

1 second, Your Honor.

2 (The following discussion occurred at side bar:)

3 MR. KEEFER: I guess I should note that I am
4 calling Miss Roadcap slightly out of turn. Dr. Mihalakis,
5 who took the test that she'll be testifying, is on his way
6 here. I expected he would be here by now. Traffic tied him
7 up. He'll be here later this afternoon.

8 MR. COOK: I have no problem with that.

9 (End of discussion at side bar.)

10 DIRECT EXAMINATION

11 BY MR. KEEFER:

12 Q Would you state your name for the record please?

13 A Janice A. Roadcap.

14 Q Spell your last name please.

15 A R-o-a-d-c-a-p.

16 Q How are you employed, ma'am?

17 A I am employed by the Pennsylvania State Police as
18 a chemist in the crime laboratory at 1800 Elmerton Avenue,
19 Harrisburg.

20 Q How long have you been employed in that capacity?

21 A I have been employed by the Pennsylvania State
22 Police for a period of 20 and a half years.

23 Q How long have you been employed as a chemist at
24 the laboratory?

25 A After receiving my degree from college in 1955, I

1 was employed by another state agency for a period of 12
2 years before becoming employed by the State Police.

3 Q The other state agency was what?

4 A The Department of Property and Supplies, the
5 Bureau of Standards.

6 Q And did you work as a chemist for that Bureau
7 also?

8 A Yes, I was an analytical chemist for those 12
9 years.

10 Q So it's been approximately since 1967 or so that
11 you have been working with the Pennsylvania State Police?

12 A Yes.

13 Q Have you been working as a chemist during that
14 entire period?

15 A Yes.

16 Q You work out of the laboratory located in
17 Harrisburg, is that correct?

18 A That's right.

19 Q Have you been assigned to that laboratory your
20 entire 20 and a half years?

21 A Yes.

22 Q Just for information sake, how many crime
23 laboratories do the Pennsylvania State Police currently
24 maintain?

25 A Besides the Harrisburg laboratory, we have five

1 other laboratories in the state.

2 Q Are they set up by geographic location primarily?

3 A Yes, they are.

4 Q I guess the follow up question is is Harrisburg
5 the geographic laboratory for Adams County?

6 A That's right. We have 18 counties in the center
7 of the state that we service.

8 Q You indicated that you had graduated from
9 college. What college would that be, ma'am?

10 A I graduated from College Misericordia, in Dallas
11 Pennsylvania, 1955.

12 Q With what major?

13 A My major subject was chemistry and my minor was
14 biology.

15 Q Was that with a BS or BA degree?

16 A A BS.

17 Q Have you received any additional degrees since
18 your time of graduation from college?

19 A No, no additional degrees.

20 Q Have you ever received additional training?

21 A Yes, I have.

22 Q In what types of fields?

23 A I had three 40 hour courses which involved work
24 at the laboratory. The first one was the identification and
25 analysis of controlled substances and then I had a course in

1 microscopy which is the use of the microscope and the last
2 course I had was a course in serology which is the analysis
3 of body fluids.

4 Q Including blood?

5 A Yes.

6 Q And other fluids. Approximately how long ago was
7 it that you took the 40 hour course in serology?

8 A That was in 1984.

9 Q You were sent a number of exhibits or physical
10 items, if you will, in connection with this case, is that
11 correct?

12 A Yes.

13 Q Those were received at the laboratory on what
14 date, ma'am?

15 A Most of the items were received on the 17th of
16 August in 1987.

17 Q This was at least the first set of items that you
18 received, is that correct?

19 A Yes, that's right.

20 Q When did you begin doing any testing with regard
21 to these items?

22 A My examinations were completed on the 11th of
23 September in 1987. I possibly was working on the items one
24 or two days prior to the 11th.

25 Q So you would have begun your tests somewhere

1 around the 9th or 10th of September?

2 A That's right.

3 Q Have you prepared a report as a result of the

4 testing that you did concerning that initial group of items?

5 A Yes.

6 Q Does that contain a specific laboratory report

7 number?

8 A Yes, the laboratory report number is H87-3562C.

9 Q And do you have that report with you today,

10 ma'am?

11 A Yes, I do.

12 Q Miss Roadcap, how many items were included in

13 that initial packet that your laboratory received?

14 A Forty-six items were received at that time.

15 Q I take it you made various tests with regard to

16 the different items, is that correct?

17 A Yes, that's right.

18 Q Did you receive, for instance, a vial of blood

19 which was labeled to be that of Edna Laughman?

20 A Yes, I did.

21 Q Did you in fact perform some testing on that

22 blood?

23 A Yes.

24 Q What test did you perform on that blood?

25 A I, first of all, typed it to get the general ABO

1 blood type. Secondly, I did Lewis antigen typing. This was
2 to determine whether or not the victim was a secretor which
3 meant that she would place her blood antigens into other
4 body fluids such as her vaginal fluid and perspiration and
5 other bodily fluids.

6 Q Explain very briefly on how secreting works?

7 A People are categorized into four general blood
8 types which are A, B, O and AB. Eighty percent of the
9 population secret, they call it secreting but they place
10 these blood antigens, this type A, B and AB into their other
11 body fluids. Twenty percent of the population do not do
12 this. The blood type is only able to be determined in their
13 blood.

14 MR. KEEFER: At this point, Your Honor, I would
15 offer Miss Roadcap as an expert in the field of chemistry
16 particularly as to serology.

17 MR. COOK: No objection, Your Honor.

18 BY MR. KEEFER:

19 Q What test did you perform in order to determine
20 blood types of the victim?

21 A Just what we call wet blood typing where I placed
22 antiserum on the blood and saw whether or not there was
23 agglutination in any of them and where it was and I
24 determined that she was a type A.

25 Q And the Lewis typing which you did to determine

1 secretor status, how is that performed, with what result?

2 A That is performed with Lewis antisera and the
3 results that I got from that were A minus B minus which at
4 that point I had determined that I cannot tell whether she
5 is a secretor by her blood. If it would have been A minus B
6 plus, then I could have determined she was a secretor.

7 Q So at that point you had determined based on the
8 vial of blood that she was type A, and that it was unknown
9 at that point whether she was a secretor or not, right?

10 A That's correct.

11 Q Did you also test the blood for alcohol content?

12 A Yes, I did.

13 Q With what result there?

14 A I found that there was .01 percent alcohol
15 present.

16 Q Can you relate that to normal body alcohol
17 content?

18 A Not really but you can relate it to something
19 such as cough syrup or Geritol, prepared medicines of sorts
20 have alcohol in it that would give a percentage like this.

21 Q Would you say it's not unusual for a person who
22 has not been drinking to have a .01 alcohol content?

23 A Not really, no.

24 Q That's not unusual?

25 A It's not unusual.

1 Q You also received, if we can follow along on your
2 report, two swabs containing a sticky substance from the
3 victim's body, is that correct?

4 A Yes, that's right.

5 Q We're talking about swabs, what are swabs?

6 A These were like a Q-tip swab, cotton head on a
7 stick.

8 Q How were those packaged when they were sent to
9 you?

10 A They were packaged in individual vials with a
11 stopper, a rubber stopper on the vials.

12 Q Did you note anything about those particular
13 swabs when you first began your testing?

14 A Yes, these two swabs when I began my testing, I
15 took them out of the vials and I found that they were still
16 in a damp condition and there was mold growing on them.
17 There was also a pinkish substance present on the swabs.

18 Q You would have opened these vials for the first
19 time when?

20 A On at least the 10th of September.

21 Q Were you able to test those swabs?

22 A Yes, I was.

23 Q What specifically did you test and what
24 specifically did you find?

25 A The first thing I did to them was allow them to

1 set out and air dry and the first test I performed on those
2 swabs was the use of the acid phosphatase indicator
3 solution, seminal acid phosphatase indicator solution.

4 Q Let's put that in English. What exactly is that
5 and what does it do?

6 A It's just a solution that I would drop on to the
7 swabs to see whether or not a violet color would appear and
8 if a violet color appeared, it would indicate to me there
9 could possibly be seminal acid phosphatase present.

10 Q Which would mean semen?

11 A Yes.

12 Q You performed that test on these two particular
13 swabs?

14 A Yes, I did.

15 Q With what result?

16 A They were negative. I did not get any purple
17 color forming.

18 Q Did you perform other tests on these two swabs?

19 A Yes, the next thing I did was a preliminary test
20 to indicate whether or not a sugar substance might be
21 present. This is called the Benedict's test and this was a
22 positive test indicating to me that there was a reducing
23 sugar present on the swabs.

24 Q You're not able to say with particularity exactly
25 what the substance was on the swabs, is that correct?

1 A Not by the preliminary tests but I did
2 subsequently soak them out in water and evaporated the water
3 off and got a white residue which also was positive with the
4 Benedict's reagent indicating that it could have been a
5 reducing sugar.

6 Q What's a reducing sugar?

7 A Sucrose would be one of them. Sucrose is not one
8 of them. It's a sugar that would reduce this reagent that's
9 in the Benedict's solution. It's one of the sugars like
10 lactose, sucrose and this is one that would give the
11 positive with the Benedict's reagent.

12 Q Are those types of sugars commonly found in any
13 particular substances?

14 A Yes, they're commonly found in candy, soft
15 drinks, etc.

16 Q How did you describe the substance that you found
17 on the swabs, ma'am, if you can refer to your report.

18 A In my report I said no seminal material was
19 detected on the swabs. Sugar was present in the brown
20 sticky substance on the swabs.

21 Q You described the substances, the brown sticky
22 substance I guess?

23 A Yes.

24 Q My understanding is that you did not do or are
25 unable to do any further testing to find out exactly what

1 that substance was, is that correct?

2 A Yes, I did not go any further to identify it.

3 Q Again working from the report, the next items you
4 have listed as numbers three through 20 I guess are 18 vials
5 with swabs from postmortem examination?

6 A That's correct.

7 Q Can you describe to the jury please what that
8 means? What those items are?

9 A They were also the cotton swab on a stick and
10 they were in vials with stoppers on them. They were in
11 sets, there were three sets of six swabs each and the six
12 swabs were taken from the same six areas of the body in the
13 three sets.

14 Q Who took the swabs, if you know?

15 A I do not know that. Only that they were taken at
16 the postmortem examination.

17 Q They were taken during the autopsy?

18 A Yes.

19 Q The six areas or regions from which the swabs
20 were taken, was that indicated to you some way in what you
21 received?

22 A Yes, they were all labeled.

23 Q From what areas were those sets of swabs
24 received?

25 A They were taken from the gums in the mouth, the

1 throat, the perineum, the vagina, the anal-rectal area, and
2 the perianal area.

3 Q The gums, throat, perineum?

4 A Yes.

5 Q What's the perineum?

6 A It's the area outside of or like where the
7 genitalia are of a male or a female. It would be around the
8 outside of the vaginal area since they were from a female
9 victim.

10 Q Next was vaginal?

11 A The vagina would be up in the vagina, actually up
12 in the vaginal --

13 Q Inside of the body?

14 A Yes.

15 Q That's where I lost track of writing down. What
16 was the next set?

17 A The next was anorectal. To me this just
18 indicated it was the area around the rectum.

19 Q The next set?

20 A And then there's also one called the perianal.
21 That seems to be in that same general area.

22 Q Specifically what tests did you perform first
23 regarding those swabs and I guess we're dealing with number
24 three on your results from your report. Did you test to see
25 if you could determine secretor status from any of those

1 swabs?

2 A Yes, I did. I started out by doing the acid
3 phosphatase test on the first set.

4 Q You were trying to determine secretor status for
5 Mrs. Laughman at that point?

6 A Not at that point I wasn't. I was trying to see
7 whether or not there was seminal acid phosphatase present.
8 But three of the swabs turned out to be negative. There was
9 no acid phosphatase present on three of the swabs. That was
10 from the gum and throat area and the anal-rectal area.

11 Q You found no evidence of sperm or semen from the
12 gums, throat or anal-rectal?

13 A That's right.

14 Q I take it from that that you're telling us that
15 you found some evidence of sperm or semen from the other
16 three swabs, is that correct?

17 A I found acid phosphatase was positive on three of
18 the swabs, yes.

19 Q Those would be the perineum, correct?

20 A Yes.

21 Q The vaginal?

22 A The vagina.

23 Q And the perianal?

24 A Yes.

25 Q What did you do next?

1 A The next thing I did was take the three swabs
2 that were positive in the next set and I soaked them out and
3 made slides and then examined them under the microscope to
4 see whether or not spermatozoa were present.

5 Q And when you did that, did you have any findings?

6 A Yes, I did. On those three again, the vaginal,
7 the perianal and the perineum, I found there were numerous
8 heads of spermatozoa present.

9 Q Is that your result also with regard to the swab
10 taken from the vaginal area from the inside of Mrs.
11 Laughman?

12 A Yes.

13 Q What did you do next?

14 A About that same time then I chose the swabs from
15 the gums and the throat. Since there was no seminal
16 material present on them, I decided to see whether or not
17 the victim was a secretor by using the swabs from that area
18 because when secretor status can't be determined from the
19 blood, the next thing that we have to do is to obtain saliva
20 sample to see whether or not they do secrete these blood
21 antigens into other body fluids.

22 Q And the swabs taken from the gums and throat
23 would have included saliva?

24 A Yes.

25 Q So did you then check for Mrs. Laughman's status

1 based upon the swabs from the gums and throat?

2 A Yes, I did and I found that there were A antigens
3 present on these swabs.

4 Q From that, did you determine whether or not Mrs.
5 Laughman was a secretor?

6 A Yes, I did determine that she was a secretor.

7 Q Continue please. What did you do next?

8 A At the same time I was doing secretor status on
9 those, I was also doing the secretor status on the vaginal,
10 the perineum and the perianal swabs.

11 Q Those were the three areas that had shown
12 positive for sperm or semen, is that correct?

13 A That's correct.

14 Q Can you describe the tests on those swabs please?

15 A I found that there was A antigen material present
16 on all of these swabs.

17 Q Could that A antigen material have come from Mrs.
18 Laughman?

19 A Yes.

20 Q This would be consistent or inconsistent with
21 your testing of her secretor status with regard to the gum
22 and throat?

23 A This would be consistent with that.

24 Q Would it also be consistent with the testing that
25 you did on the vial of blood?

1 A Yes.

2 Q Did you find any indication of any other antigen
3 material?

4 A No, I did not.

5 Q If we can move away from that for a moment, we'll
6 come back to that later. There were apparently some slides
7 also sent as part of the packet of materials that you
8 received, is that correct?

9 A Yes, there were six prepared slides also that
10 were made evidently at the time of the autopsy, made with
11 the use of these swabs that were put into the vials later
12 on.

13 Q Were these from the same six areas that you have
14 described?

15 A That's exactly right.

16 Q What did you do with those slides?

17 A I stained them and then observed them under the
18 microscope.

19 Q What were you looking for?

20 A Spermatozoa.

21 Q Did you have any positive results there?

22 A Yes, I did.

23 Q As to which particular areas?

24 A The perianal, the perineum and the vaginal areas
25 had various heads of sperm. The perineum had sperm that

1 were nearly all in tact.

2 Q Was that consistent with the same findings that
3 you had regarding the swabs?

4 A Yes, it was.

5 Q Did you also apparently receive some fingernail
6 clippings as part of this packet of materials, is that
7 correct?

8 A Yes, I did.

9 Q That apparently was from the right hand and left
10 hand of Mrs. Laughman?

11 A Yes.

12 Q Did you do any testing or any examination with
13 regard to the fingernails?

14 A I observed the material under a microscope, yes.

15 Q What particularly were you looking for?

16 A To see whether or not there would be any maybe
17 skin tissue or blood or fibers of any sort in the nail
18 scrapings or clippings.

19 Q Did you find anything of any value during that
20 testing?

21 A No, I did not find anything of probative value.

22 Q I understand you also received a black mitten, a
23 white rag, a pair of white silk panties and a white bra for
24 testing, is that correct?

25 A Yes.

1 Q What particularly did you do with those items,
2 ma'am?

3 A Examined them to see whether or not there would
4 be any hairs present or seminal stains or blood.

5 Q Did you find anything of probative value there?

6 A No, I did not.

7 Q You received a portion at least of a newspaper in
8 part of your packet of materials, is that correct?

9 A Yes.

10 Q What, if anything, did you do with regard to that
11 newspaper?

12 A It was labeled as having a red stain on it and I
13 brought it out first of all and observed to see whether or
14 not it looked like a blood stain. It didn't look like a
15 blood stain even on gross examination but I did use
16 phenolphthalein on it and I determined that was negative for
17 blood and I have it marked in my notes that it could be a
18 possible tomato pulp stain dried on the paper.

19 Q You had received two hairs, as I understand it,
20 or actually I guess you received more than two, didn't you?
21 You received two samples of pubic hair from Mrs. Laughman,
22 is that correct?

23 A Yes, I did.

24 Q You received a sample of head hair from Mrs.
25 Laughman?

1 A Yes.

2 Q You received I think it's item number 38 or one
3 of the items in number 38?

4 A Yes.

5 Q A hair which had indicated had been found from
6 the victim's stomach, is that correct?

7 A That's right.

8 Q What did you do with regard to those hairs?

9 A I examined them and compared them to the hair
10 samples that I had from Mrs. Laughman.

11 Q With what result, ma'am?

12 A I found that the hair that was taken from the
13 victim's stomach exhibited characteristics similar to the
14 victim's head hair and it could have originated from the
15 victim.

16 Q I guess the next item you received were also part
17 of your listing number 38 and that being three white
18 tablets?

19 A Yes.

20 Q Can you describe those and indicate to the jury
21 what you did with those, ma'am?

22 A They were three large oblong tablets with the
23 name bio-craft on them. I identified them first of all by
24 using the PDR but I then did run an infrared spectra on them
25 and found there was Sulfamethoxazole and Trimethoprim

1 present in it which indicated that it was the preparation I
2 looked up in the PDR.

3 Q What's the PDR?

4 A It's a Physician's Desk Reference where you can
5 see an actual photograph of the tablet or capsule and see
6 what it would contain.

7 Q Those tablets that you checked with the result of
8 the various substances that you found in those tablets, do
9 you know what those types of pills would be prescribed for?

10 A Yes, they would be prescribed for an urinary
11 tract infection. They're antibacterial drugs.

12 Q Apparently you also received a soil sample from
13 the second floor bedroom and a soil sample from the rear of
14 the Laughman residence, is that correct?

15 A Yes.

16 Q What testing did you do with those items?

17 A I just observed them and just grossly.

18 Q When you say grossly, does that mean without aid
19 of a microscope?

20 A Without the aid of microscope, yes.

21 Q Did you also microscopically examine them?

22 A Yes, I did. I examined them under the microscope
23 also.

24 Q With what result?

25 A I found that in item 39, that was the soil sample

1 from the second floor bedroom, was composed of small lumps
2 of brownish ground but basically it was just dirt that would
3 be on say a bedroom floor. The pieces of ground or the
4 pieces of brown ground that I found in that sample exhibited
5 the same characteristics that were in the sample from item
6 40 which was the soil collected from the rear of the
7 residence.

8 Q You're not able to say, as I understand it, these
9 are identical just that they exhibit similar
10 characteristics, is that correct?

11 A Yes, that's right.

12 Q I think you used the same sort of language when
13 you were talking about the hair. Is it true that you cannot
14 fingerprint, if you will, hair, that that is done based on
15 similar characteristics?

16 A That's right.

17 Q Item number 41 in your packet of materials were
18 five cigarette butts and you have listed found within the
19 residence?

20 A That's right.

21 Q What testing did you do on those items?

22 A On those I attempted to determine whether there
23 was antigen material present on the cigarette butts.

24 Q You say you checked for antigen material, what
25 does that mean? Put that in English for me.

1 A When a person would smoke a cigarette at times
2 and if they are a secretor, you could pick up that blood
3 antigen material on the cigarette butts after the saliva
4 dries on there.

5 Q So you were looking to see if there was enough
6 saliva present that you could do testing on that I guess?

7 A Yes.

8 Q What exactly did you do with regard to those?
9 What tests did you perform? How did you do that?

10 A I did the absorption inhibition method of
11 determining whether or not antigen material was present.

12 Q Did you find any antigen material?

13 A I did find that. My indications were that there
14 were B antigens present. However, I could not report them
15 as such because there were no H antigens present.

16 Q Let me see if I can try to simplify this. You
17 look for A antigens, correct?

18 A Yes.

19 Q You look for B antigens?

20 A Yes.

21 Q What other antigens do you look for?

22 A You look for H antigens, which is the substance
23 in a type O person. You could call them either O or type H
24 but we call it type H antigen material.

25 Q And you indicated that you had some indication of

1 B material, is that correct?

2 A That's right.

3 Q But you indicated that you did not have any
4 indication of H material, is that correct?

5 A Yes, that is because when a person is a secretor
6 and if they are an A or a B, they almost always do secrete H
7 antigen material also, so I would get no agglutination in
8 both of those wells if it was like it is most of the time.
9 However, in this case also I was working without standards
10 from any person. Otherwise, I may have been able to report
11 those B antigens if I saw that that particular person did
12 secrete the O antigen material also or the H antigen
13 material.

14 Q So you had on the cigarette butts indications of
15 B but nothing conclusive?

16 A That's exactly right. I couldn't report them as
17 such because of the fact that I was working without
18 comparison samples.

19 Q Did you have any indications of A?

20 A No, I did not.

21 Q You also received I guess a woman's blue dress,
22 nail scissors, jack handle, pliers and a wooden handle on a
23 hatchet, is that correct?

24 A Yes,

25 Q What did you do in terms of looking at those

1 items?

2 A Looked them over to see whether or not I saw any
3 say fibers or blood stains or anything.

4 Q Did you find anything positive with regard to
5 that?

6 A No, I didn't.

7 Q I guess one thing I missed was you also had a
8 sample of the victim's underarm hair for comparison
9 purposes, is that correct?

10 A Yes.

11 (Commonwealth's exhibit No. 2 was marked for
12 identification.)

13 BY MR. KEEFER:

14 Q Miss Roadcap, I will show you an item which has
15 been marked for identification purposes Commonwealth's
16 exhibit number two. It appears to be a plastic Tupperware
17 sort of container. Can you open that up and look at the
18 contents please. Can you indicate for the record what the
19 contents of Commonwealth's exhibit number two are please?

20 A They're clear vials with blue tops on that
21 contain the slides that I had received, the prepared slides.

22 Q Those would be items I guess it's 21 to 26 if I
23 am recalling correctly?

24 A Yes.

25 Q I see a set of initials on the top of each blue

1 cap. Are those your initials?

2 A Those are my initials.

3 Q You do that for identification purposes?

4 A Yes.

5 (Commonwealth's exhibit No. 3 was marked for
6 identification.)

7 BY MR. KEEFER:

8 Q Miss Roadcap, I will show you another Tupperware
9 type container marked as Commonwealth's exhibit number
10 three. Ask if you can open that up and identify the
11 contents of that for me please?

12 A Yes, this is the container that has the 18 vials
13 that contained the swabs that I worked on, items three
14 through 20.

15 Q I think indications on here there are actually 20
16 vials in here. Would this have also contained the swabs
17 which you have listed as item number two, the sticky
18 substance swabs?

19 A Yes.

20 Q Have you also marked those items with your
21 initials for identification purposes?

22 A Yes, each vial has my initials on it. The
23 container has my initials on it.

24 (Commonwealth's exhibit Nos. 4, 5, 6 and 7 were
25 marked for identification.)

1 BY MR. KEEFER;

2 Q Miss Roadcap, I will show you a manila envelope
3 that's been marked for identification purposes as
4 Commonwealth's exhibit number four. Ask you if you can open
5 that envelope and identify the contents of that for me
6 please. You are removing further white envelopes for the
7 record, is that correct?

8 A Yes, there are five white envelopes in this
9 manila envelope.

10 Q Have you opened those envelopes before, ma'am?

11 A Yes, I did. I opened them along this area here
12 where I had placed the evidence tape afterwards leaving the
13 original seal in tact.

14 Q You're looking at the manila envelope when you
15 just made that statement?

16 A That's correct.

17 Q In terms of the white envelopes in your hands,
18 have you opened them previously?

19 A Yes, I have. I have them taped shut again and my
20 initials are under the tape.

21 Q Do you know what those white envelopes contain?

22 A These white envelopes contained five cigarette
23 butts that were found in the residence.

24 Q Those are the ones that you tested that you
25 previously testified to?

1 A Yes.

2 Q Let's put those back in the manila envelope for
3 right now. I will show you another manila envelope marked
4 as Commonwealth exhibit number five, ask if you can open
5 that one please and identify the contents for me.

6 A This is the white rag, number 34.

7 Q Next I will hand you another manila envelope
8 marked as Commonwealth exhibit number six, ask you to open
9 that up and identify the contents of that for me please?

10 A Yes, this is item 42 which was a woman's blue
11 dress. Blue plaid.

12 Q Manila envelope marked as Commonwealth's exhibit
13 number seven. Can you open up that and identify the
14 contents for me please?

15 A Yes, this is the envelope that contained the
16 victim's white bra.

17 Q On each of the last I guess it is six exhibits
18 after you were done testing the various contents or looking
19 at the various contents, did you close and seal those
20 various items?

21 A Yes, I did.

22 Q Do any of those items appear to be substantially
23 different from your viewing of them when you performed the
24 various tests and examinations on the 9th, 10th and 11th of
25 September?

1 A No.

2 Q You had indicated previously during your
3 testimony some testimony regarding the fact that you found
4 no B antigens when you tested some of the swabs from I
5 believe it was the perineum, vaginal, and perianal regions,
6 is that correct?

7 A That's right.

8 Q Let me ask you this, normally if we were dealing
9 with a Defendant who was a type B secretor, would you
10 normally have found such antigens?

11 A I would say yes, normally you would expect to
12 find them.

13 Q Is there anything in particular about this case
14 which would hinder your ability to find B antigens on those
15 various materials?

16 A Yes, first of all, the 18 swabs that I had
17 received in their own vial, when I opened the vial, each one
18 of them was like the two prior swabs that contained the
19 sticky substance. They were in a wet condition and before I
20 began any of my testing, I dried the swabs.

21 Q Is it my understanding that those swabs would
22 have remained in the wet condition apparently from the time
23 that they were taken until the time that you would have
24 first opened the vials whether that was on the 9th or 10th
25 of September?

1 A I would think, yes, it would be all that time.
2 Q You had not opened them previously?
3 A No.
4 Q No one from your laboratory had opened them
5 previously?
6 A No.
7 Q What does that have to do with the finding of B
8 antigen material?
9 A There is a possibility that a bacteria could have
10 worked on these antigens or that they could have broken down
11 that I could no longer detect that they were there.
12 Q Why could that have taken place?
13 A Serological samples should be air dried
14 immediately, and of course, refrigerated and since they
15 weren't, this dampness could aid in the bacterial action
16 taking place and breaking down the antigen material.
17 Q Your lab had received these items on the 17th of
18 August you indicated I believe, is that correct?
19 A Yes.
20 Q How were these items maintained from the 17th of
21 August until the 9th or so of September?
22 A When they were received at the laboratory, they
23 were placed immediately in the refrigerator.
24 Q They were not air dried prior to that time by
25 your laboratory or by yourself?

1 A No, not prior to that time.

2 Q You talked about the possibility of bacteria.

3 Could you explain to the jury please how that could happen?

4 A Bacteria would attack A antigen such as this.

5 This antigen material actually is a glycoprotein which means

6 it's a protein, a long chain of amino acids with an ending

7 of a sugar on it and it's fragile. Bacteria could attack it

8 and break it down, begin absorbing it and break it down.

9 Q Were you able to do any kind of testing to

10 determine quantitatively how much semen or sperm there was

11 present on these swabs?

12 A No.

13 Q Is that possible?

14 A Not at our laboratory or I would not be able to

15 do that I don't believe.

16 Q How does that relate to the finding of A antigens

17 and not B antigens?

18 A Well, first of all, the overall amount of seminal

19 fluid deposited would make a difference. If there were a

20 small amount and if there was drainage, nearly all of it or

21 all of it could have drained out of the vagina.

22 Q When you're talking about drainage, could the

23 position of the body have anything to do with that

24 possibility?

25 A Yes, it could.

1 Q We heard testimony this morning from various
2 witnesses that the victim's body was lying her upper torso
3 on a bed, her buttocks near the edge of the bed and her
4 lower body going down to the floor?

5 A This would cause a very good condition for
6 drainage to occur.

7 Q Are there any other scientific possibilities as
8 to why you would not have found B antigens?

9 A Another one could be if the person were on any
10 type of medication, medication could interfere with these
11 antigens and again break them down or cause them not to
12 remain present.

13 Q You're saying the person, which person are you
14 talking about?

15 A The victim.

16 Q When you say medication, are you talking
17 medication such as the three pills that you had tested?

18 A This could be a good possibility that a
19 medication such as this could have broken down antigen
20 material.

21 Q Are there any other scientific possibilities?

22 A The only other one that I could think of would be
23 maybe the strength of the antigen material to begin with.
24 Maybe the antigen material was weak. This means that it's
25 secreted into the other body fluids but in a weak condition

1 and hard to pick up.

2 Q Does that happen? Are some people stronger
3 secretors than others?

4 A Yes.

5 Q Attorney Cook during his opening this morning
6 read to the jury I believe a portion of an affidavit of
7 probable cause that was filed in this case in order to
8 obtain a warrant to seize some of the Defendant's blood
9 after the time of his arrest and I believe and I don't want
10 to quote it directly because I don't have it right in front
11 of me, that there's a statement in that affidavit that it is
12 believed that the perpetrator or the Defendant has type A
13 blood. Did you ever indicate to Trooper Donald Blevins, who
14 I believe is the signatory of that affidavit, that based on
15 your test, you were able to conclude that the person who
16 committed this crime was a type A secretor?

17 A I would never have been able to conclude that. I
18 did find A antigens present. However, the victim was a type
19 A secretor so you would have to realize that it could have
20 come from her. However, a type A secretor of the semen
21 could also be included in that finding.

22 Q So far as you know, did you ever positively
23 indicate to Trooper Blevins or anyone else that the
24 Defendant in this case would have been a type A secretor?

25 A No, I could not do that since the victim was a

1 type A. I could never do that, so I never indicated that to
2 him.

3 Q Based on the tests that you performed
4 specifically with regard to the antigen test on the various
5 swabs, are you able to state with scientific reliability
6 that the person who committed this crime is any particular
7 type of blood type?

8 A No.

9 Q Are you able to eliminate any particular type of
10 blood type based on the antigen test that you used?

11 A No, I was not.

12 Q So you can neither include or exclude any of the
13 four types, is it?

14 A Yes, that's right.

15 Q You have prepared a report based on the various
16 testing that you did, is that correct?

17 A Yes.

18 Q You also have laboratory notes which you made
19 during the course of your testing. Is that also correct?

20 A Yes.

21 (Commonwealth's exhibit Nos. 8 and 9 were marked
22 for identification.)

23 BY MR. KEEFER:

24 Q Miss Roadcap, I will show you what's been marked
25 for identification purposes today as Commonwealth's exhibit

1 number eight. Can you identify what that is for the record
2 please?

3 A Yes, this is a copy of the report that I prepared
4 after the work was completed on the 11th of September of
5 last year.

6 Q Just to clear one thing up and I am not even sure
7 about this, on the second page my copy has I guess it's the
8 chemicals that you found in the three white tablets
9 underlined. Does your original have that underlined?

10 A No.

11 Q If you can identify please Commonwealth's exhibit
12 number nine?

13 A Those were the three pages of original notes
14 that, maybe there's more here, because it includes the work
15 from the other reports that I did but they're my original
16 notes, a copy of the original notes.

17 Q These are your laboratory work sheets, if you
18 will, or copies of them?

19 A Yes.

20 Q You performed further testing on other items that
21 were received by your laboratory, is that correct?

22 A Yes, that's right.

23 Q Specifically did you later receive items which
24 you have noted on laboratory report H873865C?

25 A Yes.

1 Q And also H874103C?

2 A Yes.

3 Q Did you prepare reports based on those testings?

4 A Yes, I did.

5 (Commonwealth's exhibit Nos. 10 and 11 were marked
6 for identification.)

7 BY MR. KEEFER:

8 Q I show you what's been marked for identification
9 purposes as Commonwealth's exhibit number ten, can you
10 identify that please?

11 A Yes, that's a copy of the report that I prepared
12 when I examined that evidence.

13 Q And the evidence contained on Commonwealth's
14 exhibit number ten is a hair and some cigarette butts, is
15 that correct?

16 A Yes.

17 Q If you can identify Commonwealth's exhibit number
18 11 for the record please?

19 A This is the report that I prepared after I
20 examined that evidence.

21 Q And the evidence listed there are vials of blood
22 from the Defendant, is that correct?

23 A That's right, yes.

24 Q With regard to Commonwealth's exhibit number ten,
25 do you recall when you received the hair sample listed in

1 that report?

2 A That was received on the 28th of August in 1987.

3 Q What did you do with regard to that material?

4 A I examined it and compared it then to head hair
5 samples from the victim and found that all the
6 characteristics were similar.

7 Q So that appeared then to be hair from the head of
8 the victim?

9 A Yes.

10 Q When you're saying you compared it, is that
11 microscopically?

12 A Yes, it's gross or without the microscope and
13 then by mounding it and observing it under the microscope.

14 Q And the two cigarette butts that you received
15 along with the hair, what testing did you do of those?

16 A I attempted to see if there was antigen material
17 present on them.

18 Q With what results there?

19 A I did not get any results at all indicating to me
20 that there was no antigen material or saliva present on the
21 cigarette butts.

22 Q So from that you could determine that either, A,
23 there was no antigen material, or B, there wasn't enough
24 saliva, is that correct?

25 A Yes.

1 Q If you refer to Commonwealth's exhibit number 11
2 now. Those are the vials of blood taken from Mr. Laughman.
3 What testing did you do with regard to that?

4 A I first of all typed it with the antiserum and
5 then I did the Lewis typing to determine whether or not he's
6 a secretor.

7 Q First of all, did you find out his general blood
8 type?

9 A I found out that his general blood type was B.

10 Q And did you determine whether or not he had a
11 secretor status at least in regard to his blood?

12 A Yes, I did. He is a secretor. He was Lewis A
13 minus B plus which indicates that he is a secretor.

14 Q Based upon your findings that you previously
15 testified to with regard to the swabs from the perineum,
16 rectal and vaginal areas, could you compare that please to
17 the testing done on Barry Laughman's blood which shows him
18 to be a type B secretor and indicate whether or not your
19 testing excludes him from the possibility of being the
20 person who killed Edna Laughman?

21 A I did not find any B antigens on the swabs.
22 However, it cannot exclude him. Because of the fact that
23 the swabs were received in a wet condition, there could have
24 been a breakdown of B antigens had there been any there to
25 begin with and the other factors that I mentioned plus

1 another factor that possibly he may not secrete antigens
2 into his saliva and blood even though he is determined to be
3 a Lewis positive secretor. This sometimes happens on rare
4 occasions that it does not carry over into the blood and
5 saliva like it would be expected to.

6 Q In all fairness, that's rare?

7 A It's rare, yes, but it is a possibility.

8 MR. KEEFER: I have no further questions of this
9 witness.

10 CROSS EXAMINATION

11 BY MR. COOK:

12 Q Mrs. Roadcap, do you have your original lab notes
13 here with you today?

14 A Yes, I do.

15 Q May I see them?

16 Q These appear to be copies of your lab notes?

17 A My lab notes are done in a book and yes, when I
18 come to Court I do make a copy of it. I don't bring the
19 whole book to Court.

20 Q You don't really have your original lab notes
21 here today, is that correct?

22 A I don't have my laboratory book here, no.

23 Q So what you have is just a copy of your report
24 that has already been distributed to the prosecution and
25 also the defense, is that to the best of your knowledge?

1 A Yes.

2 Q I am looking at a copy of your lab notes. You
3 dated the bottom of this page September 11th, 1987. Would
4 that have been when you did the tests or when you did the
5 report or both?

6 A That would be when I finished up the testing on
7 all of the items. I know for sure I had been working on
8 them on the 10th because when I went to determine antigen
9 material, that is a test that has to set overnight. I would
10 prepare that late in an afternoon and then read the results
11 the next morning. So I was working them on the 10th of
12 September.

13 Q I am looking at your notes. What you have is
14 number two and it reads two swabs containing sticky
15 substance from victim's body, damp swabs molded in vial and
16 then it continues. Are you with me on that?

17 A Yes.

18 Q You did make a notation that these swabs were
19 damp, did you not?

20 A Yes.

21 Q And these were the sticky substance that you
22 concluded was consistent with some sort of reducing sugar, I
23 believe you indicated?

24 A That's right.

25 Q I am looking at the next paragraph down three

1 through 20. It reads 18 swabs from postmortem examination,
2 six swabs labeled for AP, do you see that?

3 A Yes.

4 Q What does AP mean?

5 A The person that placed them in the envelope
6 labeled or in the vials labeled them that way and that means
7 at that time that was for the preliminary test to see if
8 acid phosphatase was present.

9 Q In that sentence you did not indicate, you do not
10 use the word damp or wet, did you?

11 A No, I did not.

12 Q Why did you not do that?

13 A I don't know why I didn't. I noted it over on
14 the little graph I made up when I did the antigen or when I
15 read the antigen material. I have that swabs were moist
16 when placed in the vial and that there could have been a
17 breakdown of B antigens but I remember specifically setting
18 them in our hood and drying each one of them before I could
19 work on them at all. I remember keeping the three groups
20 separate and having them there for the better part of a day
21 to dry.

22 Q And what you wrote was swabs were moist when
23 placed in vials, breakdown of B antigens could have
24 occurred, is that right?

25 A That's correct and I didn't note it immediately

1 even though I remember that because of the fact that
2 possibly if there were no bacteria present or these
3 conditions didn't exist, I may have found other antigens. I
4 don't know that.

5 Q When did up write that little comment along the
6 side of your chart or graph, do you recall when you did
7 that?

8 A Not really. I don't know exactly when I wrote
9 that there.

10 Q Would it have been at the time of your initial
11 report or some later time?

12 A It could have been a later time.

13 Q Do you know if it was after you tested Barry's
14 blood for type?

15 A It's possible, it could have been, yes.

16 Q So it's possible that on September 11th, your
17 little notation about moisture wasn't even on the report and
18 that you didn't add that until after learning that Barry was
19 type B?

20 A That's correct, because I did not want to forget
21 it. I wanted it to be in my notes that I could always
22 remember that they were received in a moist condition.

23 Q As much as they were moist when received, isn't
24 it possible that they had already been contaminated prior to
25 you having them?

1 A I don't understand what you mean by contaminated.
2 Q You're talking about bacteria or other substances
3 which could, it's possible according to you, to dissolve
4 these antigen substances?
5 A That's right.
6 Q My question to you is inasmuch as the swabs were
7 already in a moist condition when you got them, isn't it
8 possible that they had already been contaminated even before
9 you examined them?
10 A That's right, the bacteria probably got there
11 when they were removed or taken from the body at the
12 autopsy. That's exactly right.
13 Q What bacteria?
14 A Any that may have been present.
15 Q That may have been present?
16 A That may have been present.
17 Q You don't know whether or not there was any
18 bacteria present, do you?
19 A No, I don't know that exactly.
20 Q Did you run any cultures on the swabs to collect
21 for contaminants? Did you examine any extracts under a
22 microscope to check for contamination?
23 A No, I didn't.
24 Q These tests could have determined whether or not
25 there was bacteria present, isn't that true?

1 A Yes, it could have determined whether any were
2 there.

3 Q These tests were never preferred at any time?

4 A No, it is not a test that is performed at our
5 laboratory. We don't --

6 Q There are other laboratories within the State
7 Police system who can perform this test?

8 A No, we do not do any testing for bacteria such as
9 this.

10 Q You have a microscope, do you not?

11 A Yes, and I can identify the various types of
12 bacteria but I don't know which ones would be the ones that
13 would work A antigen like this to begin with and it's just
14 something that is not done.

15 Q Well, the point is you don't know whether or not
16 there were any bacteria, isn't that true?

17 A That's right. I don't have any notations of
18 bacteria at all.

19 Q Did you run a test for prosthetic acid
20 phosphatase?

21 A I did the preliminary examination which indicates
22 a seminal acid phosphatase. I don't know if you're
23 referring to P30. I did not run for P30 because of the fact
24 that I found spermatozoa and you do not have to run any
25 further tests once spermatozoa are identified.

1 Q With regard to testing for acid phosphatase, is
2 that 100 percent accurate?

3 A Oh no. This is just a preliminary examination.

4 Q Do you know what is meant by the term a Florence
5 Test?

6 A Yes, it's a test that we had used years ago for
7 the indication of seminal fluid I believe. We have not used
8 that for 15, 16 years.

9 Q What is involved in doing that test?

10 A I am not sure. I know placing a reagent on it
11 and then observing under the microscope for crystals.
12 That's all I remember about it.

13 Q Do you know what is meant by the term Babario
14 Test?

15 A No, I have never heard it.

16 Q Could you please define for me spermine and
17 colene?

18 A These are substances present in seminal fluid and
19 I am not sure if it is even in vaginal fluid. I do not work
20 with any tests that involve these components.

21 Q So your testimony would be that the Florence and
22 Babario tests are not normally performed in your laboratory?

23 A No, they are not.

24 Q Wouldn't you say that they are relatively routine
25 procedures?

1 A Those tests?
2 Q Yes.
3 A Not in our laboratory, they aren't.
4 Q Isn't it true that vaginal fluid contains acid
5 phosphatase?
6 A Yes, it does.
7 Q Can seminal and vaginal acid phosphatase be
8 differentiated?
9 A Yes.
10 Q How is this done?
11 A First of all, by observing whether or not sperm
12 are present. Sperm would never be present in vaginal fluid.
13 If sperm are not present and you still have a strong
14 indication that there's seminal fluid present, then there is
15 the possibility of examining for P30 which is a protein
16 that's specific to seminal fluid and that's what I would
17 have done had I not found spermatozoa.
18 Q You found in tact spermatozoa. You needed to
19 look no further because you knew there was sperm?
20 A I knew there was seminal fluid present, yes.
21 Q Do you not what is meant by the term
22 electrophoresis?
23 A Yes.
24 Q What is that?
25 A It's a method used in the laboratory to identify

1 certain isoenzymes in blood or to identify vaginal or
2 identify the difference between vaginal and seminal fluid.

3 Q And I assume it wasn't necessary to do that
4 either because of your findings?

5 A That is another examination that we don't do any
6 longer to identify the difference between seminal fluid and
7 vaginal fluid. We use the P30 right now.

8 Q Apparently P30 cannot be present in vaginal
9 extracts?

10 A That's exactly right.

11 Q Please explain the genetics behind the ABO blood
12 grouping system and explain the different types of blood if
13 you would?

14 A Like I said, the antigens, the blood antigens,
15 these are the red blood cells have components on the surface
16 that are known as glycoproteins and these are a protein with
17 a sugar ending. These glycoproteins on the end are the --
18 the sugar on the end has various sites on it and these sites
19 are identified as either A sites, B sites, AB sites or no
20 sites at all which determines a type O person. According to
21 the type of site or sugar ending that the proteins have,
22 that's how we place them into the categories of the ABO
23 system, the four blood types.

24 Q Considering the four blood types, can you give a
25 breakdown as to what percentage of the population has each

1 blood type?

2 A Yes, about 45 percent of the population has type
3 O blood. About 40 percent has type A blood, about ten has
4 type B blood and about five has type AB blood.

5 Q So the rarest is AB and the next rarest is type
6 B?

7 A Yes.

8 Q By and large 85 percent of the world population
9 is either type A or type O?

10 A That's right.

11 Q Isn't it true that there are subgroups within
12 type A? In other words, type one and type two, type A1 and
13 type A2?

14 A Yes.

15 Q Please explain what these mean?

16 A Just again another type of sugar ending on the
17 protein chain and it can be identified by having an anti and
18 one sera or anti and two.

19 Q What you found, the type A antigen, was it type
20 A1 or type A2?

21 A I did not test for any subtype of A.

22 Q You said the term secretor, that just means that
23 a person will exhibit these antigens or transmit or
24 whatever, produce these antigens in substances other than
25 their blood?

1 A That's right.

2 Q That's how sometimes you're able to determine
3 blood type based on other fluids that you find, is that
4 correct?

5 A Yes.

6 Q And you said if someone is a secretor, you can
7 figure out what blood type they are obviously from analyzing
8 their blood but also from analyzing their saliva, correct?

9 A Yes.

10 Q Tears?

11 A I don't know about tears. I know saliva, seminal
12 fluid, vaginal fluid, perspiration, ear wax even. I don't
13 know about tears. I have never examined anything like that.

14 Q You indicated that about 80 percent of the
15 population are secretors?

16 A Yes.

17 Q Here's an important question, isn't it true that
18 male secretors have higher concentrations of blood group
19 substances in semen than in their other bodily fluids?

20 A This could be possible, yes, because of the fact
21 that the reproductive cells are right there and I would say
22 it could be true. I never read that but it could be true,
23 yes.

24 Q The tests that you perform indicate that Barry is
25 a secretor?

1 A Yes.

2 Q Would you say he is a relatively strong secretor?

3 A I had no other body fluid except blood from him.
4 I wouldn't know that and I can't tell that just from doing
5 the Lewis typing on his blood. I could not tell that.

6 Q So if I told you that we have had him tested and
7 he's a relatively strong secretor, you wouldn't be able to
8 disagree with me at least at this point?

9 A No, I wouldn't.

10 Q Isn't the whole purpose of this blood grouping
11 test to attempt to include or exclude a certain individual
12 as a suspect in a crime?

13 A That's the whole purpose of it, yes. It is not
14 to be used as an investigative tool so much. It's supposed
15 to be more of a comparison tool so that's why you have to be
16 a little careful in the report you prepare from your
17 findings and it isn't 100 foolproof. You don't find them
18 all the time.

19 Q All things being equal, wouldn't you expect to
20 find B substance in Barry's semen, B antigen?

21 A Under good conditions, proper conditions, I would
22 expect to find them, yes.

23 Q That's because he's a secretor?

24 A Because he is a secretor, yes.

25 Q How many times have you performed these blood

1 type studies?

2 A I would say maybe 150, 200 times, maybe more.

3 Q Do you use positive and negative controls when
4 you do them?

5 A Yes.

6 Q What does that mean?

7 A I would use seminal standards that or I would use
8 blood that is type A and AB and O as standards on my plates.

9 Q Do you trust your observations?

10 A Yes, I do.

11 Q Let me ask you a hypothetical question. If the
12 suspect is a secretor and the victim is a secretor, how
13 might you exclude the suspect if you could explain that?

14 A I couldn't exclude the suspect. The only way I
15 could -- no, I couldn't exclude the suspect.

16 Q Are you saying that scientifically there's no way
17 to exclude a suspect based on blood type analysis?

18 A Yeah, there would be. If it would be a known fact
19 that there were only one perpetrator, and I would find like
20 say type B antigens and the perpetrator is a type A, I could
21 exclude in a situation like that. There again though
22 depending on what the victim would be.

23 Q It just depends on what the blood type of the
24 victim is and what you find in the materials that you
25 examined?

1 A That has a lot to do with it, yes.

2 Q You indicated I believe that you did find
3 spermatozoa on the vaginal swab?

4 A Yes.

5 Q Is this often found by analysis?

6 A Spermatozoa on a vaginal swab?

7 Q Yes.

8 A Yes, very many times.

9 Q Was it a small or large amount of semen?

10 A This I have no idea. This was not quantitated.

11 Q You said there were numerous heads of sperm I
12 believe was your testimony?

13 A That's right.

14 Q You said with regard to the swab from the
15 perineum that nearly all the sperm was in tact?

16 A Yes.

17 Q Doesn't that indicate to you that there was a
18 fairly large amount of semen present?

19 A Not really because the antigen material would be
20 found in the seminal fluid which is the carrier of the sperm
21 and this could have been the thing that was altered by
22 bacteria, drained out, had weak antigen material, etc. The
23 fact that I was finding the sperm, they could have remained
24 there for some reason, there are millions and millions of
25 them in an ejaculation and I would not expect to find the

1 antigen material present just on them as such.

2 Q Did you find a substance on the vaginal swab?

3 A Yes, I did.

4 Q How many procedures did you use in blood
5 grouping, one or two. In other words, I think you said you
6 used the absorption inhibition method?

7 A Yes, this is just the way that you have to go
8 about your procedure to identify it. This is the only
9 method that I use.

10 Q Isn't there another method that can be used?

11 A Possibly. I don't know.

12 Q Have you ever heard of the absorption elution
13 method?

14 A This is used for blood typing drained stains,
15 yes. This is a method I do use for that but you can't use
16 that for identifying antigen materials in stains.

17 Q Which is more sensitive of the two testing?

18 A It's just the fact that you can apply the
19 absorption elution to finding antigen material. You can't
20 do it that way.

21 Q You said that Edna Laughman was a type A
22 secretor?

23 A Yes.

24 Q You also indicated that in some individuals they
25 can be a secretor but not secrete in every single one of

1 their bodily fluids, isn't that true?

2 A Yes.

3 Q So it's possible that Edna Laughman was a
4 secretor based on the test you found in her gums but she was
5 not a secretor in her vaginal fluid, isn't that possible?

6 A That's possible. However, when you have the
7 opportunity, and it indicates to me when I read things like
8 this, that it's either in the blood and may not carry into
9 the other body fluids but once it does, it would be present
10 in all of them because if we can't determine -- if I can't
11 determine whether a person is a secretor from their blood,
12 we ask first of all for a saliva sample. Then it's assumed
13 that if the antigen material is present in there, that they
14 do secrete into all the other body fluids.

15 A What you're saying is the type A secretor, the
16 type A antigen that you found in the swabs could have been
17 that of Edna Laughman?

18 A Yes.

19 Q So the perpetrator could be a secretor, is that
20 correct?

21 A Yes.

22 Q The perpetrator could be a nonsecretor?

23 A Yes.

24 Q The perpetrator could be an AB nonsecretor?

25 A Yes.

1 Q The perpetrator could be a B nonsecretor?
2 A Yes.
3 Q Could the perpetrator be an O nonsecretor?
4 A Yes. If they were a nonsecretor, they could be
5 any one of the blood types.
6 Q You can't really exclude anyone based on what you
7 found?
8 A No.
9 Q Isn't that the whole purpose of these, to attempt
10 to exclude individuals?
11 A That's what you attempt to do, yes.
12 Q What is the likelihood that if there were a
13 sizable semen secretion by the secretor, that you would find
14 no blood group antigen?
15 A I do not know.
16 Q You would agree that nowhere in any of your
17 reports is there any mention of a finding of possible
18 contamination in any of the materials that you received,
19 isn't that true?
20 A I never note anything like that. I examine many
21 many slides that have all kinds of organisms and things like
22 that on but I never note it at all because I am not -- I
23 don't even know what they are.
24 Q You're agreeing with what I said then, aren't
25 you? Just answer my question if you can, nowhere in any of

1 your reports is there any mention or any indication of any
2 contamination?

3 A No, only the fact that they were in a damp
4 condition.

5 Q And you're not even sure when you added that
6 language on?

7 A No, but I do remember it from the day that I took
8 them out of the vials.

9 Q Now as far as you said you got these swabs and
10 vials and slides and so forth about three days after the
11 autopsy?

12 A I didn't say that because I don't know when the
13 autopsy was. I received them at the laboratory on the 17th
14 of August.

15 Q The autopsy was the 14th. So were these hand
16 delivered to you or mailed to you or how did you get them?

17 A They were brought into the laboratory by Trooper
18 Blevins.

19 Q Did he have them in a cooler or anything like
20 that?

21 A I did not take them from Trooper Blevins. Larry
22 Reigel received them from him.

23 Q I assume that you have normal procedures that you
24 use when you get samples like this?

25 A That's exactly right, yes.

1 Q You put them in the refrigerator, is that
2 correct?

3 A The serological samples, one and three through 20
4 were placed in the refrigerator. The other material was
5 placed in a bin in the evidence room.

6 Q And why do you put items in refrigerators?

7 A Even when a swab would be air dried and bacteria
8 would be on it, there's a possibility that these bacteria
9 could still work on it but refrigerating them slows down
10 this process and plus that, there was a blood sample
11 present. It retards the breakdown of the blood sample and
12 it's just a procedure that we follow at the laboratory to
13 refrigerate all our serological samples that come in.

14 Q With regard to these cigarette butts, isn't it a
15 possibility that there was a substance there also but that
16 you didn't locate it?

17 A It's possible, yes.

18 Q So therefore, the perpetrator could have been
19 type AB blood, for example?

20 A Yes. If there's not sufficient saliva there,
21 they could have been any type.

22 Q That's why you wrote inconclusive, is that
23 correct?

24 A Yes.

25 Q The defense is going to establish that Barry is a

1 secretor and in all his bodily fluids including his semen
2 and that he's a rather strong secretor. I know you don't
3 take that as gospel right now. But just assume what I have
4 told you is true for the sake of my next question. Assuming
5 that's true, wouldn't you agree that all other things aside,
6 that your evidence in this case looks like an exclusion, if
7 what I just told you about Barry's secretor status is true?

8 A No, I could not say that because I mentioned
9 several other things that could have come into the picture
10 that would make the B antigens no longer be there had they
11 been there. So I could never say that.

12 Q Today is the first you mentioned anything about
13 the medicine of the victim being able to do this, isn't that
14 true?

15 A That's right. Before the hearing, I really
16 didn't think over a lot of the different things that could
17 have happened to them but and I wasn't really even thinking
18 in terms of the victim herself and the media and things like
19 that, where the seminal fluid was deposited.

20 Q You talked about this possibility of
21 contamination, but based on your experience in 20 years,
22 really how likely is it?

23 A I would say it's very likely.

24 Q Yet you have nothing in your lab notes to
25 indicate that, is that correct, except for that little

1 notation you made on the side of your chart?

2 A That's right.

3 Q Do you recall when I asked you a question and
4 answer here and this is a hearing held in this courtroom on
5 August 29th of this year, on page 38 I asked you this
6 question. Question, is there any blood type that you could
7 rule out? Answer, if you don't want to discuss the
8 possibility of a breakdown in antigen material, you could
9 rule out AB, AB secretor.

10 Do you recall giving that answer?

11 A Just read that one more time.

12 Q Is there any blood type that you could rule out?
13 Answer, if you don't want to discuss the possibility of a
14 breakdown in antigen material, you could rule out AB, AB
15 secretor.

16 Do you recall saying that under oath at the last
17 hearing?

18 A I don't recall saying it but I probably did, yes.

19 Q You would still agree with that statement, would
20 you not?

21 A Yes, if the antigens didn't breakdown and they
22 were there, yes, then you could rule out AB secretor.

23 Q So in order to avoid eliminating Barry as a
24 suspect, we have to assume that there might have been this
25 contamination that you referred to, isn't that true?

1 A That along with -- well, you're saying that he is
2 a strong secretor but I am saying you don't know the
3 strength of the secretions. You don't know what affect the
4 medication may have had on it and those other factors.

5 Q So you don't dispute that you made this statement
6 that I just read back to you from the transcript?

7 A I am not going to dispute it, no.

8 Q When was the last time you performed any test on
9 any of these samples?

10 A The last evidence that I did was the typing of
11 the blood from the accused.

12 Q So that was September 14, 1987?

13 A I have my report dated 9/11 for the vials of
14 blood. In 9/11 of '87.

15 Q But after you found out that Barry was type B,
16 you did not perform one single test in this case, isn't that
17 true?

18 A I don't believe.

19 Q What was done with all these samples and
20 specimens when you were finished with them?

21 A They were put back into the vials and the other
22 evidence was packaged in the manila envelopes and they were
23 placed in the evidence room to await pick up.

24 Q Did you put the vials back in the refrigerator?

25 A I would have to check. I probably did. We store

1 any blood or serological samples that go back again in the
2 refrigerator, yes.

3 Q Normally you would do that in case there was a
4 need for further testing, isn't that true?

5 A Yes.

6 Q If these samples were not refrigerated, it would
7 make further testing very difficult, wouldn't you agree with
8 that?

9 A That's exactly right, yes.

10 Q There would be a possibility of even further
11 contamination or dissolution or whatever?

12 A Yes.

13 Q Are you familiar with what's called DNA
14 fingerprint analysis?

15 A Yes, I am.

16 Q What does that involve?

17 A It involves the genetic substance in the cell and
18 the identification of it which is a true fingerprint of
19 certain individuals. When you have DNA identified, you can
20 say that is a person, a single person.

21 Q That's a technique that was developed by Sir Alex
22 Jeffries from Scotland Yard, isn't it?

23 A I don't know where it was developed.

24 Q The FBI now uses that technique, isn't that true?

25 A I am not familiar with the FBI using it yet.

1 They're working on it.

2 Q But the premise of it is that it's infallible.
3 You can make an absolute genetic comparison?

4 A If they can get enough of the material, yes,
5 that's true.

6 Q Did you ask for any additional samples from Barry
7 Laughman?

8 A No, I didn't.

9 Q So all you had was his blood, is that right?

10 A Yes.

11 Q So you could have asked for saliva and semen
12 samples to determine whether or not he was a secretor in all
13 his fluids, isn't that true?

14 A Yes, I made mention of the fact that I could do
15 that also.

16 Q You told the troopers that?

17 A (Nods head.)

18 I am not sure if I did or not. I don't know if I
19 did or not.

20 Q In any event, they didn't bring any further
21 samples back to you and said test these as well?

22 A No, I only did have the blood.

23 Q At some point your samples and swabs and so forth
24 were removed from the lab, weren't they?

25 A Yes, they were returned.

1 Q Do you know when that was done?

2 A Yes, it was done on the 9th of October in 1987
3 and the cigarette butts and the hair sample was picked up on
4 the 1st of March in '88 and the blood sample was expended in
5 analysis. We don't return blood samples on living
6 individuals.

7 Q Do you know where the samples and specimens went
8 on October 9th, 1987?

9 A No, merely that they were picked up by those
10 people or by Trooper Holtz.

11 Q Would you agree that if they were not properly
12 preserved by being refrigerated, that it would have been
13 very difficult to perform any sort of accurate tests on
14 those samples after they left your lab?

15 A It would maybe cut down on the possibility, yes.

16 Q I would show you what has been marked as
17 Commonwealth's exhibit number eight and ask you to read the
18 portion of your report which deals with your findings with
19 regard to antigen material?

20 A Result number three states that seminal material
21 containing spermatozoa and antigen material consistent with
22 the type A secretor were present on the swabs from the
23 vaginal, perineum and perianal areas of the victim's body,
24 items three through 20.

25 Q Could you just circle that please. Could you

1 circle the whole description?

2 A Sure.

3 Q The sum of your testimony concerning hair
4 evidence is really that there was nothing conclusive as far
5 as matching any hairs found at the scene with Barry's hair,
6 isn't that true?

7 A That's right. I didn't find any hairs of
8 probative value and the hairs that were submitted were
9 similar to hairs from the victim.

10 Q In fact apparently you weren't even provided any
11 hair samples from Barry Laughman, isn't that true?

12 A No, I had no hair samples from him.

13 Q I assume that that's not a foolproof method
14 either as far as excluding suspects through hair testimony.
15 They only exhibit similar or dissimilar characteristics?

16 A That's right. You try to get as many
17 characteristics that are similar and observe whether or not
18 there are any dissimilarities.

19 Q There wasn't any conclusive findings with regard
20 to the cigarette butts you tested, is that correct?

21 A That is exactly what I reported, yes.

22 Q I am going to show you Commonwealth's exhibit
23 number ten and ask if you would circle your findings in that
24 regard please.

25 (Defendant's exhibit No. 6 was marked for

1 identification.)

2 BY MR. COOK:

3 Q Miss Roadcap, I show you what has been marked as
4 Defendant's exhibit number six and I would ask you to read
5 the second paragraph under the portion of this search
6 warrant and affidavit entitled probable cause belief, if you
7 would just read that please?

8 A The second paragraph you said. On August 12th,
9 1987 Miss Laughman was discovered dead in the bedroom of her
10 home. An autopsy performed on August 14, 1987 by Dr.
11 Isidore Mihalakis, an autopsy was performed on August 14th
12 by Dr. Isidore Mihalakis. The cause of death was determined
13 to be suffocation. At the time of the autopsy, Dr.
14 Mihalakis took sperm from the body of the deceased. This
15 sperm was transported to the Pennsylvania State Police crime
16 laboratory on or about August 31st in 1987. This sperm was
17 tested by Janice Roadcap. These tests indicated that the
18 sperm was from a person of type A blood. On September 8th,
19 1987, Barry Laughman was questioned by the State Police and
20 admitted that he had intercourse with the deceased and had
21 ejaculated in her on October 12th, 1987.

22 Q You did not prepare this document obviously, is
23 that correct?

24 A No, I didn't.

25 Q But you did talk to Trooper Blevins about this

1 case prior to September 9th, 1987, did you not?

2 A Prior to when?

3 Q September 9th, 1987?

4 A I don't recall talking to Trooper Blevins.

5 Q He makes a statement in here that on or about
6 August 31st, 1987 this sperm was tested by Janice Roadcap.
7 These tests indicated that the sperm was from a person of
8 type A blood. Did you ever talk to Trooper Blevins about
9 your findings?

10 A Not that I can recall but I didn't even do any
11 work on them until the 9th, 10th and 11th or 10th and 11th.
12 So I wouldn't have been able to say anything like that at
13 that time.

14 Q So when Trooper Blevins says on or about August
15 31st, 1987 this sperm was tested by Janice Roadcap, you're
16 saying that's not true?

17 A I am not saying it's not true. Maybe he thinks
18 since it was in the laboratory from the 17th, maybe he
19 thought that's when I found this out but I did not do any
20 testing until later in September.

21 Q Will you please look at the back at this exhibit
22 and indicate the date when application for search warrant
23 was made?

24 A I see a date here the 9th of September, '87 and I
25 see another date September 11th of 1987.

1 Q The first date though you indicated it was
2 September 9th, is that correct?

3 A That isn't the first one listed here. The first
4 one is September 11th.

5 Q Why don't you read that whole paragraph if you
6 would please?

7 A This warrant should be served as soon as
8 practicable but in no event later than 3:15 a.m., a.m. and
9 p.m. are both X-ed, September 11th, 1987, and shall be
10 served only during the day time hours of 6:00 to 10:00 p.m.
11 and then it says issued under my hand this 9th day of
12 September in 1987.

13 Q So that's when the search warrant was issued on
14 September 9th and it's your testimony that you didn't even
15 test these swabs and samples until the 10th of September?

16 A I finished up my work on the 11th of September.
17 I do not have any other dates as to when I started it or
18 when I was working on it. I could have been working on it
19 two days. I could have been working on it a week. I don't
20 know this.

21 Q I am not suggesting Trooper Blevins made this up
22 and I am sure you're not either. Isn't it possible that you
23 talked to Trooper Blevins about your findings on the
24 telephone and you just don't remember it today?

25 A It's possible I could have done the work earlier,

1 yes. I date my book when I completely finish up all the
2 evidence and package it to go back.

3 Q So you have no record of when you started your
4 work in this case?

5 A I don't do that, no.

6 Q Is that your standard routine as a scientist?

7 A Yes, it is. I put evidence into the vault and
8 the refrigerators many times in the evening while I am
9 working on them.

10 MR. COOK: Thank you, Miss Roadcap. That's all
11 the questions I have.

12 REDIRECT EXAMINATION

13 BY MR. KEEPER:

14 Q Miss Roadcap, you were asked on cross-examination
15 about when the various samples were returned to Trooper
16 Blevins or to the Gettysburg Barracks of the Pennsylvania
17 State Police. Is that normal procedure for these items to
18 be returned to the investigating officers as opposed to
19 keeping them in the laboratory?

20 A Yes, they're asked to be picked up within a 30
21 day period because we do not have storage at the laboratory.

22 Q That's due to your insufficient storage space
23 basically, is that correct?

24 A That's right.

25 Q That would be done on any case?

1 A Yes.

2 Q Do you give special instructions to the officer
3 in terms of what they're to do with various samples once
4 they're returned? Do you indicate refrigerate something or
5 do this or that with other samples?

6 A No, not really.

7 Q You were asked whether you had received samples
8 of the Defendant's hair, would there be any purpose in your
9 receiving samples of the Defendant's hair once you concluded
10 that there are no dissimilarities with the hair samples
11 found and the samples found from Edna Laughman?

12 A No, I requested samples if I had found any
13 dissimilar.

14 Q Hair from anyone else in the world wouldn't have
15 done you any good once you concluded the hair samples you
16 found had no dissimilarities to the hair of Edna Laughman,
17 is that correct?

18 A That's right.

19 Q You were asked a question by Attorney Cook on
20 cross-examination regarding cigarette butts and not finding
21 any A antigens I believe. When he asked you that question,
22 what cigarette butts were you answering about?

23 A I don't know for sure.

24 Q We actually have two sets of cigarette butts, is
25 that correct?

1 A Yes. We have the five from the residence and
2 then the cigarette butts that were submitted later on.

3 Q The second set of cigarette butts which I believe
4 were two in number on your one report, your indications on
5 that were you could find no antigens, is that correct?

6 A Yes.

7 Q And that meant there was either no saliva or no
8 antigens?

9 A Yes, that the person was a nonsecretor.

10 Q As to the five cigarette butts that you had
11 received earlier which were in the first packet of
12 materials, I believe your testimony there was it was
13 inconclusive but there were indications of B, is that
14 correct?

15 A Yes.

16 Q Were there any indications of A in that first
17 set?

18 A No, there were none.

19 MR. KEEFER: Thank you, I have no further
20 questions.

21 THE COURT: Anything else?

22 RE CROSS EXAMINATION

23 BY MR. COOK:

24 Q Miss Roadcap, had you wanted to do further
25 testing or had you been asked to do further testing, you

1 certainly could have made further room in your refrigerator
2 at the lab, could you not?

3 A Further testing on what?

4 Q You said normally all your samples and swabs and
5 so forth are to be returned within 30 days or to be
6 retrieved by the investigating officers within 30 days.
7 Certainly had you wanted to keep those specimens and
8 conducted further tests, you could have made further room in
9 the refrigerator, could you not?

10 A It wouldn't be whether I want to perform further
11 tests but if they wanted them for some reason, they could
12 request that they could be kept there a little longer, yes.

13 Q You would have made room for them, wouldn't you?

14 A We would have found room somewhere probably, yes.

15 Q Getting back to your cigarette testimony, you
16 said that the reason you didn't indicate type B is because
17 you didn't find a type H antigen, is that correct?

18 A That's right because it usually travels or B
19 secretor would have the H antigen material also.

20 Q You did not find that?

21 A I did not find that.

22 Q The sum total of all your work with regard to
23 cigarette butts the evidence is inconclusive, is that
24 correct?

25 A Yes.

1 MR. COOK: Thank you, that's all.

2 THE COURT: Anything else?

3 MR. KEEFER: No.

4 THE COURT: That's all. We'll take a ten minute
5 recess, members of the panel, just step down please.

6 (Whereupon a recess was taken at or about 3:14
7 p.m.)

8 AFTER RECESS

9 THE COURT: Are we ready for the jury?

10 MR. COOK: Yes, Your Honor.

11 THE COURT: Bring the jury in please.

12 (Jury brought into the courtroom at or about 3:33
13 p.m.)

14 THE COURT: All right, Mr. Keefer.

15 MR. KEEFER: Commonwealth would call Doctor
16 Robert Wenk to the stand.

17 (Robert Wenk, having been duly sworn according to
18 law, testified as follows:)

19 DIRECT EXAMINATION

20 BY MR. KEEFER:

21 Q Would you state your name for the record please?

22 A Robert Wenk.

23 Q Would you spell your last name.

24 A W-e-n-k.

25 Q What profession or occupation?