8 Q. For the record that the court reporter's making, would
9 you state your name again, please.

10 A. My name is Joyce A. Gilchrist.

11 Q. And, you are the same Joyce A. Gilchrist that was
12 testifying yesterday when the Court recessed for the evening;
13 is that correct?

14 A. That's correct.

15 Q. All right. Now, Ms. Gilchrist, let's clear up this
16 percentage thing. I'm going to ask you what percentage of the
17 population based on studies and empirical data that has been
18 compiled, what percentage of the general population are
19 secretors, people who secrete their blood type in their other
20 body fluids?

21 A. Eighty percent.

22 Q. So, what percentage of the general population are non
23 secretors?

24 A. Twenty percent.

25 Q. So, if I made a statement to the Court that twenty

1 percent of the population, generally, was non secretors, that
2 would be a correct statement, would it not?

3 A. That's correct.

4 Q. Now, when counsel was questioning you about the
5 percentage of non secretors, he was questioning you about the
6 percentage of AB blood type people of the Caucasian race who
7 are non secretors; is that correct?

8 MR. BURGER: I object, Your Honor. I did not confine
9 it to AB. I said non secretors.

10 THE COURT: All right. Well, Mr. Burger, I'm going
11 to overrule your objection and we'll clear it up with this
12 witness as to what the correct amount is, sir.

13 MR. BURGER: I object to his suggesting to the
14 witness I said that.

15 THE COURT: All right.

16 MR. ALBERT: I will rephrase the question. I think
17 he's right.

18 THE COURT: You object to his leading the witness,
19 Mr. Burger?

20 MR. BURGER: Yes, Your Honor.

21 THE COURT: Mr. Albert, do not lead the witness.

22 MR. ALBERT: I'll rephrase the question.

23 Q. (By Mr. Albert) When you responded to Mr. Burger's
24 questioning that four percent of the population were non
25 secretors, what did you understand in your own mind that he was

1 asking you?

2 A. I understood him to be asking me about the people who
3 were type AB as a blood type, you know. I don't remember the
4 non-secretor percentage part of that.

5 Q. Okay. You understood him to be asking you what
6 percentage of the population were AB blood type people.

7 A. Yes.

8 Q. And, that's where you finally came up with the figure
9 that there was only 709 people in Oklahoma City that fell into
10 that category; is that correct?

11 A. That's correct.

12 Q. Okay. But, twenty percent of the general population are
13 non secretors; is that correct?

14 A. That's correct.

15 Q. All right. Now, Ms. Gilchrist, we have not discussed
16 your testimony and I've not talked with you since you left the
17 witness stand yesterday; is that correct?

18 A. That's correct.

19 Q. All right. Now, counsel questioned you about whether
20 you were licensed by some governmental body, whether you were
21 accountable to some organization for your work and you've
22 answered those questions. Let me ask you if you have in the
23 past received commendations for your work in hair analysis.

24 A. Yes, I have.

25 Q. And, will you give the jury at least one instance where

1 you have received a personal commendation for your work in the
2 microscopic analysis of hair.

3 A. Yes. In fact, I received this bar. (Indicating.) I
4 received a certificate of achievement award and bar from the
5 Oklahoma City Police Department for the work that I did in the
6 investigation of a serial rape/murder.

7 Q. Is that the Malcom Rent Johnson case?

8 A. Yes, it was.

9 Q. - And, you have, as you've testified, examined under the
10 microscope thousands of hairs for comparison purposes.

11 A. That's correct.

12 Q. All right. Now, in your laboratory at the Oklahoma City
13 Police Department, has there ever been an occasion where as a
14 result of the examination of the serology and the hair and
15 fiber evidence that a person has been excluded as a suspect in
16 a crime?

17 A. Yes, there has been.

18 Q. Does that happen on occasion more than once?

19 A. It has.

20 Q. Guess what I'm asking you: Does that take place
21 frequently?

22 A. Yes, it does.

23 Q. Okay. So, you're just a scientist looking through the
24 microscope and examining the composition of different items; is
25 that correct?

1 A. That's correct.

2 Q. You don't testify for or against the prosecution or any
3 other party to any criminal prosecution.

4 A. That's correct.

5 Q. Just report your findings.

6 A. That's correct.

7 Q. All right. Now, Ms. Gilchrist, in this case, the case
8 now before this Court, did you examine body samples submitted
9 to you by investigators of the Oklahoma City Police Department
10 on other subjects, suspects?

11 A. In this case?

12 Q. In this case.

13 A. No.

14 Q. Okay. You've never in this case, then, eliminated
15 anyone by virtue of the forensic evidence.

16 A. No.

17 Q. Okay. So, Mr. Pierce, his hair and body fluids are the
18 only hair and body fluids that you have examined in this case.

19 A. That's correct.

20 Q. Okay. Did you do some elimination work on some other
21 employees of the Can-Do Company at any time?

22 A. No.

23 Q. Okay. Now, counsel was asking you about -- counsel is
24 asking you about the population breakdown of hair
25 characteristics. Are there any statistics or empirical data

1 that has been compiled by anyone in this field concerning the
2 percentage of hair characteristics on given races or type of
3 people?

4 A. No. Not to my knowledge there hasn't been.

5 Q. Okay. Considering that there's over 2,000,000,000
6 people in the world, that would be a rather Herculean task,
7 wouldn't it.

8 A. That's correct.

9 Q. So, you deal with the hair analysis in each case that's
10 presented to you.

11 A. That is correct.

12 Q. And, in the comparisons that you have made, in all of
13 the cases that you have done for six and a half years where
14 hair evidence has been submitted to you, you have never found
15 two people with the same hair characteristics.

16 A. That's correct.

17 Q. Now, in this case, counsel asked you about the serology
18 that the donor of the semen found on the rectal swab and other
19 items that you found semen on where the H antigen was present
20 that the donor of that semen could be an O type person and that
21 is correct, is it not.

22 A. That's correct; it is.

23 Q. But, it would have to be an O type person with the exact
24 same microscopic hair characteristics of Mr. Pierce; is that
25 not also true?

1 A. In reference to the hairs, yes.

2 Q. Okay. What I'm asking you, if the donor of the semen
3 found in and on the body of Ms. Burton was an O type person,
4 different than Mr. Pierce. --

5 A. Uh huh.

6 Q. -- it would have to be an O type person with the
7 identical microscopic hair characteristics of Mr. Pierce; is
8 that a fair statement?

9 A. Yes. It's a fair statement.

10 Q. Okay. Now, when you do a microscopic hair analysis, how
11 long does it take you to examine one hair against a known hair?
12 How long does it take you to examine one unknown or foreign
13 hair taken from clothing or found in a pubic combing against
14 the known pubic hair of another person?

15 A. It depends. Pubic hairs may take, unknown, ten minutes
16 to look at, then go back and make my comparison. On known
17 hairs, that could take up to fifteen minutes per hair. On
18 scalp hairs, it would take longer. I spend anywhere from
19 fifteen to twenty minutes looking at one hair and then going
20 back and comparing it. It sometimes can take up to an hour to
21 make a side-by-side comparison.

22 Q. Okay. In this case, how much time did you spend in the
23 microscopic hair analysis, just that alone? I realize you may
24 not have kept track of the exact time, but I'm asking you to
25 estimate to the best of your ability.

1 A. Best of my ability. When I examined the unknown hairs
2 in this case the first time, I spent about -- probably about
3 thirty days looking at hairs. When I finally got reference
4 hairs for direct comparisons, that entailed about forty, almost
5 forty hours time all told.

6 Q. So, that would have been, if you worked eight solid
7 hours a day, in excess of three days that you spent on the hair
8 comparisons to the known samples of Mr. Pierce.

9 A. That's correct.

10 Q. Plus the three days that you spent identifying pubic and
11 scalp hairs and determining the race in your initial
12 examination before Mr. Pierce was ever arrested.

13 A. That's correct.

14 Q. The hairs from the rape kit.

15 A. Yes.

16 Q. So, you spent a total of in excess of six days in hair
17 comparison alone; is that correct?

18 A. That's correct.

19 Q. Now, that's very slow and tedious work.

20 A. It is.

21 Q. Do you, as you do the hair comparison, do you make
22 notes; do you keep some log that you can refer back to?

23 A. I jot down brief notes about each hair.

24 Q. Now, in this case, Ms. Gilchrist did you examine the --
25 once you identified the foreign pubic hairs of Mr. Pierce as

1 having the same microscopic characteristics in all respects as
2 the unknown pubic hairs taken from the clothing, the floor and
3 the pubic combing of Ms. Burton, did you compare all of those
4 pubic hairs against Mr. Pierce's known pubic hairs by
5 microscopic analysis?

6 A. I'm going to have to ask you to repeat that because you
7 said "foreign" pubic hairs from Mr. Pierce and I can't respond
8 to that.

9 Q. Okay. I guess what I'm asking you is when you took the hair
10 from the pubic combing and you did not know where that
11 came from --

12 A. That's correct.

13 Q. -- you compared that against Ms. Burton's known pubic
14 hair and it was different.

15 A. That's correct.

16 Q. So, you had a foreign pubic hair in the pubic combing
17 shortly after the rape of Ms. Burton that you did not know the
18 source of.

19 A. That's correct.

20 Q. Now, sometime after March of 1986, you had Mr. Pierce's
21 known body hairs; is that correct?

22 A. Yes.

23 Q. All right. So, you compared that unknown pubic hair to
24 his known pubic hair.

25 A. Yes, I did.

1 Q. And, you found that under the microscope it was
2 consistent in all characteristics.

3 A. That's correct.

4 Q. All right. What I'm asking you is: If you took that
5 foreign pubic hair that was taken in the pubic combing of
6 Ms. Burton and compared it against pubic hairs found on the
7 clothing to see if it matched not only the microscopic
8 characteristics of the known hairs of Mr. Pierce but that all
9 of the pubic hairs that were found either on the clothing, the
10 floor or in the pubic combing were consistent with each other,
11 did you do that?

12 A. Yes, I did.

13 Q. Okay. And, would that have been a cross check --

14 A. It is cross check.

15 Q. -- against the verification of the microscopic
16 examination of those hairs against Mr. Pierce's pubic hairs?

17 A. Yes.

18 Q. So, you use great care and you use all your skill in
19 making this analysis.

20 A. Always.

21 Q. You're well aware of the consequences of an error, are
22 you not.

23 A. Yes, I am.

24 Q. Do you have other checks and balances built into your
25 microscopic hair analysis besides the cross checking of those

1 hairs that I have just asked you about?

2 A. We also have -- we have the opinion of another chemist
3 if we have still a problem about anything. So, you get the
4 input of someone else to look at the hairs independently also.

5 Q. Did you have any reason to do that in this case?

6 A. No.

7 Q. All right. So, you were not having any problem making
8 the microscopic identification that would have caused you to
9 have sought the opinion of some other chemist.

10 A. No, I did not.

11 Q. Okay. If you had any question in your mind about the
12 absolute consistency of all of those foreign scalp and pubic
13 hairs as being consistent with Mr. Pierce's scalp and pubic
14 hairs, would you have gotten the opinion of another chemist?

15 A. Yes, I would have.

16 Q. But, you did not need to do that, did you.

17 A. No, I didn't.

18 Q. Now, counsel asked you about the margin of error. Of
19 course, there are no infallible human beings, correct?

20 A. That's correct. Not to my knowledge, anyway.

21 Q. But, you use checks and balances and you use great care
22 to minimize --

23 MR. BURGER: Court please, I object to his being very
24 suggestive what her qualifications are. Just ask her what she
25 does.

1 THE COURT: All right.

2 Q. (By Mr. Albert) Okay. Let me ask you this: If you had
3 a case where you had only one pubic hair, that was the only
4 hair that was involved in the case and you were comparing that
5 microscopically against the known pubic hair of a person
6 arrested or charged, would the margin of error, if it existed,
7 be greater there than in a case like the one before the Court,
8 where you found twenty-eight matching hairs under the
9 microscope?

10 A. Margin of error still be the same.

11 Q. Okay. Well, here you had twenty-eight hairs to look at
12 and you found all of those to be consistent.

13 A. That's correct.

14 Q. You found no inconsistencies whatsoever.

15 A. No, I did not.

16 Q. Now, counsel cross examined you about the serology and
17 you told him that the donor of the semen either had to be an O
18 non secretor, a type O person, secretor, or a non secretor; is
19 that correct?

20 A. That's correct.

21 Q. Okay. Now, counsel was cross examining you about the
22 hair. You told the jury in your direct examination and in
23 response to Mr. Burger's questions that you found some
24 darkening in the scalp hairs that you examined from the root
25 end out toward the tip --

1 A. Correct.

2 Q. -- which, early on, led you to believe that the person
3 who had attacked Ms. Burton had wore some kind of a headband
4 around his head.

5 A. That's correct.

6 Q. Counsel, in questioning you in that regard, asked you
7 something where you indicated that there was some damage to the
8 hair. I thought you said that. Did you indicate you found
9 some kind of damage to the hair in that area?

10 A. No. There's some cuticle damage, now, the cuticle's
11 standing out, frayed out on some of the hairs, but not that
12 particular area.

13 Q. Okay. Now, what would have caused this cuticle damage
14 that you've just referred to?

15 A. Number of things could cause that, diet, hygiene,
16 stress, anything. There are a number of factors that can cause
17 that.

18 Q. Stress can cause that.

19 A. Yes.

20 Q. Now, Ms. Gilchrist, on the evidence that -- Let me show
21 you one of these exhibits. For instance, on State's Exhibit
22 Number Thirty-two, there's another sticker on here. Can you
23 tell the Court what that is.

24 A. Yes, I can. This is a sticker belonging to Serological
25 Research Institute. Defense counsel's expert witness

1 re-examined this evidence.

2 Q. Okay. Were you directed by Court order to mail this
3 evidence to the Serological Research Institute at Emoryville,
4 California?

5 A. Yes, I was.

6 Q. Did you do that?

7 A. Yes, I did.

8 Q. And, then it was returned to you; is that correct?

9 A. Yes.

10 Q. Now, when I asked you about your training, education and
11 experience, did I hear you say that you had also taken courses
12 or that you had attended a seminar at the Serological Research
13 Institute yourself?

14 A. Yes, I have.

15 Q. Okay. So, that institute, then, has some renowned
16 reputation where chemists go sometimes to seminars in
17 continuing education.

18 A. That's correct.

19 Q. And, you've been there.

20 A. Yes, I have.

21 Q. All of this evidence, body fluid evidence, was submitted
22 to that institute at the request of Mr. Burger for independent
23 examination.

24 A. Yes.

25 Q. Now, as a part of that Court order, were you directed to

1 send the hair evidence that you examined in this case to an
2 independent examiner of Mr. Burger's choice?

3 A. Yes, I was directed to send all the evidence.

4 Q. Did you send the hair slides to the Serological
5 Institute?

6 A. No. They don't do hair examinations.

7 Q. Okay. Did Mr. Burger ever give you the name and address
8 of anyone that he wanted you to forward your hair slides to for
9 independent microscopic examination?

10 A. No, he did not.

11 Q. Okay. But, you were under Court order to do that if he
12 had chosen to direct you to make that mailing; is that correct?

13 A. That's correct.

14 Q. You would have done it.

15 A. I would have.

16 Q. Now, again, Ms. Gilchrist, so there will be no
17 misunderstanding, you cannot identify particular person by hair
18 analysis.

19 A. No, I cannot.

20 Q. You can exclude people by inconsistencies in the
21 microscopic hair analysis.

22 A. That's correct.

23 Q. Mr. Pierce is in no way excluded as the donor of the
24 hair found on the clothing, the floor and in the pubic combing
25 of Ms. Burton.

1 A. No, he is not.

2 Q. And, he is in no way excluded as the donor of the semen
3 based on your serological examination.

4 A. No, he is not.

5 MR. ALBERT: All right. Your witness, counsel

6 THE COURT: Mr. Burger, anything further?

7 RECROSS EXAMINATION

8 BY MR. BURGER:

9 Q. Ms. Gilchrist, when you sent these forensic samples to
10 the laboratory in northern California that I requested and
11 believe there was fifty some odd; is that correct? Will you
12 look at your records and see how many.

13 A. How many items of evidence that I sent to him?

14 Q. Yes.

15 A. I sent twenty-six items of evidence to SRI.

16 Q. And, how many items did you not send?

17 A. The only thing I didn't send was evidence envelope
18 containing the reference hairs belonging to Jeffrey Pierce. I
19 sent them all the stuff collected in the rape kit at the
20 hospital and the evidence collected as far as the serology goes
21 at the crime scene.

22 Q. Were you not told by Mr. Albert or Ms. McMurry that
23 Judge Saied ordered you to send all forensics to my chemist?

24 A. Yes, I was told that.

25 Q. But, you didn't send the hairs.

1 A. They don't do hair examinations. No, I did not send the
2 hairs.

3 Q. Why did you take it upon yourself to use the authority
4 not to send something because you don't think they do hairs?

5 A. Well, I know they don't do hairs.

6 Q. You didn't know that they were going to find a hair
7 expert for me to examine those hairs, did you.

8 A. No, I didn't.

9 Q. You didn't care. You just didn't send them.

10 A. I sent serology to them.

11 Q. But, you didn't send hairs of your own election.

12 A. No, I did not.

13 Q. And, you didn't send anything until when, Ms. Gilchrist?

14 A. As a matter of fact, I came in -- I was on vacation when
15 you finally gave Ms. McMurry the information who I was to send
16 that evidence to. I came in from my vacation, collected all
17 that evidence together, put it in a package and had it mailed
18 and it was on August 4th, 1986, is when I mailed it.

19 Q. I'm happy to know that we finally got the answer to my
20 question. The date was August 4, 1986.

21 A. Yes.

22 Q. Now, I asked you yesterday if when you had the
23 Defendant, Jeffrey Pierce, under investigation if he
24 voluntarily gave you all these body samples for your perusal
25 and testing and chemical analyses and you said he did. Now,

1 after he was charged, did you ever once offer to give to the
2 Defendant, before the Court order of August, 1986, any of these
3 samples for his investigation?

4 MR. ALBERT: Objection, Your Honor. We're never
5 required to deliver anything except to another expert. We're
6 never required to deliver the State's evidence --

7 THE COURT: Are you objecting to the question,
8 Mr. Albert? Just are you objecting?

9 MR. ALBERT: Yes.

10 THE COURT: All right. Now, going to sustain his
11 objection, Mr. Burger.

12 MR. BURGER: May we approach the bench.

13 THE COURT: Yes.

14 (At bench, out of hearing of jury:)

15 THE COURT: Now, Mr. Albert, do not make all these
16 statements. Just object, sir.

17 All right, Mr. Burger.

18 MR. BURGER: Let the record show that the Defendant
19 would expect the witness to testify, if permitted by the Court,
20 that she at no time voluntarily offered to let the Defendant
21 use the evidence of the forensic samples taken by the State or
22 his examination and was not and did not permit this to be done
23 until ordered by the Court in August, 1986, to do so.

24 MR. ALBERT: It's irrelevant, Your Honor, and we're
25 never required to deliver evidence over to a defendant or his

1 lawyer. They can tamper with it, they can exchange hairs, they
2 do anything.

3 THE COURT: I understand that, Mr. Albert.

4 This Court, if there was some -- if the Defendant had
5 needed this evidence, he should have filed a Motion to
6 Compel --

7 MR. BURGER: I did.

8 THE COURT: -- you to give it to him and I assume
9 that it was given to you or we wouldn't have gone to trial.

10 MR. ALBERT: That's right. We've complied with the
11 orders.

12 THE COURT: All right. Go ahead.

13 (Within hearing of jury:)

14 Q. (By Mr. Burger) So, when you finally sent the
15 forensics to a chemist in northern California in August, 1986,
16 the evidence samples had then had about sixteen months to
17 deteriorate, degrade and break down?

18 A. That's correct. What was left of it.

19 Q. What was left of them which is my next point. You sent
20 twenty how many samples?

21 A. I sent a total of twenty-six items.

22 Q. Twenty-six items. Those were envelopes and glass vials
23 of fluids.

24 A. No. Those were the items of evidence that was
25 collected. Now, I also sent the alluates that I made from the

1 evidence collected here, the stuff that I'd already examined.
2 I sent that in addition to the samples that were collected in
3 the rape kit and from the crime scene. So, you know, there
4 were just additional items of evidence for them to look at.

5 Q. I have difficulty sometimes, if you don't mind,
6 understanding your answer to my question. My question was:
7 Were those items sent in envelopes and glass vials.

8 A. No, they weren't sent in glass vials. They were sent in
9 plastic vials. Those plastic vials are placed inside a
10 zip-lock bag.

11 Q. And, for the most part, when you sent them and when they
12 arrived, the envelopes were empty and the plastic vials were
13 empty.

14 A. Now, which envelopes are you referring to, Mr. Burger?

15 Q. The twenty-six that you sent on August the 4th, 1986.

16 A. I disagree with that.

17 Q. How many were empty?

18 A. Probably the two slide envelopes were empty, from the
19 vaginal slide and rectal canal slide, because found out, once I
20 got this evidence back, which was last Friday, by going through
21 and doing my inventory to make sure I received everything, I
22 found that I failed to send those two items of evidence. Those
23 were microscopic slides made the hospital.

24 Q. So, it's your testimony that only two of the packets,
25 whether they be envelopes or plastic vials, contained nothing.

1 A. That's correct.

2 Q. Of those that contained something, how useable were they
3 for a chemist to make an evaluation or examination?

4 A. Well, I don't know. I can't answer that.

5 Q. Well, you heard me yesterday read to you that
6 immediately after blood or fluids, seminal or otherwise, are
7 deposited, they dry and they immediately commence to degrade
8 and break down. Would you say that sixteen months later they
9 would be in a pretty horrible shape to examine?

10 A. It depends on what kind of test that person planned to
11 run on that evidence. I can't answer that yes or no.

12 Q. Well, the tests that you did on these items, would those
13 tests be very difficult to run on sixteen-month-old dried,
14 frozen and thawed and refrozen samples?

15 A. As far as enzymes go, yes, because the enzyme's going to
16 break down pretty quick. You won't probably pick up anything
17 at that time span.

18 Q. Can I get you to admit that it be very difficult for a
19 chemist to make any meaningful findings from those items that
20 you sent after sixteen months?

21 A. Depends on how you mean "meaningful."

22 Q. Well, I don't know how I can explain it further,
23 Ms. Gilchrist, but isn't that much like most of your testimony.
24 These are --

25 MR. ALBERT: Judge, I'm going to object to those side

1 remarks and object to the form of the question, "like much of
2 your testimony." That's improper and I object to it.

3 THE COURT: All right, Mr. Albert.

4 Mr. Burger, just ask the question, sir. Don't put
5 any inferences --

6 MR. ALBERT: Pardon?

7 THE COURT: I mean Mr. Burger. Mr. Burger is who I'm
8 addressing. Do not add anything to your questions. Just ask
9 the questions without putting anything into them, sir.

10 Q. (By Mr. Burger) Isn't the answer to that question -- I
11 don't know what you mean "meaningful" -- somewhat similar to a
12 lot of your other answers in this case with reference to things
13 that you've done, a creation of an illusion of what you want to
14 be believed?

15 A. No, it's not.

16 Q. You don't believe that the similarity of the hair
17 samples you looked at is simply an illusion that you're trying
18 to depart to the jury?

19 A. No, I do not, Mr. Burger.

20 Q. Well, let's get down to absolutes. I know something
21 about this. You testified that you at no time ever examined
22 any forensics in this case and excluded anybody.

23 A. That's correct.

24 Q. Did you tell Officer W. L. Cook on the 24th of October,
25 1985, at 09:00 hours at the police station in Oklahoma City,

1 quoting, "I talked with Joyce Gilchrist. She informed me she
2 had eliminated Cannon as a suspect."

3 A. Who is Cannon?

4 Q. Cannon is one of the people that the victim picked out
5 of a pictorial lineup as being a look-like suspect.

6 MR. ALBERT: Objection, Your Honor. Counsel's
7 testifying and that's not correct.

8 THE COURT: Just a moment. Wait just a moment. No,
9 no, don't talk. Come up here.

10 (At bench, out of hearing of jury:)

11 MR. ALBERT: No one has ever made a misidentification
12 of this rapist at any time, Your Honor, never, and for him to
13 stand up there in front of the jury and make that statement is
14 improper.

15 THE COURT: Just a minute.

16 (Court peruses statement.)

17 THE COURT: Well, the thing of it is that you need to
18 ask if she ran any test on him. Apparently she's already said
19 no.

20 MR. ALBERT: Like to refresh my memory from this
21 report.

22 THE COURT: It doesn't say why she eliminated him.

23 MR. BURGER: She answered a question direct
24 examination, recross, I never eliminated any suspect period.

25 THE COURT: No. She never had any evidence that

1 eliminated anybody. Now, how she eliminated him, I don't know.
2 Might ask if she examined anything from anybody else. As I
3 recall, the testimony is she did not examine any specimens.

4 MR. BURGER: Judge, why are you trying to repair this
5 witness? She said that she didn't eliminate anybody.

6 THE COURT: But, she also said, Mr. Burger, that she
7 did not check anybody else's hair. Ask her again, if you want
8 to go back and make sure before you go any further, see if she
9 examined any other hair samples.

10 MR. BURGER: That's exactly what I was going to get
11 into.

12 THE COURT: Well, ask her that. But, what you're
13 reading there is not what it says.

14 MR. ALBERT: That's right. I object to that, Your
15 Honor.

16 MR. BURGER: You mean what I read is not what I read
17 on that report?

18 THE COURT: What you read, it says she informed me
19 that she eliminated how. She's testified she examined no hairs
20 from anybody else.

21 MR. BURGER: Yes, she did. Right up here. She
22 looked at him.

23 THE COURT: That is not her talking. Sandra Burton
24 did this. This is a quote from Sandra Burton, not from -- you
25 don't get to Joyce Gilchrist until you get to this very last

1 line.

2 MR. ALBERT: And, Sandra Burton did not ever identify
3 any other person from a photo lineup as her attacker.

4 THE COURT: But, what I'm saying, forget this. This
5 paragraph above on page two of this report, they're quoting
6 Sandra Burton. We're not quoting Ms. Gilchrist.

7 MR. BURGER: Well, I've got another report.

8 THE COURT: Well, you can go back and ask her that.
9 But, if she eliminated him, you better find out again whether
10 or not she examined any hair from any other suspect.

11 MR. BURGER: Why can't I ask the question?

12 THE COURT: Well, but what you're asking is that you
13 didn't examine anybody -- you're leading the jury and the Court
14 to believe that she examined more people. But, if you want to
15 ask her again if she examined the hairs from any other
16 individual other than those were found at the crime scene and
17 from Mr. Pierce, then, if she answers that she has, because
18 you're saying that she eliminated them by hair and they did not
19 do it by hair. Now, what other method she eliminated by, I
20 don't know.

21 MR. BURGER: Well, I'm not entitled to ask her?

22 THE COURT: I'm going to permit you to ask her if she
23 examined the hair of anybody other than Mr. Pierce.

24 MR. BURGER: Why can't I ask her if she examined
25 anybody anyway if she eliminated them?

1 THE COURT: Because you're quote is misleading and
2 it's not correct. Your question --

3 MR. ALBERT: I would ask you to admonish the jury to
4 disregard it, Your Honor because it is misleading, not correct.

5 MR. BURGER: No.

6 THE COURT: No, I'm not going to draw their attention
7 to it.

8 MR. ALBERT: The elimination was made by Ms. Burton
9 on the basis of that man's tatoos.

10 THE COURT: I know, but Mr. -- getting to this last
11 sentence that the officer on 10-24-85 talked with Joyce
12 Gilchrist. She informed me that she had eliminated Cannon as a
13 suspect.

14 MR. ALBERT: Okay.

15 THE COURT: Now, you're wanting to -- just a minute.

16 MR. BURGER: Yeah.

17 THE COURT: You are wanting to ask her why he was
18 eliminated.

19 MR. BURGER: I'm going to do one other thing. I'm
20 going to offer that, Your Honor, as a prior inconsistent
21 statement.

22 MR. ALBERT: You can't. It's not her statement.

23 MR. BURGER: I give her the date, the time.

24 THE COURT: I'm going to permit you to offer it but I
25 don't think --

1 MR. ALBERT: You're going to let him put that in
2 evidence? You can't put police reports in evidence. The
3 Evidence Code says you cannot put police reports in evidence.

4 THE COURT: Just a minute.

5 MS. McMURRY: Judge, we have two -- we have really
6 dangerous ground here. We have two parallel investigations
7 going on.

8 THE COURT: Let's not talk about the other case.

9 MS. McMURRY: Okay. That's the problem.

10 THE COURT: Just a minute, just a minute. I'm not --
11 Mr. Burger, you go ahead, and, if you want to get back to this
12 by questions, I'm going to permit you to do it, but remember
13 where you're going. I'm not going to let you just go anyway
14 you want to go.

15 (Within hearing of jury!)

16 Q. (By Mr. Burger) Ms. Gilchrist, I'll ask you if you ever
17 saw or had submitted to you for possible body samples person by
18 the name of Randall Cannon.

19 A. Not in reference to this case, I was not.

20 Q. Did you ever in the time span that we're referring to,
21 May 8th, 1985, until present day ever see a person by the name
22 of Clady, C-L-A-D-Y -- see if I can find his first name. I
23 don't seem to find his first name. Did you ever see and look
24 at a person by the name of Clady?

25 A. I don't recall, Mr. Burger.

1 Q. C-L-A-D-Y.

2 A. I don't recall.

3 Q. On the 19th of July, 1985, in the company of W. L. Cook,
4 officer number 631.

5 A. I don't recall.

6 Q. During this period of time and on that day, did you make
7 a statement that you didn't need to make an examination of hair
8 because you could already tell that it wasn't the right color
9 and texture and did not put it under a microscope?

10 A. I probably made that statement to him.

11 Q. In addition to making scientific observations of hairs,
12 you feel that you are such an expert you can just look at hair
13 period and tell whether or not it's dark enough or light
14 enough.

15 A. Part of my job is visual examination of evidence and
16 it's one of the things that I do do. You know, this hair was
17 too dark, then I can easily say he can be eliminated.

18 Q. Even though he's described as five ten person with
19 blonde hair.

20 A. If his hair was too dark, I'm sure I could eliminate
21 him.

22 Q. Well, you testified yesterday that when you examined the
23 hairs of Jeffrey Pierce, that the believe you said the roots --
24 is that what you called the parts in the scalp --

25 A. Yes, that is.

1 Q. -- was dark.

2 A. No, I didn't say the roots was dark.

3 Q. What did you say?

4 A. I said as you came out from the root end it was medium
5 brown to kind of dark, dense color, and got light.

6 Q. Started light.

7 A. Yes.

8 Q. And, so that on the ends was what color?

9 A. On the ends of his hair was lot lighter.

10 Q. Didn't you say yellow?

11 A. It was bright yellow, yes.

12 MR. BURGER: Would you step up to the witness,
13 please, and let her examine the ends of your hair.

14 (Defendant complies.)

15 MR. ALBERT: Your Honor, I think we will object to
16 this demonstration before the jury.

17 THE COURT: Just a minute.

18 MR. ALBERT: There's no foundation or indication that
19 this man's hair is in the same condition that it was in on May
20 the 8th of 1985. It's been more than a year, a year and a
21 half, since the date of this crime and he wants this witness to
22 make some visual examination of this man's hair without any
23 proper foundation in front of the jury? It's grandstanding,
24 Your Honor, and we object to it. If it has any relevancy, he's
25 going to have to lay the proper foundation first.

1 MR. BURGER: I'd point out to the Court it was
2 awfully permissible when he wanted his witnesses to look at
3 him.

4 THE COURT: All right. Look at the hair and see if
5 you can tell with the naked eye whether or not this is what you
6 term as "yellow."

7 WITNESS: Turn around, please.

8 Obviously, Jeff -- some of his hair is kind of light
9 on the ends. His hair is a lot shorter now than it was when I
10 got reference samples and examined them earlier this year.
11 But, he does have some light hairs. Some of the hair has some
12 lighter tones in it.

13 Q. (By Mr. Burger) Are you telling the jury that the ends
14 of his hair today are yellow?

15 A. I said light, Mr. Burger.

16 Q. I didn't say what you said.

17 THE COURT: Just a minute, Mr. Burger.

18 Mr. Pierce, take your seat sir.

19 (Defendant resumes seat.)

20 Q. (By Mr. Burger) Are they yellow?

21 A. No. Not looking with the naked eye it's not.

22 Q. Are they blonde?

23 A. He's got some lighter hairs in there; yes, sir. Could
24 be considered blonde.

25 Q. Ms. Gilchrist, I asked you to look at the tip ends.

1 A. I did look at the ends.

2 Q. You testified yesterday.

3 A. I did look at the ends.

4 Q. Are the tip ends of his hair blonde?

5 A. Some of them are.

6 MR. BURGER: If I might use the blackboard, Your
7 Honor.

8 THE COURT: Yes, sir.

9 Q. (By Mr. Burger) Ms. Gilchrist, yesterday I was trying
10 to get some type of percentile evidence before the jury on non
11 secretors. If I did not intend to ask you or rather if I
12 didn't ask you, I intended to ask you what percent of the
13 population of Oklahoma City is a non secretor.

14 A. Twenty percent of the general population.

15 Q. So, when you told me four percent, whatever question I
16 asked you, you thought I was asking about AB non secretors.

17 A. I thought you were asking me about AB blood type.

18 Q. Well, we don't have any evidence of AB blood type in all
19 of the forensics that you examined taken from the body of the
20 victim, do we.

21 A. No, we don't.

22 Q. So, we don't need to talk about AB, do we.

23 A. No.

24 Q. We're talking about the non-secretor factor and the non-
25 secretor factor is twenty percent of the population.

1 A. Yes.

2 Q. That's because -- in addition to that factor, we know
3 that the antigen H was found in the rectal slide of the victim.

4 A. Rectal slide? No, that's not correct.

5 Q. Rectal swab. You have difficulty understanding what I'm
6 referring to?

7 A. You made an incorrect statement. That's why I disagreed
8 with you.

9 Q. Well, that's reason I asked you. You have a problem,
10 I'll try to remember all these terms.

11 A. Antigen H was found on the rectal swab.

12 Q. So, that's an important factor in this examination, and
13 antigen H indicates that it's there because of one thing, two
14 things or three things? Which?

15 A. I don't know what you're getting at.

16 Q. Isn't antigen H found because it was deposited by the
17 fluids of a person who is type O blood --

18 A. It could have been, yes.

19 Q. -- type A blood --

20 A. No.

21 Q. -- B blood?

22 A. No.

23 Q. Just type O.

24 A. That indicates type O, yes.

25 Q. And, there is what percentage of the population in

1 Oklahoma City that is type O?

2 A. Going to be -- white population is forty-eight percent.

3 Q. So, don't we have sixty-eight percent of the population
4 of Oklahoma City who could or would have been responsible for
5 this antigen H.

6 A. No.

7 Q. Tell me why not.

8 A. Forty-eight percent. Type O.

9 Q. Type O could have caused the deposit of the antigen H.

10 A. That's correct.

11 Q. Twenty percent are the non secretors could have been
12 responsible for the presence of the antigen H.

13 A. No, no, no, no. Type O. The antigen being covered
14 there indicates it came from a secretor type person, not a
15 non-secretor type person.

16 Q. I beg your pardon?

17 A. If I'm picking up the antigen activity there, tells me
18 it's probably coming from somebody who was a secretor, okay?

19 Q. You didn't testify yesterday that the --

20 A. No.

21 Q. You don't know what I'm going to ask you. Didn't you
22 testify yesterday that the presence of antigen H was found in
23 the rectal swab and you had an opinion that it was there for
24 two reasons: It was consistent with the victim's blood type,
25 O. -- and then I think I had to bring out that it was

1 consistent with every other blood type O, the forty-eight
2 percent of the people -- and it was also consistent with a
3 non-secretor blood.

4 A. I said it could be either type O or non secretor, yeah.

5 Q. Lady, that's what I just got through saying. You said,
6 no, you said it was a secretor just now.

7 A. All right. All right. We were talking about the H
8 antigen from type O people. The H antigen meaning a person who
9 is secretor and also type O could have left that H there, put
10 that H there.

11 Q. Well, now, that adds something that I'm not aware of.
12 In addition to being a type O, he would have to be a secretor
13 to have deposited the antigen H.

14 A. That's what I've been saying.

15 Q. Well, if the Defendant is a non-secretor, how in the
16 world -- and he's not a type O -- how could you ever relate him
17 to the antigen H found in the rectal swab?

18 A. I didn't relate him to the antigen H.

19 Q. Then gets back to one of the last questions I asked you
20 yesterday: Under what stretch of the most fantastic opinion
21 you can have could you relate him to any seminal fluid of the
22 victim?

23 A. Based on my opinion, the results of the work that I did
24 in this case, the semen either came from an O secretor or non
25 secretor. In that standpoint, he cannot be excluded.

1 Q. Well, I guess I'm just thick. You say on the one hand
2 it came from a secretor.

3 A. The victim is a secretor.

4 Q. Then you say a non secretor.

5 A. The victim's an O secretor.

6 Q. If you'll indulge me, let me ask you one more time.
7 Does the antigen H seen in that rectal swab appear because it
8 was deposited either by a type O or a secreter or non secreter,
9 which one?

10 A. The antigen didn't matter on the secretor status. The
11 ABO blood group substance is different.

12 Q. The AB what?

13 A. The blood group substance. That's the secretor factor
14 there, and if I were able to pick up the H substance, that, to
15 me, would indicate it came from an O-secretor or, you know, the
16 level is not -- or non secretor, okay.

17 MR. ALBERT: Judge, I don't believe that everyone can
18 hear the witness.

19 THE COURT: All right. You're going to have to speak
20 so the jury can hear you, ma'am.

21 MR. ALBERT: Sit up and speak into the mike so the
22 jury can hear you, Ms. Gilchrist.

23 WITNESS: Okay.

24 Q. (By Mr. Burger) Ms. Gilchrist, yesterday when I asked
25 you and you misunderstood me and you gave me the percentile of

1 four percent of non secretors in Oklahoma City, population of
2 400,000, what figure did you give me in the number of people
3 that four percent would represent?

4 A. I'm not sure I understand your question, Mr. Burger, at
5 all.

6 Q. You answered my question when I asked you what
7 percentage of the population of Oklahoma City are non secretors
8 according to any chart or reference matter that you might have.

9 A. Twenty percent are non secretors.

10 Q. Well, but you answered yesterday thinking I said AB
11 which I didn't intend to do, if I did, you said four percent.

12 A. Four percent of the general population are type AB.

13 Q. And, you said there are 400,000 in Oklahoma City.

14 A. Yes.

15 Q. Which would mean that if I did ask you the AB non
16 secretors, you said there would be 1600?

17 A. AB non secretors?

18 Q. Yeah.

19 A. I'd have to multiply that out. You know, rough estimate
20 I took yesterday.

21 Q. 1600?

22 A. I'd say about that much, yeah.

23 Q. If you multiply it out, you'll come to 16,000, won't
24 you.

25 A. I said probably 16,000. I wasn't trying to pinpoint

1 anything down.

2 Q. You don't mind if I give you one more error.

3 A. No.

4 Q. Then you said something that you brought that 1600 down
5 to 709 or 790 and I didn't understand what you were talking
6 about there. What else did you deduct from?

7 A. I also said that of the general population who are type
8 AB are four percent, percent of population who are non secretor
9 is twenty percent, in Oklahoma City percent that are white
10 about eighty-three percent, males forty-eight percent, between
11 the age of eighteen and forty-four you have forty-eight
12 percent. Forty-four percent. If you multiply that all out, it
13 comes out to be one out of -- he's one out of 709 people in
14 reference to J. T. Pierce blood type and secretor status, being
15 a white male in a certain age range.

16 Q. That wasn't a response to my question. That's something
17 you've written up on a chart.

18 MR. ALBERT: Judge, I'm going to object to the form
19 of that. It's argumentative. He can ask her anything he
20 wants.

21 THE COURT: I'm going to sustain the objection as
22 being argumentative, Mr. Burger. You're asking her to do some
23 mathematics in her head which you're going to have to allow for
24 some error. She wants to take the time to write it out so will
25 be correct, permit her to do that. Is that what you're wanting

1 her to do?

2 MR. BURGER: What I'm not wanting her to do for the
3 record, Your Honor, is to be bolstered by the DA and the Court.
4 I'm trying to get her to answer what she intends my question to
5 be without giving me a bunch of facts I didn't ask for that I
6 don't know what she's talking about. I asked her a question
7 and she reads me a bunch of stuff that I don't know what it is.

8 Q. (By Mr. Burger) What did you read from?

9 A. Piece of paper I wrote down, some notes.

10 Q. A piece of paper that what?

11 A. Some figures I wrote down on the paper.

12 Q. I see. That's not authenticated by any great person
13 that we would be familiar with who accumulated those figures
14 unless you are that great person.

15 MR. ALBERT: Judge, I'm going to object to the form
16 of these kinds of questions.

17 THE COURT: Sustained.

18 Now, just go ahead and ask the questions, Mr. Burger.

19 Q. (By Mr. Burger) My question is: Was that paper
20 prepared by anybody we'd know about?

21 A. Me.

22 Q. You.

23 A. Yes.

24 Q. Ms. Gilchrist, we've talked about two terms very
25 generally, or rather you have, the terms "positive" and

1 "negative." Let me see if I understand what you're saying.
2 Positive identification, for instance, can be ascertained by
3 fingerprint.

4 A. Correct.

5 Q. We know that a fingerprint is never duplicated.

6 A. That's correct.

7 Q. Positive identification can be from a blood type. We
8 can chemically determine that a person's type blood is A, B, O
9 or AB.

10 A. You can positively identify blood but not, you know, --
11 I hope I'm not misunderstanding what you're saying. You're
12 trying to get me to respond to something. I can't make a
13 positive identification from blood type. I think -- that's
14 what I'm perceiving you as saying to me, asking me.

15 Q. No. I don't intend to do that.

16 A. Okay.

17 Q. I'm intending to make these questions as simple as I
18 can. We can identify positively type A, B, O and AB blood.

19 A. Correct.

20 Q. We can positively identify other matters. Can you think
21 of some?

22 MR. ALBERT: Objection, Your Honor. This is
23 irrelevant. "Other matters," it's too general.

24 THE COURT: Well, I'm going to overrule your
25 objection.

1 If there's another way of positive identification.
2 Is that what you're asking, Mr. Burger?

3 MR. BURGER: Yes, Your Honor.

4 THE COURT: And, you're trying to say so that I
5 understand --

6 MR. BURGER: Yes.

7 THE COURT: -- in conjunction with the objection is
8 fingerprints are identical, right?

9 MR. ALBERT: Judge, may we approach the bench.

10 THE COURT: All right.

11 MR. ALBERT: He's mixing apples and oranges. May we
12 approach the bench.

13 THE COURT: Come on up.

14 (At bench, out of hearing of jury:)

15 MR. ALBERT: There's a great difference, Your Honor,
16 identifying someone by fingerprints and saying that print
17 belongs to Barry Albert and identifying someone by saying he is
18 a type A person. You cannot identify a specific person by
19 blood type.

20 THE COURT: I understand that's what --

21 MR. ALBERT: That's what he's trying --

22 THE COURT: -- and there's no other way that I know
23 of and I think she's going to have to respond --

24 MR. ALBERT: I think you can make positive
25 identification by in court, the victim of the crime identifying

1 her attacker. That's a positive identification.

2 MR. BURGER: That's what I'm getting to.

3 MR. ALBERT: There are many ways to make positive
4 identification that have nothing to do with forensics.

5 THE COURT: Well, make sure they tie in with her
6 expertise.

7 (Within hearing of jury:)

8 Q. (By Mr. Burger) Now, then, on the other side of the
9 scorecard, we can take a fingerprint, the experts can, people
10 you work with, and they can take a known fingerprint and they
11 can say, no, no, it's not the same.

12 A. That's correct.

13 Q. They can take blood, an A blood, and compare it with an
14 O blood and they can say no, no, it's not O, it's A.

15 A. That's correct.

16 Q. So, that's a negative. That excludes.

17 A. Yes, it does.

18 Q. But, then isn't there another term "positive" that we
19 use in criminal prosecutions that means positive identification
20 of the face or the person?

21 A. Yes.

22 Q. That's not how you deal. That's not scientifically
23 based, is it.

24 A. That's not what I do, no.

25 Q. So, when the FBI, as you agreed with me yesterday, tell

1 you that when hair samples are submitted, they should never be
2 used for the purpose of positive identification.

3 A. We never use them for positive identification.

4 Q. That means that you cannot say that the hairs you looked
5 at belong to Jeffrey Pierce.

6 A. No, I can't.

7 MR. BURGER: That's all we have, Your Honor.

8 THE COURT: All right. Mr. Albert, do you have
9 anything else?

10 REDIRECT EXAMINATION

11 BY MR. ALBERT:

12 Q. Ms. Gilchrist, when counsel asked you about this
13 serology, you found the H antigen present in the rectal swab of
14 Ms. Burton; is that correct?

15 A. Yes, I did.

16 Q. And, Ms. Burton is an O type person; is that correct?

17 A. Yes, she is.

18 Q. So, she -- her body fluids could account for the H
19 antigen you found in the rectal slide.

20 A. Rectal swab.

21 Q. Rectal swab; is that correct?

22 A. Yes; that's correct.

23 Q. Now, if the donor of the semen was not a type O
24 person -- and she could not manufacture semen in her own body,
25 could she.

1 A. No, she can't.

2 A. It had to be a male donor; is that right?

3 A. That's correct.

4 Q. And, if the H antigen was a result of her body fluids
5 and not the result of an O donor of the semen, then the donor
6 of the semen would have to have been a non secretor; is that
7 correct?

8 A. That's correct.

9 Q. And, that's Mr. Pierce, isn't it.

10 A. Yes.

11 Q. So, he is not excluded on the serology if the H antigen
12 is a result of the victim's body fluids herself.

13 A. That's correct.

14 Q. Now, you found a very small amount of semen; is that
15 right?

16 A. That's right.

17 Q. Did the H antigen that you identified in the rectal
18 slide, was it so predominant that you have an opinion was to
19 whether it was the result of the semen on the swab or the
20 result of the body fluids of Ms. Burton on the swab?

21 A. Yes, I do have an opinion about that.

22 Q. And, what is the opinion?

23 A. It's my opinion that the H antigen from the swabs coming
24 from the body fluid of the victim.

25 Q. Okay. So, it's your opinion based on your scientific

1 analysis that the H antigen was not the result of a semen donor
2 but the result of the body fluids of Ms. Burton on the rectal
3 swab.

4 A. That's correct.

5 Q. All right. So, do you have an opinion, then, as to
6 whether the donor of the semen would have been a secretor or
7 non secretor?

8 A. It's my opinion he was a non secretor.

9 Q. And, that's consistent with Mr. Pierce.

10 A. That's correct.

11 Q. And, even though you cannot identify hair exactly, you
12 can't take a piece of my hair and say that came from the head
13 of Barry Albert, you can say that it is microscopically
14 consistent in all respects with Barry Albert.

15 A. Yes, I can.

16 Q. And, that's what you've said about all the hair that was
17 found on the floor, on the clothing or in the pubic combing of
18 Ms. Burton.

19 A. That's correct.

20 Q. So, for this Defendant to be excluded, you would have to
21 have a non secretor that did not have his same identical
22 microscopic hair characteristics to exclude him.

23 A. That's correct.

24 Q. It's that simple, isn't it.

25 A. Yes, it is.

1 Q. Now, counsel asked you about whether you excluded any
2 other suspects in this case and he referred to a report of
3 Detective Cook. Now, you did do some analyses for Detective
4 Cook; is that correct?

5 A. Yes, I did.

6 Q. And, you did make some exclusions for Detective Cook; is
7 that correct?

8 A. That is correct.

9 Q. Did you make a microscopic comparison of the hair of
10 Randall Eugene Cannon to the foreign hair found on the
11 clothing, the floor, the pubic combing of Ms. Burton?

12 A. No, I did not.

13 Q. Okay. How did you eliminate Mr. Cannon?

14 A. That was in reference to another case.

15 Q. All right, then; okay. But, that request was made by
16 Detective Cook; is that correct?

17 A. That is correct.

18 Q. Now, you told Mr. Burger on cross examination that you
19 mailed all of the serology, all of the forensic evidence
20 dealing with body fluids, you mailed at his request to the
21 Serological Institute at Emoryville, California, on August the
22 4th of 1986.

23 A. Correct.

24 Q. They kept it there until they returned it to you last
25 Friday, on October the 3rd of 1986.

1 A. That's correct.

2 Q. So, they had all of that evidence in their laboratory
3 for more than two months; --

4 A. Yes.

5 Q. -- is that correct?

6 A. That's correct.

7 Q. All right. Now, did anyone from the Serological
8 Institute ever call you -- Let me ask you: Did you talk with
9 them on the phone more than one time?

10 A. Yes, I did.

11 Q. And, so you did talk with the chemist in California --

12 A. Yes, I did.

13 Q. -- regarding the analysis in this case.

14 A. That's correct.

15 Q. A courtesy of one chemist to another.

16 A. Yes.

17 Q. Did he ever make a demand on you to forward the hair
18 slides?

19 A. No, he didn't.

20 Q. Did he ever tell you that Mr. Burger had requested they
21 find him a hair expert?

22 A. No, he did not.

23 Q. Did Mr. Burger ever give you the name of any expert on
24 the comparison of hairs that he wanted to examine the hair
25 evidence in this case?

1 A. No, he did not.

2 Q. He had done that, you would have sent them out, would
3 you not?

4 A. I would have.

5 Q. Now, in doing your own analysis, by necessity you must
6 use up a part of the samples.

7 A. Yes. Sometimes we use it all, but we try to save as
8 much as we possibly can.

9 Q. You do try to save it.

10 A. Yes, we do.

11 Q. And, in this instance, when you sent the evidence to the
12 Serological Institute, there were samples that could be
13 analyzed --

14 A. Yes.

15 Q. -- using techniques and methods that you used yourself
16 on some of the old and dried blood.

17 A. On some of the old stains, yes.

18 MR. ALBERT: Okay. I have no further questions, Your
19 Honor.

20 THE COURT: Mr. Burger, do you have anything further?

21 RECROSS EXAMINATION

22 BY MR. BURGER:

23 Q. Ms. Gilchrist, you just stated to Mr. Albert that you
24 talked with a chemist in northern California, Emoryville. That
25 was Gary Harmer.

1 A. That is correct.

2 Q. Would you tell the jury whether or not Gary Harmer tried
3 to contact you and you refused to talk to him until September
4 the 30th, 1986.

5 A. I don't -- no, I don't think so, Mr. Burger.

6 Q. Didn't you tell him on September the 30th, 1986, you
7 were instructed not to talk to the chemist for the Defendant?

8 A. No.

9 Q. And, didn't you then talk with Mr. Albert and he told
10 you Judge had ordered you to do so and then you talked to him.

11 A. I was told Mr. Harmer, I would not tell him how I
12 intended to testify but I would talk to him about what type of
13 tests I ran and what my results were and I did do that.

14 Q. That was only the second call. First one you wouldn't
15 talk to him about anything.

16 A. No. I talked with Mr. Harmer. He called me, in fact,
17 and told me that at your request that we talk either then or a
18 later time and that you had wanted him to tape record my
19 conversation. At that time, when he had called me, I was busy
20 doing some other analysis and it was not convenient for me
21 until we made a plan to talk the next day. The next day,
22 unbeknownst to me, I had to go to the city jail and get samples
23 from two potential rape suspects so I wasn't in the office when
24 he called. When I came back, I did call him back and I told
25 him then my captain didn't want me discussing what my testimony

1 was going to be. I told him that I had not even had a chance to
2 discuss my findings with the DAs office, but that after I
3 discussed with him, I would talk with him.

4 Q. That was after Mr. Albert told you the Court ordered
5 you.

6 A. No.

7 Q. Well, let me see if you were correct in your other
8 statement to Mr. Albert. He said, so, Ms. Gilchrist, all of
9 the hair found on the victim and at the victim's apartment was
10 consistent with the Defendant, Jeffrey Pierce.

11 A. All the hairs that I found to be consistent with him are
12 found to be consistent. There were some hairs, as I pointed
13 out yesterday, that weren't consistent with his or anyone
14 else's.

15 Q. I understand that, Ms. Gilchrist, but in your answer you
16 said all hairs found were consistent with his and I remembered
17 that one of these hairs was a cat hair.

18 A. There are some animal hairs, some limb hairs.

19 Q. So, your answer wasn't exactly correct, was it.

20 A. If you want to get nit picky, yes.

21 Q. Well, this man is charged with five serious felonies.
22 Is that nit picking?

23 A. No, Mr. Burger, but --

24 MR. ALBERT: Judge, I'm going to object to the
25 argument between this lawyer and this witness. It's

1 irrelevant.

2 THE COURT: I sustained it, Mr. Albert.

3 Q. (By Mr. Burger) I'm going to be very brief,
4 Ms. Gilchrist, but I want to find out one other thing so that I
5 can be satisfied and maybe the jury can be informed. You say
6 that the antigen H was found in the rectal swab and is
7 compatible with victim's type O.

8 A. Yes.

9 Q. But, since she cannot secrete seminal fluid, it
10 obviously was not her type O blood that caused the antigen H.
11 Is that what you said?

12 A. No, that's not what I said, Mr. Burger.

13 Q. Well, didn't you exclude the victim's blood as being the
14 factor that created the antigen H?

15 A. No, I did not.

16 Q. Then what did you mean when you said she couldn't
17 secrete semen so that antigen H could not have come from her?

18 A. I don't think I said that antigen H could not have come
19 from her. The victim cannot produce semen or seminal fluid and
20 substance, obviously, is foreign to her. The ABO blood group
21 substance and the ABO blood group antigen H that I detected in
22 the rectal swabs are consistent with hers. I could not
23 eliminate that as having come from her. That's what I said.

24 Q. But, you told Mr. Albert that you excluded the antigen H
25 factor because she couldn't have produced it since it was found

1 in the seminal fluid. If I understood you to say that, that's
2 wrong.

3 A. I don't think you understood me correctly, Mr. Burger.

4 Q. Well, the last question: Antigen H could have come from
5 the victim or any of the forty-eight percent of the population
6 who have type O blood.

7 A. If they had swabs collected, sure.

8 Q. If they had what?

9 A. Swabs collected and I had to examine them, sure.

10 Q. I don't understand that. Why would you have to collect
11 swabs from forty-eight percent of the type O people?

12 A. Well, they'd have to be donors of the evidence in this
13 case also for me to examine.

14 Q. My question was they could be donors, not that they
15 were.

16 A. They could be donors, sure.

17 MR. BURGER: That's all.

18 THE COURT: All right.

19 MR. ALBERT: Judge, I believe I have no further
20 questions at this time.

21 THE COURT: May she be excused?

22 MR. BURGER: Yes, Your Honor.

23 THE COURT: Ms. Gilchrist, you're excused, and thank
24 you very much.

25 (Witness excused.)

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1 MR. ALBERT: If I might, Your Honor, I'd like to
2 recall Joyce Gilchrist for one matter that won't take two
3 minutes, and I apologize, Your Honor, for not having done it
4 earlier. If I may do that, counsel will indulge me.

5 MR. BURGER: (Nods head.)

6 THE COURT: All right, sir.

7 Ms. Gilchrist, you're still under oath.

8 JOYCE GILCHRIST,

9 upon returning to the stand on behalf of the State, being under
10 the same oath, did testify as follows:

11 DIRECT EXAMINATION

12 BY MR. ALBERT:

13 Q. Now, although it's obvious to us, for the record, I will
14 ask you to state your name.

15 A. My name is Joyce A. Gilchrist.

16 Q. And, you are the same Joyce Gilchrist that previously
17 testified in this case; is that correct?

18 A. I am.

19 Q. Now, Ms. Gilchrist, did I ask you to come back this
20 morning and bring with you the hair slides that you used to
21 make your hair analysis in this case?

22 A. You did.

23 Q. Originally, all those hairs that you used to make your
24 analysis were in the sexual assault envelope; is that correct?

1 A. Not all of them. Some were.

2 Q. Well, the ones that was taken from the victim's body,
3 home and pubic combing you found in the sexual assault kit --

4 A. No.

5 Q. -- or they were submitted by Detective Ron Wortham.

6 A. Some were submitted by Wortham and the others were
7 submitted by me from the hospital.

8 Q. Then, of course, you took the known hairs that you've
9 already testified about.

10 A. Yes.

11 Q. And, you mounted them on microscopic slides.

12 A. Yes.

13 Q. Do you have those slides with you now?

14 A. Yes, I do.

15 Q. All right. Would you take them out, please.

16 Ms. Gilchrist, let me hand you what has been marked for
17 identification as State's Exhibit Thirty-eight, State's Exhibit
18 Thirty-nine and State's Exhibit Forty and I would ask you to
19 tell the Court and jury what each of those items are.

20 A. Each of these items contain the hair slides that I made
21 from the unknown hairs and reference hairs that were obtained
22 in this case.

23 Q. Contain all the hair that you examined in this case.

24 A. Yes. And, they're also some semen -- sperm slides are
25 in here also that I made.

1 Q. All right. And, they're in the same condition today
2 that they were in when you made your microscopic hair
3 comparisons?

4 A. Yes, they are.

5 MR. ALBERT: Your Honor, we would offer in evidence
6 what has been marked, identified as State's Exhibits Numbers
7 Thirty-eight through Forty inclusive.

8 MR. BURGER: I don't want to agree to them unless I
9 can see them.

10 Q. (By Mr. Albert) Ms. Gilchrist, did you put the seal on
11 these?

12 A. Yes, I did. I can open it for you because, if you
13 don't, the slide will fall out and break.

14 Q. Okay. If you open those.

15 A. All-right.

16 MR. ALBERT: They've been opened, Mr. Burger.

17 Again, Your Honor, at this time, after Mr. Burger
18 having had an opportunity to inspect the slides themselves, we
19 would reoffer what has been marked and identified as State's
20 exhibits Thirty-eight through Forty inclusive.

21 MR. BURGER: I have no objection, Your Honor.

22 THE COURT: All right. State's Exhibits Numbers
23 Thirty-eight, Thirty-nine and Forty will be admitted there
24 being no objection.

25 MR. ALBERT: I have no further questions of this

1 witness, Judge.

2 THE COURT: Mr. Burger.

3 CROSS EXAMINATION

4 BY MR BURGER:

5 Q. Ms. Gilchrist, are these the items, State's Exhibits
6 Thirty-eight, Thirty-nine and Forty, that you stated you did
7 not send to the Defendant's chemist in California?

8 A. That's correct.

9 Q. And, as I recall, you said you didn't send any hair
10 samples to the chemist's office at Emoryville, California.

11 A. No, I didn't; not to my knowledge.

12 Q. Were you not instructed by the District Attorney that
13 the Court ordered all forensic evidence, including hair or any
14 other matters that you might have, to be submitted to the
15 chemist in Emoryville, California?

16 MR. ALBERT: Now, Judge, I'm going to make an
17 objection. He's already cross examined her thoroughly on this
18 subject matter previously when she was on the witness stand.
19 The only purpose I recalled Ms. Gilchrist for was to
20 authenticate and introduce those hair slides. I'm going to
21 object. It is going beyond direct examination at this point.
22 He's already done this before. It's repetitive and he's beyond
23 the direct examination and I object to this line of inquiry.

24 THE COURT: Your objection is because it's been asked
25 and answered?

1 MR. ALBERT: It's been asked and answered.

2 THE COURT: Sustained.

3 MR. ALBERT: Okay.

4 Q. (By Mr. Burger) Ms. Gilchrist, when you testified
5 earlier, I asked you if you had excluded or if you knew of a
6 person by the name of Randall Cannon and you said you did not.
7 Have you reflected on that?

8 A. Yes, I have.

9 Q. So, you were in error. You do know a suspect by the
10 name of Cannon.

11 A. I recall the name now. I know who he is now. I
12 couldn't remember then.

13 MR. BURGER: Believe that's all I have.

14 THE COURT: Anything further?

15 MR. ALBERT: I have no further questions, Your Honor.

16 THE COURT: May she be excused?

17 MR. ALBERT: Yes, Your Honor.

18 THE COURT: Mr. Burger?

19 MR. BURGER: Yes, Your Honor.

20 THE COURT: Ms. Gilchrist, step down, thank you very
21 much. You're excused.

22 (Witness excused.)

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