

STATE OF WISCONSIN : CIRCUIT COURT : MANITOWOC COUNTY  
BRANCH 1

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STATE OF WISCONSIN,

PLAINTIFF,

JURY TRIAL

TRIAL - DAY 14

vs.

Case No. 05 CF 381

STEVEN A. AVERY,

DEFENDANT.

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**DATE:** MARCH 1, 2007

**BEFORE:** Hon. Patrick L. Willis  
Circuit Court Judge

**APPEARANCES:** KENNETH R. KRATZ  
Special Prosecutor  
On behalf of the State of Wisconsin.

THOMAS J. FALLON  
Special Prosecutor  
On behalf of the State of Wisconsin.

NORMAN A. GAHN  
Special Prosecutor  
On behalf of the State of Wisconsin.

DEAN A. STRANG  
Attorney at Law  
On behalf of the Defendant.

JEROME F. BUTING  
Attorney at Law  
On behalf of the Defendant.

STEVEN A. AVERY  
Defendant  
Appeared in person.

**TRANSCRIPT OF PROCEEDINGS**

Reported by Diane Tesheneck, RPR

Official Court Reporter

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1                   THE COURT: At this time the Court, again,  
2                   calls State of Wisconsin vs. Steven Avery, Case No.  
3                   05 CF 381. We're here for a continuation of the  
4                   trial in this matter this morning. Will the parties  
5                   state their appearances for the record, please.

6                   ATTORNEY KRATZ: Good morning, Judge, the  
7                   State of Wisconsin appears by Calumet County  
8                   District Attorney Ken Kratz, Assistant Attorney  
9                   General Tom Fallon, Assistant District Attorney Norm  
10                  Gahn, all appearing as special prosecutors.

11                  ATTORNEY STRANG: Good morning. Steven  
12                  Avery is here in person. Jerome Buting represents  
13                  him, Dean Strang appears on his behalf as well.

14                  THE COURT: Is there anything this morning  
15                  before we resume the defense cross-examination of Ms  
16                  Eisenberg?

17                  ATTORNEY FALLON: I just wanted to alert  
18                  the Court that Mr. Strang and I are working out the  
19                  final language of a stipulation that we would like  
20                  to put on the record after Dr. Eisenberg completes  
21                  her testimony. We're waiting for the completion of  
22                  her testimony to finalize the language regarding a  
23                  stipulation to save us a witness.

24                  THE COURT: Very well. The coordinator may  
25                  bring the witness in and we'll bring the jury in.

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(Jury present.)

THE COURT: You may be seated. Good morning, members of the jury. When we left off yesterday afternoon the defense was conducting its cross-examination of Dr. Eisenberg. We'll resume this morning. Mr. Strang, you may continue.

THE CLERK: You want the witness to be sworn?

THE COURT: I think we will, we've been doing that. We'll have the clerk re-swear the witness.

**DR. LESLIE EISENBERG**, called as a witness herein, having been first duly sworn, was examined and testified as follows:

THE CLERK: Please be seated.

**CROSS-EXAMINATION**

BY ATTORNEY STRANG:

Q. Welcome back. Good morning.

A. Good morning to you.

Q. Yesterday when we were broke off -- when we broke off, we were talking about a site somewhat southwest of, you know, what we have all here been calling the Avery Salvage Yard property. I want to just go back, though, a little bit to get us up there again. And, now, when I say go back

1 a little bit, I'm going to go back to the Janda  
2 burn barrel, number two, just for a little bit.  
3 Okay.

4 A. Yes, sir.

5 Q. Which was your tag -- not your tag, but tag  
6 number 7964?

7 A. That's correct.

8 Q. Okay. Now, again, nowhere did you find evidence  
9 that you were looking at bone fragments from more  
10 than one body?

11 A. That is correct.

12 Q. The bone fragments you saw under tag number 7964  
13 from the burn barrel were burned, charred, some  
14 of them calcined, as they had been in the burn  
15 area?

16 A. The human bone.

17 Q. Yes, the human bone, because you did find some  
18 nonhuman bone?

19 A. In the location --

20 Q. In the burn area and in the burn barrel?

21 A. That's correct.

22 Q. Some of them were what you called avian bone?

23 A. Avian simply is a Latin term for -- means bird  
24 bone.

25 Q. A bird, right. So whether it's a chicken, or a

1 turkey, or a pheasant, some sort of something  
2 with wings?

3 A. Yes.

4 Q. All right. So you correct me if I forget to add  
5 the human, because it's ordinarily human bone I  
6 mean to be talking with you about.

7 A. Understood.

8 Q. Okay. Now, one of the things we didn't cover and  
9 I want to cover with respect to the burn barrel,  
10 is when you are looking at these human bone  
11 fragments you are using not just your eyes, of  
12 course, but you are also using your sense of  
13 smell; is that fair?

14 A. That's fair.

15 Q. Smelling, do I smell the odor of let's say fuel,  
16 some accelerant or something, correct?

17 A. Yes.

18 Q. The only human bone fragments on which you  
19 detected an odor of some sort of accelerant or  
20 flammable fluid were the bone fragments that came  
21 out of the Janda burn barrel; is that accurate?

22 A. No, I would qualify that by saying that the  
23 container in which those human -- those fragments  
24 from 7964 associated with burn barrel number two  
25 behind the Janda residence, upon opening the

1 container, there wasn't an odor of fuel. Whether  
2 or not they were specifically human bone, I could  
3 not say.

4 Q. Very good. Thank you. Because I was not clear  
5 on your report, but that -- that makes sense. So  
6 you opened this Tupperware type container, or was  
7 this a plastic bag, some container?

8 A. A sealed lidded container.

9 Q. Plastic lidded container.

10 A. Yes.

11 Q. And it's there that you get the waft of some kind  
12 of flammable liquid or fluid?

13 A. Yes.

14 Q. But, of course, there is no way to tell which --  
15 which of the bone fragments or non-bone material  
16 that may be coming from?

17 A. Right, there was no way to tell from the contents  
18 of that container where that odor was coming  
19 from.

20 Q. All right. Very well. Now, you did not detect  
21 the distinctive smell of burnt rubber from any of  
22 the containers you examined here that contained  
23 human bone fragments?

24 A. I did not.

25 Q. And by that, I mean any of the containers, all of

1 the tag numbers from whatever source?

2 A. I did not.

3 Q. Neither did you -- did you note any residue from,  
4 let's say burnt rubber, that was visible to you,  
5 in any of the containers you examined?

6 A. No burned rubber, that's correct.

7 Q. Now, if we're warmed up, I think let's go, now,  
8 back to tag number 8675 where we left off  
9 yesterday afternoon. And this is the -- get  
10 ourselves oriented again.

11 ATTORNEY STRANG: I want to go to the ELMO.

12 ATTORNEY BUTING: It may not be turned on.

13 Q. (By Attorney Strang)~ Okay. This is just 402  
14 again, which we saw yesterday, tag 8675, are the  
15 items that came to you, reportedly, from the GPS  
16 coordinates of that red flag.

17 A. That's correct.

18 Q. Somewhere southwest of the Avery property?

19 A. Yes.

20 Q. Have you ever seen a photograph of the Avery  
21 property, from the air?

22 A. I believe I have seen one.

23 Q. All right. You may or may not be able to work  
24 with Exhibit 91, but I will show it to you. Can  
25 you orient yourself from that photograph? This



1           is an exhibit that's been admitted, I'm sorry, I  
2           should have shown it to you; it's Exhibit 91?

3    A.    Yes, I can.

4    Q.    Okay. You can see where the Avery salvage  
5           property is?

6    A.    Yes, I can.

7    Q.    All right. Does it look to you like we're  
8           looking east from an airplane?

9    A.    It does, because the Avery and Janda properties  
10          appear at the lower left hand corner of the  
11          salvage yard.

12   Q.    Terrific. Thank you. Let me pop this up on the  
13          ELMO. Okay. So, obviously, someone taking this  
14          photograph is up in an airplane? And what we're  
15          doing is we're flying probably about close to due  
16          east here.

17   A.    I'm sorry, close to?

18   Q.    To due east.

19   A.    Due east, yes.

20   Q.    Toward the lake. And the road coming through at  
21          an angle in the upper left corner of the picture  
22          is Highway 147.

23   A.    I believe it is.

24   Q.    And we can see Avery Road coming down to the  
25          northeast corner of the salvage yard.

1 A. That's correct.

2 Q. Okay. And what -- We can't place the location  
3 from which the material under tag number 8675  
4 came, but we can see here that there's  
5 essentially quarry area and some wooded areas to  
6 the south of the Avery property?

7 A. Yes, that's correct.

8 Q. So I'm going to refer to tag 8675 as the quarry  
9 pile; does that work?

10 A. It does, understood.

11 Q. All right. Now, you found, in the material from  
12 the quarry pile, two fragments that appeared to  
13 you, in your experience, to be pelvic bone; is  
14 that right?

15 A. That's correct.

16 Q. There were some cuts, appeared to be some cuts on  
17 those pelvic bone fragments?

18 A. Yes.

19 Q. But you weren't able to conclude, 100 percent  
20 certain, that these were human pelvic bone  
21 fragments; do I understand that correctly?

22 A. That's correct.

23 Q. Okay. Now, you suspected them of being human  
24 pelvic bone; am I understanding you correctly?

25 A. Yes.

1 Q. You still suspect them of being human pelvic  
2 bone?

3 A. Suspected possible human.

4 Q. Right. And part of the problem you had in  
5 identifying those as certainly human is that they  
6 were so small.

7 A. It was less their size than what the contours of  
8 the bone looked like after they were cut. But it  
9 was clearly a joint articulation at the right  
10 side of the pelvis where the pelvis meets the  
11 lower part of the spine.

12 Q. You say the right side, you actually were able to  
13 say which side of the pelvis?

14 A. Yes.

15 Q. Okay. And the overall thickness of those  
16 fragments was consistent with a human being?

17 ATTORNEY FALLON: Objection, she indicated  
18 suspected and possible and that's as far as she can  
19 go. I don't believe there's any testimony regarding  
20 consistent or non-consistent. She couldn't  
21 identify --

22 THE COURT: I think his question is just  
23 asking about one element of the bones, not  
24 concluding that it was a human bone. So as I  
25 understand the question, I'm going allow it.

1                   ATTORNEY STRANG:    The thickness.   And  
2                   actually, you know, it's a fair point.

3   Q.    (By Attorney Strang)~ Let me just drop back and  
4           ask you a foundational question or two before I  
5           get to that.   One of the things that  
6           distinguishes human bones from even larger  
7           animal -- large animal bones, is the wall  
8           thickness of the bone, is that -- am I correct in  
9           that?

10   A.   You are partially correct.   It's the relationship  
11           or the ratio of the thickness of the outside of  
12           the bone to the size of what we would call the  
13           marrow cavity, the inside of the bone.

14   Q.    Okay.   So if we have a round bone, there's a wall  
15           thickness, so to speak, and then a marrow cavity,  
16           you are describing that as, inside?

17   A.    A space, like a cylinder.

18   Q.    Right.   And then the other wall?

19   A.    Correct.

20   Q.    And if we were looking at something like a deer,  
21           a relatively large animal, would we find, in a  
22           long bone of a deer, that the wall thickness of  
23           the bone was less than the wall thickness of a  
24           similarly length -- similarly long human bone?

25   A.    No, the thickness -- the diameter, the

1 measurement of the outside of the bone in humans  
2 would be less than that in a deer bone, for  
3 example.

4 Q. Now, I think I lost you -- I mean -- You are  
5 talking about the ratio of the wall thickness to  
6 the thickness of the marrow cavity?

7 A. That's correct.

8 Q. And that's -- It's a thicker wall relative to the  
9 marrow cavity in the human bone.

10 A. No, it's a thinner wall.

11 Q. I have it the other way around?

12 A. Yes.

13 Q. Okay. All right. So the question, then, is the  
14 thickness of the bone wall here that you observed  
15 on these two pelvic bone fragments, was that  
16 thickness at least consistent with human pelvic  
17 bone?

18 A. Let me answer your question in two parts. The  
19 first part is that the architecture or the make  
20 up of these pelvic bone cut fragments is  
21 different in character and shape than the long  
22 bones you have been talking about. The internal  
23 structure of these bones is made up almost  
24 entirely of honeycomb looking bone.

25 Q. All right.

1 A. And so using the long bone as an example may not  
2 be an accurate comparison. Secondly, the  
3 thinness of the outside bone of these pelvic cut  
4 fragments is not inconsistent with the thickness  
5 I would expect to see relative to the honeycomb  
6 bone in humans.

7 Q. Okay. It is not inconsistent with the human --

8 A. Correct.

9 Q. -- bone. And let me ask you just maybe the  
10 simplest, most straight forward question here, is  
11 what made you suspect that these pieces of pelvic  
12 bone could be human?

13 A. The contours of the bone, and more particularly,  
14 the shape of what we call the articular surfaces,  
15 where one bone fits with another bone at the hip  
16 joint.

17 Q. Those appeared consistent with a human being?

18 A. With the shape and the contours of what would be  
19 expected in a human bone.

20 Q. All right.

21 A. Yeah.

22 Q. Now, I would like to show you something that's  
23 not been marked as an exhibit. And I don't have  
24 a small copy of it, so I'm going to pause and  
25 tell Mr. Fallon what it is that I want to put up

1           on the screen, if you would bear with me. I will  
2           let you in on the secret now. I'm going to show  
3           you what's marked on the CD Rom that I got from  
4           the report that you and Trooper Austin did.

5   A.   Yes.

6   Q.   What's marked as skeleton 1, it's a JPEG file,  
7           skeleton one, okay?

8   A.   Yes.

9   Q.   And I don't -- That's what you are about to see.  
10          Now you know. This is, again, one of these  
11          computer generated models that Trooper Austin did  
12          under your supervision?

13   A.   He was not working under my supervision, but we  
14          worked cooperatively to depict my findings.

15   Q.   He was good with the computers, you were good  
16          with human skeletons?

17   A.   Hopefully, yes.

18   Q.   Yes. And, again, this isn't a photograph, but  
19          what you know in looking at this model is that  
20          the features you see are consistent with an adult  
21          female human skeleton?

22   A.   Without seeing this side by side with what might  
23          be a male skeleton, I will agree to that  
24          characterization.

25   Q.   Okay. And, look, I'm not trying to push you

1            somewhere you don't want to go on this; this is  
2            from your report?

3    A.    Yes.

4    Q.    Do you need to look at your report or reorient  
5            yourself to what skeleton figure 1 was?

6    A.    This is from Trooper Austin's report?

7    Q.    Yeah, I mean, the report the two of you put  
8            together.

9    A.    That's fine, I don't believe that's necessary.

10   Q.    Okay. So you are comfortable and I don't know,  
11            frankly, that female versus male makes a big  
12            difference on this point, but show us the pelvis.

13   A.    May I approach.

14   Q.    We'll give you a laser point, or you can approach  
15            if you like. But ...

16   A.    Thank you.

17   Q.    Sure.

18   A.    As I mentioned yesterday, the pelvic girdle or  
19            the pelvis, that we all probably think about as  
20            one bone, is actually three different bones.

21   Q.    All right. You talked about the fragments you  
22            saw under tag 8675 being right pelvic bone, so  
23            let's identify that.

24   A.    Okay. I should clarify, one of those -- for one  
25            of those fragments, it's impossible to side, the



1            iliac crest that we talked about yesterday. But  
2            the other two fragments that are still  
3            articulated at a joint surface are from the right  
4            side.

5    Q.    So show me the right pelvic bone here, if you  
6            would. And this is obvious it's left as we're  
7            all looking to it, but when you say right or left  
8            on the human body, you are talking about as if  
9            you were in the person's skin?

10   A.    When you -- and I'm sorry, I should have  
11            clarified that -- when we look at a graphic or  
12            photograph like this, computer generated image,  
13            we, in the same way we were looking at the face  
14            yesterday, we are then looking at someone who  
15            would be facing us. So the right hand side would  
16            be the person's right hand side.

17   Q.    Correct. Yes.

18   A.    As we're facing, correct.

19   Q.    My right pelvic bone?

20   A.    Correct.

21   Q.    So right pelvic bone is one of the bones, left  
22            pelvic bone is the second of the bones that make  
23            up the pelvis?

24   A.    Well, they actually have fancy names, but there  
25            are a left side called the innominate, a right

1 side called the innominate, and they both are  
2 joined, left and right, at the sacrum, which is  
3 at the base of the spine.

4 Q. That's the tailbone that hurts when you slip and  
5 fall on the ice?

6 A. It's the very bottom of that bone, yes.

7 Q. Okay. All right. Innominate is  
8 i-n-n-o-m-i-n-a-t-e?

9 A. That's correct.

10 Q. Okay. Now -- So you actually had three bones  
11 that you thought associated with the pelvis under  
12 tag 8675 from the quarry file?

13 A. That's correct.

14 Q. Two that look from the right pelvis, one from the  
15 sacroiliac -- sacroiliac?

16 A. The iliac crest, so it would be either this  
17 topmost area, what you can feel when you palpate  
18 or touch your hip, or from the right side, that's  
19 correct.

20 Q. Were these fragments too small to suggest to you  
21 whether they might be male or female?

22 A. It was not a matter of sides but simply what  
23 parts of the bone we had that would not allow  
24 that determination.

25 Q. When you say cuts, you saw cuts on these, are you

1           able to be any more specific about the type of  
2           cut that you saw?

3       A.    It was a long, linear cut, on either side of  
4           those two bones that were still in proximity.  
5           They were essentially a slicing cut on one side  
6           and a sharp slicing cut on the other side.

7       Q.    Any way to tell what instrument may have made  
8           that cut?

9       A.    We --

10                   ATTORNEY FALLON:  Objection, lack of  
11           foundation.

12                   ATTORNEY STRANG:  I can ask some  
13           foundational questions --

14                   THE COURT:  Go ahead.

15                   ATTORNEY STRANG:  -- if that would help.

16       Q.    (By Attorney Strang)~ One of the things you do in  
17           your work is look for human damage to bones or  
18           damage caused by human agency, if you will?

19       A.    If present, yes.

20       Q.    If present.  I mean, you look for it, sometimes  
21           it's present, sometimes it's not, but you are  
22           always looking for it.

23       A.    Correct.

24       Q.    You looked for that here?

25       A.    Yes.

1 Q. Damage to the bones by human agency, correct?

2 A. That's correct.

3 Q. The unnatural defect that you were describing in

4 the parietal and occipital bones yesterday was an

5 example?

6 A. That's correct.

7 Q. Another common example would be to look for

8 evidence of cutting that you might see in bone?

9 A. That's correct.

10 Q. Now, that -- that actually may give you some help

11 on occasion in deciding whether you are looking

12 at a human bone or an animal bone, if the piece

13 is so small that you can't tell the difference,

14 in the sense that animals might often be

15 butchered and you would see signs of cutting near

16 the ends or joints of bones?

17 A. That's correct.

18 Q. Are you able to, not every time now, but on

19 occasion are you able to draw any professional

20 conclusions about what type of instrument may

21 have used to cut, or is that beyond what you can

22 do?

23 A. That is beyond my expertise and certainly would

24 refer that kind of work out to someone who

25 specializes in that kind of analysis.

1 Q. Okay. You may have some suspicions, but wouldn't  
2 make -- wouldn't feel competent to make a final  
3 conclusion?

4 A. As to what instrument --

5 Q. Right.

6 A. -- may have caused the cut? That's correct.

7 Q. Are you capable of discerning the characteristic  
8 differences between a cut made by something  
9 that's sawtooth and a cut made by a smooth edge?

10 A. Visually, that is often possible to do.

11 Q. But, again, a final conclusion you would refer  
12 out?

13 A. Yes, I would.

14 Q. All right. Did it appear to your eyes that these  
15 cuts were -- if you could draw any conclusion at  
16 all -- that the cuts on these pelvis bones were  
17 from a smooth edged instrument or a toothed  
18 instrument?

19 A. I cannot answer your question.

20 Q. Very well. But the cuts were fairly long and  
21 straight cuts?

22 ATTORNEY FALLON: Objection, she's  
23 indicated this is beyond her ability to answer these  
24 types of questions.

25 ATTORNEY STRANG: No, no. I think -- I

1 think that you did testify to, if I heard you just a  
2 minute or so ago describing the cut more  
3 specifically -- you said -- or maybe I misheard you,  
4 they were fairly long cuts?

5 THE COURT: I will overrule the objection  
6 because I think the question goes to not what type  
7 of instrument it came from, but rather the  
8 appearance of what she saw in the bone.

9 ATTORNEY STRANG: And the Court is right.

10 Q. (By Attorney Strang)~ Not interested in the  
11 instrument, just what did you see about the cut,  
12 again?

13 A. That they were straight and linear. But because  
14 of the burning and charring of the bone itself,  
15 it was difficult to make any additional  
16 observations beyond that.

17 Q. All right. Could you tell, for example, whether  
18 the cut went horizontal to the ground or  
19 vertical?

20 A. If I could place those two adjoining fragments in  
21 anatomical position, which I was able to do, as  
22 part of the right pelvic structure, those cuts  
23 were made on either side, in what I would call a  
24 north/south direction, an up and down direction.

25 Q. Up and down if the skeleton or person was

1           oriented as I am now, standing up?

2   A.    Correct.

3   Q.    Okay.  These -- These three small fragments you

4           described were not the only bone fragments that

5           you found under tag 8675?

6   A.    That's correct.

7   Q.    There were 10 bone fragments in total, or in

8           addition to the pelvic bone fragments?

9   A.    In addition.

10  Q.    Okay.  So we're talking about a total of 13 bone

11          fragments?

12  A.    There were also nonhuman unboned burns --

13          burned --

14  Q.    Unburned bones?

15  A.    Unburned bones.  Thank you.

16  Q.    Okay.

17  A.    Under that same tag number.

18  Q.    Okay.  But 13 bone fragments that were burned?

19  A.    Correct.

20  Q.    The charring and partial calcine -- calcined

21          condition that you saw was essentially consistent

22          with the charring and the calcined condition that

23          you saw in human bone fragments from the Janda

24          burn barrel and behind Steven Avery's garage?

25  A.    That is correct, sir.

1 Q. Of the 13 charred bone fragments under tag 8675,  
2 only one of those was -- was clearly nonhuman?

3 A. No, certainly more than one was nonhuman.

4 Q. Of the 13?

5 A. Yes.

6 Q. Okay. Let's go to your report. I'm interested  
7 here, I think, in the first report at page nine?

8 A. Yes, sir, I am there.

9 Q. I was looking at the second full paragraph down  
10 on page nine of your first report.

11 A. Yes, sir.

12 Q. So what you saw is a tag 8675 contained many  
13 elements of unburned nonhuman bone, which you  
14 just told us, right?

15 A. Yes.

16 Q. And other items, as well as 10 fragments of bone  
17 with suspected cut marks?

18 A. Yes, that's what I have written.

19 Q. Okay. Eight of the ten fragments, one definite  
20 nonhuman, were burned/calcined?

21 A. That's correct.

22 Q. So of the -- of the eight burned bone fragments  
23 that showed suspected cut marks, of those eight,  
24 one was definitely nonhuman?

25 A. At -- At that point in my analysis, that's as



1           much as I knew.

2       Q.    Okay.  Were you later able to establish more in  
3           terms of separating nonhuman from human among the  
4           10 bone fragments we're discussing now?

5       A.    I was.

6       Q.    And what did you -- what was the separation you  
7           eventually made?

8       A.    I do not have my working notes here with me in  
9           court today and I am, unfortunately, not able to  
10          answer that question with any certainty.

11      Q.    Just don't remember now?

12      A.    I do not.

13      Q.    Do you remember the bottom line being that the  
14          three pelvic area bones that you have described,  
15          you continue to suspect may be human, but can't  
16          be certain?

17      A.    That is correct.

18      Q.    And as to the other 10 charred bones, are there  
19          some that you continue to suspect may be human,  
20          but can't be certain?

21      A.    There is that possibility.  I should say that  
22          none of those fragments are diagnostic; in other  
23          words, I cannot associate them with one  
24          particular bone or another.

25      Q.    Right.  And I know you can't give us a number any

1 more among the 10 charred bone fragments that  
2 weren't pelvic, but the bottom line is that you  
3 still suspect that some of them may be human, you  
4 are not certain of that?

5 A. The three larger fragments that show burn  
6 patterns consistent with burn patterns found on  
7 human bone elsewhere on the property, yes.

8 Q. Okay. Very well. Of the bone fragments under  
9 tag 8675, from the quarry pile, that you suspect  
10 may be human, were the two from the right pelvic  
11 bone, or the right innominate bone, the only --  
12 the only two that you were able to associate with  
13 each other?

14 A. Actually, they came to me still articulated.

15 Q. Oh, okay.

16 A. The bones were in anatomical position, when I  
17 received them.

18 Q. As they arrived?

19 A. Correct.

20 Q. Others, because they were non-diagnostic, you  
21 couldn't associate one with the other?

22 A. That's correct, non-diagnostic and much, much  
23 smaller.

24 Q. So, in the same way, then, if we go back to the  
25 child's nursery rhythm, you know, the leg bone is

1 connected to the knee bone and the knee bone is  
2 connected to the shin bone and the shinbone to  
3 the ankle bone, that kind of thing; you can't --  
4 you are obviously unable to tell us whether these  
5 fragments were from contiguous or, you know,  
6 associated bones?

7 A. The non-bone pelvic fragments, I cannot.

8 Q. What we have, then, I guess in the end, first,  
9 your conclusion was that the vast majority of  
10 human bone fragments, presented to you under all  
11 tag numbers, quarry pile, Janda burn barrel,  
12 Steven Avery's garage area, or behind Steven  
13 Avery's garage, the vast majority of the human  
14 bone fragments, from all those sites,  
15 collectively, the vast majority was found behind  
16 Steven Avery's garage?

17 A. That's correct.

18 Q. All of these exhibited similar charring and  
19 calcined appearance?

20 A. That is correct.

21 Q. From all three sites?

22 A. The human bone, yes.

23 Q. All of them were fragmented, similarly, from the  
24 three sites, again, human bone?

25 A. That's correct.

1 Q. And while you made mention yesterday, briefly, to  
2 not knowing what the weather was, you know, and  
3 whether -- whether some weather condition might  
4 have caused bone fragments to be found east or  
5 west or south of the burn pit at Steven Avery's  
6 garage; do you remember that --

7 A. Yes, I do.

8 Q. -- testimony? You certainly would agree that it  
9 would be very strange weather conditions, indeed,  
10 that would transport human bone fragments from  
11 the Avery garage area into burn barrel number two  
12 on the Janda property?

13 A. In fact, I would submit there would be no weather  
14 conditions that could make that happen.

15 Q. You would rule that out?

16 A. I would.

17 Q. Likewise, the quarry pile?

18 A. Yes, sir.

19 Q. All right. So what -- what you conclude is that  
20 by human agency the bone fragments here were  
21 moved or located where they were found?

22 A. Some bone fragments identified as human had been  
23 moved, that's correct.

24 Q. Including, I think we agreed yesterday, possibly  
25 human bone fragments found in the general area

1           behind Steven Avery's garage?

2       A.    Based on some of the information you provided me  
3           with yesterday, there is some evidence for  
4           disbursal --

5       Q.    All right.

6       A.    -- that's correct.

7       Q.    Now, you have no evidence that human bone  
8           fragments actually were burned at more than one  
9           site, do you?

10      A.    I do not know that.

11      Q.    You just don't have any evidence that there were  
12           multiple burn sites, correct?

13      A.    Not based on the material I was given to examine.

14      Q.    Right. And in any event, the burning, charring,  
15           calcining, all was roughly consistent as between  
16           the three sites: Quarry, Janda burn barrel and  
17           behind Avery's garage?

18                   ATTORNEY FALLON: I'm going to object to  
19           that question. This is the third time that question  
20           has been asked in this context. The witness  
21           indicated that she cannot say that the bones at the  
22           quarry site were human, to a reasonable degree of  
23           scientific certainty.

24                   ATTORNEY STRANG: Okay.

25                   ATTORNEY FALLON: So whether they are

1           burned, or calcined, or not charred, or burned, or  
2           whatever, is irrelevant.

3                   ATTORNEY STRANG: Let's do it this way. I  
4           don't agree that it's irrelevant, but let me take  
5           the human qualifier out.

6   Q.    (By Attorney Strang)~ The bone fragments, here we  
7           have to set aside the completely non-burned bone  
8           fragments, animal bones that weren't burned.

9   A.    Right.

10   Q.   But the burnt bone fragments that you saw from  
11           the three sites, again, all were roughly similar  
12           in their burning, charring, and calcining?

13   A.    That is correct.

14   Q.    You are aware that the burn pit behind  
15           Mr. Avery's garage was one possible burn site, if  
16           you will, on the property that the -- the various  
17           properties that the police examined?

18   A.    Yes, that's true.

19   Q.    That burn pit was described to you as, again,  
20           this sort of rectangular area that was at grade,  
21           but sort of surrounded by a higher mound of dirt?

22   A.    I don't -- My understanding was that it was a  
23           mound itself and the pit was part of that mound;  
24           that may or may not be correct.

25   Q.    Right. And have you ever seen a photograph of

1           that burn pit?

2    A.    I have not.

3    Q.    All right.  I won't show you one then.  But

4           essentially this was described to you as an open

5           burn area, although possibly with sides to it?

6    A.    Correct.

7    Q.    You are familiar with a burn barrel, correct?

8           And the general idea of a burn barrel?

9    A.    Yes, I am.

10   Q.    Seen pictures of burn barrels?

11   A.    Yes.

12   Q.    A burn barrel here would be a possible burn site

13           for a human cremation?

14   A.    I guess anything is possible.

15   Q.    Well, burn barrels are used for burning things,

16           right?

17   A.    Most often not used for burning human remains --

18   Q.    Shouldn't be --

19   A.    -- however.

20   Q.    Should not be used for burning human remains, but

21           a burn barrel would be large enough to put a

22           human being in if one wanted to.

23   A.    Depending on the size of the barrel, it's

24           possible.

25   Q.    Okay.  And the jury has seen the barrels here,

1           so. Were you aware of an aluminum smelter on the  
2           Avery salvage property?

3       A.    Only in so far as that item was described in  
4           Trooper Austin's report.

5       Q.    Aware of the large wood furnace on the Avery  
6           salvage property?

7       A.    I cannot say for sure.

8       Q.    All right. And again, then, you have no way of  
9           knowing what other possible burn sites that were  
10          in a quarry or anywhere else, in the vicinity of  
11          Mishicot, Wisconsin, of course?

12      A.    That's correct.

13      Q.    Do you have enough experience with burnt human  
14          remains to know whether an enclosed burn area  
15          will do a faster job of cremating human remains  
16          than an unenclosed burn area?

17      A.    I would respond to that by saying that's really  
18          outside of my range of expertise.

19      Q.    Okay. So the answer is you just don't know?

20      A.    I do not know.

21      Q.    All right. Is it also outside your area of  
22          expertise to offer an opinion on whether a burn  
23          area that's actually fed with a source of  
24          flammable gas or fluid would cremate faster than  
25          a burn area that did not have -- was not fed by



1 flammable gas or fluid?

2 A. Again, I would offer the same response, that's  
3 beyond my range of expertise.

4 Q. What you can say is that the burnt human bone  
5 fragments that you saw from behind Steven Avery's  
6 garage, as they came to you, were consistent with  
7 human bone fragments that could have been moved  
8 to that site after burning?

9 A. I would have to answer no to that question.

10 Q. Why were they inconsistent with human bone  
11 fragments that could have been moved to that site  
12 after burning?

13 A. My answer would be that, with the hypothetical  
14 transport that you are talking about, the moving  
15 of bones, I would expect to see some breakage to  
16 some fragments, or many fragments, with that  
17 transport. And the kinds of signs that I would  
18 look for for breakage would be a bone break where  
19 on the surface is the break, the break would be  
20 lighter in color than the surrounding burned  
21 bone, which would indicate to me a more recent  
22 break from handling, whatever caused that  
23 handling. And I did not see any -- anything like  
24 that.

25 Q. Well, we do know that the very recovery of burn

1 bone fragments from behind Mr. Avery's garage  
2 involved shoveling, correct?

3 A. That's correct.

4 Q. Transport to a sifting screen?

5 A. Yes, sir.

6 Q. Sifting on the screen, correct?

7 A. Correct.

8 Q. Some of them falling through to a second screen?

9 A. Yes, sir.

10 Q. Some of them falling through altogether to a tarp  
11 below?

12 A. If that's how they set it up.

13 Q. All right. Possibly sifting on a second screen?

14 A. Possibly, yes.

15 Q. And from all of that, you saw no breakage or  
16 spalling of the human bone fragments you looked  
17 at?

18 A. I did not.

19 Q. But I think we have also established that as  
20 bones from behind the garage came to you, we have  
21 no way of knowing their relationship to one  
22 another or to the human skeletal anatomy as they  
23 were found?

24 A. We do not know the relationship of one fragment  
25 to the next, to the next, that's correct, but we

1 do have general locational information assigned  
2 to individual tag numbers.

3 Q. Right. Just behind the garage, for example?

4 A. Yes.

5 Q. All right. So while shoveling and sifting may  
6 not have produced this sort of breakage, you  
7 think that bones being carried in a barrel or  
8 some other container and poured out would have  
9 produced breakage; is that your opinion?

10 A. I -- I really can't answer that question.

11 Q. Okay. So you are not able to say that the bone  
12 fragments you found are inconsistent with having  
13 been transported to the burn area and poured out  
14 there?

15 A. Are you referring to the burn fragments from the  
16 burn barrel?

17 Q. No, no. I'm talking about the burn fragments of  
18 human bone found behind Mr. Avery's garage?

19 A. And you are asking me, were they transported  
20 there?

21 Q. No, you obviously don't know whether they were or  
22 were not transported, you weren't there.

23 A. I was not there, but based on my archaeological  
24 experience and the volume of human -- of burned  
25 human bone fragments behind the garage, I find it

1           highly unlikely that that was not the primary  
2           burn location.

3       Q.   All right.  But I guess that rests on an opinion  
4           that transport in a barrel or some other  
5           container, and being poured out, would have done  
6           more damage to those human bone fragments than  
7           shoveling, sifting, putting into a box and  
8           transporting to Madison would have done?

9       A.   I really don't know.

10      Q.   You don't know one way or the other?

11      A.   That's correct.

12      Q.   What you do know is that somehow bones were  
13           transported from one place to another place  
14           because they wound up in at least two different  
15           spots, human bones that is, behind Avery's garage  
16           and in the Janda burn barrel?

17      A.   There was transport --

18                   ATTORNEY FALLON:  Objection to the  
19           question.  She just indicated that there was not a  
20           transport, in her opinion, to the burn pit.  So  
21           there's only one transport of human bone that the  
22           testimony has revealed, so I object to the question  
23           as mischaracterization.

24                   THE COURT:  Mr. Strang.

25                   ATTORNEY STRANG:  I don't think it's a

1 mischaracterization at all and she certainly could  
2 answer here. The fact that she said the bones  
3 clearly were transported, moved from original  
4 location, both behind the garage and by dint of the  
5 fact that they are found in the Janda burn barrel.

6 THE COURT: That she -- her previous  
7 testimony was that they were moved from behind the  
8 garage?

9 ATTORNEY STRANG: No, no, moved somewhere,  
10 somehow the bones were moved because they were found  
11 in at least these two separate locations.

12 THE COURT: Let's ask her again.

13 Q. (By Attorney Strang)~ Human bone fragments were  
14 moved here, that's your professional conclusion,  
15 isn't it?

16 A. There is evidence from the Avery property that  
17 there was transport of human bone. And I believe  
18 that transport occurred from the original burn  
19 pit and adjacent areas, to barrel number two.

20 Q. And you base that opinion on what?

21 A. On the overwhelming majority of burned human bone  
22 fragments behind the garage, in the area and  
23 adjacent areas of the burn pit, the finding of  
24 very delicate and fragmentary dental structures  
25 within that universe, if you will, of burned

1 human bone fragments behind the garage and  
2 absolutely none, for example, in burn barrel  
3 number two.

4 And it's my opinion that if transport  
5 occurred from the burn barrel to the burn pit,  
6 that there would have been a greater  
7 representation left over in the burn barrel of  
8 more of the skeleton. And I do not see that. I  
9 also would expect to see a less -- a lesser  
10 volume of material found in burn barrel number  
11 two, along with a few human bone fragments that  
12 were in there.

13 Q. Well, I guess if someone was taking the burn  
14 barrel to the Avery garage area, and was trying  
15 very hard, or thought he or she had dumped  
16 everything out of the burn barrel, we might see  
17 very little in the burn barrel, that's true,  
18 isn't it?

19 A. Very little human bone or --

20 Q. Yes, very little human bone in the burn barrel.

21 A. That is true, but that's also assuming that the  
22 person who does that can distinguish between  
23 human bone and nonhuman bone.

24 Q. Because you saw much more nonhuman bone in the  
25 burn barrel?

1 A. Unburned nonhuman bone and larger bones -- larger  
2 nonhuman bones as well.

3 Q. And some burned nonhuman bones in the burn  
4 barrel?

5 A. Some possible burned nonhuman bones in the burn  
6 barrel.

7 Q. And, again, you did not see the burn barrel in  
8 place, correct?

9 A. I have never visited the property, so I have not  
10 seen the burn barrel in place.

11 Q. The contents of the burn barrel came to you in  
12 one of these sealed bins.

13 A. That's correct.

14 Q. So you have no idea and aren't able to tell this  
15 jury what the layering was in the burn barrel  
16 itself?

17 A. That's correct.

18 Q. You found, in the burn barrel, similarly, no  
19 evidence of breakage caused by transport?

20 A. That's correct.

21 Q. The same would be true of the possible human  
22 bones in the quarry pile, no breakage associated  
23 with transit?

24 A. That's correct.

25 Q. And just so I'm clear, everyone of these human,

1           or suspected human bone fragments, by the time  
2           they reached you, had been transported into a  
3           plastic bin, or some container, and then  
4           transported 90 or 100 or 110 miles, whatever it  
5           is, to Madison, Wisconsin?

6   A.   That's correct. The quarry area contained those  
7           suspected possible human bones, that's right.

8   Q.   But I'm also talking about the Janda burn barrel  
9           and Steven area -- Steven Avery garage area.

10  A.   That's correct. It was collected and transported  
11           to me.

12  Q.   All transported?

13  A.   Yes.

14  Q.   Large number of bone fragments in a bin, lying  
15           one against the other?

16  A.   Correct.

17  Q.   And even after all that transport, you didn't  
18           see, when you finally had a chance to look at  
19           these human bone fragments, you didn't see a sign  
20           of breakage?

21  A.   I did not and I was very careful in looking for  
22           any and all evidence, to look carefully at the  
23           ends of every fragment.

24  Q.   Including those delicate dental structures you  
25           just mentioned a few minutes ago?



1 A. That's correct.

2 Q. If I understand your opinion, Dr. Eisenberg, you  
3 think the most probable burn site here, on the  
4 evidence you have, is the area behind Steven  
5 Avery's garage?

6 A. Yes, sir.

7 Q. All right. As you sit here, though, you cannot  
8 rule out another burn site as being a possible  
9 site of burning of these human bone fragments,  
10 can you?

11 A. I cannot.

12 Q. You are a reasonable person?

13 A. I hope so.

14 Q. I think so. And you cannot reasonably rule out  
15 another possible burn site, can you?

16 A. Based on the information I have at hand, I  
17 cannot.

18 ATTORNEY STRANG: That's all I have.

19 THE COURT: Mr. Fallon.

20 ATTORNEY FALLON: Thank you.

21 **REDIRECT EXAMINATION**

22 BY ATTORNEY FALLON:

23 Q. Doctor, let's start with the line of questioning  
24 regarding your finding a complete absence of  
25 breakage, spalling, and damage to these fragments

1 after they were removed from the pit, sifted by  
2 law enforcement, and transported to you. What  
3 does that tell you about the recovery efforts  
4 engaged in by the officers and Crime Lab  
5 personnel?

6 A. It indicates to me that whoever had an  
7 opportunity to handle those remains, and recover  
8 those remains, and package them, and transport  
9 them, did not add any additional damage, or did  
10 not create any artificial damage that I examined  
11 when I looked at the remains.

12 Q. Given the condition of the remains, did that  
13 suggest to you that these remains were carefully  
14 extracted from their location and presented to  
15 you?

16 A. That would be the conclusion I would draw.

17 Q. All right. Now, just so that we're crystal clear  
18 on this, the various fragments from the gravel  
19 pits southwest of the property, originally you  
20 were only able to determine one was clearly  
21 nonhuman. In your subsequent review and  
22 analysis, you determined several more were  
23 clearly not human; is that correct?

24 A. That's correct.

25 Q. And as a matter of fact, there was only three

1 left that you had a reasonable suspicion on that  
2 could be human; is that correct?

3 A. That could possibly be human, that is correct.

4 Q. And as a matter of fact, as you sit here today,  
5 you cannot tell us that those bones, to a  
6 reasonable degree of anthropological or  
7 scientific certainty, are human, can you?

8 A. I cannot.

9 Q. All right. Now, you did offer an opinion that  
10 you believe the location for the primary burning  
11 episode here was the burn pit behind the garage;  
12 is that correct?

13 A. That is correct.

14 Q. Would you please elaborate for us your reasoning  
15 on that?

16 A. Number one, in the order of priority, would be  
17 that the overwhelming majority of fragments,  
18 burned fragments that were identified by me as  
19 human, were found in that location behind the  
20 garage, in and adjacent to the burn pit, that  
21 there were, in my opinion, many small, delicate,  
22 brittle fragments that would have been left  
23 behind some place else had that not been the  
24 primary burn location.

25 And if that had been the case, I would

1        have been able to recognize those fragments from  
2        another location and did not, except for burn  
3        barrel number two. And that all the human bone  
4        fragments that were fragmented and badly burned  
5        from that location, show the same -- the --  
6        approximately the same degree of charring,  
7        burning, and calcination variously throughout the  
8        material recovered in the burn pit and adjacent  
9        areas.

10    Q.    Since you have concluded that the burn pit was  
11        the location of the primary burning episode, tell  
12        us why, in your opinion, burn barrel number two  
13        would not have been?

14    A.    I believe that burn barrel number two would not  
15        have been the primary burn location because I  
16        would have expected to find more bone fragments  
17        that I would have been able to -- bone fragments,  
18        and human bone fragments, and dental structures  
19        that I would have been able to identify as human  
20        in burn barrel number two than actually I was --  
21        than actually were found.

22    Q.    Now, this may be a self-evident question, but I  
23        want to make sure that we all understand. Given  
24        the nature and condition of the fragments you  
25        examined, would it have required professional

1 training and experience to be able to identify  
2 human from nonhuman bone, if such bones were --  
3 for someone to transport those bones? In other  
4 words, would someone have to know human from  
5 nonhuman?

6 ATTORNEY STRANG: That's wildly  
7 speculative, your Honor.

8 ATTORNEY FALLON: Let me see if I can  
9 rephrase that or articulate that question; it's  
10 poorly worded, I agree with counsel.

11 Q. (By Attorney Fallon)~ Let's keep it simple.  
12 Given the nature and condition of the charring,  
13 the calcine defect on these bones, does it take a  
14 professional such as yourself to be able to  
15 clearly identify human from nonhuman burned bone?

16 A. I would say yes, except when nonhuman bone is of  
17 a size, and intact, that someone might recognize  
18 a deer bone or some other nonhuman bone. But,  
19 yes, I would agree with you, given the charring,  
20 and burning, and calcination of the fragments, in  
21 fact, the majority of the contents of the burn  
22 pit and adjacent area, that, yes, it would take  
23 someone who has experience looking and  
24 identifying human from nonhuman bone fragments.

25 Q. Would you say the same for what was found in burn

1 barrel number two?

2 A. Yes, I would.

3 ATTORNEY FALLON: That's all. Thank you.

4 THE COURT: Any redirect (sic)?

5 **RECROSS-EXAMINATION**

6 BY ATTORNEY STRANG:

7 Q. It would take much less experience with anatomy,  
8 or identifying bone, to distinguish burn from  
9 non-burn bone, that's true?

10 A. It -- Would you ask that again, I'm sorry.

11 Q. It would take much less experience to distinguish  
12 burned bone from non-burned bone, wouldn't it?

13 A. Yes, sir, it would.

14 Q. You also found nonhuman bone under the tag  
15 numbers that came from -- reportedly came from  
16 behind Mr. Avery's garage?

17 A. Yes.

18 Q. And taking all three sites, the quarry, the Janda  
19 burn barrel, and the Avery garage area, as a  
20 whole, for the fragments that you found that were  
21 burned, the burning charring and calcination was  
22 roughly similar from all three places, wasn't it?

23 ATTORNEY FALLON: Asked and answered.

24 THE COURT: I will allow it as a  
25 clarification of some of the other questions that

1           have been asked.

2       A.   Actually, I would say no to your question.  I  
3           would indicate that in the quarry location, tag  
4           number 8675, there was nonhuman bone intact.  In  
5           other words, it wasn't fragmentary, most of it,  
6           and was clearly unburned.  And it was in 8675  
7           that there was more unburned nonhuman bone  
8           than --

9       Q.   We're going past each other, and it's my fault.  
10          Of the burned -- I mean, you found some burned  
11          bone from all three sites?

12      A.   That's correct.

13      Q.   And of the burned bone that you found, the  
14          condition was roughly similar in all three sites?

15      A.   That is correct.

16                   ATTORNEY STRANG:  That's all.  Well --  
17          That's all.

18                   THE COURT:  Mr. Fallon, anything else?

19                   ATTORNEY FALLON:  No, thank you.  The  
20          witness may be excused.

21                   THE COURT:  Right.  The witness will be  
22          excused at this time.  And given the time, I believe  
23          we'll take our morning break at this time.  Members  
24          of the jury remember not to discuss the case among  
25          yourselves during the break.

1 (Jury not present.)

2 THE COURT: You may be seated. We'll  
3 resume in 15 minutes.

4 (Recess taken.)

5 THE COURT: Counsel, there was some mention  
6 earlier of a stipulation. Is there something the  
7 parties wish to present at this time or should we  
8 bring the jurors back in?

9 ATTORNEY STRANG: Mr. Fallon is doing it.  
10 We have reached a stipulation and I assume he's sort  
11 of retyping it, the language of it, your Honor.

12 THE COURT: Okay.

13 ATTORNEY STRANG: But I can't speak for him  
14 on that, I'm just assuming that. I know we agreed  
15 on the language.

16 THE COURT: Was it something the parties  
17 wanted to present to the jury before we begin the  
18 next witness?

19 ATTORNEY STRANG: I think he does, and it  
20 would make sense to do it.

21 THE COURT: All right. All right.  
22 Mr. Fallon, do I understand the parties have a  
23 stipulation they wish to read to the jury.

24 ATTORNEY FALLON: Yes, Judge. The  
25 parties -- sorry for the delay, but the parties



1           wanted to make sure that Dr. Eisenberg's testimony  
2           was complete before we could finalize the language  
3           on a stipulation saving us the production of a  
4           witness from Virginia from the FBI Laboratory, one  
5           Dr. Les McCurdy. I don't know what the Court's  
6           preference is, if you would like one of us to read  
7           it, or the Court might want to read, it matters not  
8           to me.

9           THE COURT: If the parties wish, I will  
10          read it, otherwise one of you can read it.

11          ATTORNEY STRANG: I would think since it's  
12          a stipulation between the parties I think it would  
13          be better if Mr. Fallon read it.

14          THE COURT: Very well.

15          ATTORNEY FALLON: All right.

16          THE COURT: Anything else before we bring  
17          the jurors back in?

18          ATTORNEY FALLON: No.

19          THE COURT: Okay. We can bring the jurors  
20          in at this time.

21          ATTORNEY STRANG: Oh, you know, should move  
22          in 401 and 402 while we're waiting, your Honor.

23          ATTORNEY FALLON: You can do that in front  
24          of the jury and I will go along with that.

25          THE COURT: All right.

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(Jury present.)

THE COURT: You may be seated. Mr. Strang, I understand that the defense wishes to move admission of some exhibits.

ATTORNEY STRANG: I do. I move admission of Exhibit 401, which was the skeleton diagram tag 7964, and Exhibit 402, which was a schematic map of the Avery Salvage yard, and then the quarry pile site. I also used, for demonstrative purposes, a third image of a skeleton. And it matters not to me whether that's marked and admitted or not. It was used simply for demonstrative purposes.

THE COURT: Any objection to admission of the marked exhibits?

ATTORNEY FALLON: I have no objection to the admission of 401 and 402 and nor do I think it's necessary for us to produce a photograph of the exhibit counsel used for demonstrative purposes, so.

THE COURT: Very well, 401 and 402 will then be deemed admitted.

Members of the jury at this time I believe the parties have a stipulation to present to the jury. Mr. Fallon.

ATTORNEY FALLON: Yes, thank you, Judge. The parties are agreed that bone fragments

1 identified as human from the burn pit behind Steven  
2 Avery's garage, bone fragments identified as human  
3 from burn barrel number two behind the residence of  
4 Barb Janda, and bone fragments suspected as possible  
5 human bones from the quarry pile in the Radandt  
6 gravel pit south of the Avery Salvage Yard, were  
7 sent to the FBI Laboratory in Quantico, Virginia, on  
8 November 2nd, 2006, November 7th, 2006, and  
9 December 19th, 2006, to attempt further DNA  
10 analysis. If called to testify, Dr. Leslie McCurdy,  
11 of the FBI DNA Analysis Unit, would testify that due  
12 to the condition of the submitted bone fragments, no  
13 DNA examinations could be conducted.

14 THE COURT: And, Mr. Strang, is that an  
15 accurate statement of the parties stipulation?

16 ATTORNEY STRANG: It is. That's the  
17 stipulation as to Dr. McCurdy's testimony, were he  
18 called.

19 THE COURT: Thank you. Members of the  
20 jury, you may take those facts as established. And  
21 at this time, then, the State may call its next  
22 witness.

23 ATTORNEY KRATZ: Thank you, Judge, the  
24 State calls Curtis Thomas to the stand.

25 **CURTIS THOMAS**, called as a witness

1           herein, having been first duly sworn, was  
2           examined and testified as follows:

3                   THE CLERK:   Please be seated.   Please state  
4           your name and spell your last name for the record.

5                   THE WITNESS:   Curtis Thomas, T-h-o-m-a-s.

6                                   **DIRECT EXAMINATION**

7   BY ATTORNEY KRATZ:

8   Q.   Good morning, Mr. Thomas and thank you for making  
9           it here.   Could you tell the jury, please, what  
10          you do for a living.

11   A.   Yes, I'm an electronics engineer with the Federal  
12          Bureau of Investigation.

13   Q.   And from which FBI office are you stationed?

14   A.   I'm stationed currently in Quantico, Virginia.

15   Q.   Placed in front of you, Mr. Thomas, is an  
16          exhibit, No. 403; do you see that?

17   A.   Yes, I do.

18   Q.   Tell the jury what that is, please?

19   A.   It's my curriculum vitae.   It's basically a  
20          resume of what I have done and my current  
21          position.

22   Q.   Working for the FBI, what do you currently do; in  
23          other words, what is your day usually made up  
24          doing?

25   A.   We examine electronic devices such as cellphones,

1 PDA's, other various electronic circuits that may  
2 contain electronic data pertaining to a crime.

3 Q. Are you ever asked to make identification of  
4 electronic components?

5 A. Yes, we are.

6 Q. Mr. Thomas, let me ask you if you do that in a  
7 forensic capacity; in other words, after your  
8 examinations in the laboratory, are you sometimes  
9 asked to come to court or otherwise apply this to  
10 legal principles?

11 A. Yes, I am.

12 Q. The FBI Lab in Quantico, Virginia, does that  
13 enjoy any certifications?

14 A. Yes, we are currently ASCLD lab certified.

15 Q. You are going to have to explain what that means?

16 A. It's an Association of Criminal Laboratory  
17 Directors Laboratory Accreditation Board is what  
18 the full acronym stands for. It's basically an  
19 internal validation that we go through to make  
20 sure that we're following all the rules and  
21 handling the evidence in the proper manner.

22 Q. All right. Exhibit No. 403, your curriculum  
23 vitae, does that include your educational  
24 background?

25 A. Yes, it does.

1 Q. And can you briefly describe what that is, for  
2 the jury.

3 A. I have a bachelor's degree in computer  
4 engineering.

5 Q. To entitle you or to allow you to perform  
6 examinations and make identifications of  
7 electronic equipment, have you had any specific  
8 training and do you have experience in that  
9 field?

10 A. I have received training as far as electronic  
11 forensic examinations and how to handle evidence  
12 properly. As far as identification goes, we  
13 handle many different kinds of cellphones on a  
14 daily basis and, therefore, I'm familiar with  
15 many different models and makes of cellphones.

16 Q. All right. Are you familiar with the term  
17 exemplar or standard?

18 A. Yes, I am.

19 Q. Does your lab in Quantico, Virginia, have  
20 exemplars or standards for -- let's first talk  
21 about cellphones?

22 A. Yes, we do.

23 Q. Can you describe that for jury, please.

24 A. We have a cabinet area that contains any sort of  
25 cellphone that we have received in for

1 examination. We generally buy a copy of it so  
2 that we can test -- perform tests on it before we  
3 do examinations on the actual evidence and make  
4 sure we don't change anything.

5 Q. All right. These exemplars, these standards or  
6 examples, if you will, do you have those for  
7 electronic devices other than cellphones?

8 A. Yes, we do, we have PDA's and also GPS devices.

9 Q. We need to slow down just a little bit. For  
10 those jurors who don't know what a PDA is; what  
11 is that?

12 A. A PDA stands for personal digital assistant such  
13 as a palm pilot or pocket PC device.

14 Q. What are those used for generally?

15 A. Generally they are used to house contact  
16 information and function as an electronic  
17 calendar.

18 Q. All right. Does your unit analyze electronic  
19 components on a daily basis? That's a poor  
20 question, let me ask it a different way. Are  
21 there individuals, other than you, in Quantico,  
22 Virginia, at the FBI Lab, that do this kind of  
23 work as well?

24 A. Yes, I work in an office of five people.

25 Q. All right. How do you typically receive

1           submissions for analysis, Mr. Thomas?

2       A.    We're generally sent a communication requesting  
3           our assistance and detailing what we're asked to  
4           do.

5       Q.    All right.  Who is that generally sent by?

6       A.    Generally sent from and FBI Field Office, but  
7           it's -- we also accept requests from local police  
8           officers as well.

9       Q.    I guess my question is, you generally get  
10           requests from a law enforcement agency?

11      A.    That's correct.

12      Q.    You don't do this kind of thing for the general  
13           public or for some corporation or something, do  
14           you?

15      A.    No, we do not.

16      Q.    Let me ask you, Mr. Thomas, in this case, now,  
17           were you asked not only by a local agency, the  
18           Wisconsin Division of Criminal Investigation, but  
19           the local field office of the FBI here in  
20           Wisconsin, to analyze some electronic components  
21           that were recovered?

22      A.    Yes, I was.

23      Q.    Investigator Wiegert from the Calumet Sheriff's  
24           Department is going to bring you a exhibit, he's  
25           first going to open it.  It's been marked as



1           Exhibit No. 415. I'm first going to ask you if  
2           you are able to identify that box and then I will  
3           have you identify the contents.

4       A.    I do recognize the box, the box -- the box the  
5           evidence was sent to us in.

6       Q.    Okay. If you would be so kind, Mr. Thomas, as to  
7           open that box for the jury and tell the jury  
8           what's in that box, please.

9                    ATTORNEY BUTING: This is 411?

10                   ATTORNEY KRATZ: It's 415.

11                   ATTORNEY BUTING: 415.

12       A.    This box contains burnt electronic components.

13       Q.    All right. As we go through that box, I'm going  
14           to show you some exhibits as well. I'm first  
15           going to show you some photos, but to assist you,  
16           I'm going to show you what you are going to see  
17           that's marked as Exhibit No. 404. I ask you to  
18           refer to the large screen here in the courtroom  
19           and tell us what the jurors are looking at,  
20           please.

21       A.    That is a layout of basically all the components  
22           that are inside this box, spread out in a more  
23           easy to view fashion.

24       Q.    All right. When electronic components are  
25           recovered, whether they are burned, or whether

1           they are recovered at some other potential crime  
2           scene, do you typically receive them in a  
3           packaged form similar to what's in front of you  
4           as Exhibit 415?

5       A.   We receive them in various different containers,  
6           including paint cans that have been sealed up,  
7           boxes that have been taped up, just pretty much  
8           whatever the evidence is collected in, they send  
9           to us.

10      Q.   All right.  Let's look at Exhibit No. 404,  
11           generally.  And why don't you give us an  
12           overview, why don't you tell the jury -- you have  
13           a laser pointer, by the way, in front of you, if  
14           you would like to use that, please feel free.  
15           Just give us an overview and tell the jury what  
16           it is that these components are and what it is  
17           that we're looking at here?

18      A.   There are components from approximately three  
19           devices in here.  You can see here, this is the  
20           front cover for a Motorola RAZR cellular  
21           telephone.  This is the back cover for the same  
22           phone.  This here is some of the front internal  
23           pieces.

24                       This is the front lens cover for a  
25           PowerShot camera from Canon.  This right here is

1           the circuit board that's inside a Palm Zire PDA.  
2           And these little rectangular devices are pieces  
3           of compact flash memory cards that would go  
4           inside the camera to hold the pictures.

5   Q.   Now, you have talked about three -- at least  
6           three distinct electronic components, one of them  
7           was a cellphone. Let's start with that first.  
8           In the submission from the Division of Criminal  
9           Investigation and our local law enforcement  
10          agencies, what were you asked to do, if anything,  
11          with that particular cellphone?

12  A.   When the device was sent to us, they asked us if  
13          we could extract any electronic data from the  
14          cellphone.

15  Q.   In the condition that you received it in, in the  
16          burned condition that we now see all of these  
17          components, were you able to extract any data  
18          from that cellphone?

19  A.   No, I was not.

20  Q.   Let me ask you, Mr. Thomas, were you asked to  
21          extract, if you could, any images from the  
22          digital camera that was sent to you as well?

23  A.   Yes, I was.

24  Q.   Tell the jury, how does a digital camera work,  
25          generally, and then explain for the jury what

1 process, or what you did to try to extract data  
2 from that?

3 A. A digital camera works by taking in light through  
4 the lens. It's then stored in an electronic  
5 nature onto a compact flash card which -- of  
6 which there are several in this submission. As  
7 far as in this case, pretty much no effort was  
8 taken to retrieve electronic -- electronic  
9 information because, upon looking at it, it was  
10 obvious that everything was damaged too far to  
11 retrieve any such information.

12 Q. All right. You talked about a flash card or the  
13 actual memory card that kind of goes into the  
14 camera, are you able to just point out to the  
15 jury -- we may see some other pictures of that,  
16 but point to the jury where those memory cards or  
17 flash cards that go into a camera are?

18 A. There's one here, a couple more here, and a  
19 couple more here. Pretty much anything up here,  
20 that's around this size, came from it. They kind  
21 of split into sometimes multiple pieces, so each  
22 one of those little rectangles doesn't represent  
23 an individual compact flash card, but perhaps  
24 more just a piece of one of the ones that was  
25 submitted.

1 Q. And, again, you weren't able to retrieve any data  
2 from that; is that correct?

3 A. That's correct.

4 Q. At some point, Mr. Thomas, you told the jury that  
5 you found a third component, can you describe  
6 that please.

7 A. Yes, as we were examining the evidence that was  
8 sent to us, we noted that there was more  
9 components than would be just left over from a  
10 burned cellphone and a burned camera. And we  
11 noticed that it was mainly this circuit board  
12 right here. And this is the main board to a Palm  
13 Zire PDA.

14 Q. All right. Let's go through the components.  
15 Some are probably going to be easier than others.  
16 What I'm going to have you look at, in front of  
17 you is Exhibit No. 405; tell the jury what that  
18 is, please.

19 A. That is the back cover for a Motorola RAZR  
20 cellphone.

21 Q. And how do you know that that's for a Motorola  
22 RAZR cellphone.

23 A. You can clearly see the M here, which is the  
24 Motorola logo. And we also have an exemplar at  
25 the FBI Lab to compare it to.

1 Q. All right. Motorola RAZR, is that also known as  
2 a different model number or type?

3 A. Yes, it's also known as a V3.

4 Q. All right. Can you describe for the jury, for  
5 those jurors who haven't heard of this kind of  
6 phone, is this a commonly used or a common type  
7 of cellphone?

8 A. Yes. All four of the major cellular carriers  
9 offer one.

10 Q. Offer one what?

11 A. A Motorola RAZR cellphone.

12 Q. Do you know anybody that has one?

13 A. Yes, I do, my wife actually has one.

14 Q. Okay. I'm going to show you, Mr. Thomas, what  
15 has been marked as Exhibit No. 406; again, these  
16 are photographs that are in front of you, so if  
17 you need a closer look, you can certainly take  
18 them. Tell the jury, what is Exhibit 406?

19 A. Exhibit 406 is the back cover of the burned  
20 cellphone; again, being compared with our  
21 exemplar that we have at Quantico.

22 Q. What does that mean? Why don't you use the laser  
23 pointer and tell us what you are talking about.

24 A. Basically we -- this is the burned evidence that  
25 was sent to us here and this is our device that

1           we have at the lab. And basically we just took  
2           pictures of them side by side, to show what it  
3           would have looked like before it was burned.

4       Q.   Next exhibit that might help the jury is  
5           Exhibit 407. Tell us what that is, please.

6       A.   Yes, that is the front cover for the Motorola  
7           RAZR cellphone being compared, once again, with  
8           the exemplar device that we have.

9       Q.   All right. And why, Mr. Thomas, at least in  
10          these images, is the exemplar placed right next  
11          to the evidence, the burned evidence that was  
12          recovered in this case?

13      A.   It's for comparison purposes, so you can clearly  
14          see where the burned evidence came from in the  
15          original device.

16      Q.   So in 407, if you could show us the burned  
17          evidence that was recovered and what part of the  
18          phone that is.

19      A.   All right. This burned -- This is the burned  
20          evidence piece right here and you can clearly see  
21          here is the Motorola logo, which also appears  
22          over here and you can also clearly see this  
23          little speaker port, which is cut into the front  
24          cover of the phone as well, as well as this  
25          rectangular space for the camera being cut out.

1 Q. Finally, or at least finally regarding the phone,  
2 I'm going to have you look at Exhibit No. 408 and  
3 tell us what the jurors are looking at here,  
4 please.

5 A. This is the internal key pad, which is present on  
6 -- this here is the burned evidence, again, and  
7 this here is our exemplar.

8 Q. And that's the internal key pad for a Motorola V3  
9 RAZR phone?

10 A. That's correct.

11 Q. After your visual examination and after examining  
12 the exemplar, were you able, then, to identify  
13 those components, at least the components that  
14 you have shown the jury here today, as coming  
15 from a particular cellphone?

16 A. Yes, I was.

17 Q. And what was that conclusion that you were able  
18 to draw?

19 A. We were able to conclude that these pieces came  
20 from a Motorola RAZR V3 cellphone.

21 Q. Next item that you had talked about was a digital  
22 camera. Just very quickly, however, I'm going to  
23 just show you the rest of the photos that were  
24 provided. What's Exhibit No. 409? What is  
25 Exhibit 409? The picture?



1 A. Oh, Exhibit 409 is, once again, just pieces of  
2 the burned cellphone placed together.

3 Q. All right. And Exhibit 410?

4 A. Exhibit 410 is simply a photo of some of the  
5 burned evidence placed together.

6 Q. Okay. And from Exhibit 410, do you see any items  
7 that are associated with a digital camera?

8 A. Yes, this piece right here is a lens cover for a  
9 Canon PowerShot camera.

10 Q. As we zoom in on Exhibit 410, this might be kind  
11 of obvious to everybody, but do you see any  
12 markings on that digital camera cover that helped  
13 you in identifying what kind of a camera this  
14 came from?

15 A. Yes, there's the words PowerShot A310 appear.

16 Q. All right. And I understand that you do this for  
17 a living and are probably an expert in this, but  
18 you don't need to be an expert to see what camera  
19 this is from, do you?

20 A. No, you do not.

21 Q. That notwithstanding, Mr. Thomas, there were  
22 other electronic components to the camera that  
23 were recovered; is that right?

24 A. That's correct.

25 Q. And, again, could you describe those for the

1 jury, are those shown in this exhibit, or do you  
2 need to go to a different exhibit?

3 A. It's in a different photo.

4 Q. All right. Let me go to those, please. I'm  
5 first going to show you, again, another exhibit,  
6 that is, Exhibit 411, a little clearer picture of  
7 the name; do you see that?

8 A. Yes.

9 Q. Again, what does that say?

10 A. It says PowerShot A310.

11 Q. What's Exhibit No. 412? What are we looking at?

12 A. Burned pieces of the Motorola RAZR V3 cellphone.

13 Q. All right. And Exhibit 413?

14 A. It's another zoom in on the earlier shot that  
15 contained all the burned evidence laid out.

16 Q. Now, does any of this evidence associate with the  
17 camera itself?

18 A. Yes, it does.

19 Q. Can you show that for the jury, please.

20 A. This circuit board right here is from the digital  
21 camera.

22 Q. From the A310?

23 A. Yes.

24 Q. Is there anything else that you see that is  
25 obviously associated with the camera?

1 A. Other than the compact flash cards, no.

2 Q. I'm going to leave this exhibit up -- let me ask  
3 your opinion. Based upon the exhibits that you  
4 have now shown these jurors, are you able and  
5 were you in this case able to identify from which  
6 digital camera those components came?

7 A. Yes, I was.

8 Q. What was that camera?

9 A. We determined it was a PowerShot A310.

10 Q. From Canon?

11 A. That's correct.

12 Q. All right. Let's talk about PDA's a little bit;  
13 you said that stood for what?

14 A. Personal digital assistant.

15 Q. I think you mentioned one of the brands of a PDA  
16 was something called a Palm Pilot?

17 A. That's correct.

18 Q. Are you there other brands of PDA's?

19 A. Yes, there are.

20 Q. And what are some of those, if you know.

21 A. Pocket PC and also Blackberry.

22 Q. Now, have you heard of a manufacturer of a  
23 personal digital assistant that's called a Palm  
24 Zire or Palm Zire?

25 A. Palm is the manufacturer of that device, yes.

1 Q. The Palm Zire 31, that particular model, do you  
2 have familiarity with that?

3 A. Yes, I do.

4 Q. And at the time of your examination, at the time  
5 that you did what was asked of you by local law  
6 enforcement, describe for the jury what, if any,  
7 familiarity you had with that particular brand of  
8 PDA?

9 A. That particular PDA, we just happened to be  
10 working on downloading memory and such from that  
11 device, so I was familiar with what it looked  
12 like, both inside and out.

13 Q. Mr. Thomas, I'm going to take you back to our  
14 original exhibit, that is, Exhibit No. 404. Have  
15 you looked at this and, again, if you are able,  
16 from Exhibit 404, which is all the components  
17 that were recovered in this case, if you can  
18 point to the large screen as to which of those  
19 components are associated with a Palm Zire?

20 A. This here is the main circuit board of the Palm  
21 Zire and these two clear pieces of glass, one of  
22 them is the screen, the LCD screen for the glass,  
23 or for the PDA. And the other one is what's  
24 known as a digitizer for the PDA.

25 Q. You are going to need to tell us what a digitizer

1 is, please.

2 A. PDA's allow you to touch the screen to input  
3 information into them and the digitizer is the  
4 piece of technology that allows this to take  
5 place. It records where you tapped on the screen  
6 and sends that information to the PDA.

7 Q. So, as I don't own one of these deals, but when  
8 you see say somebody taking out something that  
9 looks like a pen and they tap it on the screen,  
10 is that the digitizer thing that you are talking  
11 about?

12 A. That's correct.

13 Q. Looking at these components and looking and  
14 describing for the jury, were you able to  
15 identify, then, from what personal digital  
16 assistant these components came?

17 A. Yes, I was.

18 Q. Could you describe that for the jury, please.

19 A. We determined that they came from a Palm Zire 31  
20 PDA.

21 Q. I will have you look at Exhibit No. 404, which  
22 are the -- a photograph of all the components and  
23 compare that to the box that's in front of you,  
24 Exhibit 415; does it appear that the electronic  
25 components photographed in 404 are the very same

1 components that not only are in front of you in  
2 415, but were also analyzed by you?

3 A. Yes, they are the same.

4 Q. The identification of electronics and electronic  
5 components, does that require specialized  
6 training and experience?

7 A. Yes, it does.

8 Q. And, again, you believe that you have that  
9 through your work with the FBI?

10 A. That's correct.

11 Q. Your findings, Mr. Thomas, that is, the  
12 identification of the Motorola RAZR phone, the  
13 Canon PowerShot A310, and the Palm Zire 31, in  
14 rendering those opinions, do you hold those  
15 opinions to a reasonable degree of professional  
16 certainty?

17 A. Yes, I do.

18 Q. After having come to those conclusions, did you  
19 have a official report, again, authored by  
20 yourself, performed in this case?

21 A. Yes.

22 Q. I'm showing you -- Do you have the exhibit number  
23 in front of you?

24 A. 414.

25 Q. I'm showing you Exhibit No. 414, tell the jury

1           what that is, please.

2       A.    This is my report that I generated once I was  
3           finished examining the evidence.

4       Q.    And does that report include your findings, that  
5           is, include the identification of the three  
6           electronic items that were recovered and which  
7           you analyzed and identified?

8       A.    Yes, it does.

9       Q.    The last two exhibits I want you to take a look  
10          at are two boxes that have been handed to you,  
11          Exhibit No. 8 and Exhibit No. 9.  Could you grab  
12          those, please, and tell the jury what those are.

13      A.    They appear to be consumer electronic devices  
14          which are the same, as you can see, be similar to  
15          our exemplars that we have in house.

16      Q.    All right.  First of all, they are boxes; is that  
17          right?

18      A.    They are boxes, yes.

19      Q.    And which one is Exhibit No. 8; are you holding  
20          that?

21      A.    Yes.

22      Q.    And could you tell the jury what the box on  
23          Exhibit No. 8 reflects.

24      A.    It says Zire 31.

25      Q.    And would that be, at least from a manufacturing

1           standpoint, if you went to buy that in a store,  
2           would the components or would the non-damaged  
3           Palm Zire 31 that you have identified likely be  
4           in that box if you purchased it?

5       A.    Yes, it would.

6       Q.    And show the jury Exhibit No. 9, please.  You can  
7           hold it up and show them what that is.  What is  
8           it?

9       A.    It is the box for a Canon PowerShot A310.

10      Q.    And, once again, would that likely be the box, if  
11           you had purchased a Canon PowerShot A310, the  
12           same box that would contain the undamaged  
13           components as you have identified in not only the  
14           photographs in Exhibit No. 415, but also are  
15           included in your official FBI report?

16      A.    Yes.

17                   ATTORNEY KRATZ:  I would at this time,  
18           Judge, move the admissions of Exhibits 404 through,  
19           I believe it's 415?

20                   THE COURT:  Any objection?

21                   ATTORNEY BUTING:  No objection.

22                   ATTORNEY KRATZ:  And I will pass the  
23           witness, Judge.

24                   THE COURT:  403 was the witness' CV?

25                   ATTORNEY KRATZ:  And 403, I'm sorry, Judge.



1 THE COURT: Any objection to that?

2 ATTORNEY BUTING: No objection to that.

3 THE COURT: Very well. Those exhibits are  
4 all admitted. Mr. Buting.

5 ATTORNEY STRANG: Thank you, your Honor.

6 **CROSS-EXAMINATION**

7 BY ATTORNEY BUTING:

8 Q. Good morning, sir.

9 A. Good morning.

10 Q. You have been working at the FBI just for about  
11 three years now, right?

12 A. That's correct.

13 Q. And there's five of you in your particular  
14 division?

15 A. Yes.

16 Q. Are they all about as young as you, or some of  
17 them quite a bit older?

18 A. It varies.

19 Q. You are at an age where people use these kinds of  
20 devices more than probably us old folks anyway,  
21 right?

22 A. I guess.

23 Q. You use digital PDA's yourself, right?

24 A. I personally do not use a PDA, no.

25 Q. Oh, really, okay. But others in your lab do?

1 A. Not on a personal basis, no.

2 Q. Well, as part of their business, do they use them

3 at all?

4 A. We use them as part of our job, just to examine

5 them.

6 Q. Oh, okay. So nobody in your lab actually has

7 these devices?

8 A. Not personally, no.

9 Q. All right. Let me just clear one thing up. The

10 FBI Lab, Mr. Kratz, as you indicate, is the

11 submissions from law enforcement, right?

12 A. That's correct.

13 Q. The FBI Lab does not do any tests for the defense

14 on a case, do they?

15 A. Our lab does not, no.

16 Q. So, even if I wanted to use your lab for

17 anything, it's not available?

18 A. No.

19 Q. Okay. You identified --

20 ATTORNEY BUTING: Could we put up one of

21 those exhibits, the overall shot, 409 and 410,

22 please?

23 ATTORNEY KRATZ: Do you want 404, the one

24 with all of them?

25 ATTORNEY BUTING: That's fine, 404, yeah.

1           Yeah, that's the one.

2       Q.    (By Attorney Buting)~ Is -- 404 is an overall  
3           layout of all of the items that you received,  
4           every single one?

5       A.    That's -- That picture was not taken by me, that  
6           picture was taken here, as far as I know.

7       Q.    Okay. Does that appear to be an accurate  
8           representation of everything that you got in that  
9           box, though?

10      A.    It appears to be all the electronic pieces that  
11           were contained in this box.

12      Q.    Okay. And did you make an effort to actually  
13           sort of fit these pieces back together?

14      A.    No, we did not.

15      Q.    So, for instance, do you know whether there's any  
16           pieces missing from a complete PDA?

17      A.    There are pieces missing just -- most likely they  
18           have been consumed wholly by the fire.

19      Q.    Well, I'm not sure that you can express that  
20           opinion, but my point is that not necessarily all  
21           of the pieces are there, right?

22      A.    No.

23      Q.    For instance, there's not -- there's a case, an  
24           outer case that that PDA, circuit -- internal  
25           circuit board fits into?

1 A. That's correct.

2 Q. Also a keyboard of some sort?

3 A. Yeah, there were four buttons at the bottom.

4 Q. Okay. And I don't know if the same holds true

5 for the cellphone and the camera, but there's

6 buttons and internal components that are missing?

7 A. That's correct.

8 Q. And in some instances even the outer cases that

9 these components are composed -- or contained in

10 are also missing?

11 A. That's correct.

12 Q. Okay. The digital camera, have these -- or uses

13 compact flash, is that what you called it?

14 A. Yes.

15 Q. Those little rectangular cards that we put in our

16 cameras?

17 A. That's correct.

18 Q. You said that no effort was made, though, to try

19 and retrieve any digital files from them?

20 A. That's correct.

21 Q. In the course of your work, how many cases have

22 you done where you're working with burned

23 electronics?

24 A. I have done a few.

25 Q. Less than five?

1 A. Most likely, yes.

2 Q. Okay. So most of your work is not -- is not

3 dealing with burned electronic parts, it's intact

4 parts?

5 A. That's correct.

6 Q. And in those instances, you are able to take, for

7 instance, a compact flash card and retrieve data

8 from it, potentially, right?

9 A. That's correct.

10 Q. But you never actually tested these cards to see

11 whether there might be some photographs or

12 digital files on the cards?

13 A. The condition that these cards were in precludes

14 any sort of testing that we would have done, lest

15 we completely destroyed this evidence. As you

16 touch most of this stuff, it is crumbling apart.

17 Q. Well, for instance, the compact flash cards,

18 could they have been -- did you try to insert

19 them into any kind of a card reader?

20 A. There was no connector left on most of them.

21 Q. Okay. The connector being some sort of metal?

22 A. It's plastic.

23 Q. Okay. And you have no other way, other than

24 being able to insert them into a card reader to

25 analyze what's on them?

1 A. We have the capability to remove the actual flash  
2 memory chips from devices to read them, if  
3 necessary.

4 Q. But you didn't do that here?

5 A. No.

6 Q. Okay. And as to the Palm Pilot, you are familiar  
7 with how they are used, right?

8 A. Yes.

9 Q. And people keep appointments on them, for  
10 instance?

11 A. Yes, they do.

12 Q. So the owner of this one, for instance, may have  
13 had appointments that she was going to go to on  
14 her last day, that we know of?

15 A. It's possible.

16 Q. As well as future dates for that matter, right?

17 A. That's possible.

18 Q. And how is that information stored on a Palm  
19 Pilot?

20 A. It's also stored in flash memory.

21 Q. Okay. And do you see -- or did you find that  
22 sort of a flash card amongst this?

23 A. The flash -- It doesn't store it in a separate  
24 flash card, as the camera does. It instead uses  
25 flash memory that would be contained on the main

1 circuit board.

2 Q. Okay. And did you make any effort to try and  
3 retrieve any of the data from that flash memory  
4 on the PDA?

5 A. No, we did not.

6 Q. Okay. So you weren't able to find, for instance,  
7 whether she had appointments scheduled on her PDA  
8 or not?

9 A. That's correct.

10 ATTORNEY BUTING: All right. Thank you,  
11 sir. That's all I have be.

12 ATTORNEY KRATZ: Just two questions.

13 **REDIRECT EXAMINATION**

14 BY ATTORNEY KRATZ:

15 Q. Mr. Thomas, you mentioned, especially when we're  
16 talking about combustible or things that are  
17 destroyed in a fire, what kinds of components  
18 usually, or as you look at this evidence, what  
19 kind of components survived and what kind of  
20 components didn't?

21 A. In this case and in --

22 ATTORNEY BUTING: I object. Hold on. I  
23 object to the question as to what kind of components  
24 didn't. I mean, that's speculative. That calls for  
25 speculation. The first part is okay.

1                   ATTORNEY KRATZ: I can ask what kind of  
2                   components aren't here, Judge, and what they are  
3                   made from.

4                   THE COURT: You can phrase it that way.

5                   ATTORNEY BUTING: Sure. That's fine.

6 BY ATTORNEY KRATZ:

7 Q. What kind of components survived; what materials  
8                   or products are these components made from?

9 A. Are primarily metal.

10 Q. And the components that you don't see, the  
11                   components that are missing, are you able to say  
12                   what those are primarily made of?

13 A. They are primarily made of plastic.

14                   ATTORNEY KRATZ: That's all I have for  
15                   Mr. Thomas. Thank you.

16                   ATTORNEY BUTING: Just one quick follow-up.

17                   **REXCROSS-EXAMINATION**

18 BY ATTORNEY BUTING:

19 Q. Are you able to state that the only missing  
20                   pieces here are plastic or are there also  
21                   potentially some metal pieces that are missing  
22                   too that aren't here?

23 A. We did not perform that sort of examination so  
24                   I'm not certain.

25 Q. All right. So you don't really know what --



1 exactly what pieces are missing, you just looked  
2 at what pieces you had?

3 A. That's correct.

4 ATTORNEY BUTING: All right. thank you.

5 THE COURT: Very well. You are excused.

6 ATTORNEY KRATZ: I would ask that  
7 Mr. Thomas be released from his subpoena and be  
8 allowed to go back to Virginia.

9 ATTORNEY BUTING: That's fine.

10 THE COURT: Very well. You may leave the  
11 evidence there.

12 THE WITNESS: Okay.

13 ATTORNEY KRATZ: We'll remove those things  
14 and we're able to call another witness now --

15 THE COURT: Yes.

16 ATTORNEY KRATZ: -- if you would like us  
17 to.

18 ATTORNEY FALLON: State will be calling  
19 Bill Newhouse.

20 THE CLERK: You can step over there.  
21 Please raise your right hand.

22 **WILLIAM L. NEWHOUSE**, called as a witness  
23 herein, having been first duly sworn, was  
24 examined and testified as follows:

25 THE CLERK: Please be seated. Please state

1           your name and spell your last name for the record.

2                   THE WITNESS: William L. Newhouse,  
3           N-e-w-h-o-u-s-e.

4                   ATTORNEY FALLON: Thank you. Good morning,  
5           sir.

6                               **DIRECT EXAMINATION**

7   BY ATTORNEY FALLON:

8   Q.   What do you do for a living?

9   A.   I'm employed as a firearm and toolmark examiner  
10       with the Wisconsin State Crime Laboratory in  
11       Madison, Wisconsin.

12   Q.   How long have you been so employed?

13   A.   I joined the Wisconsin State Crime Laboratory in  
14       November -- I'm sorry, September of 2002.

15   Q.   Prior to joining the Wisconsin State Crime  
16       Laboratory, what other employment have you held?

17   A.   Well, I have to back up to 1972. I accepted a  
18       position with the California Department of  
19       Justice in August of 1972, as a -- out there they  
20       call us criminalists -- as a trainee,  
21       essentially, at that time. I didn't really  
22       encounter firearms and toolmark work, which is  
23       the work I do here in Wisconsin, until probably  
24       the fall of 1974.

25               I, at that time, went through --

1 initiated the training courses they had in place  
2 in the Sacramento Crime Laboratory that dealt  
3 with the firearms and toolmark section and dealt  
4 with the kinds of examinations that we were  
5 expected to perform in the course of case  
6 examinations in the firearm section. I completed  
7 that training course successfully.

8 And January of 1975, then, still in  
9 Sacramento, I was asked to take a week long  
10 course, again as part of my training, that dealt  
11 with the theory of identification and how is it  
12 you can say anything about a bullet or a  
13 cartridge casing and answer questions about  
14 whether they were fired from a particular gun or  
15 not.

16 After I completed that, and I think the  
17 next week I was in another course that dealt with  
18 ammunition problems. I was then assigned to the  
19 firearm section of the Sacramento Laboratory and  
20 was responsible, until I left that laboratory,  
21 for most of the firearms work that came into that  
22 firearms section of the laboratory.

23 Q. And when were you doing your firearms  
24 identification work for the State of California,  
25 about what time frame are we in?

1 A. We're talking about the spring of 1975 until  
2 1981.

3 Q. And after that, where did you next have  
4 professional experience?

5 A. I moved to the Montana State Crime Laboratory in  
6 January of 1981. Took a position there as that  
7 State's Firearm and Toolmark Examiner. While I  
8 was there in Montana, I had the opportunity to  
9 obtain some additional training.

10 I went to the FBI Academy. It was  
11 probably in 1984, approximately. Took a course  
12 there. It was a week long course that dealt with  
13 specialized techniques in firearms and toolmark  
14 identification. We look at special problems that  
15 we encounter in the firearms section. And I was  
16 there until November of 1988.

17 At that time I then moved to Kansas  
18 City, Missouri Police Department Crime laboratory  
19 as a Firearms and Toolmark Examiner, one of four  
20 in that laboratory, and was responsible primarily  
21 for firearms case work in that laboratory.

22 The last two years that I was in the  
23 firearms section there, before I came to  
24 Wisconsin, I was Chief Criminalist of the  
25 Firearms Section in which I had supervisory

1 (sic) duties in addition to the case work duties.

2 And then in, as I mentioned, in  
3 September of 2002, I came from Kansas City up to  
4 the Wisconsin State Crime Laboratory.

5 Q. And prior to engaging in this field, did you  
6 receive any bachelor's degree from any  
7 university?

8 A. I have a bachelor of science degree in physics  
9 from Purdue University. I received that in June  
10 of 1970.

11 Q. And did you pursue any post-graduate training, at  
12 least in some respects?

13 A. I took a number of graduate courses for  
14 approximately two years, until I -- until August  
15 of 1972, when I went to California. Those  
16 were -- most of them were in physics courses.  
17 And I was doing that while I was looking for  
18 employment after I had gotten my degree.

19 Q. All right. First of all, if you could tell us  
20 what is firearms and toolmark identification, if  
21 you can just generally tell us about that field.

22 A. In the firearms section of most crime  
23 laboratories, we're dealing with evidence that's  
24 recovered in the course of criminal  
25 investigations that involve shootings. So,

1 obviously, what I'm going to be looking at, in  
2 most cases, there's going to be a gun.

3 I'm interested in and have to be able to  
4 define how a gun functions, whether it's  
5 functioning properly, perhaps whether it's been  
6 altered in some cases and, of course, whether or  
7 not I can fire the gun safely, or whether or not  
8 it was capable of being operated safely in the  
9 instant in which -- from which it was recovered.

10 I'm also asked to look at bullets and  
11 cartridge casings. We fire these guns, the  
12 bullets, of course, are -- leave the gun, the  
13 cartridge casings, depending on the design of the  
14 gun, can leave the gun and are recovered at the  
15 crime scenes, occasionally recovered at  
16 autopsies.

17 I'm asked to examine those items of  
18 evidence, the cartridge casings and bullets. And  
19 most often I'm asked to determine, if a gun has  
20 been recovered, whether that gun, or that bullet,  
21 or that cartridge casing has been fired in a  
22 particular weapon. In those instances where I  
23 may not have a gun, then the question may be, was  
24 this group of cartridge casings all fired in the  
25 same gun or do we have more than one gun

1           involved.

2                     The same questions apply to bullets.

3           So, then the next thing I do in that section most  
4           frequently is look at bullets and cartridge  
5           casings, compare them to test fired bullets and  
6           cartridge casings so that I can answer those  
7           questions.

8                     The other element of firing the gun  
9           involves gunpowder and gunpowder residues. And  
10          it's also part of, or one of the duties that I  
11          have, to examine clothing; to examine patterns on  
12          skin of shooting victims; and answer questions  
13          about distance, can I determine, if possible,  
14          what distance the shooting victim may have been  
15          from the gun when the gun was discharged.

16       Q.   All right. Have you had any -- Do you currently  
17           belong to any professional organizations?

18       A.   I do.

19       Q.   And what are those?

20       A.   I'm a member, and have been for something over 20  
21           years, of the Association of Firearms and  
22           Toolmark Examiners.

23       Q.   All right. And have you testified in courts of  
24           law regarding your findings and expressed  
25           opinions on those findings?

1 A. Yes, I have.

2 Q. Do you have any estimate for us as to  
3 approximately how often you have been called upon  
4 to testify in court proceedings regarding  
5 firearms identification issues?

6 A. I'm satisfied it's been much in excess of 300  
7 times at this point.

8 Q. I believe there's an exhibit placed in front of  
9 you, and what is the number on that exhibit, for  
10 us?

11 A. Exhibit 416.

12 Q. 416. And what is Exhibit 416?

13 A. 416 is a curriculum vitae, a description of my  
14 experience and the training that I have received  
15 in the 30 some years of experience I have had in  
16 crime laboratories.

17 Q. All right. All right. Mr. Newhouse, in this  
18 particular case, were you called upon to examine  
19 some weapons, some bullet fragments, and some  
20 cartridges?

21 A. Cartridge casings, yes, I was.

22 Q. Did you conduct such an examination?

23 A. I did.

24 Q. And were you able to make any findings or any  
25 comparisons, based on your examination?



1 A. Yes, I did.

2 Q. All right. Well, before we get into that, if you  
3 could -- I think it would probably be good if you  
4 would define some terms for us. Some of us are  
5 not so proficient in firearms technology and  
6 language. So, first of all, can you tell us what  
7 a cartridge is?

8 A. Most of you are probably familiar, if only  
9 secondarily through TV, with guns, and know that  
10 what you fire in a weapon is a cartridge. You  
11 may not be aware of what the different components  
12 of a cartridge are, and it's the components, of  
13 course, most often, that I'm asked to look at.  
14 You are going to hear me talk about some of these  
15 parts of a cartridge and how they relate to and  
16 connect with different parts of the weapon.

17 A cartridge is a composition of about  
18 four different parts. A cartridge consists of a  
19 cartridge casing, and we'll see some of these  
20 later, I presume, at least pictures of them. We  
21 also have a bullet or a projectile. This is part  
22 of a cartridge. And, of course, the bullet is  
23 what is aimed at a particular target and what  
24 will, if the weapon is working properly and the  
25 cartridge works properly, what will strike that

1 target.

2 Inside of the cartridge, inside the  
3 cartridge casing, is gunpowder. Gunpowder is a  
4 propellant. It's a chemical that, under the  
5 conditions that we expose it to when we're firing  
6 the gun, essentially explodes in the gun. And,  
7 of course, when it does that, a couple of things  
8 happen. It forces the bullet out of the barrel  
9 of the weapon and, again, down range from  
10 wherever the weapon is pointed.

11 The last component in a cartridge is  
12 what we call a primer. There's a part of the gun  
13 that's going to cause the cartridge to fire.  
14 That part of the gun actually strikes a different  
15 chemical in the gunpowder that's present in the  
16 cartridge casing and that is very shock  
17 sensitive. It gets struck. It explodes. It  
18 ignites the gunpowder and then our cartridge  
19 fires and the gun should work as it's intended  
20 to.

21 Q. Generally, on a gun, where would the primer be  
22 located or found.

23 A. Really only two places on any cartridge, these  
24 days at any rate. We may have a rim fire  
25 cartridge, and in this case that's the kind of

1           ammunition that was used. And in the case of a  
2           rim fire cartridge, the primer is located around  
3           the edge of the head of the cartridge.

4                       And we may also have, in other weapons,  
5           a center fire. In that instance, the primer is  
6           located in the center of the head or the end of  
7           the cartridge.

8   Q.   All right. And you began to explain, I think you  
9        did, on how the cartridge is actually fired. So  
10      let me ask you, then, what happens to the bullet  
11      as it is propelled down the barrel and out toward  
12      its intended target?

13   A.   Well, we have to know where the bullet starts  
14      out. Of course, it's in the cartridge. But in  
15      the weapon, the cartridge is going to be  
16      chambered or located right at the end of the  
17      barrel of the weapon.

18                    The muzzle of the weapon is the very  
19      front and most portion of that barrel. And at  
20      the back of the barrel will be a part of the  
21      barrel that's called the chamber. And it's  
22      designed to receive a cartridge. When the  
23      cartridge is fired, the bullet is projected or is  
24      expelled from the cartridge and into the barrel.

25                    If the gun is going to work properly

1       that barrel has to be sealed by the bullet. That  
2       is, no gases can escape around the sides of the  
3       bullet. And so the bullet, as it comes down the  
4       barrel of the gun, is in contact with that inner  
5       surface of the barrel. We have, then, the lead  
6       surface or the copper jacketed surface of the  
7       bullet being scraped by the inside of the barrel  
8       of the weapon.

9   Q.   All right. What happens to the cartridge when  
10       the weapon is fired?

11  A.   That's going to be determined by the design of  
12       the weapon. Some weapons are designed to keep  
13       the cartridge, the fired cartridge casing now,  
14       inside the weapon, so that it has to be extracted  
15       manually.

16               In other designs of weapons, allow you  
17       to extract the cartridge casings in certain ways.  
18       We may have what's called a bolt on a weapon that  
19       if you actually pull up and back and that will  
20       cause the cartridge casing that's been fired in  
21       the weapon to be extracted and rejected from the  
22       weapon.

23               And, finally, there's a design of a  
24       weapon that's very common that's called a  
25       semi-automatic design. And, in this instance,

1 the cartridge, when it's fired, the weapon is  
2 designed to use the gases, the energy that's  
3 created by the explosion of that gunpowder in  
4 there, to actually drive back a part of the  
5 weapon, extract whole that cartridge casing from  
6 the chamber and then there will be another part  
7 of the weapon that the cartridge casing comes  
8 into contact with that causes the cartridge  
9 casing to be ejected from the weapon.

10 And, then, the next step in this kind of  
11 weapon is that that same part of the gun that's  
12 driven backward and extracts the fired cartridge  
13 casing, moves forward again, under spring  
14 pressure most of the time, and it pushes the next  
15 cartridge that's in the weapon up into the  
16 chamber, and at the same time cocks the weapon.

17 So on a semi-automatic weapon, if you  
18 fire a cartridge in that weapon, it ejects --  
19 extracts and ejects the cartridge casing,  
20 chambers the next round, cocks the weapon, and  
21 now the gun can be fired by a pull of the  
22 trigger.

23 Q. All right. And just so that we're clear, we have  
24 had some other terminology used by some of the  
25 other witnesses, a phrase called a shell casing.

1           What is the relationship, if any, between a  
2           cartridge, and a shell casing, and what have you?  
3   A.   There's a number of different terms that are used  
4           commonly in the public that refer to the same  
5           thing. I generally, and in my reports, describe  
6           a fired cartridge casing as a cartridge casing.  
7           But it can also be called a shell casing. Some  
8           people call them hulls, that's generally in  
9           shotguns, but it is misused also. If you heard  
10          the term shell casing, it's the same thing as  
11          what I'm referring to as cartridge casing.  
12   Q.   All right. Given this process that you have  
13          described about how -- what happens to the bullet  
14          upon its being fired and what happens to the  
15          cartridge casing; what makes firearms  
16          identification possible?  
17   A.   You have heard me describe, I think, that when a  
18          cartridge casing or cartridge is fired in a gun,  
19          that we have contact between different parts of  
20          the gun and the cartridge casing. And, then, I  
21          know I described, specifically, that when the  
22          bullet passes through the barrel of the gun that  
23          it's in contact with that inner surface of the  
24          barrel.  
25                   Whenever there is a contact between

1       either the bullet and the cartridge casing with a  
2       part of the gun, we have the opportunity for a  
3       marking to be transferred to that item.  Let's  
4       talk, specifically, about the bullet.  When that  
5       bullet passes through there and is scratched by  
6       the inside of the barrel of the weapon, and I  
7       look at that surface of the bullet under  
8       magnification in the laboratory, what I'm going  
9       to see are a series of scratches.  We call them  
10      stria.  They are actually three dimensional  
11      engravings, something more than scratches, in  
12      most instances, on the surface of the bullet.

13               When I test fire the gun in the  
14      laboratory, I fire it into a water tank and I  
15      retrieve the bullets that I fired.  I can examine  
16      those test fired bullets and demonstrate to  
17      myself that I have a pattern of these engravings,  
18      of this stria, on that surface of the bullet.  
19      And I can compare, test to test, two bullets that  
20      I test fired in the weapon and establish that, in  
21      fact, when I fire a bullet from that particular  
22      weapon there is a pattern I can expect to see on  
23      that bullet.

24               And so now I know, having done that,  
25      that when I look at a bullet that I don't know

1        what gun it has been fired from, that if I find  
2        that pattern on there, then I have the  
3        opportunity to draw a connection between the  
4        bullet that's been recovered and submitted to the  
5        laboratory and possibly the gun that's been  
6        submitted too. And that connection is going to  
7        be based on the presence of these patterns of  
8        markings.

9                With the cartridge casing, they have  
10       exactly the same thing going on, and of course we  
11       have different parts of the gun that are  
12       involved. I will talk about two because they  
13       were involved in my examination in this case.

14               I told you that a part of the gun  
15       strikes the cartridge and causes it to fire.  
16       It's that primer causes an explosion and, of  
17       course, the cartridge goes off and the bullet  
18       goes away. That firing pin, that piece of metal  
19       in the gun that actually strikes the cartridge,  
20       has markings on it that were created during the  
21       manufacture of that firing pin. And some of  
22       those markings can be transferred to the  
23       cartridge casing.

24               Again, I test fired the cartridge  
25       casing. I don't know when I test fire the gun



1        what parts of the weapon may be marking the  
2        cartridge casings in a way that will allow me to  
3        come to any conclusion about it, or whether there  
4        will be any marks there. I examine my test  
5        fires. I will examine the firing pin impression.  
6        And under magnification, I may see a pattern of  
7        markings in the firing pin impression.

8                    And, again, if I do, and can demonstrate  
9        that that's occurring with that ammunition on  
10       every cartridge casing I fire in there, then I  
11       know I have something to look for on cartridge  
12       casings that have been recovered in the course of  
13       an investigation and maybe tie that into that  
14       gun. The other part --

15                   ATTORNEY BUTING: I'm sorry, could we have  
16       a little bit more question and answer to break it up  
17       and follow along. The narrative is rather lengthy.

18                   THE COURT: That's a good point.

19                   ATTORNEY FALLON: Very well.

20       Q.        (By Attorney Fallon)~ We'll develop that a little  
21       further as we get into some of the opinions you  
22       will offer. But I wanted to have you define  
23       another term or two for us, if you would.  
24       There's a phrase that I'm sure many people have  
25       heard on television and elsewhere called lands

1           and grooves; could you tell us what they are?

2   A.   These relate to the inner surface or the inside  
3       of the barrel of the modern gun.  When they  
4       manufacture that barrel, they put grooves on the  
5       inside surface of the barrel.

6                   And, additionally, when they put those  
7       grooves into that surface of the barrel, they  
8       turn the tool that they are using to put the  
9       grooves in there and give it a twist.  We call,  
10      of course, the grooves of the barrel are the  
11      grooves.  The term that's applied to the area of  
12      the barrel between the grooves, we call lands, or  
13      l-a-n-d-s.  Don't know where the term came from,  
14      but that historically has been the term applied  
15      to that area between the grooves in the barrel of  
16      the rifle -- or of the weapon.

17   Q.   Okay.

18                   ATTORNEY FALLON:  Your Honor, I think this  
19      would be a good place to break for lunch.

20                   THE COURT:  All right.  Members of the jury  
21      we'll take our lunch break at this time.  We will  
22      resume at 1:00.  I will remind you not to discuss  
23      the case at all during the lunch break.  You're  
24      excused at this time.

25                               (Jury not present.)

1 THE COURT: You may be seated. Counsel,  
2 were you going to be prepared to meet in chambers at  
3 1, 1:00?

4 ATTORNEY BUTING: Yes, we could do that.

5 THE COURT: The package that you were  
6 expecting came in?

7 ATTORNEY BUTING: Yes.

8 THE COURT: Very well. We'll see you at  
9 1:00 then in chambers.

10 ATTORNEY FALLON: Judge, would it be  
11 beneficial to have a quick five minute chat right  
12 now perhaps?

13 THE COURT: Back in chambers?

14 ATTORNEY FALLON: Yeah.

15 THE COURT: Okay.

16 (Noon recess taken.)

17 THE COURT: Members of the jury, I have  
18 been informed that some of you have had questions  
19 about whether or not the trial is proceeding on  
20 schedule. I discussed that matter with counsel  
21 during the break and I have been assured that the  
22 trial is proceeding on schedule.

23 And I can also tell you that because of  
24 the weather situation today and tomorrow, it's  
25 likely that we'll leave early today and we may be

1 well adjourning early tomorrow as well. We'll  
2 try to make arrangements to get the bus here a  
3 little sooner to accommodate that schedule. At  
4 this point, Mr. Fallon, you may resume your  
5 direct examination.

6 ATTORNEY FALLON: Thank you, Judge. Good  
7 afternoon, sir.

8 **DIRECT EXAMINATION CONTD.**

9 BY ATTORNEY FALLON:

10 Q. I believe we left off with your discussion of  
11 lands and grooves. And I just wanted to have one  
12 more question on that topic before we move on.  
13 And that is, why are there lands and grooves, or  
14 how does it come to be that there are lands and  
15 grooves in the barrel of the rifle that occur  
16 during manufacturing?

17 A. The manufacturers put those in the barrel. And  
18 you remember, I described how they will turn the  
19 tool that creates the grooves in the barrel.  
20 Those are there because when the bullet passes  
21 through the barrel, it fills the barrel, engages  
22 that rifling, and when it leaves the barrel it is  
23 now spinning and that makes the bullet more  
24 stable and makes the gun much more accurate.

25 Q. Now, I'm going to have Investigator Wiegert show

1           you some exhibits, sir, as we begin the remainder  
2           of your testimony. First of all, I would like  
3           Exhibit 247, which I believe it is the rifle.  
4           The record should reflect that Investigator  
5           Wiegert is handing Exhibit 247 to Mr. Newhouse.  
6           And I would ask you, sir, do you recognize that  
7           item?

8       A.    I do.

9       Q.    And what is, for the record, item -- Exhibit 247?

10      A.    Exhibit 247 is a .22 caliber Marlin manufactured  
11           semi-automatic rifle. Actually known as the  
12           Glenfield Model 60. And this was a weapon that  
13           was submitted to the laboratory in the course of  
14           this investigation.

15      Q.    And how is it that you are able to recognize that  
16           particular weapon as the one that was submitted  
17           to you for examination?

18      A.    I mark or, in some cases, with guns in  
19           particular, place a sticker on the weapon with  
20           the information that associates it with --  
21           associates it with our case number and the date  
22           that I opened the box that it was in and so on.

23                   Additionally, I had also, when it was  
24           submitted to the laboratory, I had checked it to  
25           make sure it wasn't loaded, and safe to handle

1           and store in the laboratory, before I examined it  
2           in the firearms section. I also have a tag on  
3           there with that same kind of information on it.

4       Q.   And I see you are holding the exhibit, you are  
5           pointing to what appears to be a green tag on the  
6           trigger guard?

7       A.   That's correct.

8       Q.   And that is a tag that you affixed to the weapon  
9           upon your receipt of it?

10      A.   Yes.

11      Q.   All right. I would like to have Investigator  
12           Wiegert also show you one other item -- well, two  
13           other items. Exhibit 250, the shell casings; do  
14           you have Exhibit 250 in front of you?

15      A.   I do.

16      Q.   And do you recognize that exhibit?

17      A.   Yes, I do.

18      Q.   And for the record, what is Exhibit 250?

19      A.   Exhibit 250 is a paper bag, a box, and eventually  
20           you get to 11 fired cartridge casings, all of  
21           them .22 caliber cartridge casings.

22      Q.   And are those the casings that were submitted to  
23           you for examination and comparison in this case?

24      A.   They are.

25      Q.   And, finally, if Investigator Wiegert would

1           provide to you Exhibits 276 and 277. Which one  
2           are you holding at the moment?

3       A.     I have Exhibit 277.

4       Q.     All right. And tell us what Exhibit 277 is?

5       A.     Exhibit 277 is a bullet, a bullet fragment if you  
6           like, that we designated as Item No. FL when it  
7           was received in the laboratory.

8       Q.     All right. And Exhibit 276?

9       A.     Exhibit 276 is a second bullet. And this one we  
10          designated as Item FK when it was received in the  
11          laboratory.

12      Q.     All right. Were all these items submitted at the  
13          same time, or did they come in in different -- at  
14          different times?

15      A.     They came in at different times.

16      Q.     All right. And as a result of which, how many  
17          reports did you generate regarding your  
18          examination of those items?

19      A.     I wrote two reports to describe the conclusions I  
20          came to.

21      Q.     All right. Let's take them one at a time. We'll  
22          start with the first report. At approximately  
23          when was that first report prepared by you  
24          regarding your findings?

25      A.     The first report that I wrote was written on

1 February the 21st of 2006.

2 Q. All right. So let's begin, then, with that  
3 report and your examination regarding that  
4 report. With respect to that first or initial  
5 examination what were you asked to do?

6 A. Well, I had -- I knew that we had submitted in  
7 the case a rifle and that some cartridge casings  
8 had also been recovered and submitted. I was  
9 asked to examine and test fire the rifle, and  
10 then to answer the question, determine if I  
11 could, whether the cartridge casings that had  
12 been recovered had actually been fired in this  
13 rifle, or whether they had been fired in some  
14 other weapon.

15 Q. All right. All right. Let's begin with the  
16 rifle. What was the first thing that you had to  
17 do in order to attempt any subsequent  
18 comparisons?

19 A. The procedure, the approach to a weapon  
20 examination is really the same on just about any  
21 gun that I look at. Initially, I'm concerned  
22 about whether the weapon is safe to fire. I know  
23 I'm going to want to do that.

24 I also want to examine the weapon, as I  
25 did in this case, and document various features



1 of the weapon that might allow me to identify it  
2 later, or that give me some idea of a possible  
3 problem with its function if I examine it  
4 closely.

5 Additionally, I'm interested in whether  
6 or not there might be, in most cases, some other  
7 kind of evidence on the weapon. Just depends on  
8 whether it's been examined by someone else or not  
9 or whether I'm the first to actually handle it.

10 So, in this case, the first thing I did  
11 was to go through the weapon. It had already  
12 been through the DNA section. I didn't need to  
13 be concerned about any materials or substances on  
14 the exterior of the weapon. And so I just  
15 documented serial number, caliber, make, model,  
16 length of the barrel, various physical  
17 characteristics of the weapon.

18 One of the other things that I did in my  
19 initial examination is to examine the bore of the  
20 weapon, to look down the barrel. For two  
21 reasons, one, I want to know that it's not  
22 obstructed. And the only way to do that is to  
23 look down there and make sure there is not a  
24 bullet caught up somewhere in the middle of the  
25 barrel.

1                   And the other was to look at the  
2                   condition of the barrel. That gives me some idea  
3                   of what I might expect to see when I fire it, and  
4                   in particular what condition the bullet that I  
5                   recover from test firing it might be.

6       Q.   All right. And did you subsequently, then, test  
7            fire that weapon?

8       A.   I did.

9       Q.   And what determination did you make regarding the  
10            weapon's functioning capability?

11      A.   After I worked my way through the gun, I was  
12            satisfied it was working and in safe enough  
13            condition to fire. So I went ahead and selected  
14            some ammunition from the collection there at the  
15            laboratory and actually fired the weapon  
16            recovering cartridge casings and the bullets and  
17            also confirming that the weapon does function as  
18            it was designed to function.

19      Q.   All right. And what kind of ammunition did you  
20            select for your test firing?

21      A.   The cartridge casings that had been submitted,  
22            the recovered cartridge casings, were  
23            manufactured by CCI, one of the companies that  
24            makes ammunition. So I fired, from my  
25            collection, three CCI cartridge casings. I'm

1           sorry, three CCI cartridges.

2       Q.   All right.  And those cartridges contained the  
3           bullets that you previously described, in terms  
4           of how the weapon operates?

5       A.   Yes.

6       Q.   All right.  And, generally, just for our benefit,  
7           what is a bullet?  What does it consist of?  What  
8           is in the bullet?

9       A.   Virtually all bullets are going to be either lead  
10           composition, or they will be a lead core that's  
11           contained within some kind of a copper alloy  
12           jacketing.  In this case, the bullets that I  
13           fired initially in this weapon, particularly for  
14           the comparison to and the examination of the  
15           cartridge casings that were submitted, were lead  
16           bullets.

17      Q.   All right.  All right.  Now, after you determined  
18           that the .22 caliber rifle was functioning  
19           properly, what did you do with respect to  
20           determining whether any of the cartridge casings  
21           had been fired from that rifle?

22      A.   Well, as I said, I recovered the cartridge  
23           casings that I had fired in this weapon.  The  
24           next step was to compare those to the recovered  
25           cartridge casings, those ones that were

1 submitted. And at that moment, or at the point  
2 that they were recovered, of course, we didn't  
3 know what gun they were fired in.

4 The examination is a microscopic  
5 examination. I'm looking at very, very, tiny  
6 markings that are placed, as I described earlier,  
7 on the cartridge casings, by the different parts  
8 of the gun.

9 First thing I do is to look at my test  
10 fires, to again assess what expectation I can  
11 have of finding markings that are placed there by  
12 the gun, what they look like, what patterns I  
13 will see. Having done that, I would then, using  
14 my microscope again, place one of the cartridge  
15 casings that we're wondering whether it was fired  
16 from the gun, and one of my test fired cartridge  
17 casings, on the microscope, and do a direct  
18 comparison, under magnification, of those  
19 markings that I see on the cartridge casings.

20 Q. And were you able, then, to make a determination  
21 as to whether the casings submitted to you had in  
22 fact been fired from that gun?

23 A. Yes, I was.

24 Q. And what conclusion did you reach?

25 A. I was able to determine that all 11 of the

1           cartridge casings that had been submitted had, in  
2           fact, been fired in this rifle.

3       Q.   And the opinion that all of them had been fired  
4           in that rifle, do you hold that opinion to a  
5           reasonable degree of scientific certainty?

6       A.   I do.

7       Q.   And your opinion that the weapon, the .22 caliber  
8           Marlin Glenfield 60 rifle, was functioning  
9           properly upon its submission to you; do you hold  
10          that opinion to a reasonable degree of scientific  
11          certainty?

12      A.   Yes, I do.

13      Q.   All right. I would like to direct your attention  
14          then to the second examination that you prepared  
15          in this particular case. I want to direct your  
16          attention to May of 2006; were you once again  
17          asked to conduct an analysis involving that very  
18          same Marlin Glenfield rifle?

19      A.   Yes, I was.

20      Q.   All right. This time, what was the requested  
21          task or examination that was expected?

22      A.   By now, two bullets, two pieces of metal that  
23          looked like bullets, at any rate at that point,  
24          had been recovered. I was asked, again, to  
25          determine, if possible, whether those two bullets

1           had been fired from this same weapon that I had  
2           already identified the cartridge casings as  
3           having been fired in.

4   Q.   All right.  And are those the previously  
5           identified exhibits, 277 and 276, which are in  
6           front of you?

7   A.   They are.

8   Q.   All right.  And they have the Crime Lab  
9           designation Item FL and FK; is that correct?

10  A.   That's correct.

11  Q.   All right.  Let's begin with a closer  
12           description, if possible, of the bullet  
13           fragments, or suspected bullet fragments that you  
14           were asked to examine.  First of all, let's begin  
15           with Exhibit 276 identified as bullet FK.  Tell  
16           us, if you can, what the condition of that  
17           particular fragment was upon its submission to  
18           you for examination?

19  A.   Well, the bullet in Exhibit 276 which, again, is  
20           our Item FK, is probably -- or would not be  
21           immediately recognizable to most people as a  
22           bullet.  It's in very poor condition.  It doesn't  
23           look like it did when it was still in the  
24           cartridge.

25                   ATTORNEY BUTING:  Your Honor, I object and

1 move to strike that comment as to what other people  
2 would think it looked like. He can give an opinion  
3 as to its condition, but he can't express an opinion  
4 about whether other people would have recognized it.

5 THE COURT: I think he's talking about its  
6 apparent condition. I'm going to overrule the  
7 objection.

8 ATTORNEY FALLON: Thank you.

9 Q. (By Attorney Fallon)~ All right. Please describe  
10 further the condition of the bullet.

11 A. This is -- has been damaged greatly, no longer  
12 looks like a bullet. Of course, having looked at  
13 these for 35 years, it does look to me like a  
14 bullet that has passed through or has struck some  
15 harder object than the bullet.

16 When I examine it in the laboratory  
17 initially, I do a number of things. I weigh the  
18 bullet. I look at it under the microscope to  
19 determine what kinds of, or if any, rifling  
20 characteristics might be present on what remains  
21 of this bullet.

22 I'm also interested in the bullet  
23 composition. I want to -- I want to fire a  
24 bullet like that from this gun, for comparison,  
25 and so I'm interested in whether this is a lead

1 bullet, or whether this is a lead bullet that's  
2 coated with copper, and so on. And all of those  
3 things were part of what I documented and  
4 recorded in the course of my examination of this  
5 item, State's Exhibit 276.

6 Q. And what can you tell us about the bullet. You  
7 said you wanted to select one that was similar to  
8 what had been submitted to you. So I guess my  
9 question is, what would you have selected or --  
10 not what would you have -- what did you select  
11 for purposes of making a comparison?

12 A. When I did the microscopic examination, it was  
13 clear it was a coated bullet and not a lead  
14 bullet. It was also clear it was a .22 caliber  
15 bullet to me. Additionally, under the  
16 microscope, I could see markings that were put  
17 there by the rifle, in particular the barrel  
18 through which it was fired.

19 Those lands and grooves that I described  
20 earlier, in the bullet, leave what we refer to as  
21 land and groove impressions. And in this  
22 particular item, Exhibit 276, I could identify  
23 under the microscope, eight remaining land and  
24 groove impressions on that bullet.

25 Q. All right. Was that enough to be able to make



1           any comparisons whatsoever as to whether that  
2           bullet was fired from that gun, or any other gun  
3           for that matter?

4       A.   The next step was to look at that under greater  
5           magnification on the microscope.  And the fact  
6           is, on this Exhibit 276, although I had eight of  
7           these land and groove impressions remaining on  
8           the bullet, under greater magnification I could  
9           see that I had none of the very small detail,  
10          those things that make up patterns that I was  
11          trying to describe earlier.  None of that was  
12          present, or at least not enough of it for me to  
13          use to come to any conclusion about what gun  
14          fired this bullet in Exhibit 276.

15       Q.   All right.  Now, I need you to explain something.  
16            You previously described the bullets you  
17            selected, the CCI bullets, as being lead bullets.  
18            And then you just made some comment about not  
19            lead but coated with a different substance.  Can  
20            you kind of explain --

21       A.   Yes.

22       Q.   -- so that we're not --

23       A.   Yes.

24       Q.   -- confused here?

25       A.   Yes.  Most .22 caliber bullets, with the

1 exception of .22 magnums, are actually lead  
2 bullets. But many of them are coated with a very  
3 fine powder of copper, or possibly a copper  
4 alloy, that they actually impress into the  
5 surface of the bullet. And that is the kind of  
6 bullet that we have here in Exhibit 276.

7 That's important to me because I know  
8 that if I'm going to compare this to the test  
9 fired bullets from this gun, I want to shoot the  
10 same kind of thing. So I selected, then, for  
11 this second set of examinations with the bullets,  
12 an ammunition that, in fact, was copper coated.

13 Q. All right. Although it was a lead bullet, but  
14 the coating was not lead, the coating was copper?

15 A. Correct.

16 Q. Okay. All right. So, just so we're clear, were  
17 you able to make any comparisons then with  
18 respect to bullet FK, Exhibit 276?

19 A. I was able -- or it was limited to a class  
20 characteristics comparison, a term I haven't used  
21 yet. I knew by examining the bullet in Exhibit  
22 276, that it had been fired from a gun  
23 manufactured with 16 lands and grooves and a  
24 right hand twist. That much information is on  
25 the bullet. It's also a .22 caliber bullet.

1                   This weapon is a .22 caliber bullet.  
2           And in the barrel of this gun are 16 lands and  
3           grooves and a right hand twist. However, I can  
4           say no more than that about this bullet. And the  
5           fact of the matter is, I cannot specify exactly  
6           what gun this bullet was fired in, again, because  
7           I don't have those small stria, those scratches  
8           on the bullet surface, that I can use for that  
9           kind of conclusion.

10   Q.   All right. So in terms of class characteristics  
11       is that a general category, or a specific  
12       category, or tell us. I'm not a gun person, so  
13       what do I -- what should I take from that?

14   A.   It means that, based just on the class  
15       characteristics on Exhibit 276, I know it was  
16       fired in some gun, among a group of guns,  
17       thousands of guns, if you like, tens of thousands  
18       of guns, that were manufactured with 16 lands and  
19       grooves and a right hand twist, and were  
20       .22 caliber. And I can be no more specific than  
21       that, based on what we have left on this bullet.

22   Q.   All right. And do you hold that opinion to a  
23       reasonable degree of scientific certainty?

24   A.   I do.

25   Q.   All right. Let's direct our attention, then, to

1           the remaining bullet, Item FL, Exhibit No. 277;  
2           were you able to conduct an analysis of that  
3           particular bullet?

4    A.    I did.

5    Q.    And were you able to make a determination as to  
6           whether Exhibit 277, bullet designation FL, was  
7           fired from the Marlin Glenfield .22 caliber rifle  
8           in front of you?

9    A.    Yes, I was.

10   Q.    And what conclusion were you able to reach?

11   A.    In this case, I was able to be more specific.  
12           And, in fact, because of markings on the bullet  
13           in State's Exhibit 277, I was able to conclude  
14           that this bullet had been fired from this  
15           specific gun.

16   Q.    All right. So Exhibit 277 had been fired from  
17           Exhibit 247?

18   A.    Yes, that's correct.

19   Q.    All right. Now, how is it that you were able to  
20           make that determination?

21   A.    Again, we have to refer to, or talk about what's  
22           present, at high magnification, on the surface of  
23           that bullet. And on this bullet I have, in fact,  
24           patterns of scratches, or patterns of stria,  
25           present on a number of different areas of the

1 bullet, even in the condition it's in, that I  
2 could -- could relate to, that I could identify  
3 with the same patterns on the test fired bullets.

4 Furthermore, the patterns that were  
5 there, the markings that I see, are patterns that  
6 I recognize as being more than could be expected  
7 to be seen, more than we would ever see on a  
8 bullet that was not fired from the same gun. It  
9 has to exceed what I recognize as those -- those  
10 set of markings that we expect to see on two  
11 bullets not fired from the same gun.

12 So when I looked at State's Exhibit 277,  
13 the pattern I saw there, the quality and quantity  
14 of the pattern correlations and matchings that I  
15 saw there, was enough for me to come to a  
16 conclusion that, in fact, the reason they had the  
17 same pattern on this bullet and my test fired  
18 bullets, is because it had been fired from the  
19 same gun.

20 Q. All right. Is there -- Does that mean it could  
21 not have been fired from any other gun?

22 A. It does.

23 Q. The opinion that Exhibit 277, item designation  
24 FL, was fired from Exhibit 247, the Marlin  
25 Glenfield, Model 60, .22 caliber rifle; do you

1           hold that opinion to a reasonable degree of  
2           scientific certainty?

3       A.    I do.

4       Q.    The opinion that it could not have been fired  
5           from any other gun; do you hold that opinion to a  
6           reasonable degree of scientific certainty?

7       A.    I do.

8       Q.    Did you prepare two brief reports and a disc  
9           summarizing your findings?

10      A.    The findings with regard to the bullets was on a  
11           report dated May 10th of 2006. I also had taken  
12           photographs of some of what I saw under the  
13           microscope and had had those transferred to a  
14           disc.

15      Q.    All right.

16                   ATTORNEY FALLON: For the record, your  
17           Honor, counsel has seen them, I have had the two  
18           reports marked and a disc marked to complete the  
19           testimony, would offer them into evidence, and  
20           tender the witness for cross-examination.

21                   THE COURT: Any objection?

22                   ATTORNEY BUTING: No objection.

23                   THE COURT: All right. The exhibits are  
24           received.

25                   ATTORNEY BUTING: Give us the numbers,

1           please.

2                       ATTORNEY FALLON:   Certainly, 418, 419 and  
3           417, the disc.

4                               **CROSS-EXAMINATION**

5   BY ATTORNEY BUTING:

6   Q.   Good afternoon, sir.

7   A.   Good afternoon.

8   Q.   Let me go back a little bit and maybe have you  
9       explain to the jury in a little bit more detail a  
10      few things.   Okay.

11   A.   Certainly.

12   Q.   About your field.   Now, one thing, sir, you are a  
13      little bit far from the microphone.   If you could  
14      pull it toward you, or pull your chair up, or  
15      lean forward, I think that would probably help.

16   A.   Okay.

17   Q.   That's much better.   Thank you.   You say you  
18      belonged to this organization for 20 years now,  
19      the Association of Firearms And Toolmark  
20      Examiners; is that right?

21   A.   Probably more than that, but at least 20 years.

22   Q.   Okay.   And that's a reputable organization, it's  
23      been around a long time?

24   A.   Yes, it has.

25   Q.   And if you have been a member that long, I assume

1           you have kept up with -- do you get sort of a  
2           regularly monthly publication?

3    A.    Yes, we do.

4    Q.    Do you get the AFTE Journal?

5    A.    It's a quarterly journal but, yes, I do.

6    Q.    Okay. And that's a journal that is -- where  
7           articles are published, people in your field  
8           share studies and information with other people  
9           such as yourself?

10   A.    That's correct.

11   Q.    And I take it that to belong to that organization  
12           you -- there's certain guidelines or  
13           qualifications that you have to have?

14   A.    Yes, there are.

15   Q.    It's not just pay your money and you are in,  
16           right?

17   A.    No.

18   Q.    Okay. And you abide by those guidelines and  
19           qualifications, right?

20   A.    I had to satisfy them to become a member, yes.

21   Q.    Right. And you continue to abide by whatever  
22           requirements are recommended, or the  
23           recommendations of that organization, right?

24   A.    Beyond maintaining the work that I do in the  
25           field, and then paying the fee every year, there



1           are no other requirements to receive the journal.

2       Q.    Okay.  But you do read the literature?

3       A.    Yes, I do.

4       Q.    All right.  And you also said that your lab, the  
5           Crime Lab, is a member of ASCLD, that's  
6           A-S-C-L-D, often referred to by people like you  
7           as ASCLD?

8       A.    I don't think I said that, but we are ASCLD lab  
9           accredited.

10      Q.    I thought you did say that actually, but I may be  
11           wrong.

12      A.    No.

13      Q.    And is that true of the entire Crime Lab, all the  
14           different units are A-S-C-L-D qualified?

15      A.    No.

16      Q.    Your unit, though, is ASCLD accredited, right?

17      A.    Yes, it is.

18      Q.    And in order to become accredited by that  
19           organization which, again, we had some testimony  
20           about it, but that's a different witness, that's  
21           actually an Association of Crime Lab Directors,  
22           right?

23      A.    Yes.

24      Q.    And they do a number of things in terms of  
25           reviewing the procedures and the qualifications

1 of the people in the lab, whatever unit they are  
2 accrediting, before they get -- before they give  
3 out that accreditation, right?

4 A. That's correct.

5 Q. And that includes they review your protocols for  
6 tests and examinations, right?

7 A. Yes, they do.

8 Q. And proficiency tests as well?

9 A. Yes.

10 Q. Do you do proficiency tests?

11 A. Yes, I do.

12 Q. What sort of proficiency tests does a firearm and  
13 toolmark person do?

14 A. We do probably two a year. One of them will be a  
15 firearms case, may be a set of bullets that we  
16 have to determine were fired from the same gun or  
17 maybe cartridge casings. We're also asked, once  
18 a year, to do a proficiency test that's focused  
19 on more specific toolmark kind of comparison.  
20 Might be a bow cutter case. Might be a mark made  
21 by a screw driver.

22 Q. Okay. So, it's not just bullets, it's also other  
23 tool markings?

24 A. Yes.

25 Q. And then you also have a protocol for different

1 types of examinations that you do?

2 A. We have procedures in place that relate to how we  
3 perform certain examinations.

4 Q. Okay. And one of the things that ASCLD requires,  
5 and I believe the other association, the AFTE, is  
6 that you make sure that you have proper  
7 documentation of what you examine, right?

8 A. That's correct.

9 Q. That can include notes, right?

10 A. Yes.

11 Q. Photographs?

12 A. Yes.

13 Q. And peer review, right?

14 A. That's correct. That's an element of our  
15 examination process, yes.

16 Q. Okay. And, in fact, the guidelines, I believe,  
17 require that -- that your documentation be good  
18 enough that another person in your absence can  
19 look at it and come to the same conclusion,  
20 right?

21 A. That's correct.

22 Q. And when you do these examines you actually have  
23 -- you are supposed to have two people look at  
24 it. You look at it, come to a conclusion, and  
25 then you have another person look at it up here,

1           and come to the same conclusion?

2    A.    That's correct.

3    Q.    And that's part of your protocol?

4    A.    Yes, it is.

5    Q.    Okay. Now, when we talked about proficiency

6           tests, you are aware, I assume, of a gentleman by

7           the name of Alfred Biasotti?

8    A.    Yes, I am.

9    Q.    You probably have been questioned about this

10           gentleman before, haven't you?

11   A.    Not specifically that I recall, no.

12   Q.    Okay. Then I will be the first. He's a very

13           well-known -- he produced a very well-known study

14           in your field, correct?

15   A.    Yes, he did.

16   Q.    And forgive me for a moment while I get the

17           actual name of it, it's called a Statistical

18           Study of the Individual Characteristics of Fired

19           Bullets; does that sound right?

20   A.    Yes, it does.

21   Q.    Actually, that was a study done quite some time

22           ago, 1959, but still is relied on in your field?

23   A.    Yes.

24   Q.    All right. And what he concluded is, that among

25           other things, that in the real world, there's no

1       such thing as a perfect match when it comes to  
2       cartridges and bullets, correct?

3     A.   That's correct, if by that you mean everything  
4       lines up, yes.

5     Q.   Right.  And in his study -- Actually, his study  
6       echoed the findings of another study that found  
7       only 21 to 38 percent of the marks will match up  
8       on bullets fired from the very same gun; does  
9       that sound right?

10    A.   That sounds like an appropriate range if we're  
11       talking about percent match.

12    Q.   Okay.  So that when you are looking at these  
13       bullets and you are calling something a match,  
14       you are doing so with only 21 to 38 percent of  
15       those markings matching up?

16    A.   If, in fact, on the particular bullets I'm  
17       looking at, that may be the case that if we look  
18       at percent matching, that may be that only  
19       21 percent match.

20    Q.   All right.  And yet you could still call it a  
21       match?

22    A.   That's correct.

23    Q.   Now, part of that is because, in your field, your  
24       opinion is really what we would call subjective,  
25       correct?

1 A. There are subjective elements to it. There are  
2 objective qualities to the examinations and  
3 conclusions as well.

4 Q. Well, let me just give you an example. You  
5 mentioned in this case there were bullets with 16  
6 lands and grooves, the rifle you believe had 16  
7 lands and grooves, right?

8 A. That's correct.

9 Q. There's no magic number when you are looking at a  
10 bullet that says you have to have 14 -- you have  
11 to see 14 of those match up in order to call it a  
12 match, right?

13 A. No, the number of actual groove impressions or  
14 land impressions that remain on a bullet that  
15 we're examining does not have to be a certain  
16 number of the original number that were there.

17 Q. Okay. So you are a little bit -- you're probably  
18 a little bit familiar with fingerprints for  
19 instance, right?

20 A. Not really too much. In terms of identification,  
21 no.

22 Q. Okay. So you are not aware of how many standards  
23 they have, about how many points of similarity  
24 have to match up before they can make a call?

25 A. I'm aware that they have -- or that some agencies

1           operate under the need or requirement to have a  
2           certain number of points.

3   Q.    Okay.  But in your field there is no quantitative  
4           number or guidelines that you have to follow  
5           before you call something a match or not a match?

6   A.    There is no required guideline.  There are  
7           guidelines established that have been published  
8           in the literature of that same journal we have  
9           been talking about.

10  Q.    Okay.  But it's not something that you follow?

11  A.    No, that's not true.

12  Q.    Well, it's not something that you -- do you have  
13           a specific number that have to be -- you have to  
14           get to in terms of number of lands and grooves  
15           before you can call something a match?

16  A.    I have a certain number of matching stria.  We're  
17           going to have -- I'm going to have to use  
18           terminology I haven't defined yet.

19  Q.    We'll define stria a little bit more later.  But  
20           just tell me what is it, you have a specific  
21           number?

22  A.    Again, there's nothing regarding how many land  
23           and groove impressions must be on a bullet.  The  
24           only requirement is that we have a pattern of  
25           markings on the bullet or the cartridge casing

1           and that they satisfy some kind of minimum  
2           requirement.

3   Q.    But the minimum requirement is a subjective  
4           requirement.  It's your opinion that there's  
5           enough to call a match, right?

6   A.    No, that's not correct.

7   Q.    Is there a specific number you must have, you  
8           know, 40 particular stria in order to call it, or  
9           what?

10  A.    There are -- And, in fact, Mr. Biasotti, in that  
11           treatise that you named a moment ago, there are a  
12           certain number of stria that have been identified  
13           and that we recognize as a number, beyond which,  
14           we know we will not see that amount of  
15           correlation in a non-match type of comparison.

16                   That's going to require a little  
17           explanation probably, but the point of what I'm  
18           trying to say is that Mr. Biasotti, in fact, with  
19           that paper, was the one who first defined it,  
20           that there are and we can talk about minimum  
21           criteria of consecutive matching stria or  
22           markings and treat that as a threshold, above  
23           which we can be sure, statistically, that this is  
24           an identification.

25  Q.    Well, tell us, what is the minimum?  What's the



1           number? Is there a number associated with the  
2           minimum?

3    A.    Yes, there is.

4    Q.    What is it?

5    A.    When we're talking about a three dimensional  
6           stria comparison, if you look under the  
7           microscope, the markings I'm looking at, as I  
8           alluded to earlier, I think are not just  
9           scratches, they actually have depth. They have  
10          width. They have that three dimensional element  
11          to it. So we're not just counting lines.

12                 When I'm performing this kind of a  
13                 comparison, the all important question is, of  
14                 course, when do I know I have enough for an  
15                 identification. Mr. Biasotti's research,  
16                 followed up by any number of other three or four  
17                 other important papers over the last few years,  
18                 have defined that minimum criteria. And it's  
19                 available for examiners to use, if they wish, to  
20                 rely on it.

21                 In response, what the actual number is,  
22                 when I'm looking at three dimensional patterns of  
23                 marks on bullets, or any toolmark for that  
24                 matter, and we're talking about stria, that if I  
25                 have two consecutive groups of three marks, or a

1 single run of consecutive markings that number  
2 six, or more than that, of course, this is a  
3 minimum conservative criteria again, then I can  
4 be assured, again, based on these studies that  
5 have been published in the AFTE Journal and that  
6 all of these researchers have completed, I can be  
7 assured that, in fact, that is not possible with  
8 two bullets fired from different guns.

9 When I see that minimum criteria or one  
10 more, I can be assured, based solely on that,  
11 that those two bullets had to have been fired  
12 from the same gun in order to observe that set of  
13 matching stria.

14 Q. All right. Let me -- Jumping around a little bit  
15 here, but as long as we're on this topic, tell  
16 us, what was the number you found for Item FL in  
17 this case?

18 A. If we look at Item FL and we look at the  
19 photographs, a little more specifically later if  
20 you want to, you will see one run on, I believe  
21 it was groove impression number three, of  
22 approximately -- not approximately -- of six  
23 consecutive stria. What I was trying to remember  
24 was whether there were actually seven or not.  
25 But at any rate, we have at least six consecutive

1           stria. And, again, that is the minimum criteria  
2           that would allow me, based solely on what I'm  
3           seeing in that one groove impression, to come to  
4           the conclusion that it was fired from this  
5           particular gun.

6   Q.   And you are stating that from your memory; is  
7           that right?

8   A.   Well, I have reviewed my case notes and my  
9           photographs.

10   Q.   Okay. I'm going to show you Exhibit 420, if you  
11           could identify that for us, please.

12   A.   Exhibit 420 is a worksheet that I used to  
13           document the cartridge casings, or my examination  
14           of the cartridge casings.

15   Q.   And that worksheet has information that you fill  
16           out, it's sort of a graph, or actually more like  
17           a chart, and it's where you make note of a number  
18           of things, right?

19   A.   That's correct.

20   Q.   And nowhere on this document do you indicate  
21           anywhere what you just testified to to the jury,  
22           is it?

23   A.   That's correct.

24   Q.   What it does say, though, is this particular  
25           worksheet includes both -- well, let's put it up

1           on the ELMO. You can see it from the screen, I  
2           believe, from where you are sitting. Actually, I  
3           marked the wrong exhibit. Let me give you  
4           another one.

5           (Exhibit No. 425 marked for identification.)

6   Q.    Just to clarify for the jury here, look at  
7           Exhibit 425 for a minute.

8   A.    Okay.

9   Q.    You said you did this on two different dates?

10   A.   That's correct.

11   Q.   One date you did the cartridges. The first one I  
12           gave you, actually, was the worksheet for the  
13           cartridges.

14   A.   Cartridge casings, yes.

15   Q.   So, let me direct your attention now to 425  
16           instead, which is the worksheet from the bullets,  
17           correct?

18   A.   That's correct.

19   Q.   Okay. Let's put that up. All right. We have  
20           got Exhibit 425 up on the screen. Let me zoom  
21           out a little bit so we see the whole thing. And  
22           at the top there's a chart that you fill out that  
23           includes some numerical types of information,  
24           right?

25   A.   Some of it are measurements of the bullets that I

1           made, yes.

2   Q.    Okay.  And this includes both Item FL and FK,

3           right?

4   A.    Yes, it does.

5   Q.    And for both of them you indicate .22 caliber; is

6           that right?  Is that what that says?

7   A.    Yes.

8   Q.    It doesn't say .22 caliber long either does it?

9   A.    No.

10  Q.    There's a difference, right.

11  A.    The dimension that you see there, the 0.22 inch,

12           is approximately the diameter of the bullet.

13  Q.    Okay.  Doesn't tell you whether it's a

14           .22 caliber long, .22 caliber short, or plain old

15           .22 caliber, does it?

16  A.    Just tells me it's a plain old .22 caliber and

17           just that measurement does not allow me to

18           conclude whether it's a .22 long, short, long

19           rifle.

20  Q.    Well, in this particular instance, with FL and

21           FK, were you able to conclude, from looking at

22           the bullet alone, whether this was a .22 caliber

23           long, short, or plain old .22 caliber?

24  A.    Are we talking about FL or FK, I'm sorry.

25  Q.    Let's look at FL.

1 A. Okay. FL, the other characteristic of the bullet  
2 that might allow me to determine and distinguish  
3 a long from a long rifle and from a short is the  
4 weight of the bullet. The weight of the bullet  
5 there is 19.7 grains. And the weight of the  
6 bullet when --

7 Q. We're talking about this column right here,  
8 right?

9 A. That's correct.

10 Q. Okay.

11 A. The weight of a long rifle bullet is generally  
12 around -- it's 40 grains. There is a few  
13 variations in that out there the manufacturers  
14 have produced. A .22 short bullet, I honestly  
15 don't recall what the weight of those are, but  
16 they are much less than that, than 40 grains.  
17 The 19.7 grains is clearly -- because of the  
18 condition of the bullet, which I also observed, I  
19 recognize I'm missing parts of the bullet. And  
20 so I don't see that 40 grain weight that you  
21 would expect from a .22 long rifle.

22 Q. Well, but you don't know what you have got,  
23 whether it's a .22 long or not, so you don't  
24 really know what the weight is supposed to be?

25 A. Based on the weight, no, I don't know.

1 Q. So, there's really nothing you can tell from this  
2 bullet whether this is a .22 long or not, right?

3 A. Well, that's not true. I know it's not a .22  
4 short, because if I had 20 grains of a .22 short  
5 bullet I would have more of the bullet --

6 Q. Okay.

7 A. -- there than I have.

8 Q. Fair enough. Fair enough. But can you tell the  
9 difference between a long and a short, just from  
10 this bullet?

11 A. The difference between a long rifle and a -- or  
12 I'm sorry, a long and a short, or a long rifle  
13 and a short?

14 Q. Right.

15 A. There's two different things. I can't tell the  
16 difference between a long rifle and a long. I  
17 can tell the difference here between a long rifle  
18 and a short, and a long and a short.

19 Q. All right. Well, let's not get bogged down on  
20 that. As long as you talked about the weight,  
21 let's talk about that. If it is a long, .22 long  
22 caliber, a full bullet would be about 40 grains,  
23 right?

24 A. Again, I don't recall the weight on a .22 long.  
25 A .22 long rifle is 40 grains.

1 Q. Okay. And in this instance then, Item FL would  
2 be about -- only about half of that, correct?

3 A. That's correct.

4 Q. And Item FK is actually about three-quarters of  
5 it, right?

6 A. Yes, it is.

7 Q. So Item FK is actually more -- a larger fragment  
8 than FL?

9 A. More of the original bullet is present in FK.

10 Q. Okay. Now, third column over is -- TWT means  
11 twist. It's a right hand twist, both of them,  
12 right?

13 A. Yes.

14 Q. The next one is lands and grooves. And it says  
15 11 of 16 for the first one and 8 of 16 for the  
16 second one, right?

17 A. Eleven remaining and sixteen original and eight  
18 remaining, yes.

19 Q. Okay. All right. And then over by the grains,  
20 it says coated, that explains the -- that  
21 particular type, right?

22 A. Yes.

23 Q. And in the base construction, concave coated for  
24 both?

25 A. Yes.



1 Q. And I can't read that last column; what is that?

2 A. That's an indication that I marked the container

3 in which the bullet was received, but I did not

4 mark the bullet.

5 Q. Okay. Just the container. And then down below

6 you have some handwritten notes. First part is

7 packaging, fairly routine. And then below that

8 you have got FL. It says no markings in the land

9 impression, correct?

10 A. Correct.

11 Q. That means the land portion of the barrel is

12 making no impressions on this particular bullet

13 that you can tell.

14 A. It means that, on this bullet, I have no markings

15 in the impression made by the land.

16 Q. Fine. So you are left with the grooves. And you

17 do have useful groove -- useful markings in the

18 groove impression, test to test, comparisons

19 typical of coated .22 caliber bullets, right?

20 A. Yes.

21 Q. But, again, nothing in this document records any

22 kind of minimum number that you testified about

23 earlier?

24 A. That's right.

25 Q. And the determination, let's just get back to

1           that for a moment. The whole determination of  
2           whether you are seeing these little scratches or  
3           stria or you are not, it requires a subjective  
4           eyeball opinion, right?

5   A.   Certainly requires an evaluation of what's  
6           present there and the judgment about what that  
7           means, yes.

8   Q.   And you are looking at these like two -- is this  
9           a comparison microscope with two fields?

10  A.   Yes, it is.

11  Q.   So you have got a test bullet in one and the  
12           evidence bullet in the other?

13  A.   That's correct.

14  Q.   And then you are looking through this microscope  
15           and you are making an eyeball comparison based on  
16           your judgment, experience, and what not, right?

17  A.   Exactly.

18  Q.   Sort of like used to be done with hair  
19           comparison, microscopic analysis; are you  
20           familiar with that?

21                   ATTORNEY FALLON:  Objection, no foundation,  
22           argumentative, and speculation.

23  Q.   (By Attorney Buting)~ Well, are you familiar with  
24           that field?

25                   ATTORNEY FALLON:  Could we have a ruling on

1           the objection before counsel starts asking more  
2           questions?

3                   THE COURT: Well, I'm going to sustain the  
4           objection. I will let him ask the next question, if  
5           he is familiar with it.

6                   ATTORNEY BUTING: I meant to withdraw and  
7           rephrase, is what I was trying to do.

8   Q.    (By Attorney Buting)~ Are you familiar with the  
9           field of hair comparison, microscopic analysis?

10   A.   Familiar is one thing, I have no expertise in  
11          hair comparison.

12   Q.    I understand, but you are aware -- I mean you  
13          have been in Crime Labs for 30 years, right?

14   A.    Yes, I have.

15   Q.    And you are aware that that was a field, forensic  
16          field, that was offered by Crime Labs for many  
17          years, right?

18   A.    It was a comparison or examination that was  
19          performed for a long time, yes.

20   Q.    And it is no longer, right?

21   A.    I'm satisfied that some laboratories may still be  
22          -- are probably still performing hair  
23          comparisons.

24   Q.    Generally, it's been discredited, however?

25                   ATTORNEY FALLON: Objection.

1 Q. (By Attorney Buting)~ If you know. If you know.  
2 A. Certain elements, certain conclusions that are  
3 based on a hair examination certainly are  
4 discredited.  
5 Q. All right.  
6 A. Hair examination itself, done properly,  
7 interpreted correctly, has not been discredited.  
8 Q. To your knowledge. But you are not an expert in  
9 that field, right?  
10 A. I'm not an expert in that field.  
11 Q. So, this eyeball comparison that you are making,  
12 this judgment, just so we're clear, a difference  
13 between objective and subjective, let's use some  
14 other types of tests that your Crime Lab does.  
15 DNA, for instance, would you agree that DNA is a  
16 more objective test than yours?  
17 A. No, I would not.  
18 Q. All right. You are aware that DNA, though, the  
19 test that comes up with specific numbers and  
20 genetic markers, and it either matches or it  
21 doesn't, right?  
22 A. They produce statistics that give them  
23 probabilities.  
24 Q. But before you even get to that, they have to  
25 determine whether something is completely

1 excluded, whether it just can't be, it doesn't  
2 match, right?

3 ATTORNEY FALLON: Your Honor, I'm going to  
4 interpose an objection again, the witness is not  
5 trained in DNA. There is no foundation for these  
6 questions.

7 THE COURT: I'm going to sustain the  
8 objection.

9 Q. (By Attorney Buting)~ Is it your opinion that  
10 your field of forensics is just as objective as  
11 DNA; is that your opinion?

12 ATTORNEY FALLON: Objection. Same  
13 objection.

14 THE COURT: Without more foundation, I  
15 agree. The objection is sustained.

16 Q. (By Attorney Buting)~ Beyond this minimum number  
17 that you -- or description that you have given  
18 us, there's no particular number at which a  
19 perfect match can be declared; is that right?

20 A. I would never declare a perfect match, because I  
21 have never seen one and I don't need more than  
22 the minimum criteria that have been specified in  
23 the research and the literature that's been  
24 published.

25 Q. And is that a specific written protocol of your

1 department in the lab?

2 A. Absolutely not.

3 Q. There is no protocol on how to -- or what's

4 required in order to make a match, is there?

5 A. That is not described in our procedures, no.

6 Q. What is described is that you have to document

7 whatever it is you are examining, right?

8 A. We're required to document our comparisons. I do

9 that with photography.

10 Q. Okay. And you also -- And you always make sure

11 there is another person who looks at the same

12 thing, so it's a peer review?

13 A. That's correct.

14 Q. Okay. Going back just a minute to some of the

15 basics of your field. This kind of testimony, or

16 this kind of analysis, has been going on for many

17 years, early in the 19th century, or something

18 like that, right?

19 A. Mid to late 19th century, I believe.

20 Q. And originally, one of the basises (sic) for it

21 was that at that time firearms were hand-forged

22 or handmade, by and large, right?

23 A. Many of them were, certainly. Certainly all of

24 them were at the beginning.

25 Q. Sure. And by doing that handmade process, there

1           were many more unique kind of markings,  
2           scratches, features inside of a rifle barrel at  
3           that time, right.

4    A.   Probably not correct, no.

5    Q.   Well, all right.  Would you agree with me that  
6           modern manufacturing of guns has made guns more  
7           uniform from one particular gun off the line than  
8           to the next, same manufacturer.

9    A.   No, that's not true.

10   Q.   Okay.

11   A.   In terms of what I'm looking at for  
12           identification, no.

13   Q.   Well, let's just talk about the lands and the  
14           grooves for a minute.  All right.  The way a  
15           barrel is made these days, most often is it's  
16           cast.

17   A.   No.

18   Q.   Is it forged?

19   A.   Forging would be part of the process of creating  
20           the metal blank that's used to create the barrel.

21   Q.   Okay.

22   A.   Forging has nothing to do with the inside of the  
23           barrel and the process that creates the lands and  
24           grooves inside that barrel.

25   Q.   But the process that drills the barrel open,

1           hollow, is a mechanical process?

2   A.    Yes, it is.

3   Q.    And it's done by a machine, that same machine

4           that makes rifle number one that's coming down

5           the line, rifle number two that's coming down the

6           line, and so forth, right?

7   A.    You will have the same tool used to make many,

8           many barrels.

9   Q.    Okay.

10  A.    You will have the same tool used to put the

11          grooves and the lands in many, many barrels.

12  Q.    All right.  So there are actually two tools, one

13          that bores out the -- hollows out the tube and

14          then it deliberately -- I mean it's put through

15          another machine that deliberately puts this --

16          these grooves with a twist in it?

17  A.    That's correct.

18  Q.    And the twist is done in order to make --

19          deliberately make the bullet spin as it's fired,

20          right?

21  A.    Yes.

22  Q.    And sometimes the more it spins the more accurate

23          it can be to its target?

24  A.    Yes.

25  Q.    Okay.  The Marlin 60, would you agree is,



1           probably is, or is close to, the most popular .22  
2           made in the world?

3    A.    I really -- I don't know any sales figures or  
4           anything. I see a lot of them and suggests to me  
5           that it's very popular.

6    Q.    Well, you keep -- you have data banks and data  
7           bases that you rely on, right?

8    A.    For some things, yes.

9    Q.    Okay. And from that I assume you learn something  
10           about the rifle that you are examining and  
11           testing, right?

12   A.    Yes.

13   Q.    You are aware that the Marlin 60 has been made  
14           for 40 -- since 1960, right?

15   A.    I don't think I knew when they started making it.

16   Q.    Okay. But it's been around for decades, would  
17           you agree with that?

18   A.    It has.

19   Q.    And it's mass produced by Marlin and it's  
20           considered a very accurate rifle.

21   A.    I believe it would be, yes.

22   Q.    Partly because it has those 16 lands and grooves  
23           with the twist. Some rifles have much less,  
24           right?

25   A.    Yes.

1 Q. And so, for that reason, plus the fact that it's  
2 relatively inexpensive, it's quite common; would  
3 you agree with that?

4 A. Yes, I would.

5 Q. Did you examine any other Marlin 60 firearms for  
6 this case?

7 A. I did not.

8 Q. I'm going to read for you a statement from the  
9 AFTE, A-F-T-E, Journal, the organization that you  
10 belong with. And you tell me if you agree or  
11 disagree with this particular statement. Quote,  
12 "Currently the interpretation of  
13 individualization/identification is subjective in  
14 nature, founded on scientific principles and  
15 based on examiner's training and experience."

16 A. That's correct.

17 Q. Okay. Let me go back for just one minute. When  
18 you talked about class, whether something is part  
19 of the same class, which is what you concluded  
20 the FK was?

21 A. Yes.

22 Q. There's really sort of three different levels  
23 that you could come up with a similarity between  
24 bullets that would be class, sub-class, or  
25 individual characteristics?

1 A. Yes.

2 Q. So that when a rifle comes from the same class,  
3 and certainly any Marlin 60 is the same class;  
4 would you agree?

5 A. Assuming that Marlin manufactured all Marlin 60's  
6 with 16 lands, grooves, and right hand twists,  
7 yes.

8 Q. Okay. So that would make this Item FK could have  
9 been fired by any Marlin 60?

10 A. Based on what remains on that bullet, yes.

11 Q. And as you candidly admitted, there are least  
12 tens of thousands, if not millions, have been  
13 made over the years?

14 A. I suspect not millions, but certainly tens of  
15 thousands.

16 Q. Okay. And then the next more unique kind of  
17 feature that you could find is called sub-class  
18 features, right?

19 A. Yes.

20 Q. And then even more unique, or supposedly unique  
21 than that, would be these individual  
22 characteristics?

23 A. That's correct.

24 Q. By the way, do you know how many other, if any,  
25 firearms are manufactured with 16 lands and

1           grooves and a right hand twist?

2       A.    I'm familiar with one other, a .22 caliber pistol  
3           manufactured by Jennings.  They are no longer in  
4           business, but they manufactured some .22 caliber  
5           pistols with 16 lands and grooves and a right  
6           hand twist, and there may be others as well.

7       Q.    And Item FK, is that the sort of ammunition that  
8           could also have been fired in a Jennings .22  
9           caliber, or not?

10      A.    Yes, it is.

11      Q.    So, when you talk about class of possible  
12           firearms for that bullet, you have to include not  
13           just Marlin, but this whole, however many number  
14           of Jennings there are, right?

15      A.    That's correct.

16      Q.    Okay.  All right.  Now, let me just go for a  
17           minute to the cartridges.  I'm going to show you  
18           what's been marked as -- these are Exhibits 424,  
19           21, 22, 23 and 24.  Can you identify these?

20                   ATTORNEY FALLON:  Excuse me, counsel, are  
21           those the cartridge photos?

22                   ATTORNEY BUTING:  Yes, those are all the  
23           cartridge, I believe.

24      A.    These are copies of photographs that I took of  
25           the cartridge comparisons.

1 Q. Okay. Some of them are -- I am going to put one  
2 or two of these up on the screen. Some of them  
3 are just photograph of the cartridge itself,  
4 unfired, and others of one of these comparisons  
5 having one side one and one side the other,  
6 right?

7 A. Three of them are comparisons of the test fire to  
8 one of the cartridges submitted. And the fourth  
9 picture is a photograph of the head of one of the  
10 cartridges submitted.

11 Q. Let's start with that last one first since -- I  
12 will go ahead and leave the photocopies up here  
13 with you so you can refer to them as numbers.  
14 That's 421?

15 A. I'm sorry. Yes, it is.

16 Q. And that's just a close up photograph of the  
17 cartridge before it's fired?

18 A. No.

19 Q. After it's fired?

20 A. This is a photograph of, as I indicate there on  
21 the bottom, one of the cartridge casings from  
22 what we refer to as Item EI and is in State's  
23 Exhibit 250. I took a picture of it just to  
24 illustrate what we see when a cartridge casing  
25 has been fired, that indentation you see, the

1           rectangular one at 3 o'clock, I guess --

2   Q.    Sure.

3   A.    -- is the firing pin impression that was created

4           by the gun that fired that cartridge casing.

5   Q.    Okay. And so that little rectangular thing at 3

6           o'clock is a very distinctive marking that

7           apparently occurred when these shells were fired?

8   A.    That's correct.

9   Q.    And this is one of the shells, 11 shells, that

10          was given you in that box, right?

11   A.    Yes.

12   Q.    Okay. I don't want to belabor this too much, but

13          let's look at Exhibit 424. Is that one of these

14          where you made a comparison side by side?

15   A.    Yes, it is.

16   Q.    So in this one, you can kind of see the line down

17          the middle and you have got numbers or lettering

18          at the bottom that says test fire from Item DD.

19   A.    That's correct.

20   Q.    And that shows a very close match even to the

21          unaided -- to the layperson. One can see that

22          this marking over on the right side of the

23          picture matches up very nicely with the one on

24          the left, which is the shell that was found in

25          Item EI, right?

1                   ATTORNEY FALLON: Counsel, which Exhibit is  
2 this now?

3                   ATTORNEY BUTING: 424.

4                   ATTORNEY FALLON: Thank you.

5 A. I hope it's clear. From here, to me, it's not  
6 real clear, but I will use the pointer. The  
7 dividing line, that is, what separates the image  
8 of my test faired cartridge casing from one of  
9 the cartridge casings in Exhibit 250 here is,  
10 really, in the photograph, a discontinuity from  
11 the distance you are at.

12                   If you could see it more closely you  
13 would see there's a very fine dark line there.  
14 On the right side of that line is the image of  
15 the test fire, on the left side the image of one  
16 of these cartridge casings. The area of interest  
17 runs from approximately where the pointer is now  
18 up to here.

19                   And, yes, along that line, there is what  
20 appears to me, of course, to be a very clear  
21 correlation or agreement of detail that was  
22 created by the firing pin of the rifle, the  
23 Marlin Glenfield 60 rifle.

24 Q. That's fine. And that's fairly easy, I think,  
25 even for myself and the jury to be able to see

1           that similarity. I want to show you now -- did I  
2           mark the other ones? Do you have any bullet ones  
3           up there too?

4    A.    Yes, I do.

5    Q.    Are they marked?

6    A.    No.

7    Q.    All right. Thanks.

8    (Exhibit Nos. 426, 427, 428, marked for identification.)

9    Q.    I'm showing you Exhibits 426, 7, and 8, can you  
10          identify those?

11   A.    Exhibits 426, 427 and 428, these are all copies  
12          of, again, photographs that I took of markings in  
13          this case on -- that I observed during the bullet  
14          comparison and, specifically, of the bullet in  
15          Item 277, compared to the test fires from the  
16          Glenfield Model 60.

17   Q.    All right. I'm going to put one of them up on  
18          the screen and you are going to have to tell us  
19          what number it is on your --

20   A.    That's No. 426.

21   Q.    All right. Now, again, this is one of those  
22          split screen ones. The one on the right is the  
23          test fired bullet and the one on the left is Item  
24          FL, right?

25   A.    Yes.



1 Q. This is only one portion of the cylindrical kind  
2 of bullet, at any rate, that you are looking at,  
3 right?

4 A. Just a portion of what's remaining on that  
5 bullet.

6 Q. Okay. But it's a fragment, right?

7 A. Very small portion of it, yes.

8 ATTORNEY FALLON: Excuse me, counsel, could  
9 we have the witness -- now that we have that up on  
10 the screen, identify which photograph goes with  
11 that?

12 ATTORNEY BUTING: He did, 426. Is that  
13 right?

14 THE WITNESS: Yes.

15 ATTORNEY FALLON: Okay. I'm sorry.

16 ATTORNEY BUTING: That's okay.

17 Q. (By Attorney Buting)~ You've got the pointer, I  
18 don't, so I'm going to just point. Would it be  
19 fair to say that the indentation, linear areas of  
20 this, on either side of this, is what you call  
21 the groove?

22 A. What you just pointed to -- here let me use the  
23 pointer. This area here that you see defined by  
24 two parallel lines, and this area here, which is  
25 clearly defined by two parallel lines on this

1 side, but less obviously so here, those are the  
2 land impressions as they were created by the  
3 lands in the barrel.

4 Q. I see, it's the reverse here, because we've got  
5 -- these are impressions?

6 A. Right.

7 Q. So on the barrel, these would actually -- the  
8 flatter surfaces on the bullet is what actually  
9 is the groove in the barrel; is that right?

10 A. Well, they aren't really flat, but on the bullet  
11 they are raised. And they are raised because  
12 they are impressions of the groove in the barrel  
13 of the weapon.

14 Q. And as I recall, your notes said that the grooves  
15 don't give us any particular information in this  
16 case; is that what you said?

17 A. I said the land impressions don't have any  
18 detail.

19 Q. Okay. And the land ones, again, are point -- are  
20 which ones?

21 A. You see in the photograph the label GI No. 1, and  
22 that refers to Groove Impression No. 1. I  
23 labeled this one No. 1. The land impressions are  
24 this area and this area, on each side of the  
25 groove impressions.

1 Q. In any event, the test fired bullet on the right  
2 shows quite a bit of differences in the land area  
3 from the one on the left, does it not? It seems  
4 to have some extra ridges or bulges sticking out  
5 of some sort?

6 A. There are differences on -- between both bullets.  
7 I don't know what you're referring to  
8 specifically. There's a great deal of  
9 differences on the bullet on the left side of the  
10 photograph when you compare it to the bullet on  
11 the right side of the photograph.

12 Q. A great deal of difference, right?

13 A. Absolutely, yes.

14 Q. And yet you are saying that this bullet on the  
15 right, which was fired from the gun that you had  
16 in front of you earlier, is a match with the  
17 bullet on the left, the fragment, despite the  
18 great deal of differences; is that right?

19 A. I'm saying there's enough detail there, and not  
20 in this position in that photograph, but in the  
21 composite of positions that we -- some of which  
22 we see exhibited in other photographs, for me to  
23 conclude that, yes, that bullet in my FL, Exhibit  
24 277, was fired from that Marlin rifle.

25 Q. And in doing that you have to discount the

1 differences that you find on the bullet from the  
2 test fire?

3 A. I have to understand them, yes.

4 Q. All right. Let's go to the next one and can you  
5 tell us which exhibit that is?

6 A. Oh, your number is 427.

7 Q. Okay. 427 is on the screen now. Again, we see  
8 -- show us the line on this one, from the  
9 microscope, from one to the next?

10 A. It runs here. See the discontinuity,  
11 particularly in this area right here, you see the  
12 different colors?

13 Q. Right.

14 A. That's the dividing line that separates the image  
15 of the bullet in 277 from my test fired bullet.

16 Q. And your test fired bullet, also, there's another  
17 vertical line running down the line of it, the  
18 center of it, right?

19 A. Yes, that's right.

20 Q. And that's not the microscope line, that's on the  
21 bullet.

22 A. That's a design feature of the bullet that  
23 remained in tact after firing it.

24 Q. That's not a designed feature that's on the Item  
25 FL?

1 A. No.

2 Q. And, again, we see these multiple raised bumps, I  
3 call them, on the right in the test fire, but we  
4 don't see them on FL; is that right?

5 A. Are you talking about these?

6 Q. Yes.

7 A. Okay. Those are called cannelures. And you are  
8 right, they are not, in that photograph, present  
9 on the bullet in Exhibit 277.

10 Q. All right. And, finally, this is I think the  
11 last photograph that you took comparing Item FL  
12 with the test fired bullet. And here it looks  
13 like the bullet itself is damaged, the Item FL  
14 appears to be significantly damaged, in that  
15 area?

16 A. We're at the edge of the useful part of Item --  
17 or Exhibit 277, our Item FL bullet. And above  
18 that area you see that it is impacted and just  
19 been completely obliterated by the impact it made  
20 with whatever it struck.

21 Q. Maybe for my benefit, again, tell me what those  
22 bumps are again, cannelures?

23 A. Over here, again, on the test fire bullet, I have  
24 two sets of cannelures.

25 Q. Would you spell those for the court reporter.

1 A. C-a-n-n-e-l-u-r-e-s.

2 Q. Okay. And on this one, the test fire bullet has

3 two sets of those visible?

4 A. This is the same test fire bullet we were looking

5 at before but, yes, in this photograph there are

6 two sets of them visible.

7 Q. And again, they are not at all visible on any of

8 the three photographs that you took of Item FL?

9 A. No, they are not.

10 Q. By the way, while I'm thinking of it, do you have

11 your CV up there, Item -- or Exhibit 416?

12 A. Yes, I do.

13 Q. Is there a typo on here, third from the bottom,

14 1978 to 1989, California Department of Justice?

15 The one right above it says 1981, you weren't

16 working at both the California Department of

17 Justice and -- should that be 1979?

18 A. There's clearly a typographic error there.

19 Q. And what is it supposed to be, 1979?

20 A. Should be, yes, 19 -- that refers to the -- my

21 last two years there, 1978, and it should have

22 been 19 -- should have gone to 1980 actually. I

23 don't know why it says 1989. Because in 1981 is

24 when I joined the Montana State Crime Laboratory.

25 Q. And did you go right from one job to the next or

1           were you off work for a while?

2       A.    No, I left the California Laboratory, I think in  
3           May of 1980.  And I was -- had opened a business  
4           with an acquaintance there in Sacramento that  
5           eventually didn't work out.  And chose then to  
6           take the position in Montana in January of 1981.

7       Q.    So by the time you left the California Department  
8           of Justice, you had risen to the level of section  
9           supervisor, right?

10      A.    Criminalist 3, yes, I functioned as section  
11           supervisor, yes.

12      Q.    But then in your next job, you actually went sort  
13           of down the ladder, when you started in Montana,  
14           as just a plain old examiner, right?

15      A.    They simply classified them differently.

16      Q.    You weren't a section supervisor at Montana?

17      A.    I was the only examiner there.

18      Q.    Okay.

19      A.    No one to supervise.

20      Q.    Okay.  And then, from there, you went to Kansas  
21           City in 1988, right?

22      A.    That's correct.

23      Q.    This is now the third different organization you  
24           have worked for, right?

25      A.    At that time, yes.

1 Q. And when you left there, you were considered  
2 Chief Criminalist of the toolmark section, right?

3 A. I had -- The last two years there, I had assumed  
4 the supervisory (sic) position there, which is  
5 that of Chief Criminalist, yes.

6 Q. Again, there must be a typo because it says  
7 7/2002 and then it says Wisconsin starts 2000,  
8 which is it?

9 A. Well, no, when I left the laboratory there, I  
10 left myself a month and a half or two months in  
11 between before I actually started here.

12 Q. And you didn't start here as a chief head of the  
13 firearms toolmark section, did you?

14 A. Again, I'm the only examiner in the firearm  
15 section in the Madison laboratory. My title I  
16 think is that of unit leader, for what it's  
17 worth.

18 Q. You are the only firearm examiner?

19 A. In the Madison laboratory, yes.

20 Q. Well, how do you ever have anybody review your  
21 work?

22 A. I do that using the photographs. And one of the  
23 examiners in the Milwaukee laboratory, another of  
24 the Wisconsin State Laboratories, of course,  
25 reviews my photographs. And on occasion, I will



1           take cases over to him where I believe it's  
2           warranted, or where he does. And that's how we  
3           conduct our peer review of the examinations.

4   Q.   That's how you comply with that part of your  
5           protocol that says you always have an examiner --  
6           two examiners look at the same thing, right?

7   A.   Exactly.

8   Q.   Okay. I will use the ELMO for just a minute now.  
9           And when you do that, when you have that peer  
10          review, you actually have -- I will just use this  
11          example, 422 -- put down PC2. You have got two  
12          signatures. You have got -- is this the person  
13          in Milwaukee who signed off on this?

14  A.   Yes, it is.

15  Q.   And what's his name?

16  A.   Reg Templin.

17  Q.   So the first initials on 2/21/06 is yourself,  
18          right?

19  A.   Yes.

20  Q.   And the next one below is -- on 4/13/06 is  
21          Reginald Templin, T-e-m-p-l-i-n?

22  A.   Yes.

23  Q.   And this is the -- one of the cartridge fires,  
24          test fires?

25  A.   Yes, it is.

1 Q. Okay. Again, same thing with -- this is another  
2 cartridge fire, this being Exhibit 423, also  
3 initialed by yourself and Mr. Templin, right?

4 A. That's correct.

5 Q. And Exhibit 424, which is another cartridge fire,  
6 same initials, I can't tell if it's the same date  
7 that Mr. Templin signed, looks like that might be  
8 a 13, 4/13/06?

9 A. Yes.

10 Q. Okay. Now, one last one from that cartridge  
11 casing, again. Peer reviewed, signed by both  
12 yourself and Mr. Templin, right?

13 A. Yes.

14 Q. Now, let's go to the photograph for Exhibit 426.  
15 Those your initials on it, dated 5/10/06?

16 A. Yes.

17 Q. Do you see Mr. Templin's initials anywhere on  
18 there?

19 A. No, they are not there.

20 Q. Is there anybody besides Mr. Templin who ever  
21 reviews your work?

22 A. Occasionally, but not in this case, no.

23 Q. Okay. This, by the way, is bullet Item FL,  
24 right?

25 A. Yes, it is.

1 Q. Let's look at 427, another photograph, one of the  
2 ones we looked at on the screen, again, Item FL;  
3 those your initials?  
4 A. Yes, they are.  
5 Q. Same date, 5/10/06?  
6 A. Yes.  
7 Q. Do you see Mr. Templin's initials anywhere on  
8 here?  
9 A. They are not there.  
10 Q. Do you see any other firearm tool examiner's  
11 initials anywhere on here?  
12 A. No. Mr. Templin is the one who reviewed that  
13 one, there wouldn't be anyone else.  
14 Q. Do you see Item 428?  
15 A. Yes.  
16 Q. Also another one for Item FL; do you see your  
17 initials on there?  
18 A. Yes, they are.  
19 Q. Do you see Mr. Templin's initials on there?  
20 A. No, they are not.  
21 Q. So, we have, in your documentation that you must  
22 keep in order to maintain your profile --  
23 protocol, no record that any other examiner,  
24 besides yourself, looked at Item FL to confirm  
25 whether your opinion that this bullet was fired

1 from the gun that was before you earlier, were  
2 one in the same, came from the same gun, right?

3 A. The error here is that that's not where he makes  
4 or records his approval, his acknowledgment that  
5 he reviewed the identification via the pictures.

6 Q. Well, sir, we saw how he made very diligent  
7 initials when he reviewed your opinions, your  
8 subjective opinion, about the cartridges, right?

9 ATTORNEY FALLON: Objection to the  
10 characterization, subjective.

11 ATTORNEY BUTING: He's giving us that,  
12 certainly subjective. I'll rephrase it.

13 THE COURT: Okay.

14 Q. (By Attorney Buting)~ On each and every one of  
15 the photographs that you took of the cartridge --  
16 of your opinion about the cartridges, Mr. Templin  
17 signed his initials, did he not?

18 A. Not at the time he reviewed the photographs.

19 Q. Well, they are on these documents, right?

20 A. That's correct.

21 Q. Do you have any documents in that file with --  
22 that show the very exhibits we just showed, the  
23 photographs with Mr. Templin's name -- or  
24 initials for Item FL?

25 A. No, because he had not reviewed the printed copy.

1           He reviewed the computer stored copy.

2       Q.   Do you have any documentation, anywhere in your  
3           file, that establishes anyone else reviewed your  
4           opinion, that Item FL was fired from the gun that  
5           was before you?

6       A.   That documentation is not in the file.

7       Q.   Nowhere in your file?

8       A.   That's correct.

9       Q.   And so that would be a deviation from your  
10          protocol, wouldn't it?

11      A.   No.

12      Q.   The protocol requires documentation, you told us,  
13          right?

14      A.   Yes.

15      Q.   And documentation including peer review, right?

16      A.   Correct.

17      Q.   And yet on this very same bullet, Item FL, that  
18          we have heard a lot of testimony about, once  
19          again, we have something that indicates a  
20          deviation from your protocol; is that right?

21                   ATTORNEY FALLON:  Argumentative,  
22          mischaracterization.

23                   THE COURT:  Well, I'm going to allow him to  
24          explain his answer.  Why do you feel it's not a  
25          deviation?

1     A.    The protocol and the approved method that we use  
2           for peer review involves my taking those pictures  
3           that you saw, some of which you saw up there.  I  
4           copy them to a location on our server, in our  
5           computer network, that is secure, of course, that  
6           Reg Templin in Milwaukee has access to.  He then  
7           -- then I email him, I let him know that, in  
8           fact, I have a case there that needs to be  
9           reviewed before I can then send a report out, or  
10          write the report expressing my opinions.

11                 He reviews those photographs.  If he  
12           agrees that -- that those photographs that we  
13           have been looking at, to him support my opinion  
14           that that bullet was fired from that gun, or that  
15           the cartridge casing was fired from that gun, he  
16           then records, with the computer, that A, he has  
17           reviewed it, and B, he has approved it.

18                 And that, then, is the record of the  
19           peer review.  The initials that you see on the  
20           paperwork which are in our file at the laboratory  
21           in Madison, of course, reflects the other part of  
22           the procedure and it is part of a review process,  
23           but different from the peer review of my  
24           identifications.

25                 Once or twice a year, it's entirely up

1 to what Reg and I work out, he comes over to  
2 Madison, he has to review a certain percentage,  
3 approximately 20 percent, of all the cases I have  
4 done since he was there last. And this case, the  
5 cartridge casing examinations, because I did them  
6 first, before he came in April, was one of those  
7 case files that he reviewed.

8 As part of the procedure to prove that  
9 he's reviewed the case file, he initials all the  
10 paperwork there, all the supporting documentation  
11 that I put in the case file. And that's why we  
12 see this April 13 date on some of those  
13 documents, and that's because he came over in  
14 April, but the bullet examination was actually  
15 performed in May.

16 Q. Okay. I think we understand what you are saying.  
17 It's now March 1st, 10 months later, from the  
18 Item FL opinions that you came to, right? And  
19 you said that you see Mr. Templin twice a year,  
20 so presumably you have seen him since April of  
21 '03, right -- '06, I'm sorry. April of '06,  
22 correct?

23 A. That's correct.

24 Q. Despite that, Mr. Templin has never signed off on  
25 any of those exhibits we showed of the

1           photographs that comprise your opinion about Item  
2           FL; isn't that right?

3                   ATTORNEY FALLON:  Objection,  
4           mischaracterization, that's not what the witness  
5           testified to.  He explained the process.  This is  
6           asked and answered --

7                   ATTORNEY BUTING:  No, it's not.

8                   THE COURT:  I'm sensing there might be a  
9           misunderstanding here between the questioner and the  
10          witness.  Explain again --

11                   ATTORNEY BUTING:  I understand what he's  
12          saying.

13   Q.    (By Attorney Buting)~ Of the 20 percent -- Are  
14          you saying he has reviewed you -- reviewed 20  
15          percent of your cases since April of '06?

16   A.    Yes.

17   Q.    Okay.  And you are telling us that it just so  
18          happens that of the files that he reviewed during  
19          that time, Item FL just wasn't one of the ones  
20          that he took a look at; is that right?

21   A.    I choose -- From all those cases I worked since  
22          he was here last, I choose that 20 percent at  
23          random.

24   Q.    Oh, you do.

25   A.    And it is exactly the case, that this case file



1           was not, when he came over in October, of one of  
2           those that I chose.

3       Q.    Okay.  So you choose the 20 percent?

4       A.    I do.

5       Q.    And so you come here to this jury today, though,  
6           with no documentation of any sort that  
7           establishes Mr. Templin has ever reviewed your  
8           opinion about Item FL?

9       A.    I came here today with -- able to tell you that  
10           the procedure that we abide by requires, before  
11           this report is approved by a supervisor and  
12           allowed to leave the laboratory --

13                   ATTORNEY BUTING:  All right.  Your Honor --

14       A.    There has to have been --

15                   ATTORNEY BUTING:  -- he is not responsive.

16       A.    -- a review by Reg Templin.

17                   THE COURT:  No, it is responsive.

18                   ATTORNEY BUTING:  Okay.

19                   THE COURT:  I'm going to allow it.

20       Q.    (By Attorney Buting)~ Go ahead.

21       A.    There has to have been, before this report is  
22           allowed out of there, proof to the supervisor  
23           that this case has been reviewed, that this  
24           report and my conclusions have been reviewed by  
25           Reg Templin, or someone else over in the

1 Milwaukee Laboratory, or this report doesn't get  
2 out.

3 The fact that they even saw this report,  
4 anybody saw this report is, in fact, proof that  
5 Reg saw my photographs, agreed with my  
6 conclusions, approved with the review process,  
7 acknowledged that those conclusions were correct  
8 in his mind, and the report then went out.

9 Q. Okay. And that is your assumption because of the  
10 usual way in which reports get approved, right?

11 A. Well, it's not an assumption, it's what I know  
12 happened.

13 Q. But you don't have any documentation in the file  
14 that confirms that, do you?

15 A. I do have documentation on the computer that  
16 could only have been created by him.

17 Q. And you don't have it with you?

18 A. I do not, that's correct.

19 Q. All right.

20 ATTORNEY BUTING: Thank you. That's all I  
21 have.

22 THE COURT: Members of the jury, let's take  
23 a stretch break before we go back for redirect.  
24 Since this is going to be the last witness today,  
25 I'm not sending you out for an afternoon break.

1 (Brief stretch break taken.)

2 THE COURT: Mr. Fallon, any redirect?

3 ATTORNEY FALLON: Yes, just a couple  
4 questions, thank you, Judge.

5 **REDIRECT EXAMINATION**

6 BY ATTORNEY FALLON:

7 Q. I'm going to ask my colleague to see if we can  
8 pull up exhibit -- Well, before we do that, you  
9 indicated in cross-examination that there are  
10 class characteristics, sub-class characteristics,  
11 and individual characteristics, as I understand  
12 it; is that correct?

13 A. Yes.

14 Q. All right. Now, with respect to Item FK, I  
15 believe your testimony was there were general or  
16 class characteristics that were still present on  
17 Item FK?

18 A. Yes.

19 Q. Were there sufficient sub-class features or  
20 sufficient individual characteristics that you  
21 might have been able to rely upon to attempt any  
22 identification or comparison?

23 A. On that Item FK, your 276, there were simply not  
24 enough of the individual characteristics. I'm  
25 not concerned with sub-class characteristics,

1 particularly in this examination. There were not  
2 enough of the individual characteristics, some of  
3 those little markings that we saw on some of the  
4 photographs, on that item, to allow me to come to  
5 any specific conclusion about the gun that fired  
6 that bullet.

7 Q. All right. Now, I had a couple of questions --  
8 There we go. You were asked questions about Item  
9 426, Groove Impression No. 1. And you used the  
10 words that "between the test fired bullet and the  
11 sample bullet" there were, I think you said, "a  
12 great deal of difference". First of all, tell us  
13 what you mean by that.

14 A. Sure. Well, what we have to understand is  
15 there's always differences. The test fired  
16 bullets, when I compare those, I expect to see  
17 differences. You cannot fire two bullets from  
18 any gun and expect to see what we have maybe  
19 heard referred to as a perfect match. Those  
20 simply just don't exist.

21 What's critical is to be able to  
22 understand when the difference you see are, in  
23 fact, significant. Do I have to worry about this  
24 difference, what I think I described as a  
25 cannellure, this set of markings, or this set of

1       depressions that you see vertically over here.  
2       Clearly that's a difference, a very obvious  
3       difference to everyone.

4               Does it mean anything? It means  
5       absolutely nothing. That's a manufacturer's  
6       marking that's put on there, has nothing to do  
7       with the gun it was fired in. It's not  
8       obliterated by firing it through the barrel of  
9       the gun. I don't even care whether it's there or  
10      not. Clearly, it plays no role. That's an  
11      example of the difference, it plays no role, has  
12      no influence whatsoever in my evaluating those  
13      markings on the bullet to determine whether it  
14      was fired from a gun.

15             Other differences, differences in the  
16      color here, they may have started out the same  
17      color. Differences in color don't mean a thing.  
18      What I'm interested in, so long as all of the  
19      class characteristics are the same, what is  
20      absolutely required of me, is that I recognize  
21      what markings we do have here that are  
22      individual, that have some significance because  
23      they relate to the manufacturing process that  
24      created the barrel from which this bullet was  
25      fired. I have to know that they are individual,

1 individual or unique, to that particular barrel.  
2 That's not an issue in this case either.

3 The other element of this is related to  
4 markings that, from where you are sitting I  
5 suspect you can't see, I know I can't see them  
6 clearly from here. They are in this area right  
7 here. And this is the only place in this  
8 photograph where I have individual detail that  
9 I'm trying to take a picture of to show you the  
10 kind of thing I'm seeing under the microscope.  
11 This isn't everything I saw under the microscope.  
12 This is just an example of what I saw.

13 And I will tell you that in Groove  
14 Impression No. 1, that we have some correlation.  
15 We have some matching of stria in this location.  
16 And, in fact, in this location, however, there is  
17 not enough stria there for an identification. If  
18 this is all I had on this bullet, I would have  
19 had the same conclusion I had with the other  
20 bullet here, because that wouldn't be enough. Of  
21 course, it isn't all I had.

22 With regard to this photograph, though,  
23 the usefulness of this area that I have labeled  
24 DI No. 1, was that it gave me a reference point.  
25 I have got all this stuff you see on these

1       bullets. I need to be comparing different parts  
2       of the bullets -- of one bullet to different  
3       parts of the other bullet. It's kind of nice to  
4       have a place to start.

5               And there are a pair of stria there that  
6       I had observed on my test fires, that when I got  
7       done looking at my test fires, I knew I was going  
8       to look for those on the bullet and, frankly, see  
9       if I got lucky. And they were on the bullet that  
10      was recovered in Exhibit 277. And the fact of  
11      the matter is, they were there. That's what this  
12      photograph exhibits.

13             This is part of the process, but it is  
14      not the whole process. And this isn't everything  
15      that lead me to the conclusion that this bullet  
16      here was fired from that Marlin rifle.

17   Q.    So that photograph is an example of what part of  
18          the overall analysis?

19   A.    It's one element of the examination.

20   Q.    All right. Now, those markings, those stria that  
21          you are talking about, are those the things that  
22          occur during the manufacturing process that  
23          actually leaves and makes firearms weapons  
24          identifications possible?

25   A.    These stria are a result of the manufacturing

1 process.

2 Q. All right. One second. Can you elaborate on  
3 that manufacturing process, I know you talked a  
4 little bit about it. But now that it's come up  
5 here on cross-examination and those markings, how  
6 are those markings -- how did they assist you, as  
7 the examiner, in making that determination?

8 A. When I'm trying to determine whether a bullet was  
9 fired from a gun, it all starts with  
10 understanding what the manufacturer is doing to  
11 produce that barrel. There are, unquestionably,  
12 methods of creating barrels, putting grooves in  
13 barrels, that will produce markings that  
14 reproduce from barrel to barrel. And, clearly,  
15 if you can't recognize it, I can't recognize  
16 those when I'm looking at bullets, then there's  
17 no way I can come to any conclusions about that.

18 Any firearms examiner has to bring to  
19 the examination an understanding of how that gun  
20 barrel was made and what creates these markings  
21 we see on the bullets. With Marlin, I can tell  
22 you exactly how they made that barrel. And  
23 because I know what they did, what machining  
24 processes they did, or applied to that barrel to  
25 create the grooves in the barrel, I also know



1       that the defects, those microscopic defects that  
2       were left in the barrel, after that process was  
3       done, are going to create these markings on the  
4       bullet and they are going to be unique to that  
5       barrel.

6               So that's the first step in the process.  
7       And I say, looking at and having this gun in  
8       front of me, that what I'm looking at that's  
9       going to be created by the barrel of the gun, is  
10      that unique to that gun. In this case I can.

11             The next step, and the other thing that  
12      requires experience and training in the knowledge  
13      that a firearm examiner brings to an examination,  
14      is an awareness that when we have those markings,  
15      you know, I may have 150 of these tiny little  
16      scratches and stria scattered around the surface  
17      of a bullet. And, clearly, some of them are  
18      going to line up. We expect that randomly, if I  
19      have two bullets that have been fired from  
20      separate guns, obviously, some of these are going  
21      to line up. So there's got to be more than just  
22      finding lines that line up.

23             And there is, of course. I have to be  
24      aware of, part of my background has to have  
25      looked at hundreds, or probably thousands by now,

1 of non-matched situations where I'm looking at  
2 bullets that I know were not fired from the same  
3 gun, trying to force a match, but recognizing  
4 what's the -- what kind of agreement am I going  
5 to see in a non-matched situation. And then  
6 demanding that when I look at something like  
7 this, that I have more than that, to come to an  
8 identification. That is also critical for a  
9 firearms and toolmark examiner.

10 And, finally, we talked about  
11 consecutive matching stria a little bit. I  
12 didn't get into it in a lot of detail. When we  
13 look at our matching lines, there's a number of  
14 different ways to evaluate them. I think counsel  
15 brought up, from I think Mr. Biasotti's paper,  
16 that we might find as much as 38 percent lines  
17 matching on a comparison and -- on two bullets  
18 that we know were fired from the same gun.

19 Is that significant? Can I look at two  
20 bullets, count all the lines and see if I've got  
21 38 percent, and if I have 40 percent say, oh,  
22 those were fired from the same gun. Not at all.  
23 The percent matching is not a good criteria for  
24 judging whether a bullet was fired from the same  
25 gun. We don't use that.

1                   What we have found, because -- and  
2                   Mr. Biasotti's study that counsel quoted over  
3                   there, started this all up back in 1959. What we  
4                   have been able to define and quantify -- I can  
5                   provide some numbers for you if you like -- is  
6                   what about matching lines is significant to the  
7                   examiner when he is trying to make that  
8                   conclusion.

9       Q.    If I can stop you there for a second. These  
10           matching lines, those are produced in the  
11           manufacturing process?

12    A.    These are produced -- they are a result of  
13           defects in the barrel.

14    Q.    All right.

15    A.    These defects create these stria, these lines, if  
16           you like, on the surface of the bullet, or on the  
17           cartridge casings, as the case may be.

18    Q.    And that's how -- that is what they use to make  
19           the identification?

20    A.    Exactly. And if you could look more closely at  
21           this --

22    Q.    If I could interrupt you --

23    A.    I'm sorry.

24    Q.    -- and ask you a couple questions to conclude,  
25           then. I think it's important that we make one

1 point that may not be as abundantly obvious as it  
2 should be. But when you test fire a bullet in  
3 the laboratory, what are the conditions under  
4 which that bullet is test fired?

5 A. I want a bullet that has not been damaged. I  
6 want a bullet on which the only markings I see  
7 were created by the barrel of the gun from which  
8 I fired it.

9 And to accomplish that in the  
10 laboratory, I fire it into water. I have this  
11 big old 9 foot X 2 1/2 foot X 4 foot deep water  
12 tank and a port on one end of it. And I fire the  
13 bullet into the water. If the water is  
14 sufficient to slow it down, it drops to the  
15 bottom and then I recover it, from the bottom of  
16 the tank. And I know, then, that I have a bullet  
17 that's only been marked by the barrel of the gun.

18 Q. All right. Now, is that the way you normally  
19 receive a sample from the field?

20 A. Of course not, no.

21 Q. And so that the fact that there may appear to be  
22 differences, could it simply be the result of the  
23 quality of what is submitted from having been  
24 shot in less than ideal situations, compared to  
25 what you are doing in the laboratory when you

1 test fire a bullet?

2 A. Almost any bullet I have ever seen recovered from  
3 a criminal investigation has struck something.  
4 It has struck a shooting victim, it's struck a  
5 wall, it's passed through a wall, whatever the  
6 case may be. And as you can imagine, this is a  
7 lead bullet, even a copper jacketed bullet, they  
8 get damaged, broken up into pieces.

9 The kind of damage we saw on that bullet  
10 is just very, very common. And so, I'm not  
11 concerned about those kinds of differences. They  
12 don't matter. What I'm concerned about is  
13 whether this detail, this individual  
14 characteristics, these stria, have they been  
15 obliterated or not by its passage through a wall,  
16 or by it's having struck a shooting victim. And,  
17 of course, I determine that by examination under  
18 the microscope.

19 ATTORNEY FALLON: Nothing else.

20 THE COURT: Mr. Buting, anything else?

21 ATTORNEY BUTING: Yes.

22 **RECROSS-EXAMINATION**

23 BY ATTORNEY BUTING:

24 Q. All right. It's the same exhibit, but what was  
25 the number? Do you have it in front of you?

1 A. Oh.

2 Q. This is groove impression?

3 A. I don't have them anymore.

4 ATTORNEY FALLON: It's 426, counsel.

5 Q. (By Attorney Buting)~ 426 is up there. One thing  
6 I just want to make clear, because I don't know  
7 that it's clear, on the record, to the jury.

8 These -- What appear are lineal indentations or  
9 rows on these bullets are the lands, right?

10 A. The two you just pointed at are land impressions.

11 Q. Okay. Land impressions. And the general  
12 impressions that you get here, you are going to  
13 get on any rifle that has 16 grooves and lands  
14 with a right hand twist, right?

15 A. The characteristics of that, the width of those  
16 impressions, would be characteristic of what you  
17 would get from a 16 land and groove manufactured  
18 barrel.

19 Q. Okay. So, the similarities in this exhibit with  
20 these -- on these two sides, of having these rows  
21 or lands impressions, would be something that  
22 would just be considered a class characteristic?

23 A. Exactly.

24 Q. That would be common with any Marlin 60, or even  
25 the Jennings pistol manufacturer, right?

1 A. That's correct.

2 Q. What your opinion is based on are these smaller  
3 scratches, or stria, in the groove area, right?

4 A. In this particular case, they happen to be in the  
5 groove impression, that's correct.

6 Q. Right. And in your redirect testimony, you said  
7 that on this photograph, really, the only area  
8 that to you demonstrated enough individual  
9 characteristics on this whole photograph, is this  
10 central area right here, which would be just to  
11 the left of where it says GI No. 1; is that  
12 right?

13 A. Only in Groove Impression No. 1, in this  
14 photograph.

15 Q. In this photograph, correct. So it's your  
16 opinion --

17 ATTORNEY BUTING: Zoom in on that once.

18 Q. (By Attorney Buting)~ So, in your opinion, those  
19 two halves are so similar, in this instance, that  
20 you are able to consider this as one of your  
21 features that make this bullet unique to that  
22 rifle that was before you earlier?

23 A. No, that's not what I said.

24 Q. Well, okay, let me ask it this way. Your opinion  
25 is that those two sides match?

1 A. Again, I would not use that term for this  
2 particular groove impression, no.

3 Q. Well, this one you thought was so unique, or so  
4 similar that it was a reference point, right?

5 A. It was similar enough to be a reference point,  
6 and that's why I took the photograph of it, yes.

7 Q. Okay. And so we rely on your opinion then, that  
8 both sides of this photograph, in that area,  
9 match?

10 A. Again, I would not say that. That's not my  
11 description of this.

12 Q. Similar. What's the word you want to use?

13 A. What I would say is that in this area I have this  
14 pair of stria that were easy to see, and that I  
15 could look for and use as a reference point. I  
16 was also very clear that, in fact, there is not  
17 enough other stria -- and two is not enough -- to  
18 support the conclusion that we have an  
19 identification here. I had to rely on other  
20 detail that -- some of which I tried to  
21 photograph in the other photographs.

22 Q. None of which can be quantitated. You can't just  
23 look at that and say, you know, quantitatively,  
24 these match. Instead, it depends on your  
25 subjective opinion to this jury that those two



1 sides match -- or I'm sorry, not match -- similar  
2 enough to consider individual?

3 A. With regard to this groove impression, there is  
4 quantitatively not enough information to conclude  
5 an identification. That information, that more  
6 complete quantitative information is present in  
7 other areas on the bullet.

8 Q. But in each one of those instances, it is an  
9 eyeball subjective conclusion on your part, about  
10 whether those are similar -- those two strias are  
11 similar or not?

12 A. I have no other way of evaluating it other than  
13 looking at it through the microscope, that's  
14 correct.

15 ATTORNEY BUTING: All right. Thank you.  
16 That's all I have.

17 THE COURT: All right. Mr. Fallon?

18 ATTORNEY FALLON: Nothing.

19 THE COURT: Very well. The witness is  
20 excused. Members of the jury, that is going to  
21 conclude our session today. I did notify the bus  
22 line that they should stop early today. Hopefully  
23 they are here already. If they aren't, they will be  
24 here shortly.

25 I will remind you again not to discuss

1 the case among yourselves or with anyone else,  
2 and not be exposed to any news media accounts of  
3 this case. We'll see you at the normal time  
4 tomorrow morning.

5 (Jury not present.)

6 THE COURT: You may be seated. Counsel,  
7 are there any exhibits that either party wishes to  
8 address at this time?

9 ATTORNEY BUTING: I would move -- I would  
10 move in, I think all of the exhibits that I  
11 introduced, which is 420, through 428.

12 ATTORNEY FALLON: I believe 420 was the one  
13 that was mismarked and never really discussed. That  
14 was the worksheet on the cartridges. So I'm not  
15 sure it has any particular relevance. And in terms  
16 of the photograph, or the black and white copies --  
17 Well, all right, I suppose we might as well move  
18 them in. I was going to say the disc is a much more  
19 representative. The CD ROM has all seven  
20 photographs that were brought for exemplary purposes  
21 and identified as Groove Impression 1, 3, and 6, so.

22 ATTORNEY BUTING: Sure. I have no  
23 objection to that. The black and white simply give  
24 us a frame of reference on the record from which one  
25 is which.

1                   THE COURT: So, is somebody going to  
2 provide for the record a disc that identifies them  
3 by the exhibit number they were given?

4                   ATTORNEY STRANG: 417.

5                   THE COURT: We have that?

6                   THE CLERK: Yeah, 417.

7                   THE COURT: Very well.

8                   ATTORNEY BUTING: It doesn't identify each  
9 individual ones inside. When you open it up, it  
10 doesn't have exhibit numbers on it, but these black  
11 and white ones will correspond, I think, enough that  
12 you can figure it out.

13                  THE COURT: Fair enough. What about the  
14 420, the one that was --

15                  ATTORNEY BUTING: I will withdraw 420. We  
16 didn't get into. It was mismarked, actually.

17                  THE COURT: Withdraw or simply not offer it  
18 for admission, two different things. If you  
19 withdraw it, I'm going to give it back to you. All  
20 right.

21                  ATTORNEY BUTING: Yeah, let's take it back.

22                  THE COURT: 420 is withdrawn?

23                  ATTORNEY FALLON: That's fine.

24                  THE COURT: Are there any other exhibits  
25 that need action?

1                   THE CLERK: Do you want me to keep a copy  
2 of it, that it was marked or doesn't it matter?  
3 Normally when it's withdrawn, I always keep a copy  
4 of it.

5                   THE COURT: Keep a copy.

6                   ATTORNEY FALLON: I was just wondering if  
7 maybe tomorrow we could get together with the Clerk  
8 and see if we can have an overall accounting, see  
9 where we are on the exhibit score card.

10                  THE COURT: At the beginning of the day or  
11 the end?

12                  ATTORNEY FALLON: Probably at the end.

13                  THE COURT: At the end, when the jury is  
14 gone. All right. We'll do that. We'll see you  
15 tomorrow morning.

16                  ATTORNEY FALLON: Thank you.

17                  ATTORNEY BUTING: Do you have 425 up there?

18                  THE CLERK: Yes. I'm going to make a copy  
19 of this one that's withdrawn. And then I will give  
20 it back to you.

21                  ATTORNEY BUTING: Okay.

22                         (Proceedings concluded.)

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1 STATE OF WISCONSIN )  
 )ss  
2 COUNTY OF MANITOWOC )  
3

4 I, Diane Tesheneck, Official Court  
5 Reporter for Circuit Court Branch 1 and the State  
6 of Wisconsin, do hereby certify that I reported  
7 the foregoing matter and that the foregoing  
8 transcript has been carefully prepared by me with  
9 my computerized stenographic notes as taken by me  
10 in machine shorthand, and by computer-assisted  
11 transcription thereafter transcribed, and that it  
12 is a true and correct transcript of the  
13 proceedings had in said matter to the best of my  
14 knowledge and ability.

15 Dated this 21st day of November, 2007.  
16  
17  
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19 \_\_\_\_\_  
Diane Tesheneck, RPR  
20 Official Court Reporter  
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