





13 PROCEEDINGS

14 (Reconvened at 11:07 a.m.)

15 THE COURT: Be seated, please.

16 (Jury in at 11:07 a.m.)

17 THE COURT: All right. Next witness, please.

18 MR. MACKEY: Yes, your Honor. We would call  
FBI Agent

19 Thomas Brown.

20 THE COURTROOM DEPUTY: Would you raise your  
right

21 hand, please.

22 (Thomas Brown affirmed.)

23 THE COURTROOM DEPUTY: Would you have a seat,  
please.

24 Would you state your full name for the record  
and

25 spell your last name.

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1 THE WITNESS: Thomas R. Brown, B-R-O-W-N.

2 THE COURTROOM DEPUTY: Thank you.

3 THE COURT: Mr. Ryan?

4 MR. RYAN: Thank you, your Honor.

5 DIRECT EXAMINATION

6 BY MR. RYAN:

7 Q. Good morning.

8 A. Good morning.

9 Q. Agent Brown, where are you employed?

10 A. I'm employed with the FBI.

11 Q. And how long have you been an agent of the FBI?

12 A. Approximately eight years.

13 Q. Where are you assigned at this time?

14 A. Wichita, Kansas office, which is part of the Kansas  
City

15 division.

16 Q. Were you assigned to that same office in April,  
May, 1995?

17 A. Yes, I was.

18 Q. Did you participate in the investigation of the  
Oklahoma

19 City bombing?

20 A. Yes, sir.

21 Q. Was one of your tasks that you were asked to  
participate in

22 to conduct a search at the home of Terry Nichols?

23 A. Yes, sir.

24 Q. And do you recall when that occurred?

25 A. The first search that I conducted was April 29,  
1995.

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Thomas Brown - Direct

1 Q. And under what authority were you -- you and the  
other  
2 agents of the FBI entitled to conduct that search?  
3 A. A search warrant authorized by the district court.  
4 Q. Now, who accompanied you on the search?  
5 A. It was myself, Special Agent Fred Hillman with the  
FBI;  
6 Special Agent Leslie Earl, also with the FBI, and  
Special Agent  
7 Fred Hillman (sic), also with the FBI.  
8 Q. What items were you authorized to seize in  
accordance with  
9 the search warrant?  
10 A. Various explosives and men's clothing.  
11 Q. Did you search the home thoroughly for these items?  
12 A. Yes, we did.  
13 Q. Did you look in small places?  
14 A. Yes, we did.  
15 Q. Did you open boxes and look as carefully as you  
could for  
16 these items?  
17 A. Yes, we did.  
18 Q. In the course of looking for the items outlined in  
the  
19 search warrant, did you come across some tools?  
20 A. Yes.  
21 Q. And would you describe what you came across.  
22 A. There were numerous tools throughout the house,  
various

number 23 hand tools. There were some drills. There was saws, a

24 of various hand tools.

25 Q. Let me show you what has been marked for  
identification as

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Thomas Brown - Direct

1 Exhibit 2010. It will appear on your screen right  
under your

2 counter.

3 Were photographs taken during the search on  
April 29?

4 A. Yes, they were.

5 Q. Do you recall who the photographer was?

6 A. Special Agent Fred Hillman.

7 Q. Now, looking at Exhibit 2010, can you identify that  
for us?

8 A. That is a blue box with the word "Makita" on it.

9 THE COURT: Well, you can't go into the  
details. It's

10 not evidence.

11 THE WITNESS: Oh.

12 BY MR. RYAN:

13 Q. Just can you identify the photograph?

14 A. Yes, sir. It was a photograph taken on April 29 by  
Fred

15 Hillman during that search.

16 Q. Were you present?

17 A. Yes, I was.

18 MR. RYAN: Your Honor, we move to -- well,  
before I  
19 ask that.

20 BY MR. RYAN:

21 Q. What -- where in the home of Terry Nichols was  
Exhibit 2010  
22 located?

23 A. In the basement.

24 MR. RYAN: Your Honor, we'd move the admission  
of  
25 Exhibit -- Government's Exhibit 2010.

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Thomas Brown - Direct

1 MR. TIGAR: No objection.

2 THE COURT: 2010 received.

3 BY MR. RYAN:

4 Q. Now, let me show you what's been marked as 2011 --  
before  
5 we do that, explain to the jury what they're looking at  
here on  
6 the Exhibit 2010.

7 A. This photograph was taken in the basement. It is a  
blue  
8 box with the word "Makita" on it. It's a metal box.

9 Q. Did you open the box?

10 A. Yes, we did.

11 Q. Now, let me show you what's been marked for  
identification

12 purposes as Exhibit 2011 and ask you if you can  
identify that.

13 A. This is a photograph of contents of the blue box  
earlier

14 depicted.

15 Q. Did you go through the box at that time?

16 A. Yes, sir.

17 Q. Does Exhibit 2011 accurately depict the contents of  
the

18 blue Makita box in Exhibit 2011 -- 2010, I mean?

19 A. Yes, it does.

20 MR. RYAN: Your Honor, we'd move the admission  
of

21 Exhibit 2011.

22 MR. TIGAR: No objection your Honor.

23 THE COURT: Received, 2011.

24 BY MR. RYAN:

25 Q. The exhibit is now being displayed to the jury.  
Would you

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Thomas Brown - Direct

1 tell them what they're seeing in this exhibit.

2 A. This is a Makita cordless drill. To the left of

the

3 photograph is a yellow box that contains drill bits;  
and there

4 is an extra battery that you can see laying there, and  
there is

5 a battery charger and other miscellaneous items.

6 Q. Now, let me show you what's been marked as Exhibit  
2012 for

7 identification, ask you if you can identify this.

8 A. Yes. This is also a photograph taken on the same  
day,

9 April 29, 1995.

10 Q. And is this the same box with the contents  
displayed that

11 you located in the home of Terry Nichols?

12 A. That's correct.

13 MR. RYAN: Your Honor, we'd move admission of  
Exhibit

14 2012.

15 MR. TIGAR: No objection, your Honor.

16 THE COURT: 2012 received.

17 BY MR. RYAN:

18 Q. If you would, Agent Brown, would you explain to the  
jury

19 what they're seeing in this exhibit?

20 A. This is a photograph of the interior of the same  
box. The

21 only difference is the yellow box is now opened. You  
can see

22 the contents of that yellow box and that being drill

bits.

23 Q. Now, following the search on April 29 -- well,  
before I go

24 to that question, let me ask you: Did you seize these  
exhibits

25 that we've been looking at, the Makita drill box and  
the

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Thomas Brown - Direct

1 contents, during the search of April 29?

2 A. No, sir.

3 Q. Why not?

4 A. It was outside of the scope of the warrant.

5 Q. Did you following leaving the home of Terry Nichols  
on the

6 29th -- did you report the findings of this -- of your  
search

7 to your superiors?

8 A. Yes, we did.

9 Q. As a result, was a search warrant requested and  
obtained on

10 May 3?

11 A. Yes, sir. It was actually obtained on May 2 and  
was

12 executed on May 3.

13 Q. Did you participate in that search as well?

14 A. Yes, I did.

15 Q. Now, when you rushed to the home of Terry Nichols  
on May 3,

16 did you seek to locate this Makita drill box?

17 A. Yes, we did.

18 Q. And where did you find it?

19 A. It was in the same place we left it, in the  
basement of the

20 residence.

21 Q. Was there -- had there been any change or  
alteration at all

22 with respect to the box or its contents?

23 A. No, sir.

24 Q. The photographs that we've admitted into evidence  
as 2010,

25 2011, 2012: Would they accurately depict what you saw  
in the

7581

Thomas Brown - Direct

1 Makita tool box on the search of May 3?

2 A. Yes, sir.

3 Q. Now, you have before you what has been marked as --  
as

4 Exhibit 151 and 151A, the box being 151 and the drill  
inside is

5 151A. Would you take a moment and look at those items.

6 A. I notice on the outside of the box, it indicates  
the box is

7 151A.

you can 8 Q. Yes. I'd like for you to look at them and see if  
that you 9 determine whether or not those are the same exhibits  
10 seized in the home of Terry Nichols on May 3.

we took 11 A. Yes. These are the -- this is the same item that  
12 on May 3, 1995.

13 Q. Would you look at the serial number on the drill?

14 A. Yes.

evidence 15 Q. And does that serial number correspond with your  
16 log?

17 A. Yes, it does.

admission of 18 MR. RYAN: Your Honor, we would move the  
19 Exhibits 151 and 151A.

your 20 MR. TIGAR: May I approach the bench briefly,  
21 Honor?

22 THE COURT: Yes.

23 (At the bench:)

court 24 (Bench Conference 68B1 is not herein transcribed by  
25 order. It is transcribed as a separate sealed  
transcript.)

1 (In open court:)

2 MR. TIGAR: Subject to the conference at the  
bench,  
3 your Honor, no objection.

4 THE COURT: All right. It's 151 and 151A?

5 MR. RYAN: Yes, your Honor.

6 THE COURT: Received.

7 BY MR. RYAN:

8 Q. Now, after you seized the Exhibit 151 and 151A,  
what did  
9 you do with it?

10 A. A sticker was affixed to the front of the box, and  
it was  
11 taped with evidence tape.

12 Q. Was it taped in such a way that the box could not  
be opened  
13 without breaking the tape?

14 A. That's correct.

15 Q. And then what was -- after you taped up the box,  
what did  
16 you do with it next?

17 A. It was transported back to Junction City, Kansas,  
and we  
18 put it in an FBI storage facility.

19 Q. And when was the last time that you saw this  
Exhibit 151  
20 and 151A?

21 A. May 4, 1995.

22 MR. RYAN: That's all I have, your Honor.

23 THE COURT: Is the box that you're referring  
to the  
24 case?

25 THE WITNESS: Yes, sir, the case. I'm sorry.

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Thomas Brown - Direct

1 THE COURT: All right. Mr. Tigar?

2 CROSS-EXAMINATION

3 BY MR. TIGAR:

4 Q. Good morning, Agent.

5 A. Good morning.

6 Q. My name is Michael Tigar. I'm one of the lawyers  
appointed  
7 to help out Terry Nichols.

8 A. Yes, sir.

9 Q. On the 29th of April, was that the first search  
that you  
10 had participated in?

11 A. Yes, sir.

12 Q. As a member of the team?

13 A. Yes, sir, that's correct.

14 Q. And you were there with Mr. Earl; correct?

15 A. I was.

16 Q. All right. Now, when you went -- and that warrant,

the

17 first time you went, that authorized you to seize  
clothing; is

18 that correct?

19 A. Clothing and explosives.

20 Q. And explosives. And did you get some clothing that  
day?

21 A. Yes, we did.

22 Q. Okay. And, of course, you handled that properly  
and

23 returned it to the -- took it wherever it was supposed  
to go.

24 Correct?

25 A. Yes, sir.

7587

Thomas Brown - Cross

1 Q. Now, you testified that you were searching there  
under a

2 warrant issued by a court; is that correct?

3 A. That's correct.

4 Q. Did you have a briefing before you went on the  
search?

5 A. We read the warrant and what it authorized us to  
took -- to

6 take. I'm not sure that we had a briefing necessarily.  
We

7 discussed it informally.

8 Q. Who told you to do it, to make the search on the

29th?

9 A. Supervisor, Mike Shannahan.

10 Q. Did anybody else tell that you Mr. and Mrs. Nichols  
had

11 both signed consents to search their home?

12 A. Not that I'm aware of. I don't recall it, if they  
did.

13 Q. At any rate, you never saw a signed consent to  
search by

14 either Mr. or Mrs. Nichols; is that correct?

15 A. That's correct.

16 Q. Did anyone ever show you a diagram of the house  
that had

17 been prepared by Mr. Nichols and given to the FBI?

18 A. No, sir.

19 Q. At the time that you went to the home on the 29th,  
was

20 Mrs. Nichols home?

21 A. No, sir.

22 Q. Do you know where she was?

23 A. Not specifically. I don't, no, sir.

24 Q. Now, you say that you went back there on the 3rd  
and you

25 found the Makita drill; correct?

7588

Thomas Brown – Cross

1 A. That's correct.

the 2 Q. Now, were you wearing gloves when you handled it on  
3 29th?  
4 A. Yes, sir.  
5 Q. And the latex gloves, or cotton?  
6 A. Latex.  
7 Q. Latex gloves?  
8 A. Yes, sir.  
or they 9 Q. Do you know if those had talc in them, or on them,  
10 were just plain?  
11 A. As I recall, they had talc.  
12 Q. And that's for ease of getting them on and off?  
13 A. Yes, sir.  
you 14 Q. And the reason you wore the latex gloves was that  
15 wanted to preserve any fingerprints that might be on  
the item.  
16 Correct?  
17 A. Yes, sir.  
correct? 18 Q. And you had seen Makita drills before that date;  
19 A. Yes, sir.  
store? 20 Q. In fact, you can buy a Makita drill at any hardware  
21 A. Yes, sir.  
please, and 22 Q. And would you open up the box for us -- for me,

That 23 take out the yellow item that contains the drill bits.  
24 was on the picture?  
25 A. Yes, sir.

7589

Thomas Brown - Cross

1 Q. Now, that is a Makita item, or is that a --  
something that

2 was bought in the after market?

3 A. As far as I know, it would be bought in the  
aftermarket.

4 Q. Okay. And when you go to the hardware store, have  
you seen

5 collections of drills (sic) like that, packaged in a  
little

6 plastic box like that?

7 A. Yes, sir, I have.

8 Q. There is nothing about those drills (sic) to your  
9 inspection that looked different from what you saw in  
an

10 ordinary hardware store; is that correct?

11 A. That's correct.

12 Q. Now, the box that you're holding in your hand, sir,  
has

13 some black smudges on it. That wasn't on there when  
you found

14 it; correct?

15 A. That's correct.

16 Q. And you understand that's from the fingerprinting  
process?

17 A. That would be my understanding.

18 Q. Now, do you know what happened to the drill after  
you found

19 it? You said you took it to the locker. Correct?

20 A. Yes, sir.

21 Q. Now, when you were looking at it, did you notice  
any metal

22 shavings or chips in the chuck of the drill?

23 A. No, sir.

24 Q. All right. And would you take out the drill that  
you have

25 there and hold it up for the jury. And I'm just doing  
this for

7590

Thomas Brown - Cross

1 the record because everybody has seen a drill, but  
could you

2 point to the chuck of the drill?

3 A. It would be this area here towards the front.

4 Q. And that's a part that has -- that's where the  
drill bit

5 goes in and then there is a way to tighten the drill  
bit;

6 correct?

7 A. Correct.

right? 8 Q. And there is a sort of a gear-type assembly there;

9 A. Yes, sir.

the 10 Q. Okay. You can put that back in there. That's all  
11 questions I had.

date, was 12 Now, when you were with Agent Earl on that

on the 13 he doing something else other than looking for a drill,  
14 3rd of May?

15 A. Well, we all were together in the house.

16 Q. Uh-huh.

17 A. And went through the house together, so . . .

18 Q. Right. Was he looking for books?

19 A. On May 3?

20 Q. Yes, sir.

21 A. Not particularly. We recovered a book.

22 Q. Oh, you got -- and some other literature and stuff?

23 A. Yes, uh-huh.

29th 24 Q. Okay. Now, had you noticed some books there on the  
25 when you went in?

7591

Thomas Brown - Cross

1 A. Yes, sir.

2 Q. And had you noticed a book in a Quaker State  
cardboard box?

3 A. I don't recall a Quaker State box, but --

4 Q. Now, when you went in on the 29th, did you see a  
number of

5 books?

6 A. Yes, sir.

7 Q. About how many did you see?

8 A. I have no idea. I just don't recall.

9 Q. Did you have a discussion on the 29th with the  
other agents

10 about whether you wanted to take some of the books that  
you had

11 seen?

12 A. Well, we could not take them under that warrant.

13 Q. Uh-huh.

14 A. Because it was outside the scope of the warrant.

15 Q. I understand that.

16 A. We thought that they could be important, and so we  
reported

17 it back to the supervisor.

18 Q. Now, did you report back to the supervisor the name  
of just

19 one book, or did you report the name of many books?

20 A. I don't know the answer to that.

21 Q. Okay. You weren't on book detail. Is that fair to  
say?

22 A. I was not specifically looking at the books.

23 Q. Okay.

24 A. I was keeping the evidence recovery log.

25 Q. All right. Now, on the 3rd, you did -- did you  
keep the

7592

Thomas Brown - Cross

1 evidence recovery log that reflected the recovery of  
books and  
2 pamphlets and things like that?

3 A. Yes, I did.

4 Q. Okay. Now, at that time, did you have a discussion  
with  
5 Agent Earl about which books you should take?

6 A. We discussed each item that we -- we looked at. We  
7 discussed each item amongst ourselves.

8 Q. Well, what I'm asking you is did you see in Mr. and  
9 Mrs. Nichols' house a large number of books on many  
different  
10 subjects? Do you remember noticing that?

11 A. There were books on different subjects in the  
house. That  
12 would be correct.

13 Q. Okay. And by number, would you say more than 15 or  
20?

14 A. I would think so. I'm just not certain of that,  
sir. I  
15 just don't recall.

16 Q. Right.

17 MR. TIGAR: Thank you very much, Agent.  
18 I have no further questions, your Honor.  
19 MR. RYAN: May I have just a moment, your  
Honor?  
20 THE COURT: Yes.  
21 MR. RYAN: We have no redirect, your Honor.  
22 We may recall this witness at later time.  
23 THE COURT: All right. You may step down now,  
Agent.  
24 Next, please.  
25 MR. MACKEY: Thank you, Judge.

7593

1 Brett Mills.  
2 THE COURTROOM DEPUTY: Raise your right hand,  
please.  
3 (Brett Mills affirmed.)  
4 THE COURTROOM DEPUTY: Would you have a seat,  
please.  
5 Would you state your full name for the record  
and  
6 spell your last name.  
7 THE WITNESS: My name is Brett, B-R-E-T-T,  
Ashley,  
8 A-S-H-L-E-Y, Mills, M-I-L-L-S.  
9 THE COURTROOM DEPUTY: Thank you.

10 THE COURT: Ms. Wilkinson.

11 MS. WILKINSON: Thank you, your Honor.

12 DIRECT EXAMINATION

13 BY MS. WILKINSON:

14 Q. Good morning, Mr. Mills.

15 A. Good morning.

16 Q. Could you tell the ladies and gentlemen of the jury  
where  
17 you work.

18 A. I work for the FBI in the FBI Laboratory.

19 Q. How long have you been with the FBI?

20 A. Approximately eight-and-a-half years.

21 Q. When you started, did you start in the FBI  
Laboratory?

22 A. No, ma'am.

23 Q. Where did you start?

24 A. I started in the mail room.

25 Q. How long did you stay in the mail room?

7594

Brett Mills - Direct

1 A. Approximately nine months.

2 Q. Then did you go on to the lab?

3 A. Yes, ma'am.

4 Q. First assignment there?

5 A. I was a physical science technician in the

Firearms/Tool

6 Marks Unit.

7 Q. Tell us what the Firearms/Tool Marks Unit is  
generally?

8 A. We do cases that have firearms, bullets, cartridge  
cases,

9 comparisons of; and then with tool marks we'll compare  
tools to

10 known tool marks on a certain item.

11 Q. Tell us again what your position was when you were  
in that

12 unit the first time.

13 A. I was a physical science technician.

14 Q. And did you have any training, general training, to  
prepare

15 you for that?

16 A. You mean school?

17 Q. School. I'm sorry. Can you tell the jury about  
your

18 undergraduate degree.

19 A. My undergraduate degree is in biology. I have a  
B.S. from

20 Towson State University, Towson, Maryland.

21 Q. How long were you in the Firearms and Tool Marks  
Unit?

22 A. Approximately a year and a half.

23 Q. Where did you go then?

24 A. I went to the Explosives Unit.

25 Q. What was your position in the Explosives Unit?

7595

Brett Mills – Direct

1 A. I was still a physical science technician.

2 Q. Tell the jury what the Explosives Unit does at the  
FBI.

3 A. The Explosives Unit will receive evidence from  
bombing  
4 cases, from a exploded device, or from just what is a  
5 suspicious bomb or a hoax bomb; and then we'll try and  
6 reconstruct it and find out the component parts of it  
and trace  
7 it back to manufacturers and everything.

8 Q. Were you a physical science technician in the  
Explosives  
9 Unit in April of 1995?

10 A. Yes, I was.

11 Q. At that time, what were your duties and  
responsibilities?

12 A. I would receive evidence, and I would inventory it.  
I  
13 would check it in, assign it a work sheet, and then  
assign an  
14 identifier number that we use in the laboratory which  
we refer  
15 to as a Q or a K.

16 Q. Okay. Let's break that down a little bit.

17 A. Okay.

18 Q. First you get evidence into the laboratory. Is

that right?

19 A. Yes, ma'am.

20 Q. And how do you receive evidence?

21 A. I receive evidence that has already been assigned  
what we

22 refer to as a laboratory number, specific strictly for  
the lab.

23 And it is on the original communication, which is a

24 communication from the contributor who is submitting  
the

25 evidence.

7596

Brett Mills – Direct

1 The letter will detail, you know, who it's  
from, who

2 is the officer; and then it will give us a listing of  
the

3 evidence that's being submitted and the exams that are

4 requested of it.

5 Q. Okay. So if someone sent you evidence from  
Herington,

6 Kansas, it would have a list of that evidence that was  
supposed

7 to be in that container or submission or whatever you  
call it?

8 A. Yes, ma'am.

9 Q. All right. And once you receive it, what do you do  
with

10 it?

11 A. I would open up the container and read the  
incoming, and

12 then I would see how many items I have; and then I  
would start

13 comparing the items in the container to the items  
listed on the

14 piece of paper to make sure that all the items did come  
in.

15 Q. Okay. So you inventory the items; is that right?

16 A. Yes, ma'am.

17 Q. Do you prepare your work space in any way before  
you do

18 that?

19 A. Yes, ma'am. I have a workbench. It's probably  
about

20 10 feet by 4 feet.

21 I'll clean it down with a cleaning solution,  
dry it

22 off. And then we go across the hall where we have a  
wrapping

23 room, where we send packages back; and I tear off brown

24 wrapping paper called "craft paper," and I'll bring  
that out

25 and lay it out onto the countertop. And then I'll set  
my box

7597

Brett Mills - Direct

1 up. And then I'll put my latex gloves on, open the box

up and

2 then start checking in the evidence.

paper?

3 Q. And the purpose of that paper -- is it disposable

4 A. Yes, ma'am.

you're

5 Q. So do you use that with that submission or the box

6 talking about and get rid of it after that?

7 A. Yes, ma'am.

see the

8 Q. All right. Now, once you open up the box and you

9 evidence, what do you do?

items

10 A. As I pull it out of the box, I'll compare it to the

it's all

11 that are on the list itself; and then once I've seen

worksheet.

12 there, I'll start generating what I refer to as a

13 It's an internal document in the laboratory.

Q or K

14 And as I am checking it in, I will assign it a

15 number and then write out a brief description on it.

16 Q. Let's go back to those terms.

17 A. Sorry.

track of the

18 Q. Your worksheet: Is that just a way of keeping

19 evidence in the lab?

20 A. Yes, it's a short description.

numbers and

21 Q. What is a Q number or K number -- or what are Q

22 K numbers?

23 A. A Q number we use in the laboratory refers to a  
questioned

24 item. We don't know what it is. And a K number is  
what we

25 refer to as a known item, like a firearm or a tool.

7598

Brett Mills – Direct

1 Q. And do you assign a Q or K number to each item as  
it comes  
2 into the laboratory?

3 A. Yes, ma'am.

4 Q. Let's turn to April of 1995. After the bombing in  
Oklahoma  
5 City, did you receive an assignment related to the  
6 investigation?

7 A. Yes, ma'am.

8 Q. What was your assignment?

9 A. I would be the technician in charge of the evidence  
as it  
10 was coming in. I would be handling it and doing my  
duties with

11 it.

12 Q. And did you receive evidence or check in evidence  
on May 18

13 of 1995?

14 A. Yes, ma'am.

15 Q. Do you recall doing it that day?  
16 A. Yes, ma'am.  
17 Q. And do you see Government's Exhibit 151, 151A -B,  
and -C in  
18 front of you?  
19 A. May I open it?  
20 Q. Sure.  
21 A. Yes, ma'am.  
22 Q. Did you receive those items on May 18, 1995?  
23 A. Yes, ma'am.  
24 Q. When you received them, what did you do?  
25 A. I was checking the case in, and we were generating  
our work

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Brett Mills - Direct

1 sheet; and I opened up the box and -- to see what the  
items  
2 were, gave a brief description for the work sheet, and  
assigned  
3 it a Q number.

4 Q. Did you examine all the items in the box when you  
did that?

5 A. Yes, ma'am.

6 Q. Government's Exhibit 151, the drill, is already in  
7 evidence. So could you take that out for a moment.

8 And can you tell the jury what kind of drill

that is.

9 A. This is a Makita cordless driver drill.

10 Q. Is there a battery in the drill?

11 A. Yes, ma'am.

12 Q. And was there a battery in the drill when you  
examined it

13 back in May --

14 A. Yes, ma'am.

15 Q. -- of 1995?

16 Now, can you put that back in.

17 Can you look at Government's Exhibit 151C.

18 Now, when you looked in that box on May 18,  
1995, what

19 did you see in there?

20 A. I saw a series of drill bits ranging in size from  
1/16 to

21 11/64.

22 Q. Were there any missing at that time?

23 A. No, ma'am.

24 Q. Is there one missing from there now?

25 A. Yes, ma'am.

7600

Brett Mills - Direct

1 Q. Can you look at Government's Exhibit 151B.

2 Do you recognize that?

3 A. Yes, ma'am.

4 Q. Now, is that -- can you -- can you recognize what's  
in the  
5 bag?

6 A. It is a drill bit.

7 Q. Okay. Now, is there a marking on that bag, Q  
number on  
8 that bag?

9 A. Yes, ma'am. It's "From 2898."

10 Q. Tell the jury how you marked this whole Exhibit,  
11 Government's Exhibit 151, 151A, -B and -C, with a Q  
number.

12 A. This entire box with all the contents were given  
one Q,

13 Q2898. And when this was removed out, the designation  
of "From  
14 Q2898" was assigned to it.

15 MS. WILKINSON: Your Honor, we offer  
Government's

16 Exhibit 151B, which is the drill bit.

17 MR. TIGAR: No objection, your Honor.

18 THE COURT: Received, 151B.

19 BY MS. WILKINSON:

20 Q. After you examined all the items, did you place  
them back  
21 in the box?

22 A. Yes, ma'am.

23 Q. How did you seal the box after you had examined the  
items?

24 A. I placed it in this Ziploc bag here.

25 Q. Did you mark the bag in any way?

7601

Brett Mills - Direct

1 A. Yes, ma'am.

2 Q. How did you mark the bag?

3 A. I put the laboratory number and the Q number,  
Q2898, on it.

4 Q. Now, you have Government's Exhibit 151B in your  
hand.

5 A. Yes, ma'am.

6 Q. That's the drill bit?

7 A. Yes, ma'am.

8 Q. Was that sent on to Agent Cadigan for examination  
by the

9 Tool Marks and Firearms Unit?

10 A. Yes, ma'am.

11 MR. TIGAR: Objection.

12 If he knows, your Honor.

13 BY MS. WILKINSON:

14 Q. If you know. Do you know that it was sent?

15 A. Yes, ma'am.

16 Q. And did you receive it back from him after he  
conducted his

17 examination?

18 A. Did I personally? No, ma'am.

19 Q. Are you aware whether the Explosives Unit received  
it back?

20 A. Yes, ma'am.

21 MR. TIGAR: Your Honor, object. Lack of  
foundation.

22 MS. WILKINSON: That's fine, your Honor.  
We'll

23 withdraw the question.

24 THE COURT: All right. We'll strike the  
answer.

25 MS. WILKINSON: All right. No further  
questions.

7602

1 THE COURT: Mr. Tigar.

2 MR. TIGAR: Yes, your Honor, move to strike  
the

3 answer.

4 I'm sorry. She's done. I'm about half a step  
behind,

5 your Honor.

6 CROSS-EXAMINATION

7 BY MR. TIGAR:

8 Q. Good morning, Mr. Mills.

9 A. Hi.

10 Q. I'm Michael Tigar. I'm one of the lawyers  
appointed to

11 help Terry Nichols in this case, sir.

12 You have a degree in biology?

13 A. Yes, sir.

14 Q. In 1991, you were transferred to the Explosives  
Unit; is

15 that correct?

16 A. Yes, sir.

17 Q. And in the Explosives Unit, you were trained by Mr.  
Davitch

18 and Mr. Rogers?

19 A. Yes, sir.

20 Q. Is that correct? And also by Special Agent David  
Williams.

21 Is that right?

22 A. Yes, sir.

23 Q. And that was an informal training program that  
lasted about

24 six months. Is that correct?

25 A. No, sir.

7603

Brett Mills – Cross

1 Q. How long did it last?

2 A. With Mr. Davitch, it was about six or eight months.  
He was

3 going to agents class. Mr. Rogers stayed, and I still  
learned

4 under him; and it kept on basically being an ongoing

process

5 with Mr. Williams.

6 Q. Is that right? So your training period lasted  
longer than

7 six months?

8 A. Yes, sir.

9 Q. Do you remember giving a deposition in this case?

10 A. Yes, sir.

11 Q. Do you remember asking -- being asked the question:  
"How

12 long did you train with Williams? Did you have a  
training

13 period?"

14 Question (sic): "Uh-huh."

15 "Let's see. Approximately six months."

16 Is that what you're referring to, the Williams  
17 training period, six months?

18 A. Are you referring to my deposition?

19 Q. Yes.

20 A. When I said that it was six months, that was like  
my

21 initial trial period.

22 Q. Okay.

23 A. And then as time progressed, Mr. Williams would  
still

24 review my work and I would still learn new things in  
this new

25 school, so it was still an ongoing process.

Brett Mills – Cross

1 Q. All right. Now, you have a -- you testified to a  
procedure

2 for maintaining cleanliness in your laboratory.  
Correct, sir?

3 A. Yes, sir.

4 Q. Do you have a written protocol for maintaining  
cleanliness

5 in your laboratory?

6 A. In the laboratory itself?

7 Q. Yes, sir.

8 A. Not that I'm aware of at the moment, sir.

9 Q. Yes. You've never seen one, in fact. Is that  
right, sir?

10 A. Not for the lab.

11 Q. Okay. Now, the area of the laboratory we're  
talking about

12 here where you receive the evidence: Does that have a  
name or

13 a designation?

14 A. Which area? Are you talking about the Evidence  
Control

15 Center?

16 Q. Yes, sir.

17 A. It's the Evidence Control Center.

18 Q. I see. And is there something called a 1B area?

19 A. Yes, sir.

20 Q. What is that?

21 A. That was a part of the Explosives Unit area.

22 Q. Okay. Now, does the 1B area have anything to do  
with the

23 evidence that you're testifying about today?

24 A. Yes, sir.

25 Q. All right. What does it have to do with it?

7605

Brett Mills - Cross

1 A. This evidence was stored down there at one time.

2 Q. All right. Now, prior to its being used to store  
evidence

3 in this case, what had the area been used for?

4 A. For a long period of time, or right before it, or  
--

5 Q. Right before.

6 A. Right before? We had parked our crime scene  
vehicle and a

7 box fan in there.

8 Q. A box fan. Now, was there a time when it was used  
to store

9 a case -- evidence from another bombing?

10 A. Yes, sir.

11 Q. And the evidence that was stored there from the  
other

12 bombing: What kind -- was that a pipe-bomb case?

13 A. To my knowledge, yes, sir.

14 Q. All right. Now, after -- prior to getting the  
evidence in  
15 this case, you did wash the floor and paint it;  
correct?

16 A. Yes, sir.

17 Q. Now, you testified that when the evidence that  
you're  
18 looking at came in, there was something about Q numbers  
and K  
19 numbers. Right?

20 A. Yes, sir.

21 Q. Okay. Now, a K number -- that means a "known";  
correct?

22 A. That's what we refer to it as, yes, sir.

23 Q. And a Q number means "questioned"; that is, we  
don't know.

24 A. Correct.

25 Q. And one of the things that people in your business  
try to

7606

Brett Mills - Cross

1 do is to figure out if a Q matches a K; right?

2 A. Yes, sir.

3 Q. Okay. If we could take a simple illustration of  
that: If  
4 I touched a piece of paper and left a latent  
fingerprint and

the 5 that were recovered somewhere and processed to bring up  
6 latent fingerprint, that might get a Q number; correct?  
7 A. Are you talking about the piece of paper?  
8 Q. Yes. The piece of paper might get a Q number.  
9 A. Yes, sir.  
10 Q. Right?  
11 A. Yes, sir.  
out if I 12 Q. And then they would go to their records and find  
13 had ever been fingerprinted?  
14 A. True.  
has got a 15 Q. So they'd know that somebody named Michael Tigar  
16 set of prints, and that might be the K that they would  
try to 17 compare to the Q. Is that right? Is that how it  
works?  
18 A. I'm not sure about how Latents does. I don't know  
--  
19 Q. Okay.  
20 A. I don't know if they K their fingerprint cards.  
21 Q. Okay. You don't.  
22 Can you give me an example from your  
experience of the  
23 comparison so that I can understand how this Q and K  
business  
24 works?  
25 A. An example would be a bullet. You pull a bullet

out of a

7607

Brett Mills - Cross

1 victim's body.

2 Q. Okay.

3 A. And then we get a suspect weapon in.

4 Q. Ah. And you test-fire it.

5 A. Test-fire it.

6 Q. And we know that a -- the bullet out of the  
suspect's body

7 is then put under a microscope and somebody looks at  
the

8 little --

9 A. Striations.

10 Q. -- striations on it?

11 A. Yes, sir.

12 Q. And then we test-fire and we compare the  
striations.

13 Correct?

14 A. Yes, sir.

15 Q. And that's because a bullet spins as it goes out  
the front

16 of the firearm. Correct?

17 A. Yes, sir.

18 Q. And do you have any idea -- well, we'll ask  
somebody else

19 about the details. This is just an example. Okay.

20 So do you have a written protocol for  
determining

21 whether a specimen gets a Q or a K number?

22 A. It wasn't a protocol. We had papers from our  
units. If we

23 received evidence and they would wind up doing their

24 examinations, we would -- they would like it written up  
a

25 specific way. Firearms, for example: They had a  
specific way

7608

Brett Mills - Cross

1 of writing up a weapon or a cartridge case or etc. So  
we did

2 have paper on that, yes, sir.

3 Q. Now, you said on your direct examination that the  
number

4 Q2898 was assigned. Right?

5 A. Yes, sir.

6 Q. Who assigned it?

7 A. I did.

8 Q. Okay. So you decided that Q2898 was the whole  
package, the

9 box with the drill bits, and so forth.

10 A. Yes, sir.

11 Q. Now, there came a time when you took out the  
quarter-inch

12 drill; right?  
13 A. Yes, sir.  
14 Q. When was that?  
15 A. I believe July 11. I did not do it personally.  
16 Q. Oh, you didn't do it personally?  
17 A. No, sir.  
18 Q. Who gave the drill bit that separate Q number?  
19 A. The alphanumeric?  
20 Q. Yes, sir.  
21 A. Q2898A or B?  
22 Q. Yes.  
23 A. That would be by Mr. Cadigan.  
24 Q. And Mr. Cadigan is?  
25 A. Is a firearms/tool marks examiner.

7609

Brett Mills - Cross

He's  
further  
then  
character

1 Q. Special Agent Cadigan, firearms/tool mark examiner:  
2 the one that put the number on there. Is that right?  
3 A. Not the number. We do have an alphanumeric. If  
4 exams are going to be done on a large item like this,  
5 someone might want to put either an alpha or numeric

two drill 6 behind it. In this case, Mr. Cadigan put A and B on  
7 bits.

8 Q. Then that was done by him?

9 A. Yes, sir.

10 Q. Now, did -- at that point, did -- were you  
responsible for

11 getting the drill bit over to Mr. Cadigan so he could  
do his 12 work?

13 A. Did I personally deliver it to him?

14 Q. Yes, sir.

15 A. No, sir, I don't think I did.

16 Q. Okay. Now, with respect to the drill itself, were  
you 17 aware of any metallurgical examinations that were  
conducted on

18 the drill or things that were attached to it?

19 A. I was aware that metallurgy had been assigned to  
this one 20 submission, yes, sir.

21 Q. Now, would you tell the jury, please, what is  
metallurgy.

22 MS. WILKINSON: Objection, your Honor.

23 MR. TIGAR: For these purposes.

24 MS. WILKINSON: Beyond his expertise and  
beyond the 25 scope.

Brett Mills - Cross

1 THE COURT: Well, you're not asking for a  
dictionary  
2 definition.

3 MR. TIGAR: No, I'm just asking what he  
understood  
4 that was in his office, your Honor. I'm not asking for  
a  
5 metallurgical opinion. I just want to know what it is.

6 THE WITNESS: From my understanding is -- is  
when we  
7 have a metallurgical exam is they're comparing  
basically, I  
8 guess, like a Q and a K. I'm not sure if they do, but  
to see  
9 if the metals match.

10 BY MR. TIGAR:

11 Q. Okay. Now, was it your understanding that they  
were going  
12 to find out what kind of metal the drill was made of,  
or the  
13 particles that adhered they wanted looked at?

14 MS. WILKINSON: Objection, your Honor.

15 THE COURT: Overruled.

16 THE WITNESS: That, I'm not sure of. I didn't  
take it  
17 over.

18 BY MR. TIGAR:

to be 19 Q. Okay. When did the -- this item leave your custody  
whatever 20 taken over, as you say, for this metallurgical work,  
21 it was?  
22 A. I believe that was June 2.  
Cadigan 23 Q. And did you ever have a conversation with Agent  
24 about his work on the drill bit? Just yes or no?  
25 A. Yes.

7611

Brett Mills - Cross

1 Q. Whether you did -- you did. Okay.  
2 A. Yes.  
3 Q. When was that conversation?  
Marks 4 A. After I transferred back over to the Firearms/Tool  
5 Unit. He was my training instructor.  
6 Q. Oh, all right. And did you ever have a  
conversation with  
7 Special Agent Williams about the metallurgy?  
8 A. About the metallurgy? No, sir.  
9 Q. Okay. Did you ever have a conversation with anyone  
about  
10 the metallurgy?  
11 A. Not the metallurgy, no, sir.  
12 Q. Did there -- did there ever come a time when the

drill was

13 sent to the Oak Ridge Laboratory, to your knowledge?

14 A. Not to my knowledge.

15 Q. You don't know one way or the other. Is that  
right?

16 A. I had heard later on, but I don't think we sent it.

17 Q. Okay. No -- not -- in other words, of your  
personal

18 knowledge, you were not responsible for sending it to  
the Oak

19 Ridge Laboratory if indeed that happened. Is that  
right?

20 A. No, sir.

21 MR. TIGAR: All right. Your Honor, I have no  
further

22 questions with respect to the scope of this witness'

23 appearance.

24 THE COURT: All right.

25 MR. TIGAR: On this subject.

7612

1 MS. WILKINSON: He will be recalled, your  
Honor, for

2 other purposes.

3 THE COURT: Okay. You may step down for now.

4 THE WITNESS: Thank you.

5 THE COURT: Next witness.

Cadigan. 6 MR. MACKEY: Your Honor, we would call James

7 THE COURT: All right.

8 THE COURTROOM DEPUTY: Raise your right hand,  
please.

9 (James Cadigan affirmed.)

10 THE COURTROOM DEPUTY: Would you have a seat,  
please.

11 Would you state your full name for the record  
and

12 spell your last name.

13 THE WITNESS: James J. Cadigan, C-A-D-I-G-A-N.

14 THE COURTROOM DEPUTY: Thank you.

15 MR. ORENSTEIN: May I proceed, your Honor?

16 THE COURT: Yes.

17 MR. ORENSTEIN: Thanks.

18 DIRECT EXAMINATION

19 BY MR. ORENSTEIN:

20 Q. Good morning, Mr. Cadigan.

21 A. Good morning, sir.

22 Q. Where are you employed, please.

23 A. I am a special agent of the Federal Bureau of

24 Investigation, and I'm assigned to the Firearms and  
Tool Marks

25 Unit of the FBI Laboratory in Washington, D.C.

James Cadigan – Direct

1 Q. What are your responsibilities there?

2 A. As a member of that unit, I have three areas of  
3 responsibility. I do serial number restoration  
examinations, I  
4 do firearms identifications, and I also do tool mark  
5 examinations.

6 Q. How long have you been doing tool mark  
examinations?

7 A. For 20 years.

8 Q. Now, can you tell the ladies and gentlemen of the  
jury

9 basically speaking what a tool mark examination is.

10 A. Tool mark examination deals with the comparison of  
marks

11 that are left at the scene of a crime with a particular  
tool in

12 order to determine whether or not that particular tool  
made

13 that mark.

14 For instance, in a burglary in which a  
screwdriver is

15 used to pry open the window of a residence, tool mark

16 identification or tool mark examination would look at  
the marks

17 on the window sill and compare them to marks made by  
the

18 screwdriver to determine whether or not that  
screwdriver made

19 the marks on that window sill.

there 20 Q. Now, when you do that kind of examination, are  
21 different types of marks that can be examined?  
22 A. Yes, sir.  
23 Q. Can you describe the different types of marks?  
24 A. Well, basically, there are two different types of  
marks.  
25 One would be called a compression or impression, where  
the

7614

James Cadigan – Direct

1 screwdriver blade would be pushed in and then pressed  
down.  
2 That would leave a depression or impression on the  
window sill.  
3 The second type or general type of tool mark  
would be  
4 called a striation or scratch, and that would be from  
the blade  
5 of the screwdriver dragging across the window sill and  
leaving  
6 scratches on the surface.

7 Q. Now, did you conduct any tool mark comparison in  
this case?

8 A. Yes, I did.

9 Q. And did it involve a padlock and a drill bit?

10 A. Yes, it did.

11 Q. Before I ask you about that examination, let me ask

you:

12 Could you describe your educational background?

13 A. Yes, sir. I have a bachelor of science degree in  
chemistry

14 from the University of Maryland in College Park.

15 Q. What year did you graduate?

16 A. 1971.

17 Q. How long after your graduation did you join the  
FBI?

18 A. Five months.

19 Q. And can you describe for the jury what you've done  
with the

20 FBI since joining?

21 A. Well, after I was -- after training school, I was  
assigned

22 to the Savannah, Georgia field division for a year,  
where I did

23 general criminal work; and then I was assigned to the  
Newark,

24 New Jersey field division for approximately three-and-  
a-half to

25 four years, and I did stolen-car investigations in  
Newark. And

7615

James Cadigan - Direct

1 then I was assigned to the FBI Laboratory in 1977.

2 Q. When you were first assigned -- is 1977 when you  
became an

3 examiner, or when you were assigned to the laboratory?

4 A. Yes. I was assigned to the laboratory in 1976 and  
then  
5 became a qualified examiner in 1977.

6 Q. In that interim, did you receive some training?

7 A. Yes, sir.

8 Q. Can you describe the training that you received  
during that  
9 year?

10 A. Upon my assignment to the Firearms Unit, I  
underwent a  
11 training program that included reading of literature  
available  
12 in the field of firearms and tool marks identification,  
13 instruction in the types of equipment used by the  
laboratory  
14 for these kinds of examinations. Also, I went to  
manufacturing  
15 plants to observe firsthand the marks -- the machining  
16 processes that go into the production of tools; and I  
also  
17 received on-the-job training, which included thousands  
of  
18 examinations.

19 Q. Now, in this on-the-job training, did you have just  
one  
20 person who was training you, or is there more than one?

21 A. No, there was more than one.

22 Q. And did that on-the-job training involve the  
examination of

23 evidence from actual cases?

24 A. Yes, sir, it did.

25 Q. When you did that, were you actually making reports  
or

7616

James Cadigan – Direct

1 testifying in court?

2 A. No. I was just examining the evidence.

3 Q. Just so you could learn?

4 A. Yes.

5 Q. Now, during any period of your training, were you  
6 testifying in court?

7 A. During my training? No, sir.

8 Q. Now, at the end of that training, did you become  
qualified  
9 within the FBI and allowed to conduct examinations on  
your own?

10 A. Yes, sir.

11 Q. And since then, have you become involved yourself  
in  
12 training others to become firearms and tool marks  
examiners?

13 A. Yes, sir, I have.

14 Q. We just met someone named Brett Mills a few minutes  
ago.

15 Is he one of the people you trained?

16 A. Yes, sir.

17 Q. Doing the same thing now that you did 20 years ago?

18 A. Yes.

19 Q. Now, in addition to helping to train new examiners,  
have  
20 you done any teaching or lecturing in your field?

21 A. Yes. In the field of tool mark identification,  
I've given

22 hundreds of lectures on various aspects of tool mark  
23 identification to federal, state, and local law  
enforcement

24 agencies as part of courses of study that involve the

25 identification of automobiles and the identification of  
stolen

7617

James Cadigan - Direct

1 automobiles and other aspects.

2 Q. Have you also lectured at training seminars at the  
FBI  
3 training academy?

4 A. Yes. I conduct one in-service training class at  
Quantico a  
5 year for our agents in stolen-car investigations, a  
significant

6 portion of which involves tool mark identification.

7 Q. Now, earlier you mentioned that you have several  
areas of

8 responsibility in your current work, tool mark  
examination,

9 firearms, and serial number restoration?

10 A. Yes, sir.

11 Q. When you first completed your training back in  
1977, did

12 you have any area in particular that you specialized  
in?

13 A. Yes. For the first approximately 11 years of my  
stay in

14 the laboratory, I did nothing but tool-mark-  
identification-type

15 examinations.

16 Q. And in the course of those 20 years since you first  
became

17 an examiner with the FBI, approximately how many tool  
mark

18 comparisons have you done?

19 A. Thousands.

20 Q. Have any of those involved the comparison of marks  
left by

21 a spinning drill bit?

22 A. Yes.

23 Q. On more than one occasion?

24 A. Yes.

25 Q. So this is not the first case in which you've done  
that

7618

James Cadigan - Direct

1 kind of examination?

2 A. No, sir, it's not.

3 Q. Now, you were explaining earlier that there are two  
types

4 of marks that a tool can leave. You mentioned  
impressions and

5 striations. Is that right?

6 A. Yes, sir.

7 Q. "Striations" is just a fancy word for scratches?

8 A. They can be.

9 Q. Are there -- what kind of marks does a spinning  
drill bit

10 leave?

11 A. It would leave striations or scratches from the  
cutting of

12 the blade of the screwdriver -- I'm sorry -- did you  
say

13 screwdriver?

14 Q. I'm sorry. I may have. If I did, I meant to say  
drill

15 bits. What kind of marks does a drill bit leave?

16 A. A drill bit would leave striations left by the  
cutting of

17 the blade and the tip of the drill bit.

18 Q. Now, you mentioned striations when I asked the  
wrong

19 question about screwdrivers and other tools. Are there  
other

20 tools that leave striations?

21 A. Certainly. There would be screwdrivers, a crowbar,

if a

22 crowbar was used, among others.

23 Q. Is there anything particularly different or  
difficult about

24 examining the mark left by a spinning drill bit?

25 A. No. It's just another one of the kinds of  
examinations

7619

James Cadigan – Direct

1 that fit in under the umbrella of tool mark  
identification.

2 Q. You apply the same practices and ideas in doing  
your

3 examination?

4 A. Yes, sir.

5 Q. Now, you've testified in court before today. Is  
that

6 correct?

7 A. Yes, sir.

8 Q. About how many times have you testified in court as  
a tool

9 marks examiner?

10 A. Approximately 250 times.

11 Q. When I say "tool marks," I should say including  
tool marks

12 and the other areas of specialization.

13 A. Yes, sir.

of a 14 Q. Now, earlier in your testimony, you gave an example  
been 15 tool mark examination involving a window sill that had  
16 pried open or a window that had been pried open by a  
17 screwdriver. Using that example, could you explain a  
little 18 more about how you would go about doing your analysis?  
19 A. Yes. In the case in which a window sill was pried  
open by 20 a screwdriver tip or screwdriver itself, I -- the best  
way to 21 examine that particular case would be if you could  
remove the 22 portion of the window sill that had the impression on  
it and 23 then taking the particular screwdriver in question,  
make test 24 impressions, normally in lead, because lead is very  
soft, but 25 scraping test impressions of the screwdriver to see  
what kinds

7620

James Cadigan - Direct

1 of striations and marks the screwdriver blade would  
leave and  
2 then compare, using a comparison microscope, the tool  
marks  
3 left by the screwdriver blade with the marks left on  
the window

4 sill.

You 5 Q. Let me ask you a couple of questions about that.

in this 6 mentioned that you look at the marks left by the blade

7 test impression. First of all, why do you make a test

and 8 impression, rather than just look at the blade itself

9 compare it to the mark left on the window sill?

would 10 A. Well, as part of your examination, of course, you

evidence and 11 look at the blade to see if there was any trace

12 other considerations. And then you would make the test

13 impressions so that you could compare like items, the

on the 14 impression of the screwdriver blade with the impression

15 window sill.

photograph, 16 Q. Sort of like looking at a photograph with a

17 rather than a negative?

18 A. Yes.

times 19 Q. Now, you also mentioned that -- you mentioned a few

behind that 20 already these striations or scratches that are left

21 you look at. What produces those scratches?

for the -- 22 A. Well, there can be two sources for the scratches

be left 23 or actually one source for the scratches. That would

24 by the screwdriver blade as it scraped across the  
surface, the  
25 tip of the blade going across the top of the window  
sill.

7621

James Cadigan - Direct

1 Q. Are you talking about just if the blade has a chip  
in it?

2 A. Right. In order to know whether or not a  
particular  
3 screwdriver blade was individual, as opposed to a class  
4 characteristic, class characteristic being the same  
size -- for  
5 instance, a screwdriver bit (sic) that was 1/4 of an  
inch wide.

6 That would be a class characteristic, because a whole  
class of  
7 screwdriver blades would have that same width.

8 Then there are individual tool marks that the  
examiner  
9 looks at, and that usually comes from the manufacturing  
10 processes that go into the production of the  
screwdriver blade

11 and also the subsequent use and abuse of the tool. For  
12 instance, a chip in the blade would make it very  
unique.

13 Q. Now, are all of these things that can happen to a  
blade --

14 you mentioned the manufacturing process, subsequent use

and

15 perhaps a chip coming out -- are all of those things  
visible to

16 the naked eye?

17 A. No, not always.

18 Q. So in the course of your work, do you use a  
microscope?

19 A. Yes, sir.

20 Q. Does that help you see the tiny scratches that can  
also be

21 left behind by a blade?

22 A. Yes, sir.

23 Q. Now, you told us earlier that you did tool mark  
analysis in

24 this case. Can you in general terms first explain to  
the jury

25 what it is that you did?

7622

James Cadigan - Direct

1 A. Yes. I received a padlock that had some drill-bit  
2 impressions in it, and I was given two drill bits; and  
the

3 request was to determine whether or not either one of  
the two

4 drill bits made the impressions contained on the  
padlock.

5 MR. TIGAR: Your Honor, may I approach the  
bench?

6 THE COURT: Yes.

7 Members of the jury, feel free to stand and  
stretch

8 when we're up here at the bench.

9 (At the bench:)

10 (Bench Conference 68B2 is not herein transcribed by  
court

11 order. It is transcribed as a separate sealed  
transcript.)

12

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1 (In open court:)

stretch 2 THE COURT: I will give you these chances to  
3 when we have these little conferences, which won't be  
very 4 often. But please don't talk while you're doing that.

5 Proceed.

6 MR. ORENSTEIN: Thank you, sir.

7 BY MR. ORENSTEIN:

any 8 Q. Now, when you received the padlock, did you measure  
9 parts of it?

padlock, 10 A. Yes. There were two drill-bit impressions in the  
class of 11 and I measured the diameter of them to determine what  
padlock. 12 drill bits might have produced the marks on the

to? 13 Q. When you refer to "class," what are you referring

which 14 A. As I mentioned before, in a -- examining a case in

characteristics, if 15 drill bits are used, one of the first class

would be 16 you can determine it, that you would be interested in

for 17 the diameter of the drill bit, because if you had --

had 18 instance, if the impression was 1/4 of an inch and you

19 drill bits that were 1/2 inch in diameter, you would

you would 20 immediately know they couldn't have done it, and then

21 move on to your next case.

the 22 Q. What did you find when you measured the holes in

23 padlock?

24 A. They were 1/4-inch in diameter.

bits of 25 Q. So you knew you didn't have to bother with drill

7628

James Cadigan - Direct

1 other sizes; is that correct?

2 A. Yes, sir.

about the 3 Q. Now, what -- what, if anything, did you observe

4 holes in the padlock?

was a 5 A. Well, there were two of them. There was one that

that was 6 very shallow in depth, and then there was a second one

padlock 7 much further and deeper into the lock cylinder of the

8 itself.

that you 9 Q. And from those observations, did you see anything

10 would characterize as a tool mark worth examining?

11 A. Yes. In both impressions.

12 Q. Mr. Cadigan, I'd like you to look on the table in

front of

13 you and see if you can find Government's Exhibit 126 in  
14 evidence, which is a padlock.

15 Do you have it, sir?

16 A. Yes, sir, I do.

17 Q. Do you recognize what that is?

18 A. Yes, I do. This is the padlock that I was given to  
examine

19 in this case.

20 Q. Now, did you do anything to the padlock upon  
receiving it

21 to facilitate your examination?

22 A. Yes. I did two things to the lock. There was a  
hasp

23 portion that was attached. I had that removed to  
facilitate my

24 examinations; in other words, to allow me to put it  
under a

25 comparison microscope. And then I also cut off six  
portions or

7629

James Cadigan – Direct

1 several portions of the lock to allow me to look at and  
remove

2 the lock cylinder.

3 Q. Now, why were you interested in looking at the lock

4 cylinder?

the lock  
goes into  
is where  
under

5 A. Because the lock cylinder, which is the portion of  
6 that I am indicating here with my pen, where the key  
7 the lock that turns the -- to open the padlock -- that  
8 the two impressions that I saw from the drill bit were  
9 contained. And I needed to look at those very closely  
10 the microscope.

11 Q. Did you prepare a series of photographs to  
illustrate your  
12 testimony about how you disassembled that lock to  
remove the  
13 lock cylinder?

14 A. Yes.

15 MR. ORENSTEIN: If I may ask Agent Tongate to  
assist,  
16 your Honor, I would like to show the witness Exhibit  
246,  
17 Government's Exhibit 246.

18 THE COURT: Yes, you may assist.

19 MR. ORENSTEIN: If you could first show the  
witness  
20 the exhibit.

21 BY MR. ORENSTEIN:

22 Q. Agent Cadigan, do you recognize that?

23 A. Yes, I do.

24 Q. That is the chart that you prepared?

25 A. Yes, it is.

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James Cadigan – Direct

admission 1 MR. ORENSTEIN: Your Honor, we'd move the  
2 for demonstrative purposes of 246.

3 MR. TIGAR: No objection, your Honor.

may be so 4 THE COURT: All right. 246 is received and  
5 used.

6 BY MR. ORENSTEIN:

Perhaps 7 Q. Now, Agent Cadigan, actually, it's not very large.  
8 you could just hold it up -- Agent Cadigan, if you  
could hold 9 it up and just explain to the jury what's depicted in  
these 10 photographs and what it shows about your work here?

padlock 11 A. These are three photographs that I had made of the  
12 and its various stages of disassembly as it was taken  
apart.

its 13 The first one to your far left is the lock in  
14 unremoved condition.

much of 15 The second one shows how many of the -- how  
16 the lock I had to remove in order to expose the lock  
cylinder,

key 17 which again is that separate portion which accepts the  
area in 18 which turns and opens the lock itself. That's this  
19 here.

cylinder 20 And then a much closer photograph of the lock  
see, 21 itself showing the -- one of the impressions as you can  
breaking 22 the drill bit went all the way into the lock almost,  
23 through but not quite, at the bottom of the lock.

where is 24 Q. So specifically in Photograph No. 3 on that chart,  
25 the tool mark that you're referring to?

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James Cadigan - Direct

bottom of 1 A. One of them was contained in the bottom here, the  
through, 2 the lock cylinder, where the -- As the drill bit went  
quite. 3 it then, as I mentioned, almost broke through but not

immediately 4 And there is a second one which is not  
portion 5 apparent in this particular photograph in the shallow  
6 up in the top of the lock cylinder.

7 Q. Now, the shallower mark is not apparent in that  
photograph.

8 Is that correct?

9 A. Yes, sir, that is correct.

10 Q. You could just put that back on the easel for the  
time  
11 being.

12 Let me show you on your screen, Agent Cadigan  
-- I'd  
13 like to use the computer, please -- Exhibit 1841. Have  
you  
14 seen that before?

15 A. Yes, sir.

16 Q. What is that in that photograph?

17 A. Government's Exhibit 1841 is another photograph  
that I had  
18 taken of the lock cylinder, the top portion of it.

19 Q. Does that show the shallow mark that you referred  
to?

20 A. Yes, sir, it does.

21 MR. ORENSTEIN: Government offers 1841.

22 MR. TIGAR: May I examine, your Honor?

23 THE COURT: You may.

24 VOIR DIRE EXAMINATION

25 BY MR. TIGAR:

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James Cadigan - Voir Dire

1 Q. Agent Cadigan, my name is Michael Tigar. I'm one

of the

2 lawyers appointed to help Terry Nichols.

the

3 You're showing us here -- you're looking at,

on a

4 Government has offered, something that shows some marks

5 lock. Is that correct?

6 A. Yes, sir.

recovered

7 Q. And is it your understanding that that lock was

8 at a quarry in Marion, Kansas?

it was

9 A. I'm not exactly sure where it came from, but I know

10 recovered.

time it

11 Q. And do you know where it was kept in between the

Laboratory?

12 was recovered and the time it came to the FBI

13 A. No, sir.

investigated put

14 Q. Do you know whether or not the sheriff who

15 that lock onto a property report?

16 MR. ORENSTEIN: Objection, your Honor.

17 THE COURT: What's the objection?

18 MR. ORENSTEIN: Relevance to the voir dire.

19 THE COURT: Overruled.

before I

20 THE WITNESS: No, I have no idea where it was

21 got it.

22 BY MR. TIGAR:

23 Q. Well, is it important to you as a tool marks  
examiner to  
24 know who has had the opportunity to change, tamper  
with, or  
25 alter material that you're looking at before you look  
at it?

7633

James Cadigan – Voir Dire

1 A. The concern that I have when I receive evidence is  
whether  
2 or not I can identify or compare the marks that are  
contained  
3 on that evidence.

4 Questions as to where those -- how those marks  
could  
5 have gotten there are not my ability to resolve.

6 Q. I understand you can't resolve them, sir. I'm  
asking you  
7 as a man with this experience in the FBI, do you care  
whether  
8 somebody else has had the opportunity to change or  
alter the  
9 thing before you do your examination?

10 A. Care?

11 Q. Does it matter to you in your expertise, sir?

12 A. It wouldn't affect my examination.

13 Q. All right. Because in other words, what you're  
prepared to

is when 14 do -- what you do is you take it in whatever state it  
15 it arrives in your laboratory and then compare it with  
Is that 16 something else that's also arrived in your laboratory.  
17 right?

18 A. Yes, sir, that's what I can do.

business 19 Q. And it's your testimony that it's somebody else's  
20 what happened to it before it got to you. Is that  
right?

21 A. Certainly.

22 MR. TIGAR: With that understanding, I have no  
23 objection to this picture, your Honor.

And the 24 THE COURT: All right. Then we may proceed.  
25 exhibit is?

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James Cadigan - Voir Dire

1 MR. ORENSTEIN: 1841, your Honor.

2 THE COURT: 1841?

3 MR. ORENSTEIN: Yes, sir.

4 THE COURT: Received.

easel out of 5 MR. ORENSTEIN: Perhaps we could move the  
6 the jury's way while this is up.

7 Thank you.

8 DIRECT EXAMINATION CONTINUED

9 BY MR. ORENSTEIN:

10 Q. You mentioned that this photograph shows the  
shallower --

11 well, actually, does it show both of the areas of tool  
marks

12 that you saw?

13 A. Yes, sir, it does.

14 Q. Can you point out each of them?

15 A. Yes. This area here and this area here is the  
shallow

16 portion. In the photograph you can see striations or  
lines

17 that were left by a drill bit.

18 Then the second area of my concern is in this  
area

19 down here, in which the drill bit almost went all the  
way

20 through the lock cylinder, down in this fashion and  
then -- but

21 did not go all the way through.

22 Q. Now, this particular photograph, the focus is on  
the

23 shallower mark? Is that correct?

24 A. Yes, sir, the shallower mark, which is this area  
here.

25 Q. Did you also take photographs of the mark left in  
the

James Cadigan – Direct

1 deeper area?

2 A. Yes, sir, I did.

3 Q. Did you prepare a series of photographs to show how  
you can

4 follow on where you're going?

5 A. Yes, sir.

6 MR. ORENSTEIN: I'd like with Agent Tongate's  
7 assistance, please, to show the witness Exhibit 152.

8 BY MR. ORENSTEIN:

9 Q. Agent Cadigan, do you recognize that?

10 A. Yes, sir, I do.

11 Q. You're turning it right side up?

12 A. Yes, sir.

13 Q. Is that a chart that you prepared showing  
photographs that

14 you had taken of the deeper area in the drill -- in the  
drilled

15 lock?

16 A. Yes, sir, it is.

17 MR. ORENSTEIN: Government offers Exhibit 152,  
please.

18 THE COURT: Do you want to approach?

19 MR. TIGAR: No. I can just see it from here,  
your

20 Honor.

21 No objection.

22 THE COURT: All right. 152 is received, may  
be  
23 displayed.

24 MR. ORENSTEIN: Thank you, sir.

25 Will you put that up on the easel, please.

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James Cadigan – Direct

1 BY MR. ORENSTEIN:

2 Q. Now, for the record, Agent Cadigan, there are four  
3 photographs on that chart. Is that correct?

4 A. Yes, sir.

5 Q. Would you start with the photograph on the far left  
side of  
6 the chart and describe for the jury what it is that  
these  
7 photographs show.

8 A. These photographs show -- first photograph on the  
far left  
9 shows the lock as it's still in its assembled  
condition.

10 The second one to its right is a picture of  
the lock  
11 cylinder taken at 10 power.

12 The third picture, as it's labeled, is at 20  
power.

13 And then the fourth picture is a picture -- is  
part of

14 the lock cylinder taken at 40 power.

15                   And what this does is that the second picture  
or the  
16 one labeled 10 power shows the shallow mark; and then  
as we  
17 travel further into the lock cylinder, we see the marks  
that  
18 were contained at the bottom of that lock cylinder.

19 Q. So this is a progression of photos that shows you  
how to  
20 get down to the bottom of that lock cylinder and see  
the deeper  
21 tool mark impressions?

22 A. Yes, sir.

23 Q. Let me show you on your screen, if I may,  
Government's

24 Exhibit 1842. Do you recognize that?

25 A. Yes, sir.

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James Cadigan – Direct

1 Q. Is that simply a single photo that is the same  
photo as on  
2 the chart on the far right?

3 A. Yes, sir.

4                   MR. ORENSTEIN: Government offers Exhibit 1842  
just  
5 for purposes of discussing that photo with the witness.

6 MR. TIGAR: No objection, your Honor.

7 THE COURT: All right. 1842 is received.

8 MR. ORENSTEIN: And, Agent Tongate, if I could  
ask you  
9 to move the easel once again.

10 Thank you.

11 BY MR. ORENSTEIN:

12 Q. Now, using the Photograph 1842, can you describe  
for us  
13 what the tool marks are that you looked at?

14 A. Yes. In examining the bottom part of this lock  
cylinder, I  
15 noticed that there were marks left in this area here  
and a  
16 portion of the lock cylinder here and also over here.

17 As you can see and as I mentioned before, when  
the  
18 drill bit went deep into the lock cylinder, it almost  
broke  
19 through but not quite; and that's why there is no  
continuity  
20 between this portion here and this portion here and  
this  
21 portion here. They're slightly fractured and pushed  
away from  
22 each other from the action of the drill bit going into  
the lock  
23 cylinder.

24 Q. Now, in addition to the fracturing or the  
discontinuity  
25 that you just described, did the pressure from the bit

cause

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James Cadigan – Direct

1 this not to be a flat surface?

2 A. Yes, that's correct.

3 Q. Now, you described before that you compared this  
mark to a

4 drill bit. Is that correct?

5 A. Yes.

6 Q. And which drill -- do you have Exhibit 151B in  
front of

7 you?

8 A. Yes, sir, I do.

9 Q. By the way, does that have a Q number on it, 151B?

10 A. Yes.

11 Q. Did you assign -- when you received the bit, did it  
already

12 have a Q number as part of a larger group of evidence?

13 A. Yes, sir.

14 Q. And was that Q2898?

15 A. Yes, sir.

16 Q. Did you assign a sub-number to this particular bit?

17 A. Yes.

18 Q. Is that 2898B?

19 A. Yes, sir.

Exhibit 20 Q. Now, did you examine the tip of that drill bit,  
21 151B?  
22 A. Yes, I did.  
on your 23 Q. And was -- let me show you, if I may, Exhibit 155  
24 computer screen. Do you recognize that?  
25 A. Yes, sir.

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James Cadigan - Direct

1 Q. What is that?

2 A. This is a picture of the drill bit.

3 Q. And that is a picture of 151B?

4 A. Yes, sir.

5 MR. ORENSTEIN: Government offers Exhibit 155.

6 MR. TIGAR: May I inquire?

7 THE COURT: You may inquire.

8 VOIR DIRE EXAMINATION

9 BY MR. TIGAR:

10 Q. Once again, sir, do you know when the drill that is  
11 pictured in Government's Exhibit 155 was recovered?

12 A. No, sir. Exactly when it was recovered, no, I do  
not.

13 Q. Do you have some general idea?

14 A. Well, it would have had to have been before I  
received it,

15 which was in July.

16 Q. Yes, it was. You got it in July?

17 A. Yes, sir.

18 Q. And did -- were you told that it had been recovered  
19 sometime in May?

20 A. I don't recall if I was told when it was recovered.

21 Q. Certainly recovered after April 19, 1995. Correct?

22 A. Yes, sir.

23 Q. All right. And when you -- when you first looked  
at the

24 drill that's pictured there, was it in a box with other  
drills,

25 other drill bits?

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James Cadigan - Voir Dire

1 A. No, sir.

2 Q. It had been taken out and given to you; correct?

3 A. Yes, sir.

4 Q. To be sent to you. Now, do you know the date on  
which the

5 lock, the pictures of which we're looking, was first  
recovered?

6 A. No, sir.

7 Q. Do you understand it to be the fall of 1994?

8 MR. ORENSTEIN: Objection to the relevance of  
the

9 questions about the lock.

10 THE COURT: Sustained.

11 BY MR. TIGAR:

12 Q. When was this picture taken?

13 A. It would -- I'm not exactly sure the exact date  
that it was

14 taken; but it was taken after I received the drill bit.

15 Q. All right. Now, when -- in a little while --  
you're here

16 today to show us some other comparison pictures; right?

17 A. Yes, sir.

18 Q. Now, when you do a comparison of pictures like  
you're going

19 to do, is it important to you how much time elapsed  
between the

20 time a tool mark was left and the time the tool that  
might have

21 made the mark is recovered?

22 MR. ORENSTEIN: Objection to the relevance to  
this

23 exhibit.

24 THE COURT: Overruled.

25 THE WITNESS: Okay. I'm sorry. Could you  
repeat

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James Cadigan - Voir Dire

1 that.

2 BY MR. TIGAR:

3 pictures,

4 have

5 how much

6 made and

7 recovered?

8 pictures. I

9 pictures after

10 I do the comparisons to refresh my recollection.

11 because of

12 do. My

13 time?

14 A. Is it important to know what time? Not necessarily, no.

15 important

16 time a

17 made the

18 ever

3 Q. Yes, sir. When you're going to look at some

4 comparing the mark made by a tool and a tool that might

5 made the mark, it is -- is it important to you to know

6 time has elapsed between the time the tool mark was

7 the time the tool that might have made the mark was

8 A. Well, first of all, I don't do comparisons by

9 look at actual -- the actual marks. I take the

10 I do the comparisons to refresh my recollection.

11 Q. Yes, sir. My question was asked deliberately

12 the way you're going to do that. I understand what you

13 question is very simple: Is it important to you, the

14 A. Is it important to know what time? Not

15 Q. Okay. When you say "not necessarily," is it ever

16 to you to know how much time has elapsed between the

17 mark was left and the time that a tool that might have

18 mark that you're going to look at was recovered? Is it

19 important to you?

20 A. I can't think of a time when it would be.

21 Q. All right. Well, let me suggest: Is it important  
to you

22 to know how much use the tool that might have made the  
mark has

23 had between the time that a mark was left somewhere and  
the

24 time you get the tool?

25 MR. ORENSTEIN: Your Honor, I object.

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James Cadigan - Voir Dire

1 THE COURT: Your objection is overruled. This  
is

2 foundational. I'm going beyond voir dire because we  
haven't

3 gone through the foundational pattern for the witness  
to be

4 able to do it. I thought you would understand that.

5 Proceed.

6 THE WITNESS: I'm sorry. The question is?

7 BY MR. TIGAR:

8 Q. Yes, sir. If -- this is an example. If a tool  
mark is

9 made on a window sill by a screwdriver in October of a  
certain

10 year and somebody -- and you can preserve that window  
sill so

11 it -- you know, so it can't be altered and then  
sometime six  
12 months later somebody finds a screwdriver that might  
have made  
13 that mark, is it important to you to know what use that  
14 screwdriver has had in between October and the time  
that you  
15 recover it?  
16 A. No.  
17 Q. You don't consider the fact that somebody might  
have used  
18 the screwdriver in the meantime and altered it in some  
way?  
19 A. Well, the --  
20 Q. Do you, or don't you?  
21 A. If that was the case, then that would change the  
mark left  
22 by that tool, and then you couldn't make a conclusion  
one way  
23 or another.  
24 Q. I understand. But you understand that over time,  
tools get  
25 used; right?

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James Cadigan - Voir Dire

1 A. Certainly. That's what gives them their  
individuality and  
2 allows you to identify them, yes, sir.

3 Q. And in the time that tools get used, they get  
changed in

4 different ways; right?

5 A. They can. Yes, sir.

6 Q. All right. Now -- and it's your testimony that  
other than

7 knowing when -- it had to be sometime after April 19.  
You

8 don't know when this particular drill that we're going  
to see a

9 picture of was recovered; is that right?

10 A. That's correct.

11 Q. And you don't know what use it had between, let's  
say, the

12 fall of '94 and the time that you took this picture.  
Correct?

13 A. That is correct.

14 Q. All right.

15 MR. TIGAR: Subject to that understanding,  
your Honor,

16 no objection.

17 THE COURT: All right. The exhibit is  
received. 155.

18 MR. ORENSTEIN: Excuse me. Now that -- if we  
could

19 display that to the jury, please.

20 DIRECT EXAMINATION CONTINUED

21 BY MR. ORENSTEIN:

22 Q. Now that Exhibit 155 is on the screen, can you  
point out to

23 us what you were looking at in conducting your  
examination when

24 you looked at that drill bit and the impressions it  
made?

25 A. Yes. In examining the tip of this drill bit, the  
cutting

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James Cadigan - Direct

I 1 edges are found here and here. And as I looked at it,

2 noticed that there was wear on both blades.

3 Q. Is that the kind of wear that produces the  
striations you

4 were talking about before?

5 A. Yes, sir.

-- you 6 Q. Now, you marked before you had just put them away

7 had marked two separate lines there?

edges of 8 A. Yes. Here and here. Those are the two cutting

9 the drill bit.

pattern of 10 Q. And does each cutting edge produce a different

11 striations?

12 A. Yes, it does.

to 13 Q. Now, did you do anything with this drill bit itself

14 conduct your examination?

15 A. Yes, sir, I did.  
16 Q. What did you do?  
17 A. Upon receiving the drill bit, I made impressions in  
lead to  
18 determine what kind of tool marks that this particular  
drill  
19 bit left and to enable me to compare those tool marks  
left by  
20 this drill bit, Government's Exhibit 151B, with the  
tool marks  
21 that were present on Government's Exhibit 126.  
22 Q. And 126, you were just holding it up. That's the  
lock?  
23 A. Yes, sir.  
24 Q. Let me ask you if you have in front of you Exhibit  
244?  
25 MR. ORENSTEIN: May I approach to assist, your  
Honor?

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James Cadigan - Direct

1 THE COURT: Yes.  
2 MR. ORENSTEIN: I thought I could assist, your  
Honor.  
3 Oh. Thank you.  
4 BY MR. ORENSTEIN:  
5 Q. Do you have 244 before you right now?  
6 A. Yes, sir, I do.  
7 Q. Do you recognize it?

8 A. Yes, I do.

9 Q. What is Exhibit 244?

10 A. 244 is one of the -- is an impression I made with  
11 Government's Exhibit 151B. It's the lead that I  
actually made

12 the impression in and that I used in my comparisons.

13 Q. Do you recognize that in particular as the  
particular piece

14 of lead in which you made an impression from Exhibit  
151B?

15 A. Yes, sir.

16 Q. And how do you recognize it?

17 A. It bears my initials, and also on the -- the item  
itself,

18 it has the designation "rusty bit."

19 Q. Is that because you had more than one bit and this  
one

20 happened to have some rust on it?

21 A. Yes, sir.

22 MR. ORENSTEIN: Government offers Exhibit 244.

23 MR. TIGAR: I'm sorry, your Honor. May I just  
see it?

24 THE COURT: You may, yes.

25 MR. TIGAR: May I inquire?

1 THE COURT: Yes.

2 VOIR DIRE EXAMINATION

3 BY MR. TIGAR:

4 Q. How many drill-bit impressions did you make with  
the tool

5 151B?

6 A. I think it was approximately three or four.

7 Q. All right. And is this the only one you brought  
with you?

8 A. It's the only one that I have with me right now,  
yes, sir.

9 Q. And in connection with making your comparison, did  
you make

10 other impressions?

11 A. Yes, did I.

12 Q. In lead?

13 A. Yes, I did.

14 Q. And did you do that with 151B, or -- you did that  
with

15 other drill bits. Is that right?

16 A. Yes, sir.

17 Q. How many other drill bits?

18 A. One other drill bit.

19 Q. All right. How many drill bits did you have for  
purposes

20 of making impressions?

21 A. Two.

22 Q. Didn't you have 75 others?

23 A. I was given two.

24 Q. I understand you were given two. Did you have at  
the time

25 you were working on this project 75 other drill bits?

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James Cadigan – Voir Dire

1 A. No, sir.

2 Q. It's your testimony you never had 75 drill bits  
that you

3 had obtained for purposes of working on this matter  
that you're

4 testifying about today? Is that your testimony?

5 A. I obtained 75 drill bits later, after I conducted  
this

6 examination.

7 Q. You did.

8 A. Yes, sir.

9 Q. Well, did you make any impressions in lead with the  
75

10 other drill bits?

11 A. Not in lead. They were in brass and aluminum.

12 Q. And did you bring those today?

13 A. No, sir.

14 Q. Why did you make them in brass -- well --

15 THE COURT: This is voir dire.

16 MR. TIGAR: This is voir dire.

to get 17 Your Honor, I just realized that I was about

18 into my cross-examination. I'll save it.

19 We consent to the admission of this with that  
20 understanding.

21 THE COURT: All right.

22 MR. TIGAR: Sorry.

23 THE COURT: 244 is received.

24 DIRECT EXAMINATION CONTINUED

25 BY MR. ORENSTEIN:

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James Cadigan - Direct

to the 1 Q. Now, it's a small item. Could you just hold it up

2 jury to indicate what you're looking at?

3 A. Yes. This piece of lead.

the 4 Q. And that's right now encased in a Baggie that has

5 exhibit sticker?

6 A. Yes, sir, it is.

up 7 Q. Obviously it's too small for the jury to look at it

impression? 8 close. Did you take any photographs of that

9 A. Yes, sir.

10 Q. And did you prepare a similar chart showing varying

11 magnifications of that impression?

12 A. Yes, sir, I did.

13 Q. With Agent Tongate's assistance, I'd like to show  
you

14 Exhibit 153. Is that the chart that you prepared?

15 A. Yes, sir.

16 Q. Does it show varying magnifications of the drill  
bit that's

17 just been introduced into evidence?

18 A. Yes, sir.

19 Q. I'm sorry. The drill-bit impression?

20 A. Yes, sir.

21 MR. ORENSTEIN: Government offers Exhibit 153.

22 MR. TIGAR: No objection, your Honor.

23 THE COURT: Received. May be displayed.

24 BY MR. ORENSTEIN:

25 Q. Now, Mr. Cadigan, starting with the photograph --  
and for

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James Cadigan - Direct

1 the record, there are four of them on that chart --  
starting

2 with the one on the extreme right-hand side, would you  
describe

3 for the jury what is displayed in this chart?

4 A. This is a photograph of the piece of lead that I  
used to

5 make my drill-bit impression.

6 Second one at slightly higher magnification,  
then a  
7 third and then a fourth at the listed magnifications,  
showing  
8 you the drill-bit impression that I used to make my  
comparison  
9 in this case.

10 Q. So again, we're just getting a closer and closer  
view of  
11 the test impression?

12 A. Yes, sir.

13 Q. Are these the same magnifications that you used in  
the  
14 photographs of the padlock hole?

15 A. Yes, sir.

16 Q. Now, let me show you on your screen Exhibit 1843.  
Is that  
17 just a single copy of the photo at the far left side of  
the  
18 chart that we were just looking at?

19 A. Yes, sir.

20 Q. That's once again the 40-power magnification of the  
test  
21 impression?

22 A. Yes, sir.

23 MR. ORENSTEIN: Government offers Exhibit  
1843.

24 MR. TIGAR: No objection, your Honor.

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James Cadigan - Direct

1 BY MR. ORENSTEIN:

2 Q. Now that the photograph is before the jury, can you  
3 describe the striations that you looked at on the test  
4 impression?5 A. Yes. In that particular photograph which shows the  
6 drill-bit impression I made with Government's Exhibit  
151B, the  
7 comparisons I did looked at these striations that are  
all along  
8 here that are going in a circular fashion and also the  
9 striation marks that are here that are also going in a  
circular  
10 fashion and comparing those with the ones that were  
found in  
11 the lock cylinder.12 Q. Now, when you made Exhibit 244, which is the  
photograph in  
13 this item, was that on a flat surface?

14 A. This was, yes, sir.

15 Q. Now, once you had made these photographs -- and  
these are  
16 just for illustrative purposes -- did you compare the  
padlock  
17 and the test impression?

18 A. Yes, sir, I did.

19 Q. How did you go about comparing them?

20 A. I placed the lock cylinder under the comparison  
microscope

21 and looked at the tool marks that were present in that  
lock

22 cylinder and compared them to the marks that I had  
produced

23 with Government's Exhibit 151B to determine whether or  
not that

24 drill bit made the impressions contained on that lock  
cylinder.

25 MR. TIGAR: Your Honor, may that answer be  
stricken?

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James Cadigan – Direct

1 THE COURT: Yes. It is stricken.

2 MR. ORENSTEIN: Your Honor, may I approach for  
a

3 moment?

4 THE COURT: No.

5 BY MR. ORENSTEIN:

6 Q. Now, in conducting your comparison, did you use an  
7 instrument?

8 A. Yes, I did.

9 Q. What instrument did you use?

10 A. I utilized a comparison microscope.

11 Q. Can you describe what a comparison microscope does?  
12 A. Simply a comparison microscope is just two  
microscopes  
13 joined optically by a series of lenses and mirrors.  
Also, it  
14 has a stereoscopic viewer, which means an examiner can  
use both  
15 of his items to look at two items that are side by  
side, and  
16 what he sees when he looks into the microscope is a  
circle --  
17 circular area that has a dividing line in the middle of  
it.  
18 And on one side of that area is -- would be marks from  
the left  
19 side of the microscope, and the other side of the  
hairline  
20 would be the marks from the right side of the  
comparison  
21 microscope.  
22 Q. Did you do that with the test impression on one  
side and  
23 the tool mark in the lock on the other side?  
24 A. Yes, sir.  
25 Q. Did you prepare a chart or photograph to illustrate  
what

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James Cadigan - Direct

1 you saw when you looked through the comparison  
microscope?

2 A. Yes.

3 Q. Do you have before you Exhibit 157?

4 A. Yes, I do.

5 Q. And what is 157?

6 A. 157 is a photograph that I had prepared that showed  
what I  
7 saw under the microscope when I examined the impression  
on the  
8 lock cylinder and the test impression that I made with  
9 Government's Exhibit 151B.

10 MR. ORENSTEIN: Your Honor the Government  
offers  
11 Exhibit 157.

12 MR. TIGAR: I don't see it on my screen, your  
Honor.  
13 If I could just look at it.

14 THE COURT: Yes, you may.

15 MR. TIGAR: Yes, your Honor, it's what I've  
seen. No  
16 objection.

17 THE COURT: 157 is received, may be used.

18 MR. ORENSTEIN: And may I retrieve it to  
display on  
19 the ELM0?

20 THE COURT: Yes.

21 MR. ORENSTEIN: Thank you.

22 BY MR. ORENSTEIN:

23 Q. Now, Agent Cadigan, this photo has two halves. Is

that

24 correct?

25 A. Yes, sir.

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James Cadigan - Direct

1 Q. Let me first show you the half -- the right-side  
half. And

2 I'll zoom out here.

3 What do we see on the right-hand side of this  
4 photograph?

5 A. On the right-hand -- on this particular portion of  
the

6 photograph that's exposed is a portion of the tool  
marks made

7 by the Government's Exhibit 151B, by the drill bit that  
I made

8 in the test impression in lead.

9 Q. So that's the test impression; correct?

10 A. Yes, sir.

11 Q. All right. Now, if we open up the left side -- let  
me zoom

12 in a little bit there. Does that show the -- what you  
saw on

13 the other half of the comparison microscope?

14 A. Yes. This portion of the photograph shows tool  
marks that

15 were -- that are at the bottom of the lock cylinder  
from the

16 padlock.

17 Q. Now, if we open up both sides of this exhibit, do  
we see

18 what you saw when you looked through the comparison  
microscope?

19 A. You see a portion of it, yes, sir.

20 Q. And is that -- does that illustrate what you saw  
when you

21 looked through the comparison microscope?

22 A. Yes, sir.

23 Q. Now, do you see any areas of similarity from one  
side to

24 the other?

25 A. Yes, sir, I do.

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James Cadigan - Direct

1 Q. And can you point out the similarities that you  
saw?

2 A. Certainly. As we can see from the striations that  
are left

3 by the drill bit -- continue over onto the lock  
cylinder in

4 these areas. And those are tool marks that are  
contained on

5 the lock cylinder again on the left side and the drill-  
bit

6 impression on the right side.

7 Q. So these striations on one side from the test

impression

8 you see is also reflected on the other side in the  
impression

9 in the lock; is that correct?

10 A. Yes, sir.

11 MR. ORENSTEIN: Thank you, Agent Cadigan.

12 Your Honor, I have nothing further on direct.

13 THE COURT: All right. Mr. Tigar?

14 MR. TIGAR: Your Honor, we would respectfully  
15 request -- I made a motion to strike most inartfully.

Would

16 the Court instruct the jury as to the significance of  
that?

17 THE COURT: Well, what the motion to strike  
was about

18 was the witness giving an opinion with respect to  
comparison,

19 and I struck that because what is permitted here is to  
show

20 what he saw through the microscope and the comparison  
21 microscope and then with his experience and training  
the

22 similarities that he pointed out.

23 MR. TIGAR: Thank you, your Honor.

24 CROSS-EXAMINATION

25 BY MR. TIGAR:

James Cadigan – Cross

1 Q. Agent Cadigan, you have been a special agent for  
how many 2 years, sir?

3 A. 26 years tomorrow.

4 Q. 26 years. I'm going to show you something that's  
been 5 furnished to us in discovery, if I may.

6 Is that a biography of you, sir?

7 A. It is one of the CV or curriculum vitae that I  
prepared, 8 yes, sir.

9 Q. Yes, sir. And in there you list the fact that you  
have a 10 bachelor of science from the University of Maryland.  
Is that 11 correct?

12 A. Yes, sir.

13 Q. And you list that you have testified in 250 court  
cases.

14 Is that correct, sir?

15 A. Yes, sir.

16 Q. And you say that you're a member of the AFTE?

17 A. The Association of Firearms and Tool Marks  
Examiners, yes,

18 sir.

19 Q. And the 250 court cases in which you've testified:  
Are 20 those in the areas of -- all the areas of tool marks?

21 A. No, they are in tool mark identification, firearms  
22 identification, and serial number restoration only.

23 Q. Okay. In terms of spinning drill bits, how many  
cases have

24 you testified in?

25 A. None.

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James Cadigan – Cross

1 Q. This is your first time out?

2 A. This is my first time testifying about the  
identification

3 of a drill bit. It's not the first identification I've  
made

4 with a drill bit.

5 Q. I understand that. You testified you made others.  
This

6 case is your first testimony. Now, in that case you  
list that

7 you did the firearms work in the Branch Davidian case;  
is that

8 correct, sir?

9 A. That is correct.

10 Q. And that was -- that involved a great deal of very  
11 elaborate ballistics work on your part; correct?

12 A. It involved firearms identification work, yes, sir.

13 Q. Are there similarities between firearms  
identification and

14 drill-bit identification?

15 A. Firearms identification is one subset of the  
general

16 umbrella term "tool mark identification."

17 Q. So the answer to my question are there  
similarities: Is

18 the answer yes, or is the answer no?

19 A. Certainly, it's part of it.

20 Q. Thank you. Now, in your biography there, you do  
not list

21 your participation in the Ruby Ridge case. Is that  
correct?

22 A. That is correct, I guess.

23 Q. Will you look at it?

24 A. No, I don't.

25 Q. Why did you leave it off?

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James Cadigan – Cross

1 MR. ORENSTEIN: Objection to relevance.

2 THE COURT: Sustained.

3 BY MR. TIGAR:

4 Q. When you first got this drill bit in, you said that  
you had

5 examined other drill bits in the past. Is that right?

6 A. Yes, sir.

7 Q. Now, you told us earlier on the voir dire that you  
had gone

8 out and gotten 75 other drill bits; is that correct?

9 A. It's more than 75, but 75 from one manufacturer,  
yes, sir.

10 Q. Oh, 75 from one manufacturer. And how many total  
drill  
11 bits did you get?

12 A. Approximately 150.

13 Q. Now, the purpose of that was to help you in your  
analysis;  
14 correct?

15 A. What was?

16 Q. To get all the 150 drill bits.

17 A. No, sir.

18 Q. What was the purpose of it?

19 A. The purpose was to -- it was part of initiating a  
study in  
20 the area of drill-bit manufacture and the tool marks  
left by a  
21 drill bit.

22 Q. And did you think it was necessary to initiate that  
study?  
23 A. I thought in reading the literature that is  
available in  
24 the field of tool mark identification, I noticed that  
there  
25 were not many studies concerning tool mark  
identification

James Cadigan – Cross

a good 1 utilizing drill bits, and I thought that this would be  
2 area to initiate a study.  
notes that 3 Q. All right. So you -- and in fact, you made some  
4 you thought that you were going to purchase a Microsoft  
program 5 called Mathematica. Correct?  
6 A. I didn't make, no, sir.  
concerning 7 Q. Oh, didn't make that note? Did you make notes  
8 the use of a Poisson figure, Poisson equation?  
9 A. No, sir.  
ask you 10 Q. Did you attempt to -- well, let me make -- let me  
11 some about some differences here. A ballistics case  
involves 12 looking at striations, doesn't it?  
13 A. If you mean a firearms identification as opposed to  
14 ballistics, ballistics being the study of the motion of  
15 projectiles or projectiles in motion, firearms  
identification 16 would be the study of striations left on a bullet from  
the 17 barrel of a firearm.  
18 Q. Exactly. And in order to make the striations -- in  
order 19 to understand the striations, you have to understand  
how the

20 striations get made in the firearm; correct?

21 A. Yes, sir.

22 Q. And in a 4-inch barrel, Smith & Wesson revolver, if  
you get

23 a bullet that is a projectile that's fired from that  
and you

24 put it under a microscope, you can see striations;  
correct?

25 A. Yes, sir.

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James Cadigan - Cross

1 Q. And how many turns or twists does the projectile  
make as

2 it -- as it travels the 4-inch length of the barrel of  
the

3 Smith & Wesson?

4 A. Well, that would depend on the rate of twist of the  
barrel.

5 Some barrels turn the -- the bullet would turn once  
every

6 8 inches, once every 12 inches, once every 16. It  
depends on

7 the manufacturer.

8 Q. All right. But in any case, it would be very rare  
for a

9 bullet coming out of a Smith & Wesson revolver to have  
made

10 more than one complete revolution before it leaves the  
end --

11 the business end of the gun. Right?

12 A. I don't know, but --

13 Q. Well, you said if it turns once in 8 inches or once  
in

14 12 -- those are reasonable numbers, aren't they?

15 A. They are some of the rates of twist that are  
utilized by

16 manufacturers, yes, sir.

17 Q. All right. And so that in those cases, at any  
rate, the

18 bullet would not have made one complete revolution by  
the time

19 it gets out the barrel. Correct?

20 A. That is correct.

21 Q. Now, how fast is the bullet being fired from a  
typical

22 Smith & Wesson revolving? How many rpms?

23 A. I don't know.

24 Q. All right. And we could compute that, couldn't we,  
by

25 asking ourselves what the speed was, if we knew the  
speed at

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James Cadigan - Cross

1 which it left the barrel --

2 A. Correct.

3 Q. Yes, sir and then if we knew how many revolutions

it would

4 make in an 8-inch or 12-inch area, then we could  
compute that.

5 Right?

6 A. I guess so.

7 Q. Okay. But you've never done it?

8 A. No, sir.

9 Q. Now, that Makita drill that's in front of you --  
how fast

10 does the drill rotate -- that is the right term? Is it

11 "rotate" or "revolve"? I never know. But spin. How  
about

12 that?

13 How fast does the drill bit spin on that drill  
when

14 it's being used in the -- at the rated capacity?

15 A. I don't know.

16 Q. Well, would you agree with me, sir, that a drill-  
bit

17 impression -- let's take these one at a time. When a

18 screwdriver or crowbar is placed against a window to  
jimmy it,

19 the usual thing is that you'll see a mark made by the

20 application of the force of the crowbar or screwdriver  
to the

21 window. Correct?

22 A. You would see one of either that -- the impression  
that was

23 made as it pressed against the window or striations as  
it slid

24 across the window sill.

the 25 Q. And the drill bit that you analyzed, here, however,

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James Cadigan - Cross

had, a 1 hypothesis is that it was applied -- that the lock you

2 drill was applied to it like a spinning tool. Correct?

3 A. Yes, sir.

any 4 Q. And the impressions that are left are not left by

spinning 5 single contact of the drill but rather by a process of

6 at the rated speed of the drill. Correct?

-- it 7 A. Well, the impressions that are left if -- depends

8 depends on what happens as the user utilizes the drill.

9 Q. Right.

10 A. If he goes all the way through, no marks are left.

marks? 11 Q. Of course. The end of the drill doesn't leave any

impression 12 A. But if in this case in which there was a shallow

would be 13 and a deeper impression, the impression that is left

was pulled 14 the last turn of that particular drill bit before it

15 away.

16 Q. That's right. Before it was pulled away.  
17 A. The last sweep.  
18 Q. You use electric drills, don't you?  
19 A. Yes, sir.  
20 Q. And sometimes if you're drilling a hole in a little  
ways,  
21 do you run the drill bit back in to smooth out the  
partial hole  
22 that you've made and to have the process of the drill  
remove  
23 any chips?  
24 A. Sometimes.  
25 Q. Okay. And so you're familiar with that process;  
right?

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James Cadigan – Cross

1 A. Yes, sir.  
2 Q. Well now let's look at the two parts of the  
equation.  
3 Let's look first at a drill bit. All right? How is a  
drill  
4 bit manufactured?  
5 A. Well, it's a several-step process that goes into  
the  
6 production of the drill bit, starting out with bar  
stock that  
7 can be of different diameters.

bit 8 Q. Okay. Let's start with that. A quarter-inch drill  
inch in 9 starts out its life as a piece of bar stock a quarter  
10 diameter. Correct?  
then it's 11 A. Not necessarily. It can be wider than that, and  
12 manufactured down to a particular diameter.  
13 Q. Could be machined down; correct?  
14 A. Yes, sir.  
Now, bar 15 Q. So it starts out life as a piece of bar stock.  
some kind? 16 stock is not a casting, is it? It's an extrusion of  
17 A. It usually is, yes, sir.  
do. Is 18 Q. Because a casting wouldn't have the strength that's  
19 necessary to do the work that a drill is supposed to  
20 that your understanding?  
21 A. That's my understanding.  
make a 22 Q. Now, this piece of bar stock is then machined to  
drill. 23 pointed end -- that's the -- the pointy end of the  
24 Right?  
25 A. Yes, sir.

things 1 Q. The pointed part. And then there are -- the little

Correct? 2 you can see around those are called the flutes.

3 A. That's what they're called.

of 4 Q. Now, the drill as it's manufactured has two types

the end 5 cutting edges, does it not? One is the cutting edge at

picture you 6 of the drill, if you looked at it end on, like that

edges 7 and I were looking at, and you see those two little

8 there; correct?

9 A. Yes, sir.

correct? 10 Q. In addition to that, the flutes are sharp; is that

11 A. The flutes are sharp, yes, sir.

12 Q. In order to get sharp, they have to be sharpened?

13 A. Yes, sir.

14 Q. You don't find them in nature sharpened.

15 A. No.

16 Q. That's what I'm saying.

correct? 17 Now, the manufacturer makes drill bits, the  
18 quarter-inch drill bits according to specifications;

19 A. Yes, sir.

buy 20 Q. That is to say, if I go to the hardware store and

bit and 21 something out of a bin that says a quarter-inch drill  
I want 22 I'm going to drill a hole in my boat to put lag bolts,  
Right? 23 to make sure that it's a quarter inch and not 17/32.  
24 A. That is correct.  
25 Q. So they have tolerances in the manufacture that are

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James Cadigan - Cross

respect to 1 designed to make the drills identical at least with  
2 size. Is that correct?  
3 A. That is correct.  
respect to 4 Q. Now, in addition to making them identical with  
5 size, the manufacture of drill bits in today's world is  
6 automated, isn't it?  
7 A. Yes, sir.  
preparation for 8 Q. Did you visit any drill-bit plants in your  
9 your debut as a testifier about drill bits?  
during my 10 A. I visited drill-bit manufacturing facilities both  
11 training and before coming to testify here, yes, sir.  
12 Q. Okay. So you've watched them make them. Right?  
13 A. Yes, sir.

14 Q. Now, the automated process involves the use of a  
lathe of  
15 some kind -- is that fair to say -- to machine this bar  
stock  
16 into drill bits of the requisite size? Is that fair?  
17 A. A lathe is used in part of the process. There is  
also a  
18 cutter that cuts the flutes, and there is also a  
grinder that  
19 sharpens the tips of the blades to allow them to cut.

20 Q. Okay. Now -- and again, these processes are  
designed to  
21 produce drill bits that meet the manufacturers'  
specifications;

22 correct?

23 A. That is correct.

24 Q. Now, metal that is extruded as bar stock has  
certain  
25 strength characteristics that are along its longitude;  
that is,

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James Cadigan - Cross

1 along the long way. Is that right?

2 A. Yes, sir.

3 Q. That is to say, if you cut -- if you cut through  
metal --

4 and I don't know the answer to this. Could you help  
me? If I

5 cut through a piece of bar stock and looked at it very

closely

fibrous? 6 under a microscope, would I see things that looked

7 A. I don't know.

8 Q. You don't know the answer to that.

9 A. No, sir.

belief 10 Q. Okay. Now, in this machining process, is it your

when it 11 that every drill bit that comes off the line is unique

12 leaves the factory?

13 A. In the production, once it's sharpened.

14 Q. Yes, sir.

15 A. Yes, sir.

unique, 16 Q. All right. And the -- now, when you say that it's

time a 17 you're taking account of the fact that, what, every

18 cutting tool cuts something, it changes; right?

sharpened, it is 19 A. It's based on the fact that as the tool is

pattern grit 20 sharpened using a wheel that presents in a random-

grit falls 21 that removes metal; and each time that wheel turns,

pattern on the 22 off, pieces of metal fall off and leave a unique

23 tip of that screwdriver blade or drill bit.

24 Q. Talking about drill bits?

25 A. Drill bit. And those unique patterns on the tip of

that

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James Cadigan – Cross

1 screw -- drill bit are left when that drill bit is used  
on a

2 surface.

3 Q. Now, we're talking about the manufacturing process,  
sir.

4 We've gone a little bit beyond.

5 When the -- let's look at the place where the  
pointy

6 end of the drill is being made. Right? That pointy  
end makes

7 contact with a wheel. Correct?

8 A. Yes, sir.

9 Q. All right. And the wheel is spinning very fast.  
Right?

10 A. Yes, sir.

11 Q. Now -- and that's the same -- if I make -- if the  
12 manufacturer makes a thousand drill bits in one day,

every

13 single one of the ends of those drill bits is going to  
come in

14 contact with that same wheel; correct?

15 A. Yes.

16 Q. All right. And if you were at the factory and you  
took

17 that wheel, would you be able -- at the end of a day's

run,

were 18 would you be able to identify the 1,000 drill bits that

19 made that day using that wheel?

20 A. I don't understand that question.

example 21 Q. Well, you testified, sir, that in our hypothetical

manufacturer. 22 a thousand drill bits are going to be made by a

23 Correct? We understand that. That's our hypothetical?

24 A. Yes, sir.

bits. 25 Q. Let's assume they're a thousand quarter-inch drill

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James Cadigan - Cross

1 A. Yes, sir.

made is 2 Q. And you told us that the way those drill bits get

into 3 that the -- what's going to become the pointy end comes

production 4 contact with a grinding wheel sometime during the

5 process. Correct?

6 A. Yes, sir.

it under 7 Q. All right. Now, if you were able at the end of the

8 production day to take that grinding wheel and look at

9 your microscope, would you be able to correlate that to

the

10 thousand drill bits that were manufactured that day?

11 A. Would I be able to match the grinding wheel?

12 Q. Yes.

13 A. With the drill bits?

14 Q. Yes, with the drill bits.

15 A. I don't think so.

16 Q. All right. Well, a grinding wheel is a cutting  
tool, isn't

17 it?

18 A. Yes, sir.

19 Q. And a drill bit is a thing that receives an  
impression from

20 a cutting tool. Correct?

21 A. Yes, sir.

22 Q. And it's your testimony that in that instance you  
would not

23 be able to make a match between the thing that cuts and  
the

24 thing that's being cut. Right?

25 A. Well, in the case --

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James Cadigan - Cross

1 Q. You can explain in a minute, but I need you to  
answer my

2 question. Is it your testimony that you would not in  
that case

the 3 be able to make a match between the thing that cuts and  
4 thing that's being cut? Yea, or nay?  
wouldn't 5 A. It's sharpened, as opposed to being cut, but there  
compare to 6 be any pattern on the grinding wheel that you could  
7 the drill bit.  
cut." 8 Q. Okay. And you say, "sharpened, as opposed to being  
diamond or 9 The -- a grinding wheel has little bits or flecks of  
10 emery or something like that. Right?  
11 A. Yes, sir.  
that's a 12 Q. So when we say "grind," all we mean is cut --  
grit 13 series of little cuts rendered by the little pieces of  
14 that are on the wheel; right?  
15 A. "Sharpened" is a more accurate term for me.  
we're 16 Q. All right. Now, in this manufacturing process that  
so 17 talking about, you said you collected, you know, 150 or  
literature 18 drills. Right? Now, is -- have you read any of the  
19 about drill-bit comparison?  
20 A. Yes, sir.  
Scientific 21 Q. Okay. Have you read a book called Modern

22 Evidence, The Law and Science of Expert Testimony?

23 A. I don't know that I have.

24 MR. TIGAR: May I display it to the witness,  
your

25 Honor?

7669

James Cadigan – Cross

1 THE COURT: Yes.

2 BY MR. TIGAR:

3 Q. Do you know this book?

4 A. No, sir.

5 Q. Have you read any work on firearms and tool marks  
by Alfred

6 Biasotti and John Murdock?

7 A. Yes, sir.

8 Q. Do you recognize Alfred Biasotti and John Murdock  
as

9 experts in the field of tool mark identification?

10 A. They have written several articles in the field,  
yes, sir.

11 Q. I didn't ask that, sir. Do you recognize them as  
experts

12 in the field of tool mark identification?

13 A. I recognize them as people that have expertise.

14 Q. Now, are they members of this AFTE? Do you know?

15 A. Mr. Biasotti was a member of it and Mr. Murdock is.

change 16 MR. TIGAR: Okay. Your Honor, I am about to  
leave 17 subjects. If I could have the Court's indulgence and  
I'll 18 five minutes early, I would appreciate it. If not,  
19 continue.

20 THE COURT: How long do you expect to go?

and a half 21 MR. TIGAR: Your Honor, I have another hour  
22 or so with this witness.

23 THE COURT: All right. We'll recess.

24 MR. TIGAR: Thank you, your Honor.

25 THE COURT: You may step down.

7670

Monday 1 Members of the jury, we will recess now until  
And, of 2 morning, at which time we expect to start at 8:45.  
recognize 3 course, as I already told you, Tuesday we're going to  
4 the holiday of Veterans Day.

come back 5 So between now and Monday morning when you  
at it, 6 to the courthouse is a short time in one way you look  
which is 7 your way; it's a long time in the way I look at it,

8           how much opportunity there is for you to come into  
contact with

9           things that you ought not during that time.

10                       And, you know, I just repeat what I said here  
when you

11           were going through the jury selection process in  
assuring you

12           or reassuring you that we do not anticipate having you  
kept

13           separate and apart from other people -- "sequester," as  
we call

14           it, the jury during the course of the trial. And I  
still, of

15           course, adhere to that.

16                       But that all depends on you and it depends  
upon your

17           willingness to and your exercising the discipline to,  
first of

18           all, keep open minds, remembering that, of course,  
you've heard

19           a lot in this case but you're going to hear a lot more,  
20           remembering also that you must avoid discussing any  
impressions

21           or even coming to impressions about what all this  
means. Let

22           us go through the whole trial process, meaning all of  
the

23           evidence, the arguments, and the instructions on the  
law, all

24           of the phases of the trial that I discussed with you or  
25           mentioned to you when you were first selected.

7671

1                    So please wait for that with respect to your  
own views        2                    of the case.

3                    But, you know, you have to be extremely  
careful about    4                    all things that you might come into contact with in  
newspapers,     5                    magazines, radio, television, books, whatever, because  
you're            6                    going to get a lot more evidence in this case; and it's  
the                7                    evidence in the case that you're going to have to rely  
on when          8                    you decide the case and only that.

9                    I do want to mention one thing about exhibits.  
You               10                    hear these exhibits being referred to with numbers like  
2000              11                    and all that. I don't want you to leap to the  
conclusion that   12                    you're going to get thousands of exhibits. The  
numbering        13                    system we use here is not, as you've already learned,  
14                    sequential. We don't go from 1 to X number or  
infinity. So      15                    bear with us on that.

16                    And also, when it comes time to deliberate in  
the

17 case, the exhibits will be there in a room for you to  
handle

18 and deal with. You don't have to remember each  
photograph that

19 you see or each physical piece of evidence that you  
see.

20 You'll have all of that at the time of deliberation.  
So don't

21 be concerned with, Gee, I don't remember what that  
photograph

22 was, or something. That will all be there for you.

23 But the important thing, of course, is that  
you must

24 be extremely careful in talking with other people or  
letting

25 other people talk to you or in your presence about  
anything

7672

1 connected with the case.

2 Obviously, as you can appreciate, there is  
some public

3 comment about our trial and I'm sure will be. But, you  
know,

4 your understanding of the case has to be based on what  
happens

5 in this room and on nothing else. And I have to rely  
on you

6 for that because, you know, to put it to you in just  
plain old

7 terms, if somebody violates that, I'd have to change my  
8 approach in this case and then sequester you.

I 9 So I'm sure you don't want that to happen; and  
10 don't, either. But it depends on every one of you  
following 11 this instruction and being very careful about it.

12 Now, we -- you know, in all other respects, of  
course, 13 you're free to go and do as you will this weekend. I  
can't 14 guarantee you good weather all the time. I don't have  
any 15 jurisdiction over that, so we'll see what happens. We  
kind of 16 hope for good weather on Monday.

17 But with these cautions, then, I'm going to  
excuse you 18 until the usual time when we'll gather you up on Monday  
and 19 have you come to the courthouse.

20 So please continue to be very careful, as I am  
sure 21 you will, recognizing what your responsibility is in  
the case.

22 And I'm not going to be able to tell you now how long  
you can 23 expect this trial to take because we still don't know.  
I mean, 24 we're well under way here, but I'm not going to be able  
to give

25 you a prediction about the length of the trial; so  
don't ask

7673

1 me. I can't answer it.

2 With these cautions, members of the jury --  
and also

3 we do, on a more positive side, hope for you to have a  
pleasant

4 and restful weekend. You're now excused till Monday  
morning.

5 (Jury out at 1:02 p.m.)

6 MR. TIGAR: May we approach, your Honor?

7 THE COURT: Yes.

8 (At the bench:)

9 (Bench Conference 68B3 is not herein transcribed by  
court

10 order. It is transcribed as a separate sealed  
transcript.)

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23  
24  
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7680

1 (In open court:)  
2 THE COURT: Well, we had a little discussion  
here at 3 the bench concerning a couple of matters respecting the  
4 evidence and then also scheduling.  
5 8:45 -- we'll be in recess until 8:45 Monday  
morning.

6 (Recess at 1:08 p.m.)

7 \* \* \* \* \*

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10 WITNESSES

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                 14           Brett Mills

7593           15                   Direct Examination by Ms. Wilkinson

7602           16                   Cross-examination by Mr. Tigar

                 17           James Cadigan

7612           18                   Direct Examination by Mr. Orenstein

7631           19                   Voir Dire Examination by Mr. Tigar

7634           20                   Direct Examination Continued by Mr. Orenstein

7639           21                   Voir Dire Examination by Mr. Tigar

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	1	PLAINTIFF'S EXHIBITS				
Withdrawn	2	Exhibit	Offered	Received	Refused	Reserved
	3	151-151A	7581	7585		

4	151B	7600	7600
5	152	7635	7635
6	153	7648	7648
7	155	7639	7643
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17 \* \* \* \* \*

18 REPORTER'S CERTIFICATE

19 I certify that the foregoing is a correct  
transcript from

20 the record of proceedings in the above-entitled matter.  
Dated

21 at Denver, Colorado, this 7th day of November, 1997.

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23

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Paul Zuckerman

24

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