

**Halsey, Byron**

Testimony of

Christopher Fielder, FBI

1 next desk. Is that right?

2 A Yes.

3 Q So that's why Detective Pfeiffer sits there  
4 and clacks away at the typewriter while the statement is  
5 being taken. Is that right?

6 A That's part of rapport.

7 MS. VAN PELT: No further questions.

8 THE COURT: You may step down.

9 Please watch your step.

10 MR. TUCKER: State would call Agent Fiedler.

11 C H R I S T O P H E R F I E D L E R, sworn.

12 DIRECT EXAMINATION BY MR. TUCKER:

13 Q By whom are you employed?

14 A Currently employed by Federal Bureau of  
15 Investigation, Washington D.C.

16 Q What capacity are you so employed?

17 A Forensic geologist assigned to the laboratory  
18 division.

19 Q Where are your official headquarters.

20 A In Washington D.C.

21 Q Can you tell us where you received your  
22 college education?

23 A I received a bachelor degree in earth science from  
24 Millersville State University in Pennsylvania, 1973.

25 Q Following your college degree can you tell us

1 what special training you received in regard to earth  
2 sciences?

3 A I after 1973 became employed by the F.B.I. and was  
4 transferred to the laboratory division in 1975.

5 From 1975 to 1978 I was employed and worked as a  
6 technician in the laboratory. Essentially for three years  
7 learning how to handle evidence, how to examine it, what  
8 it means, what it doesn't mean. And I did this for  
9 approximately three years while on-the-job training.

10 Q And following this apprenticeship that you  
11 refer to as on-the-job training, did you assume another  
12 position with the F.B.I. regarding your specialty forensic  
13 geology?

14 A Yes, I did.

15 Q What is that?

16 A In 1978 I was elevated to the rank of laboratory  
17 examiner which enabled me to receive evidence, examine  
18 evidence, issue a report and testify to it if so called.

19 Q Since 1978 have you devoted your duties to  
20 the field of forensic geology within the F.B.I.  
21 laboratory?

22 A It takes up approximately 80 percent of my time  
23 yes.

24 Q And as a result of that at the F.B.I.  
25 laboratories are you familiar with the technical equipment

1 available in conducting examinations in the field of  
2 forensic geology?

3 A Very much so, yes.

4 Q Can you describe to us what equipment is  
5 utilized?

6 A Well, there's numerous types of equipment, all  
7 being the latest technology and state of the art  
8 instruments and equipment.

9 Q Are scanning microscopes available to you?

10 A Yes, they are.

11 Q Are you familiar with those?

12 A Yes, I am.

13 Q You have utilized them in the past?

14 A I have been in the presence while they were being  
15 used, yes.

16 Q Now, are there any scientific publications  
17 available to you in regard to this field, forensic  
18 geology, as a result of your duty as an F.B.I. technician?

19 A Yes, the forensic publications and journals  
20 throughout the world are available able to us through our  
21 library.

22 Q Do you read them?

23 MS. VAN PELT: I stipulate Special Agent  
24 Fiedler is an expert in forensic geology.

25 MR. TUCKER: I accept the stipulation, you

1 Honor.

2 Q Agent Fiedler, in the course of your work, as  
3 a forensic geologist, did you have occasion to receive  
4 from Robert Spaulding certain items, a brick residue for  
5 examination in relation to this case?

6 A Yes, I did.

7 Q Mr. Fiedler, I show you S-33 for  
8 identification and ask if you can look at it and if you  
9 recognize it?

10 A Yes, I do. It's a portion of a brick which bears  
11 my initials and another container which --

12 Q Hold on.

13 MR. TUCKER: May we have this marked?

14 THE COURT: Does that go with S-33?

15 MR. TUCKER: No, it's not. It's residue from  
16 S-33.

17 THE COURT: S-33A.

18 (Brick residue is marked S-33A for  
19 identification.)

20 Q Agent Fiedler, I show you what's previously  
21 marked S-136, 137, 138, 139 and 140.

22 I ask you to look at those envelopes and the  
23 material contained in the envelopes and I ask you if you  
24 recognize that material?

25 A Yes, these envelopes bear my initials and these

1 contain a nail.

2 Q Now, the material, S-33, that's contained --  
3 that's marked S-33 and the material contained in the  
4 envelopes S-136 through S-140, did you receive those from  
5 Agent Spaulding?

6 A Yes, I did.

7 Q And as a result of receiving these materials  
8 did you conduct an examination, comparison examination  
9 between the materials, the nails in the envelopes 136  
10 through 140 in relation to the brick which is labeled  
11 S-33?

12 A Yes, I did.

13 Q And can you tell us how you conducted that  
14 examination?

15 A The first examination consisted of examining the  
16 nails under a microscope to see if there was any material  
17 imbedded or crushed onto the head of the nails which would  
18 be suitable for comparisons to any source of a brick. I  
19 noted such material.

20 At that point the brick itself was examined under  
21 microscope to see if there was any fresh breaks, or any  
22 abrasions on the brick. In other words, make sure the  
23 brick was not in clean, pristine condition and could not  
24 have been caused for any material which may be on the  
25 nails.

1           After this residue on the heads of the nails was  
2 noted and the color of the residue also, the nails and the  
3 brick particles were removed, very small microscopic  
4 particles that you can barely see with the naked eye and  
5 composition of these particles were determined. These  
6 composition were then compared to the composition of the  
7 brick.

8           Q       Now, following the comparison of the material  
9 on the nails to the material of the brick, was that done  
10 under ordinary microscope?

11          A       No, there was done what is referred to as scanning  
12 electron microscope.

13          Q       And can you tell us what's the purpose of  
14 putting those materials under the scanning electron  
15 microscope?

16          A       Well, the scanning electron microscope magnifies  
17 materials thousands of times, which a light like scope  
18 cannot. At the same time you're magnifying and looking at  
19 these particles you can determine their elemental  
20 composition.

21          Q       Now, I show you what's been marked S-33A for  
22 identification and I ask if you recognize that?

23          A       Yes, it bears my lab number.

24          Q       And can you tell us what that is, sir?

25          A       This is a -- it contains a scanning electron

1 nails.

2 Q Now, as a result of your comparison, were you  
3 able to reach an opinion as to whether the material that  
4 was removed from the heads of these nails was consistent  
5 with the material from which the brick is composed?

6 A Yes. It had basically the same color and elemental  
7 composition.

8 Q Would you say that the material that was  
9 removed from the heads of the nails is consistent and  
10 contained the same materials that the brick is composed  
11 of?

12 A Yes, sir.

13 Q Now, can you tell us further what you mean  
14 consistent with?

15 A I cannot eliminate that brick as the source of the  
16 residue on the head of the nails.

17 Q Well, could you say whether it was a yellow  
18 brick or orange brick or a cement block that the debris on  
19 the head of the nails came from?

20 A It certainly did not come from any other color of  
21 brick or any other brick made of a different composition.

22 MR. TUCKER: No further questions.

23 THE COURT: We'll take our lunch recess.

24 MS. VAN PELT: Judge, I'm going to be two  
25 minutes.



1 THE COURT: Okay. We won't take our lunch  
2 recess.

3 CROSS-EXAMINATION BY MS. VAN PELT:

4 Q Agent, were you asked to do any other  
5 comparisons as part of the submittal that came to you  
6 from, I believe, Agent Spaulding?

7 A Yes, I was.

8 Q Did you do any other comparisons?

9 A No, I did not.

10 Q Why not?

11 A Of the material I was asked to look for or to  
12 compare any substance to was in containers that had been  
13 punctured and latent with known material and, therefore,  
14 because of the possibility of contamination to any other  
15 garment or item existed, I did not do the examination.

16 Q What you're saying, you received them at the  
17 laboratory having been improperly packaged?

18 A I received them in a leaking condition and the bags  
19 and envelopes were punctured, yes.

20 MS. VAN PELT: No further questions.

21 THE COURT: You may step down.

22 MR. TUCKER: Excuse me. I have one question  
23 on redirect.

24 REDIRECT EXAMINATION BY MR. TUCKER:

25 Q Can you tell us if there's any way which you

1 can tell whether the items were improperly packaged at its  
2 inception?

3 A No, no.

4 MR. TUCKER: No further questions.

5 THE COURT: You may step down.

6 Ladies and gentlemen, we'll take our luncheon  
7 recess. Come back 1:30.

8 Don't discuss the case.

9 (Luncheon recess.)

10 A F T E R N O O N S E S S I O N

11 THE COURT: Anything before we bring out the  
12 jury?

13 MRS. CLARK: No.

14 THE COURT: Bring out the jury.

15 (The following tables place in the presence  
16 of the jury.)

17 THE COURT: Good afternoon.

18 I don't like to keep you in the dark if I can  
19 help it. I just want you to know in my opinion  
20 we're moving along at a brisk pace. It's a  
21 possibility this case will get to you early next  
22 week, Tuesday, Wednesday next week. No guarantees,  
23 possibility.

24 Who is your next witness?

25 MRS. CLARK: Wayne Card.

**Halsey, Byron**

Testimony of

Robert Spalding, FBI

Glenn Owens, Union County Prosecutors Office (Fingerprint Expert)

1 than the the fact that you received it?

2 MS. CLARK: Judge, it makes a  
3 difference. I'm just saying to you that today is  
4 what, March 10th.

5 THE COURT: 11th.

6 MS. CLARK: Thank you.

7 It was dated February 24, 1988, and  
8 the date of the report and the date of the  
9 interview. It's still March 10th.

10 THE COURT: Okay.

11 Anything else?

12 MS. CLARK: No, sir.

13 THE COURT: Call out the jury.

14 MR. TUCKER: Your Honor, I  
15 inadvertently during Agt. Tobin's testimony forgot  
16 to call upon the Court Reporter to mark the  
17 diagram. And when the jury comes out I'd just  
18 like to have that marked.

19 THE COURT: Okay.

20 (Whereupon the jury was brought out.)

21 THE COURT: Good morning.

22 THE JURY: Good morning.

23 MR. TUCKER: Your Honor, may I have  
24 Agent Tobin's diagram --

25 THE COURT: S-275.

1 MR. TUCKER: -- marked?

2 (Whereupon diagram was marked S-275  
3 for identification.)

4 MR. TUCKER: Thank you, your Honor.

5 THE COURT: Call your next witness.

6 MS. CLARK: The State calls Robert  
7 Spalding.

8  
9  
10  
11 R O B E R T S P A L D I N G, having been  
12 duly sworn, was examined and testified as follows:

13  
14 DIRECT EXAMINATION BY MS. CLARK:

15  
16 Q Mr. Spalding, are you employed by the  
17 Federal Bureau of Investigation?

18 A Yes, I am.

19 Q And could you tell me how long you've  
20 been so employed?

21 A Since 1971.

22 Q And could you tell me what your  
23 present duties are?

24 A My current duties include that of an  
25 examiner in the serology unit of the FBI

Spalding - direct

1 Laboratory in Washington, D.C. Included in those  
2 duties are the examination, processing, and  
3 analysis of physical evidence for stains of body  
4 fluids, evidence of value in matters of criminal  
5 justice.

6 In addition I have responsibilities  
7 with regard to training, training new personnel  
8 coming into the serology unit, as well as the  
9 conduct of a training course of two weeks duration  
10 which is available through the University of  
11 Virginia for three hours of graduate level credit  
12 taught at the FBI Academy, too.

13 THE COURT: The defense will stipulate  
14 to Mr. Spalding's qualifications.

15 MS. VAN PELT: I just didn't want to  
16 interrupt him, your Honor.

17 THE COURT: All right.

18 Q Could you tell us what the field of  
19 serology involves?

20 A Yes. Basically the field of forensic  
21 serology involves the identification and  
22 subsequent characterization of blood and body  
23 fluids as these substances pertain to matters of  
24 criminal justice.

25 Q Now, when you say "bodily fluids,"

Spalding - direct

1 besides blood what other fluids are you talking  
2 about?

3 A We're talking about mainly semen and  
4 saliva.

5 Q Now Agent Spalding, in connection with  
6 a case referred to as State V Byron Halsey did you  
7 have the responsibility of coordinating the  
8 investigation activities on the part of the  
9 Federal Bureau of Investigation involved in this  
10 case?

11 A With respect to laboratory activity,  
12 yes.

13 Q And as a result of that responsibility  
14 did you pass on certain pieces of evidence to be  
15 examined by other agents in other specialties?

16 A Yes. I was the primary examiner in  
17 the laboratory and received a major quantity of  
18 evidence in December of 1985. As primary examiner  
19 it was my responsibility to determine what other  
20 examiners in the laboratory would need evidence  
21 for their examinations, see that that evidence got  
22 to them, receive that evidence back from them, and  
23 see that their results were included in outgoing  
24 reports.

25 Q And, did Agents Poavac, Feebler,

Spalding - direct

1 Corby, Tobin, and several other agents participate  
2 in the investigation for the FBI in this case?

3 A That's correct.

4 Q Now as coordinator of the Federal  
5 Bureau of Investigation's activities involved in  
6 the examinations of this evidence did you upon  
7 request forward notes of all the examinations  
8 performed by the examiners in this case?

9 A I did forward notes which reflect, to  
10 the best of my knowledge, all of the background  
11 and examinations, yes.

12 Q Now Agent Spalding, in connection with  
13 this case involving your responsibility did you  
14 receive numerous items to examine for blood semen  
15 or saliva?

16 A Yes.

17 Q And, are those numerous items -- would  
18 it be fair to say that many of the items as a  
19 result of your examinations resulted in  
20 nondetection of any blood, semen, or saliva?

21 A That's correct.

22 Q Could you come down off the witness  
23 stand for a second?

24 A (complies).

25 Q Special Agent Spalding, I show you



Spalding - direct

1 what has been marked S-14 for identification,  
2 Court's number, and ask you whether you received  
3 that item?

4 A Item S-14 is also -- or is a brown  
5 paper bag, and it contains a plastic vial of  
6 blood. It was labeled K-9. It bears my  
7 initials. And it was received at the FBI  
8 Laboratory for examination.

9 MS. VAN PELT: You said S-14?

10 THE COURT: S-13 -- S-14.

11 MS. CLARK: Oh, S-114.

12 I'm sorry.

13 Q And this --

14 THE WITNESS: That's right, it was  
15 S-114.

16 Q -- purports to be a blood sample from  
17 the victim, Tina Urquhart; correct?

18 A Yes.

19 Q And showing you what's been marked  
20 S-141, tell me whether you received that item and  
21 whether you examined it.

22 A S-141 is a similar envelope similarly  
23 marked with my initials, but the K number 12 for  
24 laboratory identification. It's a blood sample --  
25 or purported to be a blood sample from [REDACTED]

Spalding - direct

1 [REDACTED], and it was received with the rest of the  
2 evidence.

3 Q Showing you what has been marked S-165  
4 I ask you whether you received that particular  
5 specific specimen and examined it?

6 A S-165, is a similar envelope  
7 containing a test tube of blood labeled K-13 under  
8 the same identifying characteristics. And with  
9 the rest of the samples it was received for the  
10 examination.

11 Q And that purports to be the blood  
12 sample from the defendant in this case, Byron  
13 Halsey?

14 A That's correct.

15 Q Showing you what has been marked S-26,  
16 I ask you whether you have received and examined  
17 that item?

18 A S-126 was received with the remainder  
19 of the evidence in the case. It is a piece of  
20 plaster and some debris in an envelope similar to  
21 those previously described.

22 THE COURT: That's S-26; right?

23 MS. CLARK: Yes, sir.

24 THE WITNESS: I'm sorry.

25 Q Agent Spalding, I show you what's been

Spalding - direct

1 marked S-1 for identification and ask you whether  
2 you've received and examined that particular item?

3 A Yes, it was received and examined. It  
4 is identified by, as the other items, my markings  
5 in this case, Q-5 and RPS.

6 Q I show you what has been marked S-33  
7 for identification, and I ask whether you have  
8 received and examined that item?

9 A The item was received by me at the  
10 laboratory, yes, and it bears the identifying  
11 characteristics, Q-27, and my initials, as well as  
12 items -- or markings that were placed by various  
13 stains on there.

14 Q Showing you what has been marked S-113  
15 I ask you if you received this item and whether  
16 you examined it?

17 A S-113 consists of two white sheets,  
18 each of which bear my markings, and, again, were  
19 received with the evidence in this case, yes.

20 Q And those are Q-137 number; is that  
21 correct?

22 A That is number Q-137 for laboratory  
23 markings, yes.

24 Q It purports to be the sheets  
25 underneath [REDACTED]?

Spalding - direct

1           A       Her name is on the outside of the bag,  
2       yes.

3           Q       Showing you what has been marked S-4  
4       for identification I ask you whether you received  
5       and examined that item?

6           A       S-4 is a paper bag containing  
7       fragments of glass. It was labeled as Q-7. And  
8       it bears my initials. It was received with the  
9       remainder of the evidence.

10          Q       Showing you what has been marked S-14  
11       I ask you whether you received and examined that  
12       evidence?

13          A       S-14 is a similar bag to the one I  
14       just discussed. It's labeled Q-16 with my  
15       initials. It contains a piece of cotton gauze.  
16       And it was received along with the remainder of  
17       the evidence.

18          Q       And the paper alleges that it came  
19       from the floor under [REDACTED] body; correct?

20          A       That's correct.

21          Q       Now, I show you what's been marked  
22       S-46 and ask you whether you received and examined  
23       that particular item?

24          A       S-46 is a paper bag labeled with the  
25       similar labeling stamped as on the rest of the

Spalding - direct

1 items examined so far -- or discussed so far. It  
2 also bears Q-41, my initials. And it contains a  
3 piece of blue cloth which appears to be the shirt  
4 from -- or shirt sleeve, I mean, from a garment.  
5 It bears my markings, Q-41, and various other  
6 markings placed on there near stains for  
7 identification purposes.

8 Q I show you what has been marked S-49  
9 for identification and ask you whether you  
10 received that and examined it?

11 A S-49 is a paper bag similar to the  
12 others discussed so far, it's labeled Q-81. In it  
13 contains -- or in it is contained some debris, and  
14 in addition to the debris some pieces of plastic  
15 which bear identification markings placed on by  
16 the FBI Laboratory.

17 A JUROR: I couldn't hear his answer.

18 THE WITNESS: The markings were placed  
19 on it at the FBI Laboratory.

20 THE COURT: Okay.

21 Q Showing you what has been marked S-50  
22 for identification I ask you whether you received  
23 and examined that item?

24 A 50 is a similar bag to the others.  
25 The label Q-82, my initials. It contains blue

Spalding - direct

1 fabric, several pieces. They bear my markings for  
2 identification. These materials were identified  
3 or examined at the laboratory with the remainder  
4 of the evidence.

5 Q Showing you what has been marked S-127  
6 I ask you whether you received and examined that  
7 item?

8 A S-127, again, is a bag like the rest.  
9 It's labeled Q-138. It contains a piece of velour  
10 or fabric with a knap. It appears to be a cushion  
11 cover for a piece of upholstery probably. It bears  
12 the markings that were placed on it during  
13 examinations for blood and body fluids at the FBI  
14 Laboratory.

15 Q Showing you what has been marked S-128  
16 for identification I ask you whether you received  
17 and examined that item?

18 A S-128 is a bag like the rest labeled  
19 Q-139 with my initials. It contains a similar  
20 piece of fabric. It looks like a cushion cover.  
21 Also bears my initials and markings, and was  
22 examined with the remainder of the evidence in the  
23 matter.

24 Q Excuse me.

25 Agt. Spalding, showing you what has

Spalding - direct

1 been marked S-32 for identification I ask you have  
2 you received and examined that item?

3 A S-132, again, a bag similar to the  
4 rest, labeled 153 with my initials. It contains a  
5 white sheet which is similarly labeled and was  
6 examined at the FBI Laboratory in this matter.

7 Q And this bag with the markings  
8 purports to be the sheet of [REDACTED];  
9 correct?

10 A Yes.

11 Q Showing you what has been marked S-88  
12 I ask you whether you've received and examined  
13 that at the lab?

14 A S-88 is an envelope similar to those  
15 that the original known blood samples were in at  
16 the beginning of our discussion. It is labeled  
17 Q-85 with my initials and contains some debris.  
18 It's labeled wood with blood from south side of  
19 bottom platform of east side fire escape. It was  
20 examined at the FBI Laboratory, yes.

21 Q Showing you what has been marked S-150  
22 for identification I ask you whether you've  
23 received and examined that item?

24 MS. VAN PELT: What exhibit?

25 MS. CLARK: 150.

Spalding - direct

1           A       S-150 is a similar bag to the rest  
2 we've seen. It is labeled Q-91 with my initials.  
3 In it is contained a down-filled jacket, nylon  
4 shell. It bears the markings placed on it during  
5 examination, Q-91, my initials. And was examined  
6 at the FBI Laboratory during the examinations of  
7 all these in this matter.

8           MS. CLARK: Your Honor, could I have a  
9 moment, please?

10          THE COURT: Certainly.

11          Q       Showing you what has been marked S-130  
12 for identification I ask you whether you received  
13 that item and examined it?

14          A       S-130 is another bag of similar nature  
15 to the ones we've seen. It's marked as Q-141 with  
16 my initials. It contains a pair of pants,  
17 pajama-type pants and is -- which are also labeled  
18 Q-141 and the initials. It was examined and  
19 received with the remainder of the evidence in  
20 this matter.

21          Q       Showing you what has been marked S-38  
22 for identification I ask you whether you've  
23 received and examined that item?

24          A       S-38, is a smaller paper bag bearing  
25 the Q number 36, and my initials, contains a light



Spalding - direct

1 bulb which was received and examined in connection  
2 with this matter, yes.

3 Q Showing you what has been marked S-56  
4 for identification, did you receive and examine  
5 that item?

6 A S-56 is a paper bag similar to the  
7 large ones that we've looked at already. It  
8 contains a Converse jogging shoe. It's labeled  
9 Q-48 as is the bag itself. This was also received  
10 with the remainder of the evidence and examined.

11 Q Showing you what has been marked S-131  
12 for identification I ask you whether you recognize  
13 that item?

14 A S-131 is another large bag similar to  
15 those we've seen so far. It bears the initials  
16 RPS and Q-142. It contains a pair of white Fruit  
17 of the Loom, size ten, jockey shorts. These are  
18 also labeled Q-142 with my initials.

19 Q I show you what has been marked S-129  
20 and ask you whether you received that item?

21 A S-129 is a similar paper bag to the  
22 large ones we've seen so far. It is labeled  
23 Q-140, and bears my initials. And it contains a  
24 blue, yellow, white, and red shirt, Haven brand,  
25 size small, which has similar markings in terms of

Spalding - direct

1 Q-140 on it. And was received and examined in  
2 connection with this matter.

3 Q I show you what has been marked S-100  
4 for identification and ask whether you received  
5 and examined that item?

6 A S-100 is a small envelope similar to  
7 those contained in the blood samples we have  
8 discussed initially. It's labeled Q-109 with my  
9 initials. It contains a swab which is similarly  
10 labeled. And was examined after receipt at the  
11 FBI Lab in this matter.

12 Q And that purports to be a vaginal swab  
13 from [REDACTED]?

14 A Yes.

15 Q Showing you a folder that has slides  
16 that have been marked S-90 through S-99 I ask you  
17 whether you received and examined those items?

18 A S-90 through S-99 are microscope  
19 slides in a cardboard holder. They are all  
20 labeled with my initials and the Q numbers which  
21 range from Q-110 through 123. I should list those  
22 specifically in as much as the Q numbers are not  
23 consecutive with the S numbers.

24 S number 90 is Q-110.

25 S number 91, Q-111.

Spalding - direct

1 S-92, Q-113.

2 S-93, Q-114.

3 S-94, Q-116.

4 S-95, Q-117.

5 S-96, Q-119.

6 S-97, Q-120.

7 S-98, Q-122.

8 And S-99, Q-123.

9 These items were received and examined  
10 in connection with this matter at the FBI  
11 Laboratory.

12 Q Showing you what has been marked  
13 S-108C, could you tell me whether you received  
14 that item and examined it?

15 A S-108C is a small manilla envelope.  
16 It is identified as a fingernail scraping or  
17 cutting from Tina Urquhart. It is also labeled as  
18 Q-128.

19 Q Showing you --

20 A And was received in this matter.

21 Q Showing you what has been marked  
22 S-142A through E, I ask you whether you've  
23 received and examined those items?

24 A That was S-142A through E?

25 Q Yes.

Spalding - direct

1           A           Were examined. They are purported to  
2 be fingernail scrapings from [REDACTED].  
3 They are labeled with Q-161 through 165 and my  
4 initials.

5           Q           Showing you what is marked 143A  
6 through E, tell me, did you receive that item --  
7 those items and examine them?

8           A           S-143A through E are similar envelopes  
9 to those I just had in my hands. They are labeled  
10 Q numbers 166 through 170, bear my initials, and  
11 were received for examination with the rest.

12          Q           Showing you what has been marked 109B  
13 I ask whether you received that item and examined  
14 it?

15          A           This would have been part of the  
16 fingernail scrapings from [REDACTED] which  
17 would have been received, yes.

18          Q           Showing you --  
19                      MS. VAN PELT: Can we have the Q  
20 number for that?

21                      THE WITNESS: I'm sorry.  
22                      That's 132.

23                      MS. CLARK: Q-132.

24          Q           Showing you what has been marked S-87  
25 for identification will you tell us whether you

Spalding - direct

1 received and examined that item?

2 A S-87 is an envelope similar to those,  
3 again, that the known bloods are in that we've  
4 discussed initially. It contains debris. It is  
5 labeled as Q-84 with my initials. It is listed as  
6 containing wood with blood from south side of  
7 bottom platform of east side fire escape. It was  
8 received with the remainder of the evidence for  
9 examination.

10 Q Showing you what has been marked S-111  
11 for identification I ask you whether you've  
12 received and examined that item?

13 A S-111 is a large paper bag like some  
14 of the previous ones we've looked at. It is  
15 labeled with Q-118 and my initials. It also  
16 contains a pair of panties similarly labeled and  
17 was examined -- received and examined in  
18 connection with this matter at the laboratory.

19 Q Showing you what's been marked S-119 I  
20 ask whether you've received this item and examined  
21 it?

22 A S-119 is a plastic screw cap vial  
23 containing a swab. It is labeled as Q-152, and  
24 bears my initials.

25 Q I show you what has been marked S-89

Spalding - direct

1 for identification and ask you whether you have  
2 received and examined that item?

3 A S-89 is another envelope similar to  
4 some of the rest we've seen, about five inches by  
5 seven inches. It bears the Q number 107 and my  
6 initials. And it contains a gauze pad similar to  
7 any first aid gauze pad similarly labeled that was  
8 received at the laboratory for examination.

9 Q Showing you what has been marked S-166  
10 for identification I ask you whether you've  
11 received and examined that item?

12 A S-166 is another envelope similar to  
13 the one I just looked at, it's labeled K-14 and my  
14 initials. It also contains a gauze pad similar to  
15 a first aid gauze pad. It's label K-14 again with  
16 my initials. This is purported to be a saliva  
17 sample on gauze pad from defendant, Byron Halsey.  
18 It was examined also at the laboratory in this  
19 matter.

20 Q Showing you what has been marked S-77  
21 for identification I ask you whether you've  
22 received that and whether you examined it?

23 A S-77 is a plastic bag bearing the  
24 State's Exhibit sticker as well as Q-63, and my  
25 initials. It contains a brown fitted sheet which

Spalding - direct

1 is similarly labeled and was received in this  
2 matter for examination.

3 Q Showing you what has been marked S-118  
4 for identification could you tell me whether you  
5 received and examined that item?

6 A Yes. S-118 is an another plastic  
7 screw cap vial containing a swab. It has been  
8 given the Q number 146 and my initials. Those  
9 markings are also on tape attached to the swab  
10 inside the tube.

11 Q Okay.

12 Agent Spalding, will you retake the  
13 witness stand, please?

14 A (complies).

15 MS. CLARK: Your Honor, could we have  
16 the blackboard brought over here?

17 MS. VAN PELT: I'm just concerned  
18 because I have a lot of papers and can't -- I'll  
19 move.

20 THE COURT: No place for you to sit  
21 back there.

22 Move your chair out here.

23 MS. VAN PELT: I'm going to sit on Mr.  
24 Tucker's lap for the duration.

25 THE COURT: Whatever.

Spalding - direct

1           Q           Special Agent Spalding, starting with  
2           the examinations you performed to see if you could  
3           detect the presence of blood, will you tell us  
4           what examinations you performed and how you go  
5           about it?

6           A           Yes. In order to insure the  
7           elimination of any errors, eliminate human error  
8           as much as possible in any scientific procedure  
9           it's routine to follow a relatively  
10          well-established protocol, and that's what I'll  
11          describe for you now.

12                   Excuse me.

13                   In examining evidence in the FBI  
14          serology unit the first step for the  
15          identification of blood would be a rather obvious  
16          one, and that is to look for stains that one would  
17          suspect of being blood.

18                   However, it's important to note that  
19          just looking is not all that's done, it's both  
20          microscopic with the unaided eye -- it may be  
21          microscopic with stereo microscopes or what have  
22          you; but it would be a thorough inspection to  
23          identify any material, or stains, or crusts, or  
24          substance that is, based on its physical  
25          appearance, worthy of suspect in terms of blood.



Spalding - direct

1                   Once such a material is found the  
2 first -- or next step would involve the  
3 application of a highly sensitive chemical  
4 screening test which is perhaps of greater value  
5 if it's negative than if it's positive, for if it  
6 is negative it tells us that blood is not present  
7 in any sufficient quantity for further  
8 examination; and, therefore, we go on to something  
9 else and not spend any more time working with the  
10 item we've got.

11                   On the other hand, if the test is  
12 positive it is -- it represents a very strong  
13 indication that blood is present in the stain, or  
14 crust, or whatever it is we've selected for  
15 examination.

16                   When this positive result is obtained,  
17 however, it is always recognized that there are  
18 substances in nature, some vegetable matters and  
19 so forth which can give false positive results or  
20 may give misleading results, at least; and,  
21 therefore, we feel it necessary to conduct a  
22 confirmatory test with respect to any positive  
23 test that we get with regard to chemical  
24 screening.

25                   This confirmatory test is one which

Spalding - direct

1 employs a -- well, involves taking a small  
2 quantity of the stain, placing it on a microscope  
3 slide, and adding a chemical reagent, heating it  
4 for a moment or two, and then examining the result  
5 under the microscope for the presence of specific  
6 crystals.

7           These crystals which are based on the  
8 presence of hemoglobin in blood are very  
9 conclusive evidence of the presence of blood and  
10 allow us to say then with scientific certainty  
11 that blood is present.

12           If, on the other hand, we obtain a  
13 positive preliminary screening test, the chemical  
14 test, and then are not able to identify the  
15 crystals with a confirmatory test we do not report  
16 the presence of blood on an item.

17           The sensitivity difference between the  
18 two tests is such that it is possible to have a  
19 positive chemical screening test and not get a  
20 positive chemical test.

21           Q       Agent Spalding, let me stop you right  
22 there.

23                   Did that happen with some of the items  
24 in this particular case?

25           A       It did, I believe, happen with one

Spalding - direct

1 item, yes.

2 Q Okay.

3 Will you go on?

4 A Following the identification of blood  
5 it's important to recognize two things; number  
6 one, we need to further characterize that blood  
7 before we can even start thinking about blood  
8 typing; and, number two, a need to recognize, at  
9 least for our own appreciation for the situation,  
10 that we are, as we move along through the testing  
11 procedures, using up fragments or quantities of  
12 this material, so that as we go along it may  
13 result in us not being able to identify blood, or  
14 not having any left to work with any further, or  
15 we may be able to go a few steps further and not  
16 be able to identify anything any further than that  
17 because we've used it up.

18 So the next step would be the  
19 ~~identification~~ of animal origin, is it human or  
20 ~~animal~~. And if it's animal what kind of animal it  
21 might have come from, cat, dog, sheep, horse, cow,  
22 deer. We have the capability, and many  
23 laboratories do, of identifying most of the  
24 domestic -- common domestic animals and a large  
25 number of wild animals that are indiginious to

Spalding - direct

1 this country.

2 We are in contact with the National  
3 Park Service and the Park Rangers in various  
4 national parks who help us to obtain the necessary  
5 substances, the necessary reagents and materials  
6 to identify animal bloods for cougar, for  
7 instance, or bear, or alligator, or what have you,  
8 so that a number of animals are possible to  
9 identify in terms of the origin of the blood.

10 If, on the other hand, we're dealing  
11 with human blood -- I'm sorry.

12 Q I'm sorry.

13 Now, in this particular case, Agent  
14 Spalding, did you examine the known blood samples?

15 A Yes.

16 Q Okay.

17 And what was -- what examination did  
18 you perform when you examined the known blood  
19 samples?

20 A Basically in terms of what I've  
21 discussed so far there is no application of these  
22 tests to known blood samples in as much as they  
23 are received as liquid samples taken directly from  
24 a body or individual by a medical individual,  
25 medical doctor, or medical technician, and are

Spalding - direct

1 recorded as such. And, they are submitted to the  
2 laboratory as known standards, as material for us  
3 to use in identifying the genetic characteristics  
4 of the individual that it originated from.

5 So that when a blood sample in a test  
6 tube is sent into the laboratory we feel no real  
7 need to ascertain that the individual it came from  
8 is human. We are we kind of assuming that based  
9 on the doctor's word.

10 However, a series of tests is applied  
11 which, in principle, is much like the same testing  
12 procedures that we use in dried stains, so that  
13 from here on we could probably discuss both the  
14 dried stains and liquid blood samples  
15 synonymously, in general principle any which way,  
16 and that is that we are first going to be looking  
17 at the ABO blood group system.

18 And at this point it would be helpful,  
19 at least, if we were to recognize that the blood  
20 does contain many, many different blood group  
21 systems.

22 And for simplicity let's define a  
23 blood group system as a set of chemical  
24 characteristics which are present in the blood  
25 which are genetically controlled; and, therefore,

Spalding - direct

1 going to be the same throughout an individual's  
2 lifetime barring things like transfusions and  
3 which will be useful in discriminating between two  
4 different blood samples or two different  
5 individuals.

6 So, if we recognize that then there  
7 are a number of different blood group systems that  
8 can be used for this purpose, one of them we know  
9 is the ABO blood group system. Many of us are  
10 very familiar with it.

11 And an individual might be Type A,  
12 Type B, Type O, Type AB.

13 And an individual in this particular  
14 system -- the chemical characteristics we're  
15 looking at, too, we're looking at antigens, and  
16 we're looking at antibodies.

17 And we try to identify antigens and  
18 antibodies present in the stain or in the liquid  
19 blood sample which will give us a conclusive  
20 description of the person's blood type.

21 If we are not able -- if we are able  
22 to identify antigens then we might report just the  
23 antigen if that identification is sufficiently  
24 conclusive.

25 But if we are not able to identify

Spalding - direct

1 both then it is not a policy to report any kind of  
2 blood group with regard to that individual in the  
3 ABO system.

4 Moving on to some of the other blood  
5 group systems that we have, there are many enzymes  
6 and proteins which occur in blood which have  
7 slight molecular differences, and these enzymes  
8 and proteins represent blood group systems because  
9 different people have slightly different forms  
10 with regard to these molecular differences.

11 So that if I were to talk about the  
12  $\star$  PGM system, PGM stands for the name of an enzyme  
13 known as ptospougoucomutose.

14 P-t-o-s-p-o-u-g-o-u-c-o-m-u-t-o-s-e.

15 Ptospougoucomutose or PGM is a  
16 commonly examined enzyme in crime laboratories.

17 Depending upon the methodology employed,  
18 either three types, Type 1, Type 2, or Type 2-1,  
19 or ten possible types with some of the more  
20 sophisticated and more recently developed  
21 technology can be identified.

22 And in the case of ten different types  
23 we're dealing -- I won't try to name them all --  
24 but we're dealing with 1 pluses, and 2 pluses, and  
25 1 minuses, and 2 minuses, and so forth.

Spalding - direct

1           But these have the same value as  
2 saying that if you're Type A, and you're Type B in  
3 the ABO system, in that sense you're different and  
4 can be shown to be different than with PGM.

5           If one of us is 1 plus and the other  
6 one is a 2 plus, then you are just as different in  
7 the PGM system as you are in the ABO system.

8           And in looking at a stain then, if  
9 that stain is a 1 plus then it could not have come  
10 from the person who is a 2 plus; but it could have  
11 come from the person who is a 1 plus.

12           So this is where the value of this  
13 begins to come into play.

14           We analyze a variety of different  
15 enzymes depending upon the nature of the  
16 situation, and the condition of the evidence, the  
17 availability of the stain, the quantity of the  
18 stain, and a variety of factors. We may be able  
19 to analyze as many as a dozen different  
20 characteristics in the blood group systems in this  
21 manner.

22           This is not always done, as I say, for  
23 reasons that I've just outlined.

24           Q       Agent Spalding, is what you're telling  
25 us here today that despite what we unknowledgable



Spalding - direct

1 people thought that there are many other  
2 characteristics in blood besides what we refer to  
3 as A and B characteristics that can identify  
4 someone?

5 A That is correct.

6 Q All right.

7 Now in this particular case did you  
8 take what's referred to as the K samples and  
9 examine them?

10 A Yes, they were examined.

11 Q And did you perform the tests that  
12 you've just described to us to be able to  
13 determine characteristics on these samples?

14 A They were examined to determine as  
15 much as we could from them, yes.

16 Q Okay.

17 Agent Spalding, will you come down  
18 here and show us on this board --

19 A (complies).

20 Q Would you depict for us the K samples  
21 and what you found?

22 THE WITNESS: Is that visible?

23 THE JURY: Yes.

24 Q Is there a pointer there for you?

25 A I'm sorry.

Spalding - direct

1 Q Is there a pointer there for you?

2 A Yes, there is.

3 I have just constructed a table on the  
4 chart paper.

5 Across the table is divided into two  
6 sections.

7 And across the top half we have the  
8 vertical columns headed ABO, PGM, EsD -- that's a  
9 small S -- GLO, EAP, ADA, AK.

10 Horizontally at the extreme left K-9,  
11 K-12, and K-13.

12 K-9 I understand to be from Tina  
13 Urquhart.

14 K-12 from [REDACTED].

15 And K-13 from Byron Halsey.

16 Across the bottom half of the table  
17 the same horizontal arrangement.

18 The vertical columns are headed by Hp,  
19 GcTf, CAII, G6PD, and Pep A.

20 Q Now am I correct that what you refer  
21 to as the ABO and the PMG's are the different  
22 characteristics than you would be looking for to  
23 be able to classify the blood samples?

24 A Yes. The vertical headings that I  
25 just outlined are abbreviations.

Spalding - direct

1           The ABO, of course, is well-known to  
2 us; but, the PGM, and so forth all the way along  
3 are abbreviations for the names like the  
4 ptospougoucomutose which I outlined and other  
5 names which reflect the names of enzymes or  
6 proteins which occur in blood and exhibit  
7 characteristics or minor differences in molecules  
8 which enable us to distinguish between different  
9 individuals because of their genetic control or  
10 genetic makeup.

11           Q       Agent Spalding, K-9, would you put  
12            name next to that?

13           A       (complies).

14           Q       K-12 would be           .

15                   And the remaining K number the  
16 defendant in this case.

17           A       (complies).

18           Q       And would you note on that as you go  
19 along the results of your examination when you did  
20 -- let's say on K-9 performed the tests that  
21 you've told us about.

22                   What results did you get on K-9?

23           A       I will fill in the chart and then list  
24 the complete results as soon as I'm finished  
25 writing for convenience, if it's all right.

Spalding - direct

1                   With respect to K-9, I've listed the  
2 ABO blood type as Type AB; the PGM as 1 plus; the  
3 esterase D blood type as Type 1; the GLO testing  
4 was inconclusive.

5                   Basically what this means is that when  
6 the tests were run the result was not sufficiently  
7 clear cut, in my opinion, to warrant my concluding  
8 a particular type for that particular test.

9                   In this case we have normally a 1-A-2  
10 or a 2-1. And I felt comfortable calling none of  
11 those results with regard to the result we got for  
12 that sample.

13                   EAP Type B. ADA Type 1. AK Type 1.  
14 HP type 2-2-1-B. GC Type 1. TF Type C. And *una*  
15 inconclusive results for the remaining headings  
16 CAII, G6PD, and Pep D -- or PEP A.

17                   Q           Now, Agent Spalding, for what's  
18 referred to as K-12, did you perform the same test  
19 and note the results on that particular item that  
20 was submitted to you for examination?

21                   A           Yes, the results I've set forth for  
22 K-12. The ABO testing was inconclusive.

23                   Q           Now, could you tell us in your opinion  
24 why it was inconclusive or why you came to a  
25 decision as to inconclusive?

Spalding - direct

1           A           Well, basically, as I said, with the  
2 GLO, the results that I obtained were not  
3 sufficiently clear cut to warrant my deciding  
4 whether it was Type A, or Type B, or whatever.

5                       There were indications of the type,  
6 but not sufficient for me to conclude that this  
7 sample was of a particular blood type.

8           Q           Would you continue with K-12, please?

9           A           K-12 then inconclusive for the ABO.  
10 The PGM Type 1 plus. ESD Type 1. GLO 2-1, EAP *Tyrome*  
11 B. ADA 1. AK 1. HP inconclusive again, GC 1, TF  
12 1, CAII 1. And inconclusive for G6PD and Pep A.

13           Q           Now Agent Spalding, you did the same  
14 thing for K-13?

15           A           That's correct.

16           Q           Would you note the results you found  
17 on those tests?

18                       MS. VAN PELT: Excuse me, your Honor,  
19 I believe the agent when he was stating the  
20 results of TF said 12 and on the chart it's 1 C.

21                       THE COURT: He said --

22                       MS. VAN PELT: On TF.

23                       THE WITNESS; The GC type on K-12 is  
24 Type 1. The TF type on K-12 is Type C.

25           A           For K-13 I'll list the observed

Spalding - direct

1 types.

2 With these results we see that K-13 is  
3 Type O. PGM 1 plus 2 plus. ESD Type 1. GLO Type  
4 2. EAP Type B. ADA Type 1. HP Type 2-1, and  
5 that I would distinguish from the 2-1 M that is  
6 listed for K-9. These are different. GC Type 1,  
7 TF Type C. CAII Type 1. And G6PD Type A. Pep A  
8 inconclusive. *Bugon*

9 Q Okay.

10 Agent Spalding, want to retake your  
11 seat?

12 A (complies.)

13 MS. CLARK: Your Honor, could I have  
14 this marked?

15 THE COURT: S-276.

16 (Whereupon a chart was marked S-276  
17 for identification.)

18 Q Agent Spalding, do I understand you  
19 correctly that you perform all these tests when  
20 you get a blood sample such as in the tubes that's  
21 been held up before the jury today?

22 A That's correct.

23 Q And, when you see something that  
24 appears to you to be a stain that might be blood  
25 you test it for the existence of it?

Spalding - direct

1 A I'm sorry.

2 Q You test it to see if it is blood?

3 A That's correct.

4 Q Do you perform these kind of tests  
5 then if it shows it's human blood?

6 A If it's human blood we would attempt  
7 to identify the characteristics in that stain that  
8 we have seen in the known blood samples. We  
9 simply -- it's simply a matter of testing the  
10 stains to see what types are in the stains and  
11 then a list like you have in front of you would  
12 enable you to say, well, it is consistent with  
13 having come from one of these samples, but not  
14 consistent with having come from the other, or  
15 having come from the source represented by the  
16 samples or what have you.

17 Q All right.

18 Agent Spalding, directing your  
19 attention to what is your Q-4 number which is the  
20 Court's S-26 number, you testified you received  
21 and examined that particular item?

22 A Yes.

23 Q Could you tell us after you received  
24 and examined that item which purports to be a  
25 piece of plaster and scrapings, what, if anything,

Spalding - direct

1 you concluded?

2 A The material in the envelope was  
3 identified as containing human blood. Testing  
4 procedures disclosed the ABO Type AB, PGM 1 plus,  
5 EAP B, ADA 1, AK 1. And TF C.

6 Now as I indicated earlier, the choice  
7 of tests may result -- or may mean -- may be a  
8 result of sample quantity, and it may be a result  
9 of looking at the knowns to see where differences  
10 are, so that, for instance, in some cases it might  
11 be more advantageous to test in a system -- in a  
12 blood group system where there are known  
13 differences rather than to test in a system where  
14 there are no differences.

15 So that this represents the -- some of  
16 the complete results, some of the conclusive  
17 results on Q-4.

18 Or S-26 was it?

19 Q Yes.

20 A There may have been, and I would say  
21 was probably more testing done. Some of it was  
22 inconclusive. And there may have been some tests  
23 not done for the purpose -- because of  
24 insufficient sample or something of that nature.

25 Q Now as a result of what you observed



Spalding - direct

1 did you -- were you able to make a conclusion as  
2 to whose blood was on Q-4?

3 A The blood there is consistent with  
4 having originated from a source represented by [REDACTED]  
5 K-9, [REDACTED], but not consistent with K-13, or K-12,  
6 or K-13. *bug*

7 Q Now directing your attention to Q-5  
8 which is the light bulb purported to be found next  
9 to [REDACTED], S-1 of the Court markings, did  
10 you examine and observe the results of your  
11 examination for that particular --

12 A That was Q-5?

13 Q Yes, sir.

14 A Yes. Again, the result was Type AB,  
15 and PGM 1 plus.

16 Q And did you reach a conclusion as to  
17 whose blood that was consistent with?

18 A Yes, a conclusion similar to Q-4,  
19 ~~consistent with K-9.~~ [REDACTED]

20 Q [REDACTED] blood?

21 A Yes.

22 Q Now directing your attention to what  
23 was your Q-27, the Court's Exhibit S-33, a brick,  
24 could you tell us when you examined that what, if  
25 anything, you found?

Spalding - direct

1           A           Q-27's result was similar to that for  
2           Q-5, namely Type AB, and Type 1 plus in the PGM  
3           system.

4           Q           And as a result did you conclude that  
5           was consistent with [REDACTED] blood?

6           A           Yes.

7           Q           Now directing your attention to Q-137,  
8           Court Exhibit S-114, could you tell us as a result  
9           of your examination what you found?

10          A           137 -- Q-137, that is, was shown to  
11          have blood on it which was of ABO Type AB, PGM 1  
12          plus, ESD 1, EAP --

13                   THE JUROR: Excuse me, your Honor,  
14          could we know what the item was?

15                   THE COURT: It's a sheet.

16                   THE WITNESS: I'm sorry.

17                   MS. CLARK: That purports to be [REDACTED]  
18          [REDACTED] sheet.

19                   THE COURT: When [REDACTED] body  
20          was removed from the basement.

21          A           I'll start again. ABO Type AB, PGM 1  
22          plus, ESD 1, EAP B, ADA 1, AK 1, TF C, and Pep A  
23          1.

24          Q           Now directing your attention --

25                   THE COURT: What does all that mean?

Spalding - direct

1 MS. CLARK: Oh, sorry.

2 Q Did you reach a conclusion as to whose  
3 blood that was consistent with?

4 A Again of the three we have listed it  
5 would be consistent with having originated from  
6 the same source as K-9, namely that of [REDACTED]

7 [REDACTED].

8 Q Agent Spalding, could you tell me --  
9 directing your attention to your Q-7 number, the  
10 Court's S-4 number, identified as broken glass  
11 beneath [REDACTED] --

12 A Yes. The analytical result there was  
13 PGM 1 plus.

14 Q Now as a result of observing what you  
15 say is PGM 1 plus, what, if any, conclusions were  
16 you able to reach as to whose blood that was  
17 consistent with?

18 A If we're considering K-9, 12, and 13  
19 then it could have come from either K-9, or K-12,  
20 or the sources represented by those samples,  
21 namely [REDACTED] or [REDACTED].

22 Q Now, directing your attention to what  
23 is your Q-16 number, the Court Exhibit S-14 number  
24 and identified as a gauze pad beneath [REDACTED], did  
25 you examine that item?

Spalding - direct

1 A Yes.

2 Q And what, if anything, did you observe  
3 and conclude?

4 A The analytical result on human blood  
5 identified -- and all of the Q numbers that we  
6 have discussed so far here since I retook the  
7 stand did have human blood present on them.

8 On Q-16 PGM 1 plus, EAP B, ADA 1, AK  
9 1, TF C.

10 Q And as a result of those observations  
11 what were you able to conclude?

12 A As with Q-7 those results are  
13 consistent with that sample having originated from  
14 the sources represented by K-9 and K-12, namely  
15 [REDACTED] or [REDACTED].

16 Q So what you're telling us is you can't  
17 conclude either [REDACTED] or [REDACTED] as being the source  
18 of that blood?

19 A Based on my -- based on the results I  
20 have, yes, that's correct.

21 Q Now directing your attention to what  
22 was your Q-41 number, the Court's S-46 number, a  
23 piece of blue material purported to be found at  
24 209 East 7th Street, could you tell me what you  
25 found there?

Spalding - direct

1           A        Again, human blood was identified.  
2           The analytical results of that material PGM 1  
3           plus, ADA 1, AK 1, and TF C.

4           Q        And what conclusion did you reach as  
5           far as the source of that blood?

6           A        A similar result to Q-7 and Q-16 in  
7           that the analytical results are such that it is  
8           consistent with that material having originated,  
9           again, from the sources represented by K-9 or  
10          K-12, [REDACTED] or [REDACTED].

11          Q        Now directing your attention to your  
12          Q-81 number, the Court Exhibit 89 number,  
13          purported sheeting to be found outside the window,  
14          could you tell me what you observed there?

15          A        That was 81?

16          Q        Yes, I believe.

17                   MS. VAN PELT: Was the 81 the --

18          Q        I'm sorry.

19                   Q-81, S-49.

20                   THE COURT: Right.

21          A        Again, human blood was identified.

22                   And I might say for all of the samples  
23          that we're talking about where we're talking about  
24          sensitive or blood grouping results, a blood  
25          grouping wouldn't be attempted until human blood

Spalding - direct

1 had been identified. So I'll make that statement  
2 and then not have to remake it every time I talk  
3 about an item.

4 With respect to the item we've just  
5 mentioned which is my Q number 81, we're talking  
6 about a PGM 1 plus, an ADA 1, AK 1, TF C, and CA  
7 1.

8 Q And what conclusion did you reach as a  
9 result of making those observations?

10 A With regard to that I would consider  
11 it consistent with having originated from K-9 or  
12 the same sources as K-9 or K-12.

13 The question might arise that since  
14 the CAII result was inconclusive for K-9, but was  
15 a Type 1 for K-12, that it would be more  
16 consistent with having originated from K-12 or the  
17 source represented by K-12.

18 That doesn't really upset me very much  
19 because a vast majority of the population,  
20 considerably better than 75 to 80 percent of the  
21 population are CA Type 1 anyway, so that -- I  
22 don't have the exact the statistics with me at the  
23 moment, they're in my briefcase, but I'm not too  
24 -- that doesn't upset me too much. And I would  
25 say it's probably it's consistent with the

Spalding - direct

1 originating from both sources.

2 Q Now directing your attention to what  
3 was your Q number 82, and Court Exhibit S-50, blue  
4 smock pieces found in what you've already talked  
5 about which was S-49, could you tell us what, if  
6 anything, you observed when you examined that  
7 item?

8 A Yes. Grouping tests disclosed PGM  
9 Type 1 plus, AK Type 1, GC Type 1, TF Type C, and  
10 CA Type 1.

11 Q And as a result of making those  
12 observations could you tell us what conclusion you  
13 reached as to being able to identify the source of  
14 that particular blood sample?

15 A Again, the same comments I made with  
16 regard to the previous sample, my Q-81, that it  
17 would be consistent with having originated from  
18 [REDACTED] and [REDACTED].

19 And I would say the same thing with  
20 respect to the CA 1 result or CAII Type 1 result.

21 Q Now directing your attention to what  
22 is Q-138, Court Exhibit S-127, and Q-139, Court  
23 Exhibit 128, it purports to be the first one, blue  
24 material cover found nailed to [REDACTED] head, and  
25 the following one, S-128, blue material cover

Spalding - direct

1 under [REDACTED]. Could you tell me, did you make the  
2 examinations and observations of these two items?

3 A Yes.

4 Q And can you tell me what you found?

5 A Grouping tests disclosed 1-A PGM on  
6 the first of those items, my Q-138. That one, I  
7 believe, was the one found in connection with his  
8 head.

9 PGM 1 plus, EAP B, AK 1, GC 1, TF C.

10 In connection with the second item you  
11 mentioned 139, PGM 1 plus, EAP B, AK 1, and GC 1.

12 And based on the results with regard  
13 to these two items I would still have to say that  
14 they're consistent with having originated from  
15 either [REDACTED] or [REDACTED].

16 Q Now, Agent Spalding, directing your  
17 attention to item your Q-153 number, Court Exhibit  
18 S-132, a white sheet purportedly under [REDACTED] to  
19 be removed to the Medical Examiner's Office, could  
20 you tell me the results of the examination of that  
21 item?

22 A Yes. ABO testing on that particular  
23 item disclosed the presence of the B antigen  
24 suggesting it's from a group B, although blood  
25 group B was not absolutely identified.



Spalding - direct

1                   And in retrospect, while the absolute  
2 conclusion of a blood type for K-12 was  
3 inconclusive I did indicate when I introduced that  
4 item -- or spoke about the results on that item  
5 that indications were there as to a possible blood  
6 type. There were weak indications of the B  
7 antigen in that blood not sufficient to  
8 distinguish or say that the sample is of blood  
9 group B, but an indication.

10                   The presence of the B antigen on Q  
11 number 153 --

12                   Q       S number 132.

13                   A       Thank you.

14                   -- distinguishes it from having  
15 originated from either K-9 or K-13, and based on  
16 what I've said thus far indicates a possibility  
17 with regard to K-12. The following results, PGM 1  
18 plus, EAP B, AK 1, and GC 1 are also consistent  
19 with the K-12 sample.

20                   Q       So that it's your belief that Q-151, S  
21 number S-132, the blood on that was from [REDACTED]?

22                   A       Of the three samples that are listed  
23 here I would consider that to be the likely  
24 source.

25                   Q       Now directing your attention to what

Spalding - direct

1 is referred to in your notes as Q-85, the Court's  
2 Exhibit S-88, wood fragments found -- purportedly  
3 found on the fire escape outside 209 East 7th  
4 Street, did you perform examinations on that?

5 A Yes.

6 Q And could you tell me what, if any,  
7 determinations you are able to make?

8 A The examinations disclosed the  
9 presence of human blood. Attempts to determine  
10 any blood type information were inconclusive.

11 Q Now Agent Spalding, directing your  
12 attention to what is your Q-91 and is the Court  
13 Exhibit S-150, purports to be the defendant's tan  
14 and rust jacket. Did you perform any tests on  
15 that?

16 A Yes. And human blood was identified  
17 on that on the inside of the back shoulder area of  
18 the jacket in the general area of the label at the  
19 back of the neck. The results there were  
20 inconclusive as well although human blood was  
21 identified.

22 Q Now, directing your attention to what  
23 is your Q-20A and what is Court Exhibit S-13A, did  
24 you examine that?

25 A Yes.

Spalding - direct

1 Q And what, if anything, did you find?

2 This purports to be fabrics from the  
3 couch in the basement.

4 A A stain of human blood was identified  
5 on that item. However, the stain once identified  
6 as human blood was consumed; and, therefore, no  
7 further examinations were possible.

8 Q And was your exhibit Q-36, the Court  
9 Exhibit S-38, a light bulb purported to be found  
10 on the floor in the furnace room, did you examine  
11 that and make any observations?

12 A Yes. The examinations were conducted  
13 and human blood, again insufficient in quantity to  
14 allow further examinations was identified.

15 Q Agent Spalding, I direct you to what's  
16 your Q-48, the Court Exhibit S-56, which purports  
17 to be a man's gray jogging shoe from the floor of  
18 the south closet of defendant's apartment. Could  
19 you tell me whether you examined that item?

20 A The item was examined with the same  
21 results as the two items I've just spoken about.  
22 Human blood insufficient in quantity for further  
23 examination was identified.

24 Q Now Agent Spalding, directing your  
25 attention to your Q Exhibit 118, Court Exhibit

Spalding - direct

1 S-111, purports to be panties found in [REDACTED]  
2 [REDACTED] mouth. Could you tell me what  
3 examinations, what observations you made there?

4 A Yes. Human blood was identified  
5 although at this point based on the nature of the  
6 garment, a pair of panties, the nature of the  
7 location of those panties in the victim's mouth,  
8 and the fact that we -- when we identify the  
9 victim's blood on an item immediately associated  
10 with the victim when the victim was bleeding it  
11 very -- it means very, very little.

12 After human blood was identified no  
13 further characterizing tests were conducted.

14 Q Now directing your attention to what's  
15 your exhibit Q-140, Court Exhibit S-129, the  
16 pajama shirt purportedly worn by [REDACTED],  
17 could you tell me whether you examined that item?

18 A Yes. And human blood was identified.  
19 And, again, the same consideration was exercised  
20 in terms of no further examinations being  
21 conducted.

22 Q Now directing your attention to what  
23 is your exhibit Q-141 and Q-142, Court Exhibit  
24 S-130 and 131 purports to be the pajama bottom of  
25 [REDACTED] and the underwear of [REDACTED]. Can you tell

Spalding - direct

1 me the result of any examinations you performed  
2 there?

3 A Yes. On these two items also we had  
4 human blood and the option, if you will, was  
5 exercised not to examine further in as much as the  
6 association of the items with the victim was  
7 clear.

8 Q Now directing your attention to your  
9 exhibit Q-109, Court Exhibit S-100, purported to  
10 be a vaginal swab from [REDACTED], could you tell us  
11 what, if any, observations you made on these  
12 tests?

13 A I'm sorry, that was Q-109?

14 Q Yes, sir.

15 A Thank you.

16 In this case blood was identified.  
17 And again because of the nature of the item and  
18 it's association with the victim's blood the blood  
19 was not further characterized.

20 Q And is that true for your Q-110  
21 number, Q-111 number, S-90 and 91, two other  
22 vaginal slides purportedly from [REDACTED]?

23 A That's correct.

24 Q Directing your attention to Q-152,  
25 Exhibit S-119, purported to be a swab of the right

Spalding - direct

1 cheek of [REDACTED], what, if anything, did  
2 you observe there?

3 A The same, basically, that blood was  
4 identified, but knowing the source of that blood,  
5 at least in terms of its collection, no further  
6 examinations were conducted.

7 Q Now directing your attention to Q-161  
8 through 170, which is S-142A through E and 143A  
9 through E, which purports to be the fingernail  
10 scrapings, I believe, of [REDACTED] -- let me just  
11 triple check.

12 THE COURT: That's correct.

13 Q -- [REDACTED], can you tell me  
14 what, if any, observations you made there?

15 A Again in the same -- the same result,  
16 blood was identified, no further examinations were  
17 conducted. However, often, as is in the case of  
18 fingernail scrapings, we are often able to  
19 identify blood and then run out of samples. So it  
20 may be a combination of the decision not to make  
21 further examination or the fact that we ran out of  
22 material.

23 Q Now, directing your attention to what  
24 is your Q-128 number, and the State's Exhibit  
25 S-108C, purports to be fingernail clippings from

Spalding - direct

1 [REDACTED] left middle finger, were you able to make  
2 any observations or detect anything on that?

3 A Yes. In fact, blood was identified.  
4 However, in here it was clear cut that there was  
5 not any more material to work with; and,  
6 therefore, it was -- that was the extent of it.

7 Q Agent Spalding, directing your  
8 attention to what is your Q-84 number, and what is  
9 the Court's Exhibit S-87, wood fragments that  
10 purportedly come from the fire escape at 209 East  
11 7th Street, what, if anything, did you determine  
12 there?

13 A Again, blood was identified. However,  
14 in this case although enough material was present  
15 to try and further analyze or to further analyze  
16 attempts to do that were not possible. In other  
17 words, we were not able to get any result from  
18 those further attempts. In other words, I wasn't  
19 able to say whether it was human blood or not  
20 human blood based on the results of my tests.

21 Q Now, Agent Spalding, you told us that  
22 you also examined many items for the presence of  
23 semen or saliva?

24 A That's correct.

25 Q Would you tell us here today what you

Spalding - direct

1 do when you make examinations for semen or saliva?

2 A All right.

3 With respect to semen I'll discuss  
4 that first.

5 Again, just as with blood, we're  
6 interested in establishing a routine protocol that  
7 is followed for the purpose of identifying and  
8 then characterizing the blood fluid that we're  
9 interested in.

10 Semen is the male reproductive fluid.  
11 It consists in some ways of substances similar to  
12 those in blood. It has a fluid portion, it has a  
13 cellular portion just like blood does.

14 In blood cells we see red blood cells  
15 which color blood red. However, in semen the  
16 sperm cells, or spermatazoa, do not empower any --  
17 necessarily any color to semen.

18 Identifying semen and seminal stains  
19 ~~is basically~~ based on its contents just like  
20 ~~identifying~~ blood.

21 And the first step, as with blood, is  
22 to locate stains that are suspect, stains that  
23 look like semen. Ultraviolet light would be  
24 employed which doesn't always give wonderful  
25 results; but, nevertheless, sometimes helps



Spalding - direct

1 localize areas that might be tested.

2 Visual observation -- careful visual  
3 observation of the item under good lighting  
4 conditions.

5 Tactile examination meaning running  
6 your fingers lightly over the surface of the  
7 fabric to determine differences in stiffness,  
8 differences in texture of the fabric.

9 A variety of things can help locate  
10 stains that would be useful or at least would be  
11 considered for testing.

12 Once such a stain is located it would  
13 be tested for several substances, one is a enzyme  
14 known as acid phosphatase,  
15 a-c-i-d-p-h-o-s-p-h-a-t-a-s-e. Acid phosphatase  
16 is present in semen and in concentration is higher  
17 than in any other fluid in the body.

18 Concentrations that have been given in some texts  
19 range from 20 to 400 times more than any other  
20 body fluid.

21 Thus acid phosphatase is a good  
22 indicator of semen. However, since it is in other  
23 body fluids it is not a positive identifier. It  
24 does help us zero in on the stain that's worth  
25 further testing.

Spalding - direct

1           A second test that would be used would  
2           be one for a substance known as choline,  
3           C-h-o-l-i-n-e. Choline when present with acid  
4           phosphatase gives us a strong indication -- a  
5           stronger indication that we're dealing with a  
6           similar stain; but, again, choline exists in other  
7           areas too, and together with acid phosphatase its  
8           occurrence is rather limited. But we still  
9           consider this as qualified results in the sense  
10          that we haven't absolutely, but we've strongly  
11          indicated the presence of semen.

12                 Following that we would attempt to  
13                 identify one of two things that would conclusively  
14                 identify the stain as semen. One of these would  
15                 be sperm cells. And microscopic observations of  
16                 material taken from the stain would be conducted  
17                 to identify sperm cells.

18                 Sperm cells are small cells  
19                 approximately a 500th-of-an-inch long which means  
20                 that if you put 500 of them together head to tail  
21                 then they'd be about an inch long.

22                 The microspocic observation of these  
23                 cells is proof positive of the presence of semen,  
24                 no question about it.

25                 Q           Agent Spalding, will you stop there a

Spalding - direct

1 second?

2 Do you know whether the presence of  
3 motile spermatozoa is any reliable indicator of the  
4 recentcy or the timing of the deposit?

5 A I know that several articles have been  
6 published by some people.

7 I don't consider the presence of  
8 motile sperm an indicator or reliable if we're  
9 talking about 20 minutes versus an hour or versus  
10 three hours or four hours.

11 Sometimes these cells might be useful  
12 in determining one or two hours versus 24 hours,  
13 or 48 hours of a time interval; but, generally  
14 speaking, the presence of motile sperm is not as  
15 strongly relied upon phenomenon with regard to  
16 establishing time since intercourse or time since  
17 ejaculation with regard to the overall forensic  
18 community as far as I'm aware of.

19 Q What about the absence, does the  
20 absence tell you anything?

21 A No.

22 Q All right.

23 Will you continue with what you were  
24 talking about before I interrupted you?

25 A Okay.

Spalding - direct

1                   The next step, of course, as I say,  
2 involves the identification of semen per se. And  
3 as I indicated, there are two possibilities for  
4 substances, or materials, or items that we'll be  
5 looking for. One was the sperm cells, microscopic  
6 observation. The second would be a protein known  
7 as P-30, P hyphen 30. P-30 is a protein that  
8 exists in the fluid portion of semen in relatively  
9 significant concentrations. The source of the  
10 protein is the prostate gland which males have and  
11 females don't. Therefore, it is a strong -- well,  
12 I don't want to say a strong indicator because we  
13 consider it proof positive just as good as the  
14 presence of sperm cells.

15                   And its main value to us in recent  
16 years, of course, has been in situations where  
17 sexual assaults have occurred and subjects  
18 relative to those crimes have had vasectomies.  
19 The presence of P-30 in stains left has identified  
20 the semen as semen wherein there weren't any sperm  
21 cells anyway to begin with.

22                   So, with the identification of sperm  
23 cells and/or the identification of this protein we  
24 are able to state the presence of semen.

25                   If we were to not be able to identify

Spalding - direct

1 the cells, not able to identify P-30, but were  
2 able to identify the acid phosphatase on the  
3 choline, then it would be reasonable to report  
4 chemical substances characteristically present in  
5 semen, of course indicating a qualified  
6 identification, if you will, of the stains.

7           Following this identification, it's  
8 like I say, with blood we identify and then we  
9 characterize, and we need to do that with semen in  
10 as much as we can. Some of the substances in  
11 semen are common to blood, so that the enzymes --  
12 for instance, PGM occurs in semen, and there's a  
13 phenomenon known as secretor status which affects  
14 some of the chemical substances in blood as well.

15           Secretor status begs a little bit of  
16 explanation in that approximately 80 percent of  
17 the general population belong to a class of  
18 individuals we would term secretors. This means  
19 ~~that~~ chemical characteristics consistent with  
20 ~~there~~ ABO blood type are secreted into body fluids  
21 other than blood.

22           Q       Now would you tell us what body fluids  
23 you're talking about?

24           A       And these body fluids would be such  
25 fluids as vaginal fluid, saliva, and semen, and

Spalding - direct

1 various other body fluids as well for that  
2 matter.

3 In as much as semen -- in as much as  
4 urine is a waste product it doesn't normally have  
5 large quantities of these substances, but  
6 occasionally it can be identified in urine.

7 Q Now, Agent Spalding, did you examine  
8 the saliva sample which is S-166 your Q number --  
9 or K number, K-14, purports to be the saliva  
10 sample from the defendant in this case?

11 A Yes, I did.

12 Q And after examining that what did you  
13 determine?

14 A Well, examination of that was  
15 conducted in conjunction with the blood sample  
16 K-13, and in stating the results for the blood  
17 samples on the board I purposely omitted one of  
18 the tests that we conducted to save it for this  
19 particular time in discussion for purposes of  
20 clarity.

21 Q Do you want to come down here?

22 Want me to switch it or just talk  
23 about it?

24 A I can add it by coming down there or  
25 whatever is convenient for the Court.

Spalding - direct

1 Q Okay.

2 Add it, please.

3 THE COURT: I think what is most  
4 convenient for the Court now is a break.

5 THE WITNESS: Thank you, your Honor.

6 THE COURT: Let's take our mid morning  
7 recess.

8 Don't discuss the case.

9 We'll see you at eleven o'clock.

10 (Whereupon the witness was excused.)

11 (Whereupon the jury was excused.)

12 (Whereupon Court was recessed.)

13

14

15 (Whereupon Court was reconvened as  
16 follows:)

17 THE COURT: Anything before I bring  
18 out the jury?

19 MS. CLARK: No.

20 THE COURT: Bring out the jury.

21 (Whereupon the jury was brought out.)

22 THE COURT: All right.

23 Mrs. Clark.

24 MS. CLARK: Thank you, your Honor.

25

Spalding - direct

1 R O B E R T P. S P A L D I N G, having  
2 been previously sworn, resumed the stand, and  
3 testified as follows:  
4

5 CONTINUED DIRECT EXAMINATION BY MS. CLARK:  
6

7 Q Now, Agent Spalding, you were talking  
8 before we broke about secretor status.

9 A Yes.

10 Q And you said that some 80 percent of  
11 the population secretes substances, and that you  
12 can type much like we can type blood, right, in  
13 their bodily fluids?

14 A Yes.

15 Q Now can you determine secretor status  
16 from looking at blood?

17 A Yes. This particular situation is  
18 based on a blood group system, again, a system of  
19 chemical characteristics in the blood genetically  
20 controlled and useful for identification  
21 purposes.

22 This system is known as the Lewis  
23 System. Its named after the woman who the  
24 characteristics were first discovered in in 1946.

25 The system is based mainly on two



Spalding - direct

1 characteristics, a Lewis A characteristic and a  
2 Lewis B, or Lewis A antigen and B antigen or  
3 factor, if you prefer, whatever.

4 There are three major types that are  
5 commonly observed in the Lewis System, and I have  
6 already, during the break, placed Lewis testing  
7 results for specimen K-9 and specimen K-13 on our  
8 chart which I completed earlier.

9 Those are listed as Lewis A negative/B  
10 negative for K-9 from Tina Urquhart.

11 And Lewis A positive/B negative for  
12 K-13 from Byron Halsey.

13 These two designations represent two  
14 of the three common types in the Lewis System.

15 The third is one which would be  
16 designated as Lewis A negative/B positive.

17 Now how this relates to the individual  
18 who is a secretor and who is a nonsecretor is  
19 this, the nonsecretor is exemplified by the Lewis  
20 Type A plus B negative -- A positive/B negative.

21 Q So that?

22 A So that that is exemplified here from  
23 K-13 from Byron Halsey.

24 We mentioned K-14, a saliva sample  
25 from Byron Halsey, and that particular sample was

Spalding - direct

1 examined for characteristics that would indicate  
2 his ABO blood type which is the basis of secretor  
3 status.

4 The blood type system -- or the blood  
5 group substances, I should say, that were detected  
6 with regard to K-14 were none, confirming the  
7 Lewis test result of A positive/B negative  
8 identifying him as a nonsecretor.

9 The secretor which would be Lewis A  
10 positive/B negative -- I'm sorry. The secretor  
11 which would be A negative/B positive would be the  
12 person, as I said earlier, represented by  
13 approximately 80 percent of the general  
14 population.

15 And this person would secrete into  
16 body fluids other than blood such as blood -- I  
17 mean such as saliva, and semen, and vaginal fluid,  
18 and so forth, such things as the A substance, AB  
19 substance. And these A and B substances relate to  
20 the ABO system.

21 It was unfortunate in 1946 when A and  
22 B were chosen as part of the nomenclature for the  
23 Lewis System because it confuses things  
24 considerably sometimes.

25 Q Now did you examine K-9 which purports

Spalding - direct

1 to be Tina's blood sample for the Lewis factor?

2 A Yes. The results are shown there and  
3 neither Lewis A nor Lewis B was detected.

4 Now, as I said, there are three major  
5 types in the Lewis System. The A positive/B  
6 negative shown for 13 is characteristic of a  
7 nonsecretor.

8 The A positive -- it's been a long  
9 week.

10 The A negative/B positive is  
11 characteristic of a secretor.

12 And we have a third group in the Lewis  
13 System who are Lewis A negative/B negative.

14 Q Now what does the Lewis A negative/B  
15 negative say?

16 A This means that we can't say whether  
17 this -- based on the Lewis test whether this  
18 person is a secretor or a nonsecretor.

19 Now, again, the statistics of 80  
20 percent of the population can come into play so  
21 that have these people who are A negative/B  
22 negative, approximately 80 percent of them are  
23 going to be secretors and approximately 20 percent  
24 are going to be nonsecretors, so that the chances  
25 are better than that that anybody who is A

Spalding - direct

1 negative/B negative is going to be a secretor.

2 Now in this case we, again, could not  
3 from the blood sample identify secretor status for

4 [REDACTED]  
5 Now with regard to K-12 on Tyrone the  
6 blood sample was in such condition the blood cells  
7 to some extent had been broken up.

8 Just environmental conditions, a  
9 variety of situations can result in the break up  
10 of these blood cells after the blood leaves the  
11 body.

12 So that the Lewis system is intimately  
13 associated with the blood cells.

14 And, therefore, we were not able to  
15 identify any Lewis blood type for [REDACTED].  
16 Therefore, not able to identify a secretor status  
17 as well.

18 Q Now, Agent Spalding, you've told us  
19 that in addition to the Lewis factor for  
20 determining secretor status that people who are  
21 secretors secrete blood group substances in other  
22 bodily fluids such as saliva, perspiration, and  
23 semen. Did you examine any of the oral swabs, or  
24 slides, or anything of that nature that came in  
25 purportedly to be taken from [REDACTED]?

Spalding - direct

1 A I did examine a number of items from  
2 [REDACTED], yes.

3 Q Were you able to determine secretor  
4 status based upon an examination of any of these  
5 swabs?

6 A May I consult some notes?

7 Q Sure.

8 A I have numbers listed here on my  
9 notes. Short notes anyway. Summary notes.  
10 I'm sorry. We're talking about

11 [REDACTED]?

12 Q [REDACTED].

13 A [REDACTED].

14 Okay.

15 On the swab from [REDACTED] an oral swab  
16 was -- I'm sorry, I don't have an oral swab from  
17 Tina.

18 Q Okay.

19 Did you determine why there wasn't an  
20 oral swab in this case?

21 A Not specifically, no. Sometimes they  
22 take them sometimes they do not.

23 Q Now wasn't an oral swab from [REDACTED]  
24 submitted to you?

25 A I have a vaginal swab.

Spalding - direct

1 I'm sorry, the oral swab was  
2 submitted, it was my Q-124.

3 Q And did you examine that?

4 A It was examined for the presence of  
5 saliva.

6 Q Were you able to determine secretor  
7 status as a result of examining the oral swab  
8 submitted purportedly to be [REDACTED]?

9 A No blood group substances were  
10 identified on that specimen. That's correct.

11 Okay.

12 Q Now would the absence of the blood  
13 group substance on the oral swab indicate to you  
14 conclusively that she was a nonsecretor?

15 A It would be one of two possibilities,  
16 either that she's a nonsecretor or that an  
17 insufficient quantity of saliva was collected on  
18 that swab to allow the detection of any blood  
19 group substances.

20 The blood group substances that would  
21 be detected if she were a secretor would be three,  
22 one known as the A blood group substance, the B  
23 blood group substance, and a third one which is in  
24 all secretors known as the H blood group  
25 substance.

Spalding - direct

1           A person who is an A secretor will  
2       secrete A and H.

3           A person who is a B secretor will  
4       secrete B and H.

5           A person who is an AB secretor would  
6       secrete all three.

7           A person who is an O secretor will  
8       secrete H.

9           And in this case on that particular  
10       swab no blood group substances were identified.

11          Q       Now, Agent Spalding, what is the term  
12       amylase?

13                   What does that refer to?

14          A       Amlayse, a-m-y-l-a-s-e, is an enzyme,  
15       it's present in saliva in high concentrations and,  
16       again, like asic phoisphatase it is present in  
17       higher concentrations in saliva than in any other  
18       parts of the body. It's one of the digestive  
19       enzymes that helps us begin to digest starches as  
20       we eat. And it is highly characteristic of  
21       saliva, and helps us, because of its quantity,  
22       because of its concentration, to establish, at  
23       least in a qualified sense, the presence of saliva  
24       on a stain.

25          Q       Now, Agent Spalding, was item Q-118,

Spalding - direct

1 panties purported to be Tina Urquhart's, Court  
2 Exhibit S-111, examined by you?

3 A Yes, they were.

4 Q And was there an examination test  
5 perform for the presence of semen?

6 A Yes.

7 Q And could you tell me what, if  
8 anything, you found as a result of the tests you  
9 performed?

10 A Semen was identified on the panties  
11 Q-118. And the blood group substances identified  
12 in that seminal stain or that stain containing  
13 semen were A, B, and H.

14 Q Now could you tell me whether those  
15 panties were resubmitted to you for examination,  
16 Q-118 and Court Exhibit S-111, and whether you  
17 examined them again at the request of the  
18 Prosecutor's Office?

19 A Yes.

20 Q And could you tell me what you did at  
21 this examination?

22 A The next examination involved the  
23 detection of substances characteristically present  
24 in saliva, namely amylase. And amylase was  
25 identified in a number of stains. To be a little



Spalding - direct

1 bit more specific, when the panties were  
2 identified or examined for the presence of semen  
3 seven stains were examined and semen was found in  
4 one of those stains.

5 When they were examined for saliva the  
6 same seven areas were identified -- were examined  
7 for amylase and for saliva and amylase was found  
8 in all seven of the areas indicating that at least  
9 where there was semen there was some saliva mixed  
10 with it because of the concentration of the  
11 amylase detected; but that saliva was present in  
12 other areas on the panties alone.

13 Q Now when you examined Court Exhibit  
14 S-111, Q-118, [REDACTED] panties for amylase were you  
15 able to observe any blood group substances present  
16 in the resubmission in the amylase sample?

17 A Yes.

18 Q Could you tell me what they were?

19 A Those blood group substances  
20 identified in the stains containing saliva -- or  
21 containing amylase on the panties were the A, the  
22 B, and the H.

23 Q Now, Agent Spalding, did you examine  
24 samples -- or was fabric sent to you purported to  
25 come from a blue couch in the basement of 209 East

Spalding - direct

1 7th Street and did you examine those pieces of  
2 fabrics for the presence of semen?

3 A Yes, a number of pieces of that fabric  
4 was received.

5 Q And specifically directing your  
6 attention to what is Q-20A and Court Exhibit S-13A  
7 can you tell me what, if anything, you found?

8 A Yes. Semen was identified. And in  
9 the semen -- in the stains containing semen the A,  
10 B, and H blood group substances were identified.

11 Q Now could you tell me what the term  
12 mixture means?

13 A Basically a mixture would be taking  
14 two things and putting them together allowing an  
15 intermingling of two items, objects, solutions,  
16 fluids.

17 Q Now what significance does the term  
18 mixture have in the area of serology?

19 A Mixtures often occur particularly with  
20 body fluids other than blood in sexual assault  
21 cases and so forth wherein the one such mixture  
22 I've just indicated where the one stain containing  
23 semen contains significant amounts of amylase as  
24 well appear over those normally found in semen  
25 because amylase is also present in small amounts

Spalding - direct

1 in semen. So that we have there an indication of  
2 the presence of a mixture of saliva and semen.

3 Other types of mixtures that might be  
4 found are semen and blood, semen and vaginal  
5 fluid, that would be present in cases of sexual  
6 assault. These are typical mixtures that might be  
7 encountered in forensic work.

8 Q Now directing your attention to your  
9 exhibit Q-146, Court Exhibit S-118, it purports to  
10 be an oral swab taken from [REDACTED]. Could  
11 you tell me the results of your examination there?

12 A Yes. On that swab semen was  
13 identified, however, no blood group substances  
14 were identified. It was also examined for the  
15 presence of amylase and intended subsequent  
16 grouping tests for that purpose, however, the  
17 amylase testing for saliva was positive, but the  
18 sample was insufficient in quantity for future --  
19 for further testing, basically.

20 Q All right.

21 Agent Spalding, going back to S-13A  
22 and S-111 for identification, given the fact that  
23 the defendant in this case is a nonsecretor, and  
24 given that you found semen in the sample, but you  
25 also found what we refer to as blood group

Spalding - direct


1 substances, as a result of that can you tell us  
2 whether you can exclude the defendant as being the  
3 donor of those semen samples?

4 A Based on the fact that the defendant  
5 is a nonsecretor I wouldn't be able to exclude  
6 him, no.

7 Q Well, since you found blood group  
8 substances and he's a nonsecretor why can't you  
9 exclude him?

10 A Well, the fact that those blood group  
11 substances could have come as a result of mixture  
12 of body fluids that exclusion would not be --  
13 would be -- would not be possible.

14 Q Now directing your attention to what  
15 is Court Exhibit S-118, your exhibit Q-146, the  
16 oral swab taken from [REDACTED] mouth, could you  
17 tell us what if any conclusions you reached as to  
18 the defendant being able to be excluded or  
19 included in regard to that particular Court  
20 Exhibit?

21  A The fact that no blood group  
22 substances are present is consistent with the  
23 semen having resulted from a nonsecretor. It's  
24 also, of course, consistent that insufficient  
25 quantities were present to establish blood group

Spalding - direct

1 substances in the sample.

2 Q Now going to what is Q-63, Court  
3 Exhibit S-77 purports to be a brown sheet taken  
4 from the apartment of 209 East 7th Street. Could  
5 you tell me whether you examined that item and  
6 tell me what you found?

7 A That item was examined. And as I  
8 outlined during semen examination protocol the  
9 identification was a qualified one in that  
10 substances characteristically present in semen,  
11 namely the acid phosphatase and choline were found  
12 in stains on Q-63 or S-77. And these stains when  
13 grouping tests were attempted failed to disclose  
14 the presence of any blood group substances.

15 Q Now directing your attention to what's  
16 Court Exhibit S-89, Q-107 purports to be a gauze  
17 wipe taken from [REDACTED]. Can you tell me  
18 the results of your examination with that  
19 particular item?

20 A Yes. This would indicate chemical  
21 substances present in semen again were found on  
22 this item indicating, as I say, the acid  
23 phosphatase was found, the choline was found, but  
24 not the sperm cells for the P-30. The PGM typing  
25 result was 1 plus. The remaining tests were

Spalding - direct

1 inconclusive or not possible due to limited  
2 sample.

3 Q Now, directing your attention to what  
4 is Court Exhibit S-100, your Q number 109 purports  
5 to be a vaginal swab taken from Tina Urquhart.  
6 Can you tell me the results of any examination you  
7 performed on that item?

8 A Yes. On that item again we have a  
9 similar result with respect to a qualified  
10 identification of semen. And the blood group  
11 substances identified were A, and B. No H was  
12 identified.

13 In addition the enzyme Pep A Type 1,  
14 as I indicated a common type in the population,  
15 was identified as well.

16 Q Going back to Q -- I believe it's 46,  
17 S number 118, the oral swab taken from Tyrone,  
18 could you tell us, are you able to determine --  
19 make any kind of a finding or indicator when you  
20 -- since you told us that amylase is present in  
21 both semen and saliva, are there any indications  
22 to you during your examinations -- the results you  
23 find -- being able to determine whether because  
24 the amount you find, or whatever, whether what  
25 you're looking at is saliva or just the amylase

Spalding - direct

1 that might be present in semen?

2 A Sometimes we can determine this as a  
3 result of the test, at least get a qualified or a  
4 qualitative observation with regard to that. We  
5 do not run quantitative tests on many of these  
6 substances because the influences that are  
7 involved which evidence encounters often times  
8 complicate these things to the point where a  
9 specific quantitative determination is of  
10 questionable validity.

11 Q All right.

12 Directing your attention to what's  
13 marked S-118 your Q-46 number, the oral swab of  
14 Tyrone, you've indicated to us here in Court that  
15 there was insufficient quantity to be able to  
16 continue your examinations?

17 A That was after we had typed the --  
18 well, we had identified semen on the swab, and  
19 then conducted grouping tests on that material,  
20 and then had identified amylase on the swab in  
21 sufficient quantities to believe saliva was  
22 present.

23 At that point after we had gone  
24 through the three procedures we had used up most  
25 of the -- or used up the swab to the extent that

Spalding - direct

1 we had -- I say three procedures, there's alot  
2 more tests involved than just three, but we had  
3 used up the swab to the extent where grouping  
4 tests were not possible on that swab.

5 Q Now, directing your attention to what  
6 is S-111, your Q-118 number, the panties that Tina  
7 Urquhart was allegedly -- or purportedly stuffed  
8 in Tina's mouth, was that particular item  
9 different for analysis than your Q-146, S-118, the  
10 oral swab?

11 I mean would more have to be looked at  
12 to be able to determine the presence of amylase or  
13 saliva or semen?

14 A In terms of stains and stain material,  
15 yes.

16 What we're dealing with as far as the  
17 swab is concerned is basically a Q-tip type swab  
18 where the cotton material is what is taken for  
19 examination.

20 But on the panties, of course, we had  
21 areas that were stained to the extent which we  
22 took cuttings from seven different locations for  
23 analysis so that in that sense there was more to  
24 work with, yes.

25 Q Now what did you find when you



Spalding - direct

1 examined Q-146 -- strike that.

2 Did Q-118, S-11, the panties have  
3 enough of the substance to be able to come up with  
4 an indicator as to whether what you were looking  
5 at was amylase present in saliva or just amylase  
6 from semen?

7 A Testing on Q-118 led me to believe  
8 that we were dealing with in the vast majority of  
9 stains --

10 THE COURT: 119.

11 THE WITNESS: I'm sorry.

12 MS. CLARK: 118.

13 THE COURT: 118, the --

14 THE WITNESS: The panties..

15 MS. CLARK: S-111.

16 THE WITNESS: Sorry.

17 THE COURT: Try to refer to the S  
18 numbers.

19 MS. CLARK: Oh, I'm sorry, your Honor.

20 Q S-111, Q-118.

21 A With respect to S-111, as I indicated,  
22 we had about -- we had, in fact, seven stains  
23 examined for -- initially for semen and then the  
24 same seven stains analyzed later for saliva. No  
25 semen was identified in six of those stains the

Spalding - direct

1 first time around.

2 Amylase in sufficient concentration to  
3 consider the presence of saliva was identified in  
4 all seven the second time through, so that a  
5 considerable portion of -- considerable amount of  
6 saliva was present on the panties.

7 MS. CLARK: I have no further  
8 questions of this witness, your Honor.

9 THE COURT: Cross-examine.

10  
11  
12 CROSS-EXAMINATION BY MS. VAN PELT:

13  
14 Q Were there other items submitted to  
15 you for examination for the presence of amylase on  
16 which you found amylase?

17 A Yes, several items were examined for  
18 the presence of amylase. One of those items was  
19 -- in fact, two of those items were cigarette  
20 butts -- three of those items were cigarette  
21 butts, one of them was the swab that we've already  
22 referred to from [REDACTED]

23 MS. VAN PELT: Do you have the  
24 cigarette butts?

25 I'll do the rest, I'll go to some

Spalding - cross

1 other area.

2 At some point we may need a brief  
3 chance to look through some bottles, your Honor.

4 Q Now, you told us that you when you  
5 started out you had three three tubes of blood,  
6 that were from known sources; is that right?

7 A That's correct.

8 Q And you had difficulty or could not  
9 conclusively establish from analyzing the tube of  
10 blood the ABO or Lewis factor of Tyrone; is that  
11 right?

12 A Yes, that's correct, basically, the  
13 ABO type while not sufficiently determined in  
14 terms of data for an absolute conclusion. I did  
15 get indications of what I felt to be a Type B, but  
16 I did not report that B for I felt it was not a  
17 conclusive result.

18 Q Now, you got the indications of Type B  
19 when you did the whole blood analysis?

20 A That's correct.

21 Q Okay.

22 And in addition, I believe you told us  
23 when you analyzed the sheet that you found  
24 indications of Type B?

25 A That's correct. Slightly stronger

Spalding - cross

1 upon the indications on the sheet, if I may grade  
2 it that way.

3 Q Okay.

4 Now, ideally, if you draw some blood  
5 from my arm and I -- and its given to you, a whole  
6 tube of blood, shouldn't you be able to find an  
7 ABO type?

8 A Assuming it's given to me in a  
9 reasonable period of time and there's no  
10 unfavorable environmental influences, yes.

11 Q Now, in fact, when you say "no  
12 unfavorable environmental influences," can you  
13 find ABO typing on stains that are old or in whole  
14 blood samples that have been drawn some period of  
15 time earlier?

16 A Sometimes; yes.

17 Q And it really depends on whether it's  
18 properly stored, and handled, and due care is  
19 taken; isn't that right?

20 A And to some extent on the biochemical  
21 makeup of the individual.

22 Some of the research that actually has  
23 been taking place in the space program has shown  
24 that certain biological membranes are stronger if  
25 you have certain kinds of foods and all that sort

Spalding - cross

1 of thing. So that while I don't want to get into  
2 a health lecture, the fact remains that the cells  
3 -- the makeup of the blood would be more robust,  
4 if you will, in a healthy individual.

5 Q So if my diet is better than your diet  
6 my blood maybe healthier than your blood?

7 A There may be something to that.

8 Q Okay.

9 But, suffice it to say that you could  
10 not conclusively determine any of these factors  
11 for Tyrone?

12 A That's correct.

13 Q Now if we're dealing solely with the  
14 comparison of these three individuals, there are a  
15 lot of areas where you have different factors,  
16 whereas you said blood group systems which really  
17 are not going to help you at all make distinctions  
18 between these individuals; isn't that right?

19 A That's true.

20 Q And I know you told us that you  
21 weren't concerned, for example, when you gave us a  
22 result that could be either K-9 or K-12, which is  
23 Tina and Tyrone's blood -- and I'm sorry, I don't  
24 remember the S numbers -- but, that there was an  
25 inconclusive on your CAII factors; is that

Spalding - cross

1 correct?

2 A That's right.

3 Q And I don't know if you specifically  
4 told us, but on Pep A is that the very same thing  
5 that the vast majority of people in this country  
6 have, the same Pep A characteristics?

7 A Type 1, yes.

8 Q Okay.

9 So that the presence of Pep A on a  
10 stain -- and I believe you've reported some  
11 presence of Pep A on stains that you examined --  
12 the fact that you don't have a characteristic here  
13 wouldn't cause you to rule out any of these three  
14 individuals; is that right?

15 A That's true. As a further explanation  
16 of that, the characteristics G6PD and Pep A, in as  
17 much as they are good blood group substances from  
18 the blood group system, and were analyzed during  
19 the examination of the evidence in this case.

20 We've done studies with regard to the  
21 survivability of these substances in stains and  
22 the relative frequency with which we have  
23 conclusive results on these particular tests with  
24 regard to stains of evidentiary nature, and so  
25 forth, and the number of times that we get a

Spalding - cross

1 conclusive result, for instance, in G6PD was so  
2 low that we had discontinued -- while we still  
3 have the technique available we've discontinued  
4 running it completely.

5 The same as far as my personal  
6 approach to examinations is concerned, the same is  
7 something I've done with Pep A so that I seldom  
8 run Pep A on anything myself anymore because of,  
9 number one, the high proportion of people in the  
10 population who are Type 1. And, number two, the  
11 high frequency of an inconclusive result.

12 Q Now you've told us that O secretor  
13 will show evidence of blood group substances that  
14 we have here in other body fluids; is that right?

15 A Yes, that's correct.

16 Q And a nonsecretor won't show them?

17 A That's correct.

18 Q So, for example, if Byron were a  
19 secretor you would expect to find H antigens in  
20 his saliva and in his semen; is that right?

21 A That's correct.

22 Q And as a nonsecretor will you find any  
23 antigens in his saliva?

24 A I would not expect to.

25 Q Okay.

Spalding - cross

1                   Now as to all of the other things that  
2 are here, are they controlled by  
3 secretor/nonsecretor status?

4           A        No, they're not.

5           Q        So that although you could take a  
6 saliva sample from Mr. Halsey and would not expect  
7 to find any H antigens, you would expect to be  
8 able to find PGM 1 plus 2, plus EsD, GLO and down  
9 the line?

10          A        Not exactly because what we have here  
11 is an array of genetic information relating to  
12 blood samples on the board in front of us.

13                   I would not be able to take a saliva  
14 sample and identify these things because these  
15 characteristics relate to blood.

16          Q        Okay.

17          A        Now the one -- there are three  
18 characteristics on the board that are common to  
19 blood and semen -- I'm sorry -- four, the ABO, the  
20 PGM, the G6PD, and the Pep A.

21                   All right?

22          A        I've already commented on G6PD and Pep  
23 A and what I would -- my personal approach to the  
24 examination of stains containing semen would  
25 involve ABO and PGM. At least at this time -- I



Spalding - cross

1 mean at the time this case was examined I did run  
2 some Pep A examinations, I believe, on S-100.

3 Q Okay.

4 But as you told us, the Pep A really  
5 isn't going to help us much because almost anybody  
6 would have Pep A?

7 A That's my opinion.

8 Q Okay.

9 Now is there a distinction between a  
10 PGM 1 plus and 1 plus 2 plus?

11 A Yes, there is. This is a readily  
12 observed distinction in terms of the test results  
13 that are seen. And we've discussed mixtures of  
14 stains, and it would be reasonable to assume a  
15 mixture would show all of the characteristics, if  
16 we could assume that it was an exact half and half  
17 mixture, which, of course, we can't.

18 Q Okay.

19 A So that the characteristics of the  
20 body fluid that is present in the greatest amount  
21 is going to overshadow the situation so that if --  
22 for instance, if I were to mix saliva -- or let's  
23 say semen and saliva from two individuals and the  
24 saliva were in a greater concentration or greater  
25 amount than the semen then the characteristics of

Spalding - cross

1 the saliva would be more in evidence, it would be  
2 more easily determined or identified.

3 The same might appear with blood and  
4 semen or something like that.

5 Q Well, since it doesn't affect secretor  
6 status we'll just use PGM. So, for example, if  
7 you mixed an equal part of [REDACTED] saliva and  
8 Byron's saliva would you expect to see  
9 characteristics of PGM 1 plus and also 1 plus 2  
10 plus?

11 A The 1 plus of Tina's would be additive  
12 to the 1 plus of Byron's, but we would still see  
13 the 2 plus if we had an exactly equal mixture.

14 Q Okay.

15 And are you saying that if you had  
16 very little of Byron's saliva combined with alot  
17 of [REDACTED] saliva you might not see the two plus?

18 A I'm sorry.

19 Q All right.

20 A Your previous question, did it deal  
21 with saliva?

22 I assumed it meant semen because PGM  
23 is not in saliva.

24 Q So PGM is only in semen?

25 A That's correct.

Spalding - cross

1 Q I used saliva because I know that [REDACTED]  
2 doesn't have semen.

3 A That's a fair assumption.

4 Q There's certain things you don't need  
5 to be a forensic serologist to know; right?

6 A I think so.

7 Q Now I'm going to ask you to refer to  
8 S-89 which is your Q-107.

9 Are you with me now?

10 A Yep.

11 Q I don't know if I'm with you.

12 A Yes, I have it.

13 Q All right?

14 A I'm with you.

15 Q Now that purported to be a gauze wipe  
16 of the vaginal region of [REDACTED]?

17 A That's correct.

18 Q Okay.

19 Did you examine that for the presence  
20 of blood?

21 A Yes, that was examined for the -- wait  
22 a minute. I'm sorry.

23 Yes, it was examined for the presence  
24 of blood.

25 Q And was blood found on that?

Spalding - cross

1           A       Blood specifically wasn't identified  
2       on that, although it's probably important to  
3       recognize one of my previous comments concerning  
4       the identification of blood, in that while we  
5       might have, as I described, a preliminary  
6       screening test and then a subsequent confirmatory  
7       test, if I were to see a positive preliminary  
8       screening test and not be able to obtain a  
9       confirmatory test by sampling the actual stain,  
10      then minute quantities of blood would be detected  
11      by the screening test; but I do need more in order  
12      to get the confirmatory tests, and if I didn't  
13      then it wouldn't purport blood.

14           Q       Are you telling us that you found a  
15      stain there that you believed might be  
16      characteristic of blood, but there wasn't enough  
17      blood present to identify -- to actually  
18      conclusively identify that it was blood, let alone  
19      to establish any of the characteristics of blood  
20      that you've put on -- is it 76?

21           A       S-276.

22                    Yes. As a matter of fact, with regard  
23      to checking my notes of the actual examinations  
24      that is the case.

25           Q       But you also told us that there was

Spalding - cross

1 the presence of semen; is that right?

2 A On that particular item?

3 Q On that particular item.

4 A The substance is characteristically  
5 present in semen, such as acid phosphatase and  
6 choline were identified enabling a positive  
7 identification of semen, yes.

8 Q And you told us that you also  
9 identified PGM sub 1 plus; is that correct?

10 A That's correct.

11 Q Now could you tell us are -- you able  
12 to tell us whether the sub 1 plus came from the  
13 semen or from the blood?

14 A I would not say where it came from.

15 But I would also have to add one  
16 point, that that was a wipe of, I assume, the  
17 external since it was a gauze and that is the  
18 normal mechanics of such an examination by a  
19 doctor. It was a wipe of the external vaginal  
20 area of the victim. As such that stain, while it  
21 has some blood in it probably based on the  
22 presumptive tests, it also has enough semen there  
23 so that at least a qualified identification was  
24 made. There is the -- the entire probability or  
25 the -- it must be at least considered that vaginal

Spalding - cross

1 fluid from [REDACTED] was there because of the nature of  
2 the sample and the nature of her injuries.

3 Q So that we have another factor, and I  
4 keep pointing because I see these three things  
5 here. You're telling me that in that stain you  
6 may have blood, semen, and vaginal fluid?

7 A That's correct. And, unfortunately,  
8 we have no idea or no way to ascertain  
9 specifically and conclusively the presence of the  
10 vaginal fluid, but it must be considered.

11 Q Now, perhaps I should have asked you  
12 this in the very beginning, but when you deal with  
13 these stains that you examine and you find semen  
14 to be present or blood to be present when there's  
15 a quantity sufficient to analyze further is there  
16 any way you can tell how long that stain has been  
17 there?

18 A No.

19 Q So for example, on S-150, which is --  
20 I think it's your Q-91 --

21 A Yes.

22 Q -- you identify that there was a blood  
23 stain here?

24 A That's correct.

25 Q Could you show us where you found the

Spalding - cross

1 blood stain?

2 A Yes. This is the jacket, Q-91, and it  
3 bears my initials inside the back of the collar,  
4 right here (indicating).

5 And the cutting -- since this is a  
6 down-lined jacket or down-filled jacket it's  
7 common practice for us to tape over the cutting to  
8 prevent feathers from going everywhere. But we  
9 see our FBI evidence tape in an area here and next  
10 to it the labelling 1B. This would designate one  
11 blood cutting.

12 Q Okay.

13 A The second cutting for blood would be  
14 2B and so forth.

15 Q So that someplace underneath all your  
16 evidence tape you took a cutting and you found  
17 blood, and then you found on the blood inside  
18 there?

19 A There was a second cutting taken from  
20 the right armpit area.

21 Q Did you find blood on the right armpit  
22 area?

23 A That was the purpose of the 2B  
24 cutting, yes.

25 Q Okay.

Spalding - cross

1                   You indicated to us earlier that it  
2 was on the collar. Do you also mean to say there  
3 were two spots?

4                   A       Yes. In inspecting the items  
5 initially to establish that they had been received  
6 and examined at the laboratory I noted the 1B  
7 cutting, but didn't, obviously, note the second  
8 cutting under the armpit which is indicated there  
9 and marked.

10                  Q       When you say quantity not sufficient,  
11 I believe you told us for further analysis. If it  
12 were a big blood stain would you normally be able  
13 to expect to find something more?

14                  A       Well, I would certainly try, yes.

15                  Q       Okay.

16                           And because we can't see how big the  
17 spot was, so you indicate it was relatively a  
18 small amount of stain?

19                  A       Well, in this particular sample, if I  
20 recall right, we're dealing with human blood which  
21 was inconclusive.

22                  Q       All right.

23                  A       In other words, we did attempt to  
24 identify characteristics beyond human, but the  
25 results were inconclusive.



Spalding - cross

1 Q And can you tell us how long that was  
2 there?

3 A No, I can't.

4 Q Would you agree with me that this  
5 jacket doesn't look like it was cleaned recently  
6 before it was stuffed in this bag?

7 A I would agree with that. And that may  
8 have something to do with why the results were  
9 inconclusive.

10 Q Because the substance itself was  
11 dirty, or because there was dirt that was put over  
12 the blood sample, or either?

13 A I wouldn't be able to say that.

14 Q Okay.

15 Is it possible for an identifiable  
16 blood stain to -- or a stain which you can  
17 subsequently identify as human blood to stay on an  
18 object for a long period of time?

19 A Yes, it is.

20 Q Is it always like -- is a blood stain  
21 always removed by washing?

22 A No.

23 Q So that if I got a blood stain on a  
24 garment that I have and I put it in the washing  
25 machine and take it out you might still be able to

Spalding - cross

1 examine it and say there was human blood there?

2 A Okay.

3 I took the term washing initially as a  
4 relative term and it must be considered that way.

5 To take a stain -- a blood stain and  
6 simply wash it under running water, which I guess  
7 maybe one might consider as a rinse, we can expect  
8 that it will not be easily removed or that it  
9 would not likely remove all of it unless we made a  
10 special effort.

11 A routine washing machine washing will  
12 remove a considerable portion of the blood and I  
13 would not expect to be able to do any genetic  
14 marker type test or extensive characteristics test  
15 of a blood stain that had been washed in a washing  
16 machine.

17 I would hope to be able to identify it  
18 as blood, but beyond that I wouldn't project any  
19 positive amounts.

20 Q You would probably be able to identify  
21 it as blood, but you would not be able to go any  
22 further; is that what you're saying?

23 A I would not be able to expect to go  
24 any further easily.

25 Q And the mere contact with water

Spalding - cross

1 also --

2 A Delutes out the blood and removes  
3 some, yes.

4 Q Well, if I had a blood stain on a  
5 garment and I walked outside in the rain and came  
6 back could that still be examined?

7 A Oh, it could still be examined. How  
8 much we'd find would be dependent upon how much  
9 rain had hit it, and the nature of the fabric it's  
10 on, and how well it had been absorbed, and a  
11 variety of things.

12 Q Okay.

13 So that, for example, the blood stain  
14 that you saw on your Q -- which is -- if I can get  
15 the right S number -- excuse me -- it's Q-48 and  
16 it's S-56. I'm talking about a shoe. There's no  
17 way of telling how long that blood stain had been  
18 there?

19 A No.

20 Q And it could be there through  
21 different weather conditions?

22 A Again, recognizing the weather  
23 conditions. Now it probably would help to  
24 recognize that when we're doing -- going through  
25 our blood identification protocol we're dealing,

Spalding - cross

1 number one, with the chemical characteristics of  
2 blood --

3 Q Uh huh.

4 A -- where we identify it. And this  
5 would represent the first two tests we would run.

6 When we move further into it and  
7 identify human blood we're dealing with proteins  
8 that are present in the blood which bear  
9 biological significance in terms of animal  
10 identification. And proteins are far more  
11 susceptible to break down.

12 We all know what happens when an egg  
13 goes into a frying pan and the white of the egg  
14 turns white. That is protein being destroyed  
15 basically.

16 So that the protein in the blood is  
17 more easily affected by adverse environmental  
18 conditions, or aging, and so it reduces -- aging  
19 or any of these adverse conditions would reduce  
20 the potential for identifying the human aspect.  
21 So that while human blood under -- or in stains  
22 maintained under optimum conditions might be  
23 identified for considerable periods of time later,  
24 the uncontrolled conditions could result in just  
25 blood being identified as opposed to human blood

Spalding - cross

1 being identified.

2 Q Have you found blood at crime scenes  
3 or evidence taken from crime scenes which are,  
4 quote, "uncontrolled conditions" for like more  
5 than 24 hours and be able to identify it as human  
6 blood?

7 A Yes.

8 Q More than 48 hours?

9 A Yes.

10 Q So when you're talking about periods  
11 of time, say, optimally, if police go and seize an  
12 item from a crime scene shortly after it happens  
13 and store it well you may be able to get to that  
14 years later and still find some characteristics?

15 A Years I'd be a little concerned with.

16 Q Months?

17 A But sometime later, yes.

18 Q But still you're not talking about  
19 it's going to destroy in a matter of 24 hours if  
20 it's not kept well?

21 A If we're talking reasonably good  
22 storage conditions and concerns that are applied  
23 to evidence, yes.

24 On the other hand, if it's -- prior to  
25 its collection it's under adverse conditions like

Spalding - cross

1 a rain storm, or whatever you mentioned, then  
2 there's a reduced potential.

3 Q Let me ask you this question. You've  
4 told us that these are genetic features and  
5 determine, basically, when we're born and go with  
6 us through the rest of our lives; is that what  
7 you --

8 A Yes, that's correct.

9 Q Okay.

10 Are they, in any way, controlled by  
11 who our parents are?

12 A Yes, they are.

13 Q Would you expect that I would have  
14 types that were similar to my parents?

15 A The types that you would have would be  
16 a reflection of the types that your parents would  
17 have.

18 For instance, with Tina we have a nice  
19 illustration of that in that she is a Type AB in  
20 the ABO system.

21 Q Uh huh.

22 A It is based on normal application of  
23 genetics. And the fact that there's no reason to  
24 believe any unusual circumstances took place  
25 during the genetic transfer of information it is

Spalding - cross

1 reasonable to say that one parent was an A and one  
2 parent was a B.

3 With regard to Byron it is reasonable  
4 to say that at least one of his parents had an O  
5 characteristic.

6 Q Uh huh.

7 A The other characteristic of that  
8 parent would have OA. The second chromosome would  
9 have been an A. So that he would have actually  
10 shown up as an A. The parent would have shown up  
11 as an A. But Byron received two doses, so to  
12 speak, of genetic material, one from each parent,  
13 and both of those were for the O characteristic.

14 Q So for example, we know that neither  
15 of Byron's parents had Type AB blood?

16 A That's correct.

17 Q Now is this true for all the other  
18 characteristics also, though?

19 A Generally speaking, although -- yeah,  
20 those kinds of principles would apply.

21 Q Is it also true in the Lewis factor?

22 A The Lewis factor gets very complicated  
23 biochemically and genetically so that I don't  
24 think we can easily say that.

25 Q Okay.

Spalding - cross

1                   So that I notice there's -- wherever  
2                   it's conclusive there's a one on one correlation  
3                   in each case between [REDACTED] and [REDACTED], and I was  
4                   wondering if you could draw that conclusion that  
5                   it might be true that [REDACTED] had the same Lewis  
6                   factor as [REDACTED] or you can't draw that conclusion?

7                   A           Oh, no, I wouldn't be able to conclude  
8                   that.

9                   Q           Okay.

10                  A           As a means of helping to clarify what  
11                  you just said, for instance, the Type 1 that we  
12                  see in the esterase D sample or the EsD category  
13                  there, type 1 is present in a large majority of  
14                  the population. Type 1 in the ADA, and in the AK,  
15                  and in the GC, all of these have large proportions  
16                  of the population that are Type 1 as well as the  
17                  CAII and the Pep A, so there's a frequency  
18                  involved there as well as the genetic aspect.

19                  Q           Now I take it from what you said  
20                  earlier that from your examination of Tina's blood  
21                  and the examination of the oral swab you couldn't  
22                  reach any definit conclusion about whether she  
23                  was a secretor or nonsecretor?

24                  A           That was the oral swab. I'm sorry, I  
25                  don't have an S number for it. I think we're



Spalding - cross

1 dealing with Q-124.

2 Q I think it's Q-124. And it would be  
3 -- I don't have the S number written next to my Q  
4 number.

5 MS. CLARK: S-104.

6 MS. VAN PELT: That you.

7 Q There was no indication of blood group  
8 substances in the oral swab; is that correct?

9 A That's correct.

10 Q Subsequently when you examined the  
11 panties, though, there was an indication of blood  
12 group substance; is that right?

13 A That's correct.

14 Q If you assume that the panties -- the  
15 amylase on the panties came from them being placed  
16 in [REDACTED] mouth would that -- would that lead you  
17 to conclude that [REDACTED] was a secretor?

18 A Yes, it would.

19 Q Okay.

20 Similarly, when you examined the  
21 substances on the oral swab from [REDACTED], Q-146,  
22 S --

23 THE COURT: S-118.

24 Q -- S-118 --

25 MS. VAN PELT: Thank you.

Spalding - cross

1           Q       -- you determined no blood group  
2 substances in the semen characteristics -- the  
3 semen that you found present, and also were unable  
4 to characterize the amylase because it's only a  
5 little swab and by that time there wasn't any  
6 left; is that correct?

7           A       That's correct, additional grouping  
8 tests were not possible.

9                    It probably would be helpful to  
10 realize that in general principle the same  
11 grouping type analysis would have been run on the  
12 amylase --

13          Q       Uh huh.

14          A       -- that was run on the seminol stain.

15          Q       All right.

16                    And?

17          A       So when we're dealing with that it may  
18 very reasonably have come up with the same result.

19          Q       Now when you say -- on [REDACTED] swab  
20 were you able to run a test for the blood group  
21 substances and it was inconclusive or there were  
22 none that were shown?

23          A       The test was run on the oral swab from  
24 her and none were detected.

25          Q       Okay.

Spalding - cross

1                   And that was a similar type of test  
2 that was run on the semen on the swab that you  
3 found in [REDACTED] and none were detected?

4           A        Yes.

5           Q        Yet you have every reason to believe  
6 based on the other examination that you did that  
7 [REDACTED] probably was a secretor?

8           A        That's reasonable.

9           Q        And you really draw a definitive  
10 conclusion that if there was a sufficient quantity  
11 of semen to analyze for blood group substances on  
12 Q-146, S-118, they would have shown up?

13          A        Well, as I indicated when we discussed  
14 that result we would have to have -- to either  
15 consider the seminol -- the source of the seminol  
16 material there to be from a nonsecretor or that  
17 there was insufficient quantity for the detection  
18 of any blood group substances. One of those to  
19 possibilities.

20          Q        Okay.

21                   So you can't rule out there being a  
22 secretor with blood group substances who was  
23 responsible for the semen that you identified on  
24 that swab; is that right?

25          A        That's correct.

Spalding - cross

1 Q Okay.

2 Now as to the results of all the  
3 analyses that you gave in terms of the other  
4 seminol stains -- and when you said you couldn't  
5 rule out Mr. Halsey, I believe you said that they  
6 were stains that identified either A, B, or AB, H  
7 blood group substances?

8 A Those characteristics were identified  
9 in some stains, yes.

10 Q And that's -- you indicated they were  
11 mostly mixed stains also?

12 A I would suspect them of being mixed,  
13 at least some of them.

14 Q All right.

15 Based on what you observed and the  
16 characteristics of the stains can you rule out any  
17 man in this Courtroom as being the donor of the  
18 semen?

19 A In terms of.

20 Q ABH blood group typing?

21 A Well, where certain ones -- where  
22 certain stains exhibited certain characteristics  
23 there would be -- you'd have to consider them  
24 individually.

25 Q All right.

Spalding - cross

1           A           What I'm saying is that any man in  
2 this Courtroom who was a nonsecretor could not be  
3 ruled out.

4           Q           If you have a stain where you -- all  
5 right.

6                        If we assume -- I mean you know that  
7 [REDACTED] is Type AB; right?

8           A           Correct.

9           Q           And she may very well be a secretor  
10 even though her Lewis status doesn't show it  
11 because of the fact that you have the secretion in  
12 the amylase on her panties; right?

13          A           Yes.

14          Q           So that if, in fact, any seminal stain  
15 was mixed with a blood stain, A blood, and [REDACTED]  
16 was the source of that blood, would you be able to  
17 rule out anyone on the basis of ABO typing as  
18 having deposited the seminal stain?

19          A           My compliments on the question.

20                        The answer, basically, is that the  
21 technique we use for the establishment of blood  
22 group substances in secretor stains, saliva,  
23 semen, so on, was researched for some years at the  
24 FBI Academy at the Research and Training Center  
25 located there prior to our employment of that

Spalding - cross

1 technique on case work.

2 One of the key features designed as a  
3 part of that technique is to not detect blood  
4 group antigens from blood mixed with blood group  
5 substances from body fluids; i.e., if we have a --  
6 if we have [REDACTED] blood, for instance --

7 Q Uh huh.

8 A -- and we have semen --

9 Q Right.

10 A -- we may expect our -- well, if we  
11 look at the item that we're concerned with, the  
12 panties, we're talking about blood on those  
13 panties, we're talking about -- because blood was  
14 identified on the panties. We're talking about  
15 saliva on the panties. We're talking about semen  
16 on the panties.

17 Q Uh huh.

18 A Excuse me. The blood would not have  
19 given any contribution to the result of the typing  
20 tests conducted on the stains of secretions, blood  
21 as being distinguished as not -- a nonsecretion in  
22 the examination of the panties.

23 Q Are you telling --

24 THE COURT: This reminds me of  
25 chemistry class, I didn't understand a word for a

Spalding - cross

1 year. I mean it, this takes me back to high  
2 school.

3 Q Well --

4 THE WITNESS: Maybe I can simplify  
5 that, I don't know.

6 THE COURT: Not for me you can't,  
7 believe me.

8 Q Let me ask you this question then  
9 because I'm going back to the panties that you  
10 talked about. You said you found human blood, and  
11 you found semen, and you also found amylase  
12 indicating saliva; is that right?

13 A That's true.

14 Q Now when you indicate in your report  
15 that you found semen, I believe you also indicated  
16 that ABH blood group substances were present?

17 A Yes.

18 Q Okay.

19 Now are you telling us that the ABH  
20 blood group substances that were present aren't  
21 the result of a mixed stain with [REDACTED] blood?

22 A No. I'm saying they aren't the  
23 result -- I'm saying that they may be from a mixed  
24 stain --

25 Q Uh huh.

Spalding - cross

1           A       -- but that mixed stain was not  
2 contributed to in terms of our grouping result by  
3 the blood. We have to allow that we have semen  
4 saliva and blood.

5           Q       Okay.

6           A       So that the result of the grouping  
7 test would have been due to saliva and semen.

8           Q       All right.

9                   And if [REDACTED] secretes her blood group  
10 substances in her saliva is it fair to assume she  
11 secretes the same blood group substances in any  
12 vaginal secretions that she has?

13          A       Generally, although they're not always  
14 detected as uniformly.

15          Q       Then in any seminal stain that was  
16 mixed with [REDACTED] blood group substance and --  
17 well, mixed with [REDACTED] saliva or her vaginal  
18 secretions would you be able to rule out any male  
19 as the donor of the semen based on the AB  
20 characteristics which are secreted into them?

21          A       No.

22          Q       Okay.

23                   I used the wrong substance when I  
24 started, that was my problem; right?

25                   So that in terms of the panties, when



Spalding - cross

1 you say it's a mixed stain, if it's mixed with her  
2 saliva and her -- and she is a secretor then any  
3 male could have deposited that semen there based  
4 on ABO blood type?

5 A We can't rule out any secretor male.  
6 And, of course, we can't rule out the  
7 nonsecretors, so, yes.

8 Q That sort of takes in the whole  
9 population; doesn't it?

10 A That's exactly right.

11 Q Okay.

12 A Now, the one thing we have to  
13 recognize that I think is important, and that is,  
14 of course, that forensic evidence on its own does  
15 not end at all. I mean I'm not trying to give you  
16 a story here that is going to solve everybody's  
17 problems and so on.

18 Q I'm just trying to figure out whether  
19 it solves anybody's problem, is what I'm trying to  
20 figure out.

21 A Well, in conjunction with  
22 investigative information determined by the  
23 people, the contents of which I have no idea,  
24 hopefully it will assist the jury in making  
25 decisions.

Spalding - cross

1 Q Okay.

2 But, basically, what you're telling us  
3 is that they ship all this stuff down to  
4 Washington, D. C. and say compare everything and  
5 tell us what you've got; but beyond that they  
6 don't give you police reports, investigative  
7 reports, statements of witnesses, or anything like  
8 that unless you specifically request information;  
9 is that right?

10 A That's true. And it's not normally  
11 requested in serology cases although there are  
12 other areas that do require that kind of  
13 information.

14 Q You told us that there was a fabric  
15 sample that you tested, I believe, and you found  
16 evidence of semen on it. I guess we're looking at  
17 Q-20A, S-13 -- I'm not sure if it's A, B, or C.

18 MS. CLARK: A.

19 MS. VAN PELT: A.

20 Q Are you with me?

21 A That's correct. Yes.

22 Q Okay.

23 I keep going to this chart and it's  
24 not going to help me in the least because it  
25 doesn't have the information I want.

Spalding - cross

1                   And that was a sample that you found  
2 on the -- a piece of upholstery that purports to  
3 come from a blue couch; is that right?

4           A        That is true.

5           Q        And you indicated that you found  
6 indications of human blood, quantity not  
7 sufficient for further analysis; is that right?

8           A        That's also true.

9           Q        Okay.

10                   And you indicated you found ABH blood  
11 group substances in the semen; is that right?

12          A        Yes.

13          Q        Now even if we were to assume for the  
14 sake of argument that that blood came from [REDACTED],  
15 what you've already told us is that the presence  
16 of [REDACTED] blood in and of itself would not have  
17 led to you identifying ABH blood group substances  
18 in the semen sample; is that right?

19          A        Okay.

20                   Yes, but in this particular case with  
21 this item we have to recognize further that the  
22 stain containing blood and the stain containing  
23 semen were some 15 inches apart.

24          Q        Oh.

25                   So that the semen stain has nothing to

Spalding - cross

1 do with the blood stain?

2 A Correct.

3 Q Okay.

4 A Or at least not in physical contact.

5 Q It wasn't cut out of the same little  
6 square?

7 A Right.

8 Q Okay.

9 Now if, in fact, the seminal stain --  
10 let's start this way, if you look at the seminal  
11 stain as just being a seminal stain would you tend  
12 to believe that the person who deposited that  
13 stain was an AB secretor?

14 A If I looked at it as purely a seminal  
15 stain not containing anything else?

16 Q As opposed to a mixed stain.

17 A I could consider that.

18 Q Could it be possible for it to be a  
19 stain -- a nonmixed stain and not be from an AB  
20 secretor having ABH blood group substances?

21 A It wouldn't be consistent with that  
22 situation, no.

23 Q Okay.

24 Now you've told us before whether some  
25 blood group substances show up would depend on the

Spalding - cross

1 percent of the mixture; is that right?

2 A To some -- that would be one  
3 influencing factor, yes.

4 Q So that if there is a small amount of,  
5 say, vaginal secretion from someone who has an AB  
6 blood type and is a secretor and it mixes with  
7 semen would you always be able to identify the ABH  
8 substance?

9 A I wouldn't dare say. There's going to  
10 be a variance not only in the relative amounts of  
11 the two fluids involved, but there can be a  
12 variance in the concentration of the A, the B, and  
13 the H blood group substances contributed by either  
14 body fluid, and these are not the same from  
15 individual to individual, generally speaking, nor  
16 are they going to be the same for the two  
17 different body fluids.

18 Q In order for this seminal stain that  
19 you identify on S-13A to be consistent with having  
20 been deposited by Mr. Halsey it would have  
21 necessarily had to have been mixed with a  
22 sufficient quantity of vaginal secretions or some  
23 other body substance of someone who was an AB  
24 secretor to mask -- to put those in there; is that  
25 right?

Spalding - cross

1 A That's correct.

2 Q And unless there were enough of it  
3 there then you would have to conclude that it  
4 couldn't be Mr. -- to do that it couldn't be Mr.  
5 Halsey's stain; is that right?

6 A I'm sorry, I'm not sure --

7 Q I'll try it again.

8 A -- I understand that.

9 Q When you say that the stain there is  
10 consistent with Mr. Halsey because he's an O  
11 nonsecretor --

12 A Well, I can't rule him out.

13 Q You can't rule him out?

14 A That's right.

15 Q You would -- that necessarily assumes  
16 that there was some other body stain present that  
17 would --

18 A Contribute.

19 Q -- contribute to the ABH?

20 A That's correct.

21 Q And it would have to be there in  
22 enough quantities that you could measure it?

23 A That's correct.

24 Q Otherwise it would have to be somebody  
25 that had the AB on their own and secreted it;

Spalding - cross

1 right?

2 A And deposited it.

3 Q Yes.

4 And deposited the semen?

5 A Right.

6 Q Mrs. Clark asked you some questions  
7 before about the presence or absence of  
8 spermatazoa in a sample.

9 A Yes.

10 Q Okay.

11 And you said that the absence of  
12 spermatazoa in a sample has absolutely no  
13 probative value, I believe?

14 A Are we referring to motile spermatozoa  
15 or are we referring to spermatozoa?

16 Q Well, I'll ask you first, does the  
17 absence of spermatozoa in general have any  
18 probative value?

19 A Not necessarily.

20 There were stains that we examined  
21 here that did not have spermatozoa or sperm cells,  
22 if you will; however, the identification of P-30  
23 is also equal in its weight scientifically  
24 speaking to identification of semen.

25 Q Were there samples here that did have

Spalding - cross

1 sperm cells?

2 A Yes.

3 Q So it's equally possible for -- is it  
4 possible then for one individual to deposit two  
5 samples close in time and one would exhibit the  
6 characteristics of sperm cells and the other would  
7 not?

8 A Normally each ejaculat -- although  
9 there may be reduced level each ejaculat will  
10 contain sperm cells.

11 Q Uh huh.

12 So that if you have one semen  
13 characteristic that contains sperm cells on sample  
14 A and another sample that doesn't contain sperm  
15 cells are you saying that there's a possibility  
16 that they don't come from the same person?

17 A No.

18 Q When you say each ejaculat would  
19 normally contain sperm cells what do you mean?

20 A Just exactly that. They're each --  
21 depending on the time interval in between the body  
22 is going to regenerate sperm cells. The  
23 testicles, that seminiferous tube walls and the  
24 testes are going to produce sperm cells and these  
25 sperm cells are going to be available for



Spalding - cross

1 ejaculation --

2 Q Uh huh.

3 A -- so that the entire volume of sperm  
4 cells produced is not used up in one ejaculat.  
5 And a subsequent ejaculat in a few minutes or  
6 hours later will still have sperm cells in it.

7 Yet if the second ejaculat took place  
8 24 hours later then the volume of the number of  
9 sperm cells would probably be greater than if it  
10 took place an hour later.

11 Q But there would still -- you would  
12 still expect to find sperm cells in the second  
13 ejaculat even if it were an hour later?

14 A Unless the individual had a vasectomy  
15 and then we wouldn't find them either way.

16 Q When we're talking about the presence  
17 of sperm cells we're talking about someone who  
18 produces them.

19 Q Are there also men who never had a  
20 vasectomy who still don't produce sperm?

21 A That can happen, yes.

22 Q So that is the total absence of sperm  
23 in any semen samples then indicative that the  
24 suspect who deposited either had a vasectomy or  
25 doesn't produce sperm?

Spalding - cross

1           A           It might be consistent, I would use  
2           that rather than indicative or anything along that  
3           line because sperm cells themselves are rather  
4           fragile entities.

5                        In the FBI Laboratory we  
6           conservatively require the observation of at least  
7           75 percent -- or even an entire sperm cell to be  
8           seen before the identification is made.

9           Q           Uh huh.

10          A           Sperm cells are a head and a long thin  
11          tail.

12                      When I say the entire cell, we're  
13          looking for along thin tail. If we're looking for  
14          75 percent of it that's still a considerable  
15          portion of tail which is a part of the cell that  
16          is destroyed first.

17                      Sperm cells in moist stains can be  
18          attacked by a bacteria and a variety of other  
19          things that result in there degradation and  
20          breakdown, so that we have to consider these as  
21          possible reasons for a sperm stain as well.

22          Q           So you're telling us you're more  
23          likely to find the presence of sperm in a dry  
24          suspense -- or a stain that dried right away than  
25          one that was kept in a moist condition?

Spalding - cross

1           A       Given a sample of semen that had sperm  
2 in it to begin with --

3           Q       Yes.

4           A       -- the stain that dries quicker will  
5 be more likely to exhibit sperm cells later on,  
6 yes.

7           Q       Will you agree with me that in general  
8 the older the deposition of semen is if it's in a  
9 moist condition the less likely it is to find  
10 motile sperm?

11          A       Yes. And as far as that goes, in dry  
12 stains, too, because once the stain has dried  
13 that's going to take away any motion period.

14          Q       Okay.

15                   So that you wouldn't expect to find  
16 motile sperm cells in a dry stain?

17          A       Absolutely not.

18          Q       But in a wet stain there are some  
19 conclusions, although they're not specific, that  
20 you can draw from the presence of active sperm in  
21 a vaginal smear; isn't that right?

22          A       There have been, as I indicated  
23 before, some probable indications along that  
24 line. Some of these probable indications have  
25 indicated various numbers of hours with regard to

Spalding - cross

1 observed situations where motile sperm were  
2 detected a given period of time after sexual  
3 intercourse; but these are based on limited  
4 numbers of samples.

5 In other words, a study, for instance,  
6 of 75 people or something like that, which, of  
7 course, one would easily recognize as not being as  
8 reliable as a study involving thousands of people,  
9 or something like that, which is, of course,  
10 preferable.

11 As I indicated earlier, the time since  
12 intercourse is an aspect of sexual assault  
13 examination and analysis that is one -- or it is  
14 one way. A variety of -- actually a variety of  
15 approaches have been taken and most forensics or  
16 forensic examiners are not really all that hot on  
17 it.

18 Q Let me ask you this question, there  
19 were a number of samples that you identified and  
20 you told us that they were consistent with having  
21 -- blood was consistent with having come from  
22 Tina; is that right?

23 For example, S-1, Q-5, I believe you  
24 said that because of the presence of Type AB blood  
25 you believed that was blood that came from -- was

Spalding - cross

1 consistent with K-9, as as opposed to the other?

2 A That's correct.

3 Q Okay.

4 And you indicated that Q-33 -- excuse  
5 me -- Q-27, S-33, the brick, was consistent with  
6 Tina; is that right?

7 A That's correct.

8 Q And the same as with the blood  
9 scraping Q-4, S-26, consistent with [REDACTED]?

10 A Yes.

11 Q Now although you haven't identified  
12 it, given the fact that [REDACTED] was Type A would it  
13 have been possible for [REDACTED] to be AB -- would it  
14 be possible for [REDACTED] to be actually Type AB  
15 also?

16 A Well, the word possible, yes.

17 Q Its genetically possible?

18 A Genetically possible, yes. Probable,  
19 based on the tests I've observed of what I've run  
20 I wouldn't think so, but it's possible.

21 Q So that you believe that the light  
22 bulb that was found next to [REDACTED] actually had  
23 Tina's blood on it, not [REDACTED] blood on it?

24 A If that was S-1, yes.

25 Q Yes.

Spalding - cross

1           A           Or at least it's consistent with that  
2 source.

3           Q           And you would say that to the  
4 exclusion of [REDACTED] based on your analysis?

5           A           I couldn't absolutely exclude him  
6 because he does have the PGM 1 plus. And if he  
7 had -- if some of his blood were there the  
8 possibility of masking of hers -- masking by hers  
9 would be there. But the majority of it did  
10 reflect her characteristics.

11          Q           When you examine the fingernails for  
12 the presence of blood do you also examine for the  
13 presence of human tissue?

14          A           Tissue in a sense of skin and that  
15 sort of thing we would probably note it. We do  
16 not have the histological capability for  
17 identifying skin and that kind of material as a  
18 routine practice. So as results relate to  
19 identifying tissue as such, skin, no.

20          Q           Well, you would note the presence of  
21 tissue then?

22          A           I would note the presence of something  
23 like that, yes, if it were present. Often times  
24 -- well, I'm sorry. Go ahead.

25          Q           So, is it possible that you could

Spalding - cross

1 Q Would washing it necessarily remove  
2 all traces of the blood?

3 A For the purpose of identification in  
4 that regard, yes, the way the normal forensic can  
5 identify indication one could successfully wash  
6 carefully and remove it.

7 Q When you say one could successfully  
8 wash carefully that leads me to believe that one  
9 could also run one's hands under water and still  
10 have blood under one's fingers nails; is that  
11 right?

12 A I would say it's possible.

13 MS. VAN PELT: Your Honor, I have a  
14 series of exhibits Mrs. Clark didn't use and I  
15 want to ask this witness about. I don't know if  
16 you want to do it now or after.

17 THE COURT: Let's break for lunch  
18 now. I was going to, hopefully, get Agent  
19 Spalding off the stand. I guess we're not going  
20 to do that.

21 See you at 1:30.

22 Don't discuss the case.

23 (Whereupon the jury was excused.)

24 (Whereupon the witness was excused.)

25 (Whereupon Court was recessed.)

Spalding - cross

1

2

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4

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(Whereupon Court was reconvened as follows:)

6

7

THE COURT: Anything before we bring the jury out?

8

9

10

MS. VAN PELT: Your Honor, I have one witness who is not able to be back here on Monday.

11

12

I indicated he might have to wait a while before he got on.

13

14

15

16

17

18

Could we possibly, once Mrs. Clark and Mr. Tucker finish with their case and we get the introduction of evidence and motions -- you know -- if they rest subject to the introduction and we put on that one witness and then do the evidence afterwards.

19

20

THE COURT: It's okay with me if it's okay with everybody else. Sure.

21

22

MS. VAN PELT: Because there's housekeeping things.

23

24

THE COURT: Well, it might just waste your time if your motion for acquittal is granted.

25

MS. VAN PELT: It's a short witness,



Spalding - cross

1 Judge.

2 THE COURT: Okay.

3 MS. VAN PELT: I mean I have given  
4 that serious thought.

5 THE COURT: All right.

6 Bring out the jury, please.

7 You can have a seat, we don't do the  
8 Federal bit here.

9 (Whereupon the jury was brought out.)

10  
11  
12  
13 R O B E R T P. S P A L D I N G,  
14 having been previously sworn, resumed the stand,  
15 and testified as follows:

16  
17 CONTINUED CROSS-EXAMINATION BY MS. VAN PELT:

18  
19 THE COURT: All right.

20 Miss Van Pelt

21  
22 Q Agent Spalding, there are a lot of  
23 other items that you examined for the presence of  
24 blood or semen that you didn't find any of either  
25 substance on; isn't that right?

Spalding - cross

1 A That is correct.

2 Q And, for example, other than what  
3 you've told us this morning, on all of the other  
4 swabs and slides there was no evidence of semen?

5 A Basically, yes, on the -- only items  
6 that were testified to so far, to the best of my  
7 recollection, are the ones that were -- where body  
8 fluids were identified and characterized.

9 Q So that basically the inference that  
10 is safe to be drawn then is that everything, if  
11 not everything, almost everything, that you found  
12 blood or semen on has been brought out this  
13 morning?

14 A Yes.

15 Q Okay.

16 A Yes.

17 Q So I don't have to run through the  
18 list and say there was no blood on this, there was  
19 no semen on this?

20 A No.

21 Q If you haven't told us it's true?

22 A I think that's an fair assumption.

23 Q Okay.

24 A There were some -- a little over 200  
25 items that were sent in and what we've talked

Spalding - cross

1 about is the important stuff.

2 Q I hadn't intended to go through them  
3 all, don't worry. Relax.

4 THE COURT: You weren't going to do it  
5 in this Courtroom.

6 MS. VAN PELT: But I only made a note  
7 of one or two things that I was going to ask him  
8 in that regard.

9 Q Now other than what you've talked  
10 about before, you examined other items for the  
11 presence of amylase, specifically cigarette butts?

12 A Yes.

13 Q And, in fact, were there a whole  
14 series of cigarette butts submitted. And in each  
15 case you were asked to examine them for the  
16 presence of amylase and see, if there was amylase  
17 present, whether it contained any blood group  
18 substances?

19 A According to my records there were  
20 three cigarette butts submitted, and on those  
21 three cigarette butts the H blood group substance  
22 was identified.

23 Q Okay.

24 These are small enough, I think we can  
25 do them sitting on the stand.

Spalding - cross

1                   Showing you what's been marked S-6 for  
2 identification, do you recognize that?

3                   A        Yes. State's 64 ID is the paper bag  
4 containing a cigarette butt. It's labeled Q-9  
5 with my initials on it. And as per the comments I  
6 made earlier about the evidence we spoke of this  
7 morning, it was received with the remainder of  
8 that evidence.

9                   Q        Okay.

10                   Did you perform any -- or should I do  
11 them all with you first here.

12                   A        Yeah, that might be easier to do them  
13 all.

14                   Q        All right.

15                   S-24 for identification.

16                   A        S-24 is a similar bag with the label  
17 Q-2 and my initials. It also contains a cigarette  
18 butt. And, as I've said, was likewise received  
19 with the remainder of the evidence.

20                   Q        Showing you what's been marked S-25.

21                   A        S-25 is an envelope similar to those  
22 that the blood samples were in this morning. It's  
23 labeled Q-3, and was, again, received with the  
24 remainder of the evidence.

25                   Q        Showing you what's been marked S-58.

Spalding - cross

1           A       Okay.

2                   S-58 is an envelope similar to that  
3           that Q-3 is contained in. It's labeled Q-53  
4           through Q-57; however, my initials and markings do  
5           not appear on the four cigarette butts contained  
6           inside.

7                   The information I have and reports  
8           that I have that I prepared do not reflect the  
9           examination of those. And I would explain that  
10          simply by saying a number -- in view of the volume  
11          of the evidence in the case a number of  
12          discussions did take place between myself and the  
13          police department, and a number of examinations  
14          were deemed unnecessary, or perhaps something that  
15          we might considerate at a later date, but were not  
16          initially conducted. And this would fit within  
17          that category, I believe.

18          Q       So that S-58 which purports to be the  
19          contents of the ashtray in the living room, in  
20          fact, contains items that fit that description; is  
21          that right?

22          A       Yes.

23          Q       And you initially received them and  
24          gave them Q numbers, but you performed no  
25          examinations on them?

Spalding - cross

1 A That is correct.

2 Q Showing you what's been marked S-71  
3 I'll ask you the same questions.

4 A S-71 is an envelope similar to the one  
5 I just described for 53 to 57, yes, S-58.

6 The comments I made with respect to  
7 this sample would be the same as with the previous  
8 sample in that no examinations were conducted on  
9 the items.

10 Q All right.

11 And this purports to be the contents  
12 of an ashtray in bedroom/kitchen, two matches and  
13 one cigarette butt; is that right?

14 A That's correct.

15 Q Showing you what's been marked S-79  
16 for identification, can you identify it and did  
17 you perform any examinations on those?

18 A S-79 is a paper bag like the previous  
19 ones, a small one. It is labeled Q-72 through  
20 Q-74. It contains two cigarette butts and one  
21 match. And it, likewise, was not examined.

22 Q And the notation is that this was  
23 found on the step above second floor; is that  
24 correct?

25 A Yes, I believe that's correct what

Spalding - cross

1 that says.

2 Q I have the ones that you didn't  
3 examine.

4 A Correct.

5 Q And then S-82, I believe it is?

6 A Yes, S-82, an envelope similar to the  
7 envelopes that we've seen. As indicated on the  
8 outside contains one cigarette butt, fifth step  
9 down. It also is labeled Q-75, my initials. It  
10 contains a cigarette -- a single cigarette butt  
11 which was not examined for the reasons I've  
12 already stated.

13 Q Okay.

14 Now, directing your attention to the  
15 exhibits that you did examine, did you examine  
16 them for the presence of amylase and other blood  
17 group substances or amylase and then other blood  
18 group substance if they were in amylase?

19 A That would include S-6, S-25, and I'm  
20 not sure of this S number.

21 Q You got S-24 there?

22 A Is that 24?

23 All right.

24 Q Which is either Q-2 or Q-3.

25 A Q-2.

Spalding - cross

1                   Yes, those items were examined for the  
2 presence of amylase. They were also examined for  
3 the presence of blood group substances.

4           Q        Were you able to detect any blood  
5 group substances on any of these exhibits?

6           A        The identification of the H blood  
7 group substance was made on all three of the  
8 single cigarette butts in these items.

9           Q        And am I correct that from what you  
10 told us before lunch that that would tend to  
11 indicate that the person who smoked that cigarette  
12 was someone who had a secretor status?

13          A        That would be reasonable, yes.

14          Q        Because a person who is a secretor is  
15 a person whose blood group substances show up in  
16 his --

17          A        The body fluids other than the blood.

18          Q        -- in his other body fluids?

19                   MS. VAN PELT: I have no other  
20 questions.

21                   MS. CLARK: I just have one.

22                   THE COURT: I'm counting.  
23  
24  
25



Spalding - cross

1 REDIRECT EXAMINATION BY MS. CLARK:  
2

3 Q Agent Spalding, would you just clarify  
4 again for us your classifications or your  
5 denotations when you say human blood inconclusive  
6 versus insufficient for characterization?

7 A Yes. In the examination of any of  
8 these stains it would be not unreasonable to  
9 encounter a stain which was of sufficient quantity  
10 that we were able to conduct testing beyond human  
11 blood, that is attempt to determine blood type or  
12 blood types.

13 And if, for some reason, the  
14 biochemical makeup of that stain had been -- had  
15 deteriorated to the point where the chemical  
16 characteristics that we're looking for are not  
17 identifiable anymore then the normal result would  
18 be that that stain would give us an inconclusive  
19 conclusion -- I mean inconclusive result.

20 If, on the other hand, if we were able  
21 to identify human blood in a sample or specimen  
22 stain, and the stain were consumed by those by --  
23 that degree of testing -- in the process of  
24 identifying it as human blood the stain were  
25 consumed and there were no longer any stain left

Spalding - redirect

1 then I would report that, and it would be common  
2 to report that as human blood insufficient in  
3 quantity for further examination.

4 MS. CLARK: Thank you.

5 I have no further questions.

6 THE COURT: You may step down, Agent  
7 Spalding.

8 Thank you very much.

9 Please watch your step, sir.

10 THE WITNESS: Thank you, your Honor.

11 (Whereupon the witness was excused.)

12 THE COURT: Are we going to need this  
13 thing for the next witness?

14 Let's get rid of it.

15 MS. VAN PELT: Miss Delabar will have  
16 to wake up.

17 THE COURT: Call your next witness.

18 MS. CLARK: Glenn Owens.

19  
20  
21  
22 G L E N N O W E N S, having been first duly  
23 sworn testified as follows:

24  
25 DIRECT EXAMINATION BY MS. CLARK:

Spalding - redirect

1 Q Are you employed by the Union County  
2 Prosecutor's Office?

3 A That's correct.

4 Q And could you tell me your title?

5 A I'm a sergeant in charge of the  
6 forensic unit which includes photography, and  
7 fingerprints, and video.

8 Q All right.

9 In regard to your responsibilities in  
10 fingerprinting can you tell me what training,  
11 education, and experience you've had?

12 A 1959 through 1971 I was a Bureau of  
13 Criminal Identification Officer with the Sheriff's  
14 Office.

15 From 1971 through today I was with the  
16 Prosecutor's forensic unit and I head that unit.

17 Q And have you had an opportunity as a  
18 result of these years of experience to attend  
19 seminars or anything like that?

20 A Quite frequently.

21 MS. VAN PELT: He's a fingerprint  
22 expert, Judge.

23 THE COURT: All right.

24 Thank you.

25 The defense stipulates Mr. Owens that

Owens - direct

1 you are a fingerprint expert.

2 Q Directing your attention to November  
3 15, 1985 Sgt. Owens, did you have occasion to  
4 respond to the State Medical Examiner's Office to  
5 attend a preliminary examination of two children?

6 A Yes, I did.

7 Q And why were you going there?

8 A We take the photographs and the  
9 fingerprints of the deceased at that time and any  
10 autopsy photographs that the doctor would request.

11 Q And on this particular occasion --  
12 strike that.

13 Did you have occasion to respond on  
14 November 16, 1985 to the same place?

15 A Yes, that was the completion of the --  
16 we went in the afternoon of the 15th, completed  
17 around 4:30, 5:00 that afternoon, and then came  
18 back on the 16th and started again on the  
19 autopsies.

20 Q Did you perform any unusual  
21 examination on [REDACTED] while you were  
22 attending the preliminary examination on November  
23 15?

24 A Well, it's not unusual, we do it quite  
25 frequently with deceased victims where they might

Owens - direct

1 have been strangled or carried by the perpetrator.

2 Q Could you tell us what, if anything,  
3 you did?

4 A Yes. We use two methods -- at that  
5 time I used two methods. An iodine fuming method  
6 which is actually using iodine fumes to attempt to  
7 go over the skin and raise latent prints that  
8 might be on the skin.

9 The second method I used that day was  
10 the magnabrush, it's actually a magnet that we put  
11 the powder on and then go close to the skin, and  
12 if there are oils from latent fingerprints on the  
13 skin they will be visible to us at that time.

14 Q Now, Sgt. Owens, [REDACTED] was naked when  
15 you saw her; correct?

16 A That's correct.

17 Q And could you tell me when you  
18 performed this examination -- or the two  
19 examinations you told us about did you find  
20 anything?

21 A I did not find what we call good ridge  
22 detail. In other words, fingerprints that were  
23 able to be identified. There were a lot of  
24 smudges and smearing. But, in other words, I did  
25 not have any fingerprint that could be identified.

Owens - direct

1 Q Now tell me -- would you explain the  
2 process by which you think you can even identify  
3 fingerprints on a naked body?

4 A Well, the naked body, even though it's  
5 an porous surface sometimes when a person grabs  
6 hold of the leg or the flesh, and then is sweating  
7 enough to leave sweat there, and then goes away  
8 from that surface and leaves his latent print on  
9 that surface we're sometimes able to raise them  
10 with these chemicals.

11 In my 28 years I think I probably done  
12 it about twice, and it's very -- the odds against  
13 it are tremendous.

14 Q And what are the factors that go into  
15 whether you're going to be successful or not at  
16 being able to ascertain -- or raise a print on a  
17 naked body?

18 A Well, time is probably the factor  
19 that's against us the most because the more time  
20 that goes by these oils have a chance to go back  
21 into the surface of the skin and once they do  
22 we've lost the ridge detail that we need.

23 Q Now, Investigator Owens, from your  
24 training, education, and experience can you tell  
25 me if a fingerprint has been placed on something,

Owens - direct

1 if you found sufficient ridge detail to be able to  
2 say, hey, that's a print, it's a good print, and  
3 let's say identify it, can you tell when that  
4 print was put someplace?

5 A I couldn't, no.

6 MS. CALRK: I'd like to have two items  
7 marked, your Honor.

8 THE COURT: 277'77 and 278.

9 (Whereupon two photographs were marked  
10 S-277 and S-278 for identification.)

11 Q Investigator Owens, I show you what  
12 what has been marked S-277 for identification and  
13 ask you whether you recognize that photograph?

14 A Yes. This is one of the two --  
15 several I took of the lower portion of the victims  
16 that day.

17 Now this is the little boy [REDACTED], the  
18 sole and the lower portion of his legs while  
19 laying on the table.

20 Q Does that photograph fairly and  
21 accurately depict what you saw when you were  
22 taking the photograph?

23 A It does.

24 Q And showing you what has been marked  
25 S-278 for identification I ask you whether you

Owens - direct

1 recognize what that photograph is?

2 A Yes. And this is another of the  
3 series I took that day. And is of the lower  
4 portion, again of the legs and the soles of the  
5 feet of the little girl [REDACTED].

6 Q And does that photograph fairly and  
7 accurately depict what you saw?

8 A It does.

9 MS. CLARK: No further questions of  
10 this witness.

11 THE COURT: Any questions?

12 MS. VAN PELT: No questions.

13 THE COURT: Thank you, Sgt. Owens.  
14 You're excused, sir.

15 Please watch your step.

16 THE WITNESS: Thank you.

17 (Whereupon the witness was excused.)

18 THE COURT: Call your next witness.

19 MS. CLARK: Chief Propsner.

20

21

22 J O H N C. P R O P S N E R, having  
23 been first duly sworn, testified as follows:

24

25 DIRECT EXAMINATION BY MS. CLARK: