

UNITED STATES DISTRICT COURT

STATE OF COLORADO

Civil Action No. 96-CR-68-M

UNITED STATES OF AMERICA,

Plaintiff,

vs.

TIMOTHY JAMES McVEIGH and TERRY LYNN NICHOLS,

Defendants.

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DEPOSITION OF FREDERIC WHITEHURST, Ph.D.  
December 16, 1996  
VOLUME I

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2 FOR THE UNITED STATES: JOSEPH HARTZLER, ESQ.

BETH WILKINSON, ESQ.

3 1961 Stout Street  
Suite 1200

4 Denver, CO 80294

and

5 JAMES M. MADDOCK, ESQ.

Deputy General Counsel

6 Federal Bureau of  
Investigation

7 10th & Pennsylvania Ave, NW

Washington, DC 20535

8

FOR THE DEFENDANT, STEPHEN JONES, ESQ.

9 McVEIGH: ROBERT L. WYATT, IV, ESQ.

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and

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12 Suite 400

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13

FOR THE DEFENDANT, MICHAEL TIGAR, ESQ.

14 NICHOLS: JANE TIGAR, ESQ.

RON WOODS, ESQ.

15 REID NEUREITER, ESQ.

1120 Lincoln Street

16 Suite 1308

Denver, CO 80203

17

18 Kohn, Kohn & Colapinto

3233 P Street NW

19 Washington, DC 20007

20 ALSO PRESENT: Dr. John Lloyd

Timothy J. McVeigh

Ann Bradley

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1 PURSUANT TO AGREEMENT, the deposition of

2 FREDERIC WHITEHURST, Ph.D., called for examination by

3 the Defendant, Terry Lynn Nichols, was taken at the

4 United States Courthouse, Denver, Colorado, on the

5 16th day of December, 1996, at the hour of 9:01 A.M.,

7 Shorthand Reporter in and for the State of Colorado

8 and a Registered Professional Reporter.

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10 I N D E X

12 Mr. Tigar 4

13 Index of Exhibits Page

14 1 Maddock letter to Whitehurst 4,5,10,139

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2 (Deposition Exhibit 1 was marked for

3 identification.)

4 FREDERIC WHITEHURST, Ph.D.,

5 called as a witness for examination under the Rules,

6 having been first duly sworn according to law, was

7 examined and testified on his oath as follows:

9 say something on the record first, or do you want me

10 to start?

11 MR. KOHN: Let me just do some preliminary

12 remarks. I just wanted to -- first, I just wanted to

13 state that Dr. Whitehurst was interviewed on Saturday

14 with the representatives of the Government.

16 one point, a letter was sent, I think, to counsel for  
17 the defendants that that interview had been cancelled.  
18 After that cancellation, additional discussions  
19 occurred and we were able to work out whatever  
20 differences we had and that did go forward. I just  
21 wanted people to know that did happen. The people who  
23 Ms. Wilkinson, Dr. Whitehurst, myself and counsel for  
24 the FBI, Mr. Maddock.  
25 The second point is Dr. Whitehurst has a

1 cold. He's fighting a cold now and we may have to  
2 take some breaks for that and just work along with  
3 that. But he's informed me he's not quite at 100  
4 percent, but he's able to go forward.  
5 The third point is at the interview we had  
6 on Saturday, Mr. Maddock handed us a document which I  
7 believe has now been marked as Whitehurst Deposition  
8 Exhibit Number 1, a December 14, 1996, letter from  
9 Mr. Maddock to Dr. Whitehurst, stating essentially the  
10 ground rules for the type of information that he can  
11 or cannot talk about. As a practical matter, the  
12 accommodation we have with the FBI on this is that  
13 Mr. Maddock, as the representative of the Bureau, is  
14 here, and if he thinks that Dr. Whitehurst may start  
15 getting into an area which is covered under this  
16 letter and which the FBI does not want disclosed,  
17 he'll raise an -- he'll just -- either raise an  
18 objection or ask that we go off the record and  
19 Mr. Maddock, Dr. Whitehurst, and I will go out and

20 discuss it and see if it's something that needs to  
21 remain confidential pursuant to this letter. But it's  
22 our understanding that absent an objection by the  
23 Bureau, Dr. Whitehurst will not be disciplined for the  
24 testimony he gives here today, provided he adheres to  
  
25 the objections raised by the FBI deputy general

6

1 counsel. Is that -- am I accurate on that, Jim?

2 MR. MADDOCK: That's accurate.

3 MR. TIGAR: We have -- I'm sorry. Did you  
4 have more?

5 MR. KOHN: Yeah. I have put together a  
6 small packet of documents which I don't -- which  
7 either were declassified by the Bureau or I don't  
8 believe ever were classified and some of them are some  
9 letters that I have written to the attorney general

10 and that -- that correspondence for the FBI and some  
11 are performance-related documents related to  
12 Dr. Whitehurst. We don't really need to spend time  
13 today going through that, but I do plan on giving a  
14 packet of that information to the parties just so  
15 everybody has the same information and that's all been  
16 distributed while -- before this deposition is  
17 concluded so in case any questions come up about any  
18 of that material, it can be asked.

19 MR. HARTZLER: I would ask that we have an

20 opportunity -- you have no obligation to discovery in  
21 this case, but we do, so the discovery should flow  
22 through us, so if you want to tender a packet to us,  
23 we would be delighted to review it as quickly as we  
24 could.

25 MR. KOHN: I have given the correspondence

7

1 to Mr. Maddock. This is material which is either  
2 already in the public domain or is not Government  
3 property, per se. It's just stuff that we have that  
4 we think the -- the parties should have, but you talk  
5 with Mr. Maddock. He has it all right now.

6 MR. HARTZLER: Regardless of what you  
7 think -- I don't mean any disrespect -- Mr. Whitehurst  
8 is here as an FBI agent, an employee of the  
9 Government. We have responsibilities to make  
10 discovery to those defendants and we'll abide by those  
11 responsibilities. I don't believe you have any  
12 responsibility. If you're acting on behalf of  
13 Mr. Whitehurst as opposed to you as an independent  
14 citizen, then I would ask that any discovery flow  
15 through us.

16 MR. KOHN: Okay. I mean, hearing no  
17 objection, that's fine. And just so the --

18 MR. JONES: Wait a second. I have an  
19 objection. Are you going to give us everything he  
20 gives you?

21 MR. HARTZLER: I obviously have to review it  
22 first.

23 MR. JONES: I'd ask that you tell us what  
24 you don't give us so if we disagree --  
25 MR. HARTZLER: We'll let you know if there's

8

1 a disagreement.

2 MR. KOHN: In that vein, we've produced to  
3 Mr. Hartzler a very informal document which is an  
4 index of materials that Dr. Whitehurst thinks may  
5 contain exculpatory evidence. It's not saying they  
6 do. It's an index. We do not know the material  
7 that's already been provided. For all we know, the  
8 defendants already have this information. But it's --  
9 it's -- it's not inclusive, just a handwritten  
10 document. I'm sure there are other documents which  
11 would be exculpatory that are not on that list. It's  
12 just a very informal index that I've handed over to  
13 Mr. Hartzler and he said he's going to review it and  
14 deal with it appropriately.

15 That said, my -- the way we've done this in  
16 other cases is, essentially, Dr. Whitehurst will  
17 answer any question that's asked, provided the  
18 Government doesn't raise an objection. I will raise  
19 objections and reserve the right to instruct him not  
20 to answer any question pending a ruling by the judge  
21 if I think a question is inappropriate.

22 Also, we view this proceeding -- as we have  
23 viewed it in other cases -- as a truth-finding  
24 proceeding. Dr. Whitehurst is not pro or con.  
25 He's -- he's here fulfilling, in his view and my view,

1 his Constitutional obligations. We don't want to see  
2 this as an adversarial process. And as I said in the  
3 letter earlier, if tempers flare or people become  
4 hostile, I'm going to invoke my right just to instruct  
5 Dr. Whitehurst to not answer any questions that are  
6 posed in a way that we think is hostile or counter-  
7 productive to the truth-finding procedure that we  
8 envision.

9       That said, I understand that Mr. Tigar,  
10 through an accommodation of the parties, will be the  
11 first to ask questions, so I'll just turn it over to  
12 him.

13       MR. TIGAR: Before I start, Mr. Hartzler, do  
14 you have any idea when we can expect to see the  
15 materials that have been turned over to you and to  
16 Mr. Maddock?

17       MR. HARTZLER: Well, I haven't seen what's  
18 been turned over to Mr. Maddock. All that was turned  
19 over to me is a handwritten list of dates and an  
20 abbreviation of the documents in terms of who it was  
21 sent to. So we'll try to review it, you know, over  
22 the lunch hour and this evening and let you know.  
23 I'm -- we're not -- you know, obviously, we'll make  
24 the Brady determination. Mr. Kohn and Mr. Whitehurst  
25 may conclude that information relating to -- I'm

1 trying to make up a name --

2 MR. TIGAR: John Doe is not a good --

3 MR. HARTZLER: -- Mark Asis is Brady

4 material because of some implication, whereas we all

5 in this room know that Asis is simply not going to be

6 a witness and had no involvement in the case. So

7 without knowing what documents he's referring to,

8 it'll take us some time to review it, but I'll try to

9 get it back to you as quick as I possibly can.

10 MR. TIGAR: With respect to Deposition --

11 Whitehurst Exhibit Number 1, the letter from

12 Mr. Maddock, I want to be clear that we do not intend

13 to inquire about anything beyond the scope of the

14 material that has been turned over to us. That

15 material, in some instances, would prima facie

16 disclose FBI internal procedures or whatever. These

17 are materials that the Government has provided to us.

18 So if there is a question from the other side of the

19 table about whether we're going too far, please signal

20 it, as I'm sure you will, and I'll be happy to give

21 you the Bates stamp number or the document number from

22 which I'm making the inquiry so that we're all clear

23 about that.

24 MR. MADDOCK: That's fine. I don't

25 anticipate there's really going to be that much that

1 will be objectionable, because Fred is pretty familiar

2 with the ground rules.

3 MR. JONES: I have a question. The material  
4 that the judge resolved Thursday, I don't think that's  
5 been at least not furnished to us yet.

6 MS. WILKINSON: We disclosed it on Friday  
7 and it was hand-delivered, I believe, to both parties.  
8 Did you receive it?

9 MR. TIGAR: We've received it, yes.

10 MR. WYATT: Was there one transcript and one  
11 letter?

12 MS. WILKINSON: That went out last Wednesday  
13 before the hearing. On Friday, we gave you a little  
14 packet with --

15 MR. HARTZLER: We're on the record, so if  
16 you wouldn't mind, let's talk one at a time.

17 MS. WILKINSON: We, I believe, hand-  
18 delivered a packet on Friday afternoon to the McVeigh  
19 team and to the Nichols team. Mr. Tigar is indicating  
20 he received it.

21 MR. NEUREITER: As a matter of  
22 clarification, it was not hand-delivered by your  
23 office. We called and said the service indicates hand  
24 delivery and your office said that they didn't have  
25 anybody who could send it over, but if we wanted to

1 come up and pick it up, it would be available, so  
2 that's what our office did.

3 MS. WILKINSON: I believe it went over with  
4 the other discovery materials you received on Friday

5 or Saturday morning. Was it Mr. Anderson from your  
6 side who picks up the material?

7 MR. WYATT: He did this week.

8 MR. JONES: You delivered it to us in  
9 Oklahoma City, even though we were in Denver?

10 MS. WILKINSON: No. I believe here in  
11 Denver.

12 MR. TIGAR: Let me do this, if I may. I  
13 have two file buckets labeled 4A and 4B. The 4A  
14 contains what we received from the Government on  
15 December 12 under date of December 11. And then the  
16 4B bucket contains what was -- what came to us as a  
17 result of the Thursday meeting. I'll just give those  
18 to counsel for Mr. McVeigh now and they can compare it  
19 with what they have and at some point, if you would  
20 all shoot that back to me.

21 MS. WILKINSON: We'll also check at lunch to  
22 make sure.

23 MR. JONES: Scott wasn't here on Friday.

24

25

1 EXAMINATION

2 BY MR. TIGAR:

3 Q Dr. Whitehurst --

4 A Yes, Mr. Tigar.

5 Q -- would you tell us, please, what is your  
6 education.

7 A I have an undergraduate degree in chemistry

8 from East Carolina University. That undergraduate  
9 degree's date is 1974. I have a doctorate in  
10 chemistry from Duke University. The date of that was  
11 1980. I conducted a couple of years of post-doctoral  
12 research at Texas A&M University. And in July of this  
13 year, I completed my law degree at Georgetown  
14 University.

15 Q Now, before you received your bachelor's  
16 degree in chemistry, you'd served in the military;  
17 correct?

18 A Yes, I had.

19 Q Will you tell us what your military service  
20 was, sir.

21 A Yes, I went in as an enlisted private, E-1,  
22 into the -- into the infantry. Spent about six months  
23 in training and went to Vietnam and I spent there --  
24 oh, eight or nine months, seven or eight months in the  
25 infantry and then I entered into the military

14

1 intelligence organization as an interrogator of  
2 prisoners of war. And I was stationed with combat  
3 units for the full three years that I was in Vietnam.

4 Q When did you start to work with the FBI?

5 A The 22nd of February, 1982, to the best of  
6 my recollection.

7 Q And that was immediately after your Texas  
8 A&M experience?

9 A Yes. That's correct.

10 Q Did you become a special agent right away?

11 A No. I went through the 14 weeks or 13 weeks  
12 of new agent training at Quantico and I completed that  
13 course of study on the 5th of June, 1982.

14 Q And were you sworn as a special agent at  
15 that time?

16 A Yes, I was.

17 Q And are you a special agent today?

18 A Yes, I am.

19 Q Do you have some rank beyond being a special  
20 agent of the FBI?

21 A I'm a supervisory special agent.

22 Q What does that mean?

23 A Well --

24 Q The title?

25 A -- I'm in a position to supervise personnel.

15

1 For a long time in my career, I supervised personnel.

2 Q When is the first time that you began to  
3 have any professional association with explosives?

4 A Well, as a -- as a soldier in Vietnam, I had  
5 a whole bunch of experience with explosives. I used  
6 them effectively. I saw them used effectively. You  
7 know, I was a tunnel rat for a while when I was -- a  
8 tunnel rat is -- the Vietcong put tunnels everywhere.  
9 Somebody had to go in and get them. I ratted tunnels  
10 and heaved grenades into tunnels and blew up tunnels  
11 with the engineers. And I saw just large ranges of  
12 different types of explosives over there and I saw the  
13 effect of the explosives at very close range pretty

14 much for my full three years that I was -- I was in  
15 Vietnam.

16 Q In your work in chemistry, in your academic  
17 work, would you describe yourself as an analytic  
18 chemist or some other kind of chemist? What would be  
19 the best way to describe the sort of chemist that you  
20 came to be?

21 A The chemist I came to be was an analytical  
22 chemist. My training at Duke University was in  
23 theoretical descriptions of nuclear magnetic resonance  
24 analytical techniques. That required me to understand  
25 that particular field and then try to explain it, to

16

1 not black box it, if you will, not go at it, for  
2 instance, and put a -- an analyte into it and get an  
3 answer out and just trust it, but to understand  
4 exactly what the instrument was doing. Why we were  
5 getting particular answers out. But when I got to the  
6 FBI laboratory -- I think it was somewhere around the  
7 16th of June 1986 -- I was assigned into an analytical  
8 chemistry position.

9 Q I want to go back and talk more about what  
10 you've just told us. You said that in your work, your  
11 academic work, you weren't just putting an analyte in  
12 something --

13 A Yes.

14 Q -- but you were doing something else.

15 Now --

16 A Yes.

17 Q -- to put an analyte in something, what does  
18 that mean?

19 A Well, you know, you invent or you use a  
20 piece of equipment. There's a couple ways of using  
21 it. One way is to take something you think is  
22 substance X and put it in the instrument and see if  
23 you get substance X. That substance X would be the  
24 analyte. We're analyzing it. Another way to approach  
25 the problem is to understand --

17

1 Q So the analyte means the thing we are  
2 analyzing?

3 A Yes. Yes.

4 Q Okay.

5 A I'm sorry. And another way to approach this  
6 is -- is to understand very well what it is the  
7 instrument is doing, why -- why it's functioning the  
8 way it is. You can put a material into an instrument  
9 and get an answer out that can fool you. Any  
10 instrument has to interrogate the material that's in  
11 it. It has to analyze it. And in order to analyze  
12 it, you have to do something with it. You know, it  
13 just doesn't sit there. You can put it in solution  
14 like put it in water and it breaks up. You can heat  
15 it up and it breaks up. Or you can have, you know,  
16 things going on in an instrument you need to  
17 understand very well.

18 Q Let me use a concrete example so that I  
19 understand. Suppose I have a sample of something and

20 I think that it might be urea nitrate.  
21 A Yes.  
22 Q And what kind of a machine would I put it in  
23 to test my hypothesis that it might be urea nitrate?  
24 Just pick a machine so that we can use that as an  
25 example.

18

1 A Okay. Well, we can use as an example a mass  
2 spectrometer.  
3 Q All right. We put our sample called -- that  
4 we think might be urea nitrate in a mass spectrometer.  
5 A Yes.  
6 Q Now, the mass spectrometer -- by the way, is  
7 a mass spectrometer one of the instruments in the FBI  
8 laboratory?  
9 A Yes, it is. We have many of them.  
10 Q Now, what does the mass spectrometer do to  
11 the particle of material that I have put into it?  
12 A Well, it's according to how you introduce  
13 it, how you actually get it in.  
14 Q I'd like you to explain it to me just as  
15 though the FBI had opened up its laboratory --  
16 A Yes.  
17 Q -- for a tourist to come in and we're  
18 looking at your mass spectrometer. There's your  
19 particle. Tell us what's going to happen.  
20 A If I have a particle of the material, I  
21 could put it into a -- a gas chromatograph. I could  
22 try to dissolve it in something and put it into a gas

23 chromatograph. And a gas chromatograph is essentially  
24 an oven that has a long pipe inside it and it's a  
25 very -- very thin pipe, if you will. (Deponent

19

1 indicating.) And I mean, it's -- you know, I'm  
2 indicating a millimeter or whatever, just thin and  
3 hollow. The material would go through the gas  
4 chromatograph into the mass spectrometer. In order to  
5 get it through the gas chromatograph, there's a  
6 certain amount of heat you apply to inject it, to get  
7 it to travel down the tube, if you will. The reason  
8 you'd use a gas chromatograph would be possibly that  
9 there's something else in the urea nitrate. You know,  
10 you can look at that white crystal and say I think  
11 this is urea nitrate. All you're doing is physical  
12 observation. And you might want to separate it from  
13 anything else that might be there.  
14       So you put it through a gas chromatograph  
15 and it would go down and into the mass spectrometer.  
16 And what happens there is there's a number of modes of  
17 analysis that you can use. One of them is the  
18 electron impact mode where what you do is just bombard  
19 the molecule when it comes or the material when it  
20 comes with a -- with electrons and you break it up.  
21 And you do it under a very controlled environment.  
22 It's as controlled as you can control it. Okay. It's  
23 not absolute control. There's -- you know, there's a  
24 certain variation that would happen.  
25     Q   When you bombard it with electrons, it

1 behaves in a certain way that you hope is unique to  
2 the particular compound that you're looking for?

3 A That would be -- sure, you would hope that.

4 Q All right. We're going to get to the hope  
5 part in a minute. Now, tell us what the -- you can  
6 bombard it with electrons and what's the next thing  
7 you can do?

8 A At the point you bombard it with electrons,  
9 you've got a lot of charged particles. There's pieces  
10 and parts and it's got the charges on them, positive  
11 and negative charges. You put those -- those  
12 particles into a potential field. I mean, it's, you  
13 know, positive on one end and negative on the other  
14 end.

15 Q By "potential," we mean potential in the  
16 sense of positive and negative; right?

17 A Yes. Yes.

18 Q All right.

19 A For instance, if you're looking at the  
20 positively charged particles, you can have them go  
21 down-range in that field, okay, and when they are  
22 going down-range, if you're using, for instance, a  
23 quadropole mass spectrometer, you would want to  
24 separate out -- ideally, with electron impact, I would  
25 want to separate out all of the material so it didn't

1 get to the detector at the same time so you know what  
2 the mass of the material is that got to the detector.  
3 The quadropole brings that about.  
4 It allows the -- suppose you wanted to look  
5 at one of these particles that weighs 126 atomic mass  
6 units. It's just a unit of weight of mass. Okay.  
7 Not weight but mass. There's a lot of other stuff  
8 there that's -- that's traveling around in the mass  
9 spec and you want to get rid of it. You don't want  
10 it -- okay. You want to -- what would you say --  
11 screen it out at a particular point in the analysis,  
12 so what you would do would be to send it down through  
13 a quadropole. And that's essentially a screening  
14 system. I mean, I can describe it. But it's  
15 essentially a screen so what comes down to the  
16 detector, there's a detection and the detector knows  
17 that at the point it's detecting the particle or the  
18 object that's hitting it is 126 atomic mass units.  
19 And there's a certain amount of particle that hits  
20 this detector. Okay. And that gives you a peak on a  
21 chart. A mass spectrum.  
22 Q So when the -- the 126 atomic units mass  
23 hits the detector, that's what makes the so-called  
24 peak on a chart?  
25 A Sure. Uh-huh.

22

1 Q All right. And that peak is something you  
2 can -- you read it out. A piece of paper prints out

3 the instrument?

4 A Yes. What'll happen, a piece of paper will  
5 come out and there will be a bunch of spikes on it.  
6 Some of them will be one height and some of them  
7 another. You won't get all the atomic masses. You'll  
8 get atomic masses which are or should be consistent  
9 with the material you put into the instrument.

10 Q It is the job of somebody then to read those  
11 peaks; is that right?

12 A To -- it can be. There's a number of ways  
13 of -- couple of ways of dealing with the issue, what  
14 does this pattern mean. One of those ways is to  
15 compare the material that you've got or the -- the  
16 spectrum that you've got with a database of your own  
17 spectra or commercially-available databases.

18 Q That would be called a known; is that right?  
19 That database?

20 A Yes. Uh-huh.

21 Q All right. Go ahead.

22 A Well, you make that comparison. And the --  
23 the -- for instance, the Finnegan, the Incos  
24 software -- Finnegan Corporation makes a lot of our  
25 mass spectrometers and the software that's in there is

23

1 referred to as Incos software. That's sort of the --

2 Q How to you spell that?

3 A I-n-c-o-s. The Incos software packages that  
4 I have used myself or the other -- oh, what is it?  
5 Hewlett-Packard uses another package, but, whatever --

6 there is a list of materials that you could be dealing  
7 with. It looks at the signal coming out, it compares  
8 a signal to -- to what you find in a database. It  
9 says we think that this material is material X. You  
10 know, it gives you a -- a -- the words aren't actually  
11 there, but you get a list of -- of possibles is what  
12 it is. A list of possibles.

13 Q You said that's one way we can do it. We  
14 can go in and interrogate a database.

15 A Another way you can do it requires that you  
16 actually go in and analyze the mass spectra themselves  
17 and there's a number of -- there's, I think -- I'm not  
18 sure, maybe Safferstein. There's something out there  
19 that before these databases were available, the old  
20 men in the business would actually go in and analyze  
21 what the signals meant according to a set of rules.  
22 That generally is not what we do at the FBI. We make  
23 a database -- we do a database comparison. The  
24 comparisons were traditionally long, long, arduous  
25 tasks and, you know, the sort of thing a graduate

24

1 student or whatever would spend maybe days or parts of  
2 weeks at anyhow. If you have a production system  
3 where you're getting many, many materials through, we  
4 just don't have enough graduate students to do that  
5 kind of thing. So we do a comparison with a database.

6 Q Now, the hypothetical that I used in asking  
7 you about this was urea nitrate.

8 A Uh-huh.

9 Q Could you also program the mass spectrometer  
10 to tell you urea nitrate every time you got a certain  
11 kind of a peak?

12 A Sure. You can program that the -- the  
13 software to -- I was a software programmer for a long  
14 time. You can program it to say anything you want it  
15 to.

16 Q So you could program it to say John Jones  
17 every time you get some kind of a peak; right?

18 A Yes.

19 Q It's just telling the machine when it sees  
20 something, it should print something else out?

21 A Yes. That's correct. Uh-huh.

22 Q Now, let's go back through this process.  
23 Obviously, it takes somebody with a lot of scientific  
24 training, knowledge, and experience to design a mass  
25 spectrometer; correct?

25

1 A Yes. I think so.

2 Q The design of the database with which you  
3 compare, that takes Ph.D.'s, doesn't it?

4 A I don't know, sir, that Ph.D. would be the  
5 right level, but, you know, the -- it's the National  
6 Institute of Standards and Technology, NIST, EPA  
7 database that we compare to.

8 Q Would you call that science, what they are  
9 doing?

10 A I don't -- my view of that is -- is I can --  
11 I can make an instrument that functions in a way that

12 I can put a technician on one end of it and have him  
13 run it and trust him and know he's right the same way  
14 every time. Absolutely. And then give him standards  
15 to run through and to know that the standards are of  
16 a -- of a great purity and whatever and, you know,  
17 that we know absolutely where they came from and what  
18 they are and we have analyzed them with a lot of other  
19 tools and then run them and so that you can --  
20 building the database, itself, I'm not sure it's one  
21 of the technical aspects of -- of the science of mass  
22 spectrometry. I'm not sure it would take a scientist  
23 to do it.

24 Q When you instruct your technician how to run  
25 the machine, if it's you that's doing it, choosing the

26

1 machine, telling them what database to use, showing  
2 the technician how to interpret the results, that  
3 involves science, does it not?

4 A I -- the description leaves me a little  
5 uneasy because the technician, in my view, doesn't  
6 interpret the results. It's for the person with the  
7 expertise in how all of that technology is working. A  
8 technician -- my view of a technician is he's a very  
9 valuable person, but they push a button and you can  
10 count on them pushing the button the same way and  
11 maintaining the instrument according to written  
12 protocols.

13 Q It was my error. I asked you a leading  
14 question. I should have asked you an open-ended one.

15 Where in the process of putting the sample into the  
16 machine and getting out a reading would you say that  
17 something called science is involved? Where do we  
18 want to have someone with scientific background,  
19 training, and experience making the judgment calls in  
20 the process of analyzing this sample?

21 A Well, you see, you used urea nitrate as an  
22 example. It's a very good example because you  
23 could -- you could get urea nitrate crystal and put it  
24 into an instrument and it gave you an answer and there  
25 it is. And you could infer from -- from, you know,

27

1 how much we spent for the instrument and all of the --  
2 you know, all the black magic associated with just  
3 looking at the thing -- they are beautiful  
4 instruments -- that anytime you got this answer, it  
5 meant urea nitrate had been put in the instrument.  
6 That would be inappropriate. That would be, you  
7 know -- and I think a scientist would have to be --  
8 would have to understand that there are alternative  
9 explanations for data, or there can be as part of the  
10 scientific culture. And that just because you put  
11 something in this black box machine and you've got  
12 this answer out, that it wouldn't mean that every time  
13 you got that answer out, that that was what went into  
14 the machine to start out with, into the instrument to  
15 start out with. Can I give you an example?

16 Q Of course.

17 A I know an explosive called ammonium picrate.

18 When you put ammonium picrate into -- into a hot  
19 environment, it breaks up, just like urea nitrate  
20 does. It breaks up in -- for instance, the way we try  
21 to analyze -- we try to analyze ammonium picrate in  
22 the laboratory, it broke apart and the mass spec's  
23 results were interpreted to say we put picric acid  
24 into the instrument when, in reality, first of all, we  
25 didn't know what we had when we started with it. Here

28

1 we came out at the end of the exercise thinking, I  
2 think that's picric acid, which is an extremely  
3 dangerous explosive. It's a very sensitive material.  
4 On the other hand, ammonium picrate is not. It's just  
5 not. You can pretty much throw it up against the  
6 wall. You would have to understand the limitations of  
7 the instrument as a scientist, I think.

8 Q So that's the first thing. First, you have  
9 to understand the limitations of the instrument; is  
10 that right? You have to understand that the  
11 instrument can, in the process of analyzing, change  
12 the composition of the analyte?

13 A Yes, that's correct.

14 Q That's the Heisenberg principle?

15 A Not quite, sir.

16 Q Then I won't ask about that.

17 A Yes.

18 Q The first --

19 A Darn. There's an uncertainty in everything.

20 Q Okay. So the first -- first thing is it can

21 change -- the analyte can change?  
22 A Yes.  
23 Q Now, let's go to the second problem.  
24 A What you -- you -- you -- in my opinion, if  
25 you're doing a quality product, what you need to do is

29

1 take that same material, if you will, and try it on a  
2 technique that is -- is as much different as this as  
3 possible. You know, it's the same sort of thing. You  
4 know, when -- if somebody comes in and tells you a  
5 bank is going to be robbed, you don't send 25 agents  
6 out to the bank. You corroborate. You know, you  
7 validate, you check out. Okay. Well, it's -- if you  
8 took that ammonium picrate -- and I've been through  
9 this exercise and put it in an FTIR, Fourier transform  
10 infrared spectrometer. Okay. If you did that, in our  
11 exercise, we found that -- the -- the FTIR spectrum  
12 that we got out did not agree with the hypothesis of  
13 picric acid.

14 Q That -- so this number 2, that's called  
15 orthogonal?

16 A It's an expression I've heard among  
17 analytical chemists.

18 Q I never heard it. And would you spell it  
19 and tell us what it means and if it's what we're  
20 talking about.

21 A It's o-r-t-h-o-g-o-n-a-l. It's --  
22 orthogonal technique means a technique that would be  
23 as much different as you -- you could -- you know,

24 could find among your tools to interrogate this thing  
25 again. To ask what is this stuff again. Okay. So

30

1 when you had the mass spec, you might choose a -- an  
2 FTIR and in my particular exercise, we did. But sir,  
3 I have --

4 Q So the orthogonal -- if I'm right,  
5 orthogonal means coming at the same question from  
6 different approaches --

7 A Yes.

8 Q -- to see if the results match?

9 A Can I --

10 Q If I'm navigating, I might use my global  
11 positioning system and I take a sun sight with my  
12 sextant, and if I could get a third way, it's just  
13 verifying?

14 A Sure. Sure.

15 Q Like a mariner would do to know where he or  
16 she is in the middle of the ocean?

17 A Yes.

18 Q Go ahead.

19 A If those two instruments disagree as in our  
20 case, with the ammonium picrate, they did, then you  
21 would look for some other technique and, you know,  
22 we -- we chased that technique or we followed up the  
23 FTIR technique with nuclear magnetic resonance  
24 spectrometry. We don't have such an instrument. We  
25 went to the military research facility to the

1 explosives expert that was there and she ran the  
2 instrument for us and it was -- we, in that particular  
3 situation, started out confused and ended up  
4 recognizing that what was happening with the NMR was  
5 that we had a very fragile material and if we did much  
6 of anything with it, put it into solution, put it into  
7 heat or whatever, it would break apart. We also --

8 Q By "break apart," you mean that the  
9 molecules would break apart and that it would become  
10 some other chemical substance?

11 A Yes. The signal material that you'd get  
12 would be consistent with something that it wasn't.

13 Q Okay.

14 A You know, we -- we were walking deeper into  
15 this quagmire of indecision. But we can understand --  
16 because we understand the science behind NMR, we  
17 understand the science behind FTIR, we can understand  
18 that -- let's -- let's throw something else at it.

19 And when I took chemistry in those ten years of study  
20 that I went through, that was accepted, you know. If  
21 you get a total unknown, you throw everything at it  
22 you can get to throw at it. Something might come  
23 along and sink you. Well, we have to be responsible  
24 and we can't continue to think ammonium picrate  
25 forever. A solution that we found was we took the

1 ammonium picrate to x-ray powder diffractometry and  
2 found a very good match, looked at scanning electron  
3 microscope with an energy dispersive x-ray analysis  
4 and found we had an organic material and so things  
5 started to fit in and we started to understand from  
6 what we understand about the science of chemistry what  
7 was really going on with this material and, indeed,  
8 what we had was ammonium picrate and not picric acid.

9       A technician is sitting at each step of the  
10 way and he's running an instrument and he's the best  
11 technician the world if he runs that instrument the  
12 same way and he follows your instructions the same  
13 way. Okay. But the answer coming out of the -- out  
14 of the back end of the instrument requires somebody  
15 that really understands what's going on with the  
16 technique, itself.

17     Q   And when you say requires someone, that  
18 someone is doing what you'd call science; is that  
19 right?

20     A   Yes. Good science.

21     Q   Good science.

22     A   Uh-huh.

23     Q   Now, coming back to where we started, which  
24 is the urea nitrate, if this is -- your substance,  
25 urea nitrate, it doesn't happen to be one that's in

1 one of these databases because you don't see it a lot?

2     A   Yes.

3 Q Is there a risk of error by doing bad  
4 science at the front end to understand what kind of a  
5 peak you have? And the -- I'll give you an example.  
6 If you -- if you took a sample of known urea nitrate,  
7 got a certain kind of a peak, and then you took a  
8 sample of what you thought might be urea nitrate and  
9 got the same peak, would it be bad science to just  
10 label your unknown urea nitrate and would it be bad  
11 science to then have the machine read out urea nitrate  
12 every time you got a peak that corresponded to the  
13 peak produced by the known urea nitrate?

14 A I don't think it would.

15 MR. HARTZLER: Let me interrupt. I'm sorry.  
16 I don't want to slow this down, but I didn't  
17 understand your hypothetical. I'm sorry. Could you  
18 just repeat it? I didn't get it.

19 MR. TIGAR: It was a two-part question and I  
20 apologize for that. Let me start over.

21 Q (BY MR. TIGAR) Suppose that in the  
22 laboratory, I had a quantity of something I knew to be  
23 urea nitrate and I put it in the mass spectrometer and  
24 I got a peak. Suppose I then caused the machine to  
25 print out urea nitrate every time you got that kind of

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1 a peak.

2 A Yes, sir.

3 Q Suppose further what -- well, would that be  
4 a correct thing to do to program the machine to say  
5 that?

6 A No. Not with that little bit of data, sir.

7 Q And why wouldn't it be a correct thing to

8 do, speaking as a scientist?

9 A Yes. Different materials can -- can

10 possibly give -- as we saw, picric acid and ammonium

11 picrate are called picric acid by the mass

12 spectrometer database. Something like urea nitrate

13 may not be definable with a mass spectrometer because

14 it's so fragile. It may not be definable. And

15 what'll happen is the mass spectrometer would go to

16 this database and not find urea nitrate because you

17 don't -- you don't -- you can't. You know, sort of

18 like rock or silicon dioxide in a GC mass spec. It

19 doesn't work with it. The sand doesn't dissolve. It

20 won't go through the gas chromatograph column. So it

21 would not be wise, in my opinion, to just go ahead and

22 label something -- if you're dealing with something

23 new, you need to have more information than just what

24 one instrument gives you and that's -- that's an

25 accepted kind of what did you -- state of scientific

35

1 culture. You look at it from a number of different

2 points of view. Can I give you an example?

3 Q Sure.

4 A If I own a road and it pointed and it said

5 I'm going to Rome and I came to village, and if it

6 said it was going to Rome, this must be Rome. Then I

7 go to get on another road and I start out, if that one

8 leads me to a different place, you're then -- we

9 checked out the hypothesis that this is Rome. Do you  
10 know?

11 Q I understand.

12 A That's what we're doing. We're trying to  
13 get at this from a different perspective. Something  
14 that lends itself to this discussion is that when you  
15 do residue, you can't see it very often with your eyes  
16 so we make observations in science and we form a  
17 hypothesis from those observations and then we test  
18 the hypothesis. That's the scientific method. We  
19 test the hypothesis. The first observation you can  
20 make from something you can't see might be with an  
21 instrument, but that's your observation. And what  
22 you're left with then is a hypothesis. I think it's  
23 this. If you stop with a hypothesis, you're -- you're  
24 putting your customer in a sort of a -- a risky  
25 situation. I mean, you know, it may very well be

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1 substance X. But we haven't tested whether it is with  
2 some other way of looking at it. Is that making sense  
3 to you, sir?

4 Q Yes. Is that -- are you telling us  
5 something that relates to the difference between  
6 consistent with and identified as?

7 A Sure. Sure. The results of this instrument  
8 are consistent with the presence of. Yes. Yes.

9 Q So that in the hypothetical that I posed to  
10 you, based on the programming of the machine, you  
11 would be able to say that your unknown sample is

12 consistent with known urea nitrate, but you would not  
13 be able to say that it has been identified as urea  
14 nitrate?

15 MR. HARTZLER: I'm sorry. You're talking  
16 about the hypothetical where you had inserted urea  
17 nitrate and then programmed a known quantity and then  
18 programmed the --

19 MR. TIGAR: I'll ask the question again so  
20 it's clear.

21 Q (BY MR. TIGAR) If I had programmed the  
22 machine to give a peak and labeled the peak urea  
23 nitrate based on using one sample of known urea  
24 nitrate --

25 A Yes.

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1 Q -- and I thereafter took an unknown sample  
2 and got the same peak --

3 A Yes.

4 Q -- would I be justified in saying that the  
5 unknown is consistent with urea nitrate?

6 A Yes.

7 Q Would I be justified in saying that the  
8 unknown is identified as urea nitrate?

9 A Not in my opinion, sir.

10 Q And why not? I think it's implicit in your  
11 answer, but could you tell us why.

12 A We really haven't followed what I -- you  
13 know, what I view and what my professors through the  
14 ages have described to me as the scientific method.

15 Do you know? We haven't questioned our hypothesis.

16 Can I give you an example?

17 Q Sure.

18 A We have an instrument that we can put urea

19 nitrate in and it gives a peak. And we reach in the

20 instrument and we put a label in there. Well, okay.

21 You know, we've got the label, but when we put nitric

22 acid in there, it gives the same peak. When we put

23 ammonium nitrate in there, it gives the same peak.

24 You can say it's consistent with urea nitrate, but you

25 can't say it identified the urea nitrate because what

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1 it showed was if you have a -- a -- well, if you say,

2 a salt with nitrate ions in it that can break up under

3 the conditions of that particular instrument's

4 interrogation, then any nitrate might give the same

5 peak. And -- that's -- I don't know. Maybe I'm --

6 I'm carrying this too far.

7 Q No. I don't think so. You mentioned three

8 substances a moment ago: Urea nitrate, ammonium

9 nitrate, and nitric acid?

10 A Yes.

11 Q In certain parts of the country, there are

12 very high background levels of nitric acid; correct?

13 A Background levels of -- yes, from the nitric

14 acid rain. There's nitrates out there, yes. Uh-huh.

15 Q So that, indeed, there are parts of the

16 country, in your experience, in which you get down to

17 a pH of about 2; is that right?

18 A It's not in my experience. It's from  
19 what -- I was assigned for a while to environmental  
20 analysis, to environmental crime investigation and  
21 during that time, I studied a lot. And we know about  
22 the nitrogen cycle from elementary chemistry, but I  
23 got all the data, looking at it in my study, not from  
24 my experience, but my study that there's -- there's  
25 just lots of nitrate out there and you would -- you

39

1 know, if you wanted to know if it were -- if it  
2 were -- what do you say, probative, you need -- you  
3 need a background study of the nitrate levels in the  
4 background.

5 Q During your FBI career, before you went to  
6 the FBI lab, you were an agent on the street, weren't  
7 you?

8 A Yes, I was.

9 Q What kinds of cases did you work?

10 A I worked bank robberies, fugitives, and  
11 organized crime, and actually, organized crime was  
12 essentially drug cases. I worked what we referred to  
13 as reactive cases and I worked organized crime cases.

14 Q And what was the date you first joined the  
15 FBI laboratory?

16 A My assignment letter says, I think, the 6th  
17 of June, 1986. I didn't physically roll in there,  
18 unless my memory is wrong, until somewhere around the  
19 15th or 16th.

20 Q What -- what job did you do at the FBI

21 laboratory when you first got there?

22 A Well, I went through training initially. I

23 was there -- I got there in June and I was not

24 qualified until August of 1986. The job that I was

25 involved in was training and also testing of

40

1 explosives, detection equipment, acquisition of

2 equipment, of instruments, explosives research,

3 explosive residue research, that sort of thing.

4 Q Did you work continuously in explosives and

5 explosive residue until about a year ago?

6 A Actually, it was the 14th of June, 1994,

7 when I was taken out of the explosives program.

8 Q And where did you go after that?

9 A I was initially assigned to look at copy

10 toner analysis off -- if this came off a xerox, the

11 material here.

12 Q "This" referring to Whitehurst Deposition 1?

13 A Copy toner analysis and plastics and paints

14 analysis and I ended up working pretty much in the

15 paint analysis arena, arranging conferences and doing

16 research and preparing myself to be a paint analyst.

17 Q Now, during the time that you worked in

18 explosives and explosive residues --

19 MR. KOHN: Excuse me just one second.

20 (Mr. Kohn conferring with the witness.)

21 A Excuse me. I need to amend what I was

22 saying. I did have a program I -- I will not talk

23 about here, but I was working on explosives cases

24 after 1994, the 16th of June or whatever it was. The  
25 14th of June. I was -- there was a program -- but I'm

41

1 not at liberty to talk about it -- that I was still  
2 involved with.

3 MR. KOHN: And what's the termination date  
4 of that?

5 THE DEPONENT: I don't think that's  
6 appropriate.

7 Q (BY MR. TIGAR) Let's not --

8 A It doesn't do anything for this.

9 Q It doesn't something for this case. It's  
10 not something we need to get into. Thank you for the  
11 clarification.

12 At the time you arrived in the laboratory,  
13 was there a protocol for testing explosive residue?

14 A Yes.

15 Q Now, did that -- was that protocol modified  
16 during the time that you were at the laboratory?

17 A Yes. Protocol is dynamic. It's  
18 essentially -- it was -- it's essentially stayed the  
19 same sort of shape, but we've used different  
20 techniques and expanded it a little bit here and  
21 there.

22 Q Now, I see the word "protocol" a lot in the  
23 boxes of documents we have received.

24 A Yes.

25 Q What's a protocol? Within the -- I don't

1 mean how diplomats bow and soup and fish and all that.

2 A I wouldn't know about that, sir.

3 Q And I sure wouldn't. But what is it in your  
4 laboratory?

5 A What it is is a -- essentially what it's --  
6 it is today is a -- how are you going to do this and  
7 what techniques are you going to use and what are the  
8 conditions of each technique and what are the  
9 interferences that -- if you -- if you use any  
10 instrument, there are interferences that work their  
11 way into -- what they are, you think you've got X, but  
12 it's actually ZXY or it's something else.  
13 Interferences -- the training that's required to  
14 become qualified in a particular technique or  
15 whatever, we have a block diagram that describes the  
16 explosive analysis protocol and the block diagram is,  
17 you know, do these things and then come over here and  
18 do this and if this is true, do this. Sort of a step  
19 by step. And at anyplace in the protocol, you may not  
20 find something that says, you know, that, okay, we'll  
21 do these. So you, you know, sort of a -- go in this  
22 direction type thing.

23 Q If I understand it, a protocol could be  
24 written down, but, to be most useful, it is a block  
25 diagram with a series of what-ifs in it. If this,

1 then go here, if something else, then go there?

2 A I think that it's most useful if it's

3 written down for review.

4 Q All right.

5 A It -- you can follow -- follow a loose

6 protocol, but there's something called protocol drift

7 and you know, people make up sort of their own mind or

8 your technician doesn't know to have the temperature

9 at this and push this button and that sort of thing.

10 So it's most useful if it's written down for review,

11 you know, by scientists in the field because it's not

12 something that's written in stone. It -- you know,

13 as -- as technology changes, as our understanding of

14 the analytes change, you can see -- we'll bring an

15 instrument in. We'll say let's put this into the

16 protocol and see how it works alongside, if it's

17 agreeable, you know, if it doesn't give some spurious

18 result at various times and it's not used for building

19 an opinion, it's used to be -- there's a certain

20 amount of time, after we've run so many samples, we

21 feel it's reliable or not, okay, and then we put it in

22 and the protocol is changed.

23 Q Who was responsible for writing up the

24 protocol as it existed when you arrived in the

25 laboratory in 1986?

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1 A Dr. Terry Rudolph, I believe. Yes. In

2 fact, I'm sure of that.

3 MR. WYATT: Is that Rudolph?

4 A Rudolph. Yes. P-H.

5 Q (BY MR. TIGAR) And you know Dr. Rudolph,  
6 do you not?

7 A Yes, I do. Uh-huh. He was my training  
8 agent.

9 Q Did -- did the -- was the protocol changed  
10 then between the time you arrived in 1986 and the time  
11 you went on to other things in 1994?

12 A Yes, it was.

13 Q Did you have something to do with changing  
14 it?

15 A Yes. It turned out to be -- I was the chief  
16 chemist that was doing that. I was the guy that did  
17 explosive residues and -- and as we found, well, I  
18 guess, expound on that, but, yes, I -- it was under my  
19 direction.

20 Q Do you regard the creation and refinement  
21 and amendment of the protocol as the task of a  
22 scientist?

23 A Yes, I do.

24 MR. HARTZLER: I'm sorry. You're talking  
25 about the explosives?

45

1 MR. TIGAR: Yes. The protocol of which we  
2 are speaking. I'll start with that.

3 Q (BY MR. TIGAR) Do you regard the creation,  
4 the amendment, the refinement of the protocol of which  
5 we're speaking as the task of a scientist?

6 A Yes. That's correct.

7 Q Based on your education and your experience,  
8 do you regard the job of formulating, refining and  
9 amending a protocol in any field of chemistry as the  
10 job of a scientist?

11 A Yes.

12 Q In other words, if I were to ask -- if I  
13 were to want to make a protocol for testing fragments  
14 of plastic found at a crime scene to determine who  
15 manufactured them and of what they were composed,  
16 would you regard the making of a protocol to do that  
17 as the work of a scientist?

18 A Yes, I would.

19 Q Now, does your protocol have rules about how  
20 samples are collected to be brought into the  
21 laboratory? Does it tell us anything about how --  
22 about what ought to have happened out in the field  
23 before the samples get to the lab?

24 A The protocol that was in existence in 1986  
25 didn't address that. The scientific literature

1 addressed it a little bit, but the protocol that we  
2 had at that time didn't. The protocol that we've got  
3 when I left addressed what are you going to do once  
4 you get it. Okay. I -- I very seldom went to crime  
5 scenes. I went to some high-profile crime scenes, but  
6 I very seldom went to crime scenes. My understanding  
7 of what's happened at this point is that we have a --  
8 moved forward now and made that -- you know, sampling  
9 of material is one of the most important aspects of

10 the analytical chemistry. Generally, in our  
11 laboratory, we don't have any control over that so we  
12 just have -- there were other issues we had to deal  
13 with and we had to sort of count on the fact it was  
14 collected correctly. So our protocol dealt with  
15 here's the material that's got the residue on it,  
16 you've got it in hand and let's move forward with  
17 that.

18 Q Do -- as a scientist, do you think it's  
19 important to know what the procedures were for  
20 collecting the samples that you're going to analyze?

21 A Yes. Garbage in, garbage out.

22 Q And is that statement that it's important to  
23 know how the samples you're testing were collected  
24 applicable generally to many forms of scientific  
25 analysis?

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1 A Yes. Can I show you something I've got with  
2 me?

3 Q Of course.

4 A This is --

5 Q With Mr. Maddock's permission.

6 THE DEPONENT: Jim, this is a book. It's a  
7 book.

8 MR. MADDOCK: Please.

9 A The Environmental Laboratory Data  
10 Evaluation. If you go through this, environmental  
11 laboratories are very closely regulated.

12 Q (BY MR. TIGAR) I wonder if we could get

13 the title. This is a -- oh, my goodness.  
14 A It's a beautiful book.  
15 Q By Waller Berger, B-e-r-g-e-r, Harry  
16 McCarty, M-c-c-a-r-t-y, and Roy-Keith Smith called  
17 Environmental Laboratory Data Evaluation. Go ahead.  
18 A Yes. The environmental labs are very  
19 closely regulated. They are regulated by law and  
20 protocols are regulated and things like sampling are  
21 extremely important. And you know, I know Keith  
22 Smith. In fact, I reviewed the book for him and he  
23 brings up the sampling concept. He's got another in  
24 this series, three or four where he's -- we're dealing  
25 with the third one, I think, now. The environmental

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1 arena, you could -- you know, you could get blown away  
2 by not understanding how material was actually  
3 collected.  
4 Q But isn't it more -- suppose that anybody at  
5 this table went to the doctor and we were going to  
6 have some blood drawn. And we got in there and rolled  
7 up our sleeve and looked down and the nurse brought in  
8 some dirty old needle. We'd question that, wouldn't  
9 we?  
10 A Well, I would.  
11 Q Right. And not just as people concerned  
12 about that, but that means that -- that's bad science  
13 that is about to be done; right? Or am I wrong about  
14 that?  
15 A Well, that's -- that's bad protocol.

16 Q Bad protocol?  
17 A Bad method.  
18 Q Bad method. It's a bad method. Why would  
19 we say it's a bad method?  
20 A Well, you know, disease in patients. You  
21 can spread AIDS. You can spread all of those --  
22 Q Not just for that reason, but in terms of  
23 the results that we would see at the end of the  
24 analysis?  
25 A No. No. That's a neat point. You go look

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1 for a class of analytes, for instance, as an explosive  
2 residue analyst. If plasticizers are in there, that's  
3 not going to -- plasticizers is another field. It's  
4 not going to affect my -- my situation and if I want  
5 to know what's in the blood, if I want to know certain  
6 things about the blood, introducing some contaminant  
7 into that blood may or may not affect the results I  
8 come up with.  
9 Q All right. Let me use a different  
10 hypothetical. Suppose I'm asked to give a urine  
11 specimen and somebody hands me a cup out of which they  
12 had just been drinking Coca-Cola.  
13 A Wow.  
14 Q There's going to be sugar in that cup?  
15 A I would think so, yes.  
16 Q Right. And therefore, the results that  
17 you'd get from that analysis might be unreliable;  
18 correct?

19 A Yes. Uh-huh.  
20 Q Well, I'll ask you some more about other  
21 situations, but, as you say, when you got to the lab,  
22 there was no -- the protocol didn't deal with  
23 collection out in the field; right?  
24 A That's correct.  
25 Q All right. Now, did the protocol deal with

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1 the cleanliness of the laboratory?  
2 A No, sir.  
3 Q Do you regard the cleanliness of the  
4 laboratory as a problem?  
5 A I did at that time, yes, sir.  
6 Q Do you today regard that as an issue that  
7 one would want to raise in looking at the results that  
8 came out of the laboratory?  
9 A It's an issue that should always be raised.  
10 Q And what -- why is that? I know you just  
11 started to give me the example of the plasticizer in  
12 the explosive and maybe you could give us an example  
13 where a -- a -- an unclean laboratory would not affect  
14 the result and an example where it could affect a  
15 result.  
16 (Mr. Jones exits the conference room.)  
17 A If the -- explosives is a good thing.  
18 That's what I know. It gives us an example. If the  
19 guy doing explosives analysis has a cartload of  
20 explosives in his room, those explosives could get all  
21 over everything. This could wander down the hall and

22 they go off in the air. They have -- you know, the  
23 molecules pop off and float around. They have a vapor  
24 pressure. Pretty soon, the whole laboratory is  
25 contaminated and you would have a system

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1 contamination, a background noise of stuff or you  
2 might have random contamination which means you don't  
3 know where the stuff is. You wouldn't know that. And  
4 so you could raise it as an issue, sir.

5 Q (BY MR. TIGAR) All right. And that sort  
6 of contamination you've given us -- one example could  
7 happen where samples from different crime scenes were  
8 put side by side --

9 A Yes.

10 Q -- in the laboratory; right?

11 A Yes.

12 Q Now, with respect to some components of  
13 explosives, we have an -- you're a special agent. I  
14 don't know if Mr. Maddock is a special agent, but as a  
15 special agent --

16 MR. MADDOCK: I am.

17 MR. TIGAR: Pardon?

18 MR. MADDOCK: I am.

19 Q (BY MR. TIGAR) -- you and Mr. Maddock are  
20 required periodically to qualify in firearms; is that  
21 right?

22 A Yes.

23 Q Well, if Mr. Maddock had come this morning  
24 and, being a polite gentleman, shook hands with

25 everybody and if he had just done his qualification on

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1 the range this morning, we -- we'd all have explosive  
2 residue on us or we might; is that right?

3 A I've seen an example of that. I can't talk  
4 to you -- if you'd like me to expound. I don't have  
5 to talk about the case, but I have a -- a matter where  
6 I needed evidence taken back to FBI headquarters and  
7 the agent came to me and we tested him, tested his  
8 hands and there was a big nitroglycerine peak on his  
9 hands. He was a shooter. You know, he was a guy who  
10 had just been to the range and, my goodness, there's  
11 that nitroglycerine peak. We just wrapped everything  
12 seven times. We still needed it transported. We just  
13 wrapped everything seven times and put it in a  
14 cardboard box. And you know, that way, we could -- we  
15 also had him wash his hands, but -- that could have  
16 given us some -- you know, some bad answers.

17 Q Now, I'd like to talk about the organization  
18 of the FBI laboratory as you observed it. When you  
19 arrived there in 1986, who -- Dr. Terry Rudolph, what  
20 was his position?

21 A He was the supervisory special agent who was  
22 really -- I ended up in his position. He was doing  
23 explosives and explosive residue analysis. He is an  
24 analytical chemist, an examiner of forensic evidence.

25 Q Now, to who -- after you took his job, to

1 whom did you report? Who was -- what I'm -- I'm not  
2 doing this very artfully, but I'm trying to find out  
3 the structure of authority --

4 A Yes, there was.

5 Q -- in the laboratory and through the  
6 laboratory --

7 A Sure.

8 Q -- out either to your customer, the -- the  
9 lawyers on line on cases and to the director, whoever  
10 that may have been at the time. I guess, who was the  
11 director when you showed up? Bill Sessions?

12 A No. I think it was Mr. Webster.

13 Q Mr. Webster?

14 A Yes. In fact, I'm sure it was. I reported  
15 to a unit chief when I first showed up. His name was  
16 Charlie Calfee. He was there for a short time.

17 Q Now --

18 A Okay. He reported to a section chief. I  
19 think the section chief was Ken Nimmich at the time.

20 Q How do you spell that?

21 A N-i-m-m-i-c-h.

22 Q Uh-huh.

23 A And Ken had an assistant section chief, I  
24 believe -- wait a minute. That's -- that's wrong. My  
25 section chief when I got there was John Hicks. I'm

1 sorry. And his assistant section chief was Ken  
2 Nimmich. Okay. And then they reported to the -- the  
3 assistant director or deputy assistant director and I  
4 don't -- I remember some of the names of those people,  
5 but I don't remember -- the fellow that was there when  
6 I got there.

7 Q As a practical matter, if a prosecutor was  
8 working a case in Des Moines, Iowa, and had sent in  
9 some samples for testing that came from that case, who  
10 would have to sign off on the report from the lab  
11 before it would go back out of the J. Edgar Hoover  
12 Building?

13 A The unit chief.

14 Q During the time that you -- from 1986 to  
15 1994, who were the unit chiefs?

16 A Charlie Calfee for three or four months and  
17 then Rodger, R-o-d-g-e-r, Asbury, A-s-b-u-r-y. And he  
18 was replaced by Jerry Butler. And he was replaced by  
19 James Corby. And then the materials analysis unit was  
20 broken up and made different and the fellow that took  
21 that over at that point was Tom -- well, actually,  
22 there was an acting unit chief named Bruce Hall. And  
23 then Tom Jordan. And he's the unit chief at this  
24 time.

25 Q Okay. Now, in the papers, there are a

1 number of -- of individuals that I want to be asking  
2 you about, but I want to just get a capsule view of  
3 them and their role so I can understand it a little

4 better. The first is David Williams. He's an SSA; is  
5 that right?

6 A Yes. He's on the same level as I am.

7 Q Did he also report to the same unit chief  
8 that you did?

9 A No. He was in the explosives unit.

10 Q Okay.

11 A And I believe that he reported to initially  
12 Stu Case. S-t-u, Stuart. I don't know how you spell

13 it. And then Case, C-a-s-e. And then Stu was

14 replaced by Jim -- excuse me -- Chris Ronay,

15 R-o-n-a-y. And Chris was replaced by Tom Thurman.

16 Q All right. Well, let's -- let's go down and  
17 talk about Mr. Tom Thurman. Did he have authority to  
18 change your reports before they went out?

19 A No, sir.

20 Q Did he, in fact, wind up changing your  
21 reports before they went out?

22 A Yes, sir.

23 Q I'll go back to that later, but I'm just  
24 trying to understand. Mr. Steven Burmeister, we know  
25 in this case. He came into the laboratory in -- well,

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1 about what year; do you recall?

2 A I think he's been there five years. Maybe  
3 1991. I'm not sure.

4 Q And he worked with you, did he not?

5 A Yes, he did.

6 Q Okay. What's your opinion of him?

7 A I think he's an exceptional scientist. He's  
8 a -- a friend, honestly. A colleague. And I was his  
9 training agent and I was training examiner and I  
10 reviewed his product for quite a while.

11 Q And how about Mr. Martz?

12 A Mr. Martz is the unit chief.

13 Q His first name is?

14 A Roger.

15 Q Roger.

16 A Yes. He's --

17 Q Go ahead. He's the unit chief?

18 A He's the unit chief of the chemistry/  
19 toxicology unit.

20 Q Now, is that the unit that does residues  
21 today?

22 A Yes, sir.

23 Q So is he the person to whom Mr. Burmeister  
24 reports today?

25 A That's my understanding.

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1 Q How about Mr. Bender? Would that be Ed  
2 Bender?

3 A Yes. It's Edward Bender. Mr. Bender was a  
4 technician, chemist, that worked for Dr. Rudolph --  
5 Special Agent Rudolph until Rudolph left. And then he  
6 was there for a while and he went to the ATF  
7 laboratory, Bureau of Alcohol, Tobacco & Firearms  
8 laboratory where he's an examiner now.

9 Q To your knowledge, has he had anything to do

10 with the examination of the evidence in this case?

11 A I understood that he was at the crime scene.

12 Q Okay. Dr. Mary Tungol?

13 A Yes.

14 Q In what section did she work?

15 A She worked in the materials analysis unit

16 for, I think, about four years. She, in fact, worked

17 for me. And then she went to the hairs and fibers

18 unit.

19 Q And what is your opinion of her?

20 MR. HARTZLER: I'm sorry. Abilities? She's

21 not giving an expert opinion in her case. You're

22 asking for his opinion of her science or her --

23 MR. TIGAR: Of her science.

24 MR. HARTZLER: She's not an expert witness

25 so I object.

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1 MR. KOHN: I mean --

2 MR. TIGAR: Counsel, it really doesn't

3 matter. I have some pieces of paper in the box, her

4 name will come up in a more specific context and maybe

5 we would better address it at that time. I'll back

6 off now just to keep it going.

7 MR. KOHN: I mean, my background is more in

8 terms of civil depositions where you can ask

9 questions. Although they may not be relevant in court

10 for civil discovery, you can just ask it.

11 MR. TIGAR: I understand.

12 MR. KOHN: So my understanding of the

13 procedure we have here is I can instruct the witness  
14 not to answer as his attorney and Mr. Maddock can  
15 instruct the witness not to answer on behalf of the  
16 Bureau under that letter. But, you know, other than  
17 that, if you don't want to ask the question, that's  
18 fine, but I just want to be clear that I'm viewing  
19 this more like a civil deposition as opposed to a -- I  
20 don't think there are criminal depositions. I don't  
21 really do criminal law. And generally, what happens  
22 in a civil case is if then there's a dispute on a  
23 question --

24 MR. HARTZLER: We've done civil work, all of  
25 us.

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1 MR. KOHN: Okay. Then you call in the  
2 judge.

3 MR. TIGAR: Well, Mr. Kohn, I was simply  
4 saying that I do have some material -- more specific  
5 material about Dr. Tungol. She is going to be here  
6 later this week. Rather than have this fight, I could  
7 press it now, but I'm having so much fun that I just  
8 decided to let Mr. Hartzler have his way for now.

9 MR. KOHN: Okay.

10 Q (BY MR. TIGAR) How about Agent Buechele,  
11 B-u-e-c-h-e-l-e?

12 A His name is Richard Buechele.

13 Q Richard Buechele?

14 A Buechele, yes.

15 Q What is his role, if any, in the lab?

16 A He was an examiner of paints, plastics,  
17 adhesives, tapes for the materials analysis unit. He  
18 worked for four or five years. I believe he got there  
19 under Mr. Corby's command. I'm not sure, though. It  
20 may have been under Mr. Butler's command.

21 Q All right. Now, does Agent Buechele have a  
22 degree in any scientific field?

23 A I believe he has a degree in chemistry.

24 Q All right. And how about Richard Hahn? Do  
25 you know him?

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1 A Yes. Richard Hahn was a -- an examiner in  
2 the explosives unit. I don't know -- I don't know  
3 when he got there.

4 Q And he was involved in -- at the crime scene  
5 in this case; is that right?

6 A That was what I was told, yes.

7 Q Now, looking at this case, were you  
8 invited -- excuse me. Did someone ask you to come to  
9 the Oklahoma bombing crime scene?

10 A Yes, when the incident happened,  
11 Mr. Burmeister came to me and said, I'm not going to  
12 be able to do it alone and he needed my help. He  
13 wanted my help. At that time, I -- I was not working  
14 explosives anymore. I've still got the expertise.  
15 And that didn't happen. He went to his unit chief and  
16 his unit chief said he didn't want me there.

17 Q Who was the unit chief?

18 A Roger Martz.

19 Q Did anyone tell you -- did anyone employed  
20 by the Government tell you why Mr. Martz didn't want  
21 you there?

22 A Mr. Martz told me why he didn't want me  
23 there. He came over to talk with my unit chief, Jim  
24 Corby, and Corby thought that I should go and we had a  
25 major -- major crisis. We needed everything we could

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1 put there. And Roger told them -- told -- I said, You  
2 know, Roger, you know, I know I'm not working this  
3 anymore, but I can be helpful out there. He said, We  
4 don't want you there. We've got enough people  
5 already. And that was the end of it.

6 Q Now, this conversation with Mr. Martz in  
7 which he said, We've got enough people already, do you  
8 remember when that was?

9 A The day of the bombing.

10 Q That would be April 19?

11 A Yes. Sure. I'm almost sure it was -- it  
12 was -- Burmeister was getting ready to leave real soon  
13 and it was in Mr. Corby's office. Mr. Corby was  
14 there. He might be able to tell you better, but I'm  
15 almost sure it was the day of the bombing.

16 Q Now, before I get into this material, I want  
17 to ask you generally some questions about explosives.  
18 When is the first time that -- I won't ask that to  
19 start. There are -- there are many different kinds of  
20 explosives; right?

21 A That's correct.

22 Q One word I didn't understand, what is a

23 brizant, b-r-i-z-a-n-t?

24 A Brizant.

25 Q Brizant?

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1 A Refers to the --

2 Q Oui.

3 A -- ability to shatter is what I understand.

4 Q From the -- from the French word "briser,"

5 which means to shatter or to break?

6 A That would have to be your testimony, but --

7 Q Okay.

8 A -- I understand that some -- it refers to

9 the ability to shatter an object.

10 Q All right. And so I assume there are

11 explosives that are not brizant explosives; right?

12 A Yes. That's what I understand and that's

13 what my experience has shown me.

14 Q Can you give me examples of brizant and

15 nonbrizant explosives?

16 A Well, high explosives like PETN or RDX or

17 HMX or PYX, those are brizant explosives, military

18 type explosives. There's a level of brizance to

19 dynamites. You know, you're going through a continuum

20 of how much can you shatter the object that you're --

21 you know, that you're intent on shattering. Then

22 there's explosives that create a lot of gas that I'd

23 say operate off of what are we going to say -- a

24 burning as opposed to detonating, burning as opposed

25 to shock wave. Whatever. Like black powder.

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1 Q When we say burn as opposed to detonate, are  
2 you referring to the speed of the chemical reaction?

3 A Well, I think that the speed would be a  
4 function of whether you have a high or low explosive,  
5 but the burning takes place at a slower rate.

6 (Mr. Jones enters the conference room.)

7 Q (BY MR. TIGAR) Now, when you say high  
8 explosive versus low explosive, how does that  
9 correlate to brizant versus nonbrizant explosive?

10 A The low explosives are less brizant. They  
11 have less shattering ability. We use black powder,  
12 for example, which is a low explosive in the mining of  
13 things like marble or shale where you're trying to get  
14 big pieces off. You want to push it out. You want to  
15 heave it out. If you're moving rock in a -- say, a  
16 situation where you want to put a highway through a --  
17 a -- what do you call it -- a mountain, okay, you want  
18 to make things small enough where your equipment can  
19 move it out. You want things to have shattered into  
20 smaller objects. So you try something with a higher  
21 brizance.

22 Q Can an explosive compound get more brizance  
23 from being compacted? Than --

24 A Smokeless powder is a good example of that.  
25 Smokeless powder in the open will burn if you compact

1 it right. And also, flash powder. If you compact it  
2 right, you can have it detonate. And there's a sort  
3 of a fine line there and that's my understanding of  
4 it. I've seen -- I've seen what we describe as  
5 manifestation of that when we put the stuff into pipe  
6 bombs. You get some feathering -- not feathering,  
7 some knife edges on the metal or you get some -- you  
8 know, also some 90-degree breaks.

9 Q So a pipe bomb is an example of taking  
10 something that in the open air would burn, compacting  
11 and compressing it, and then having a device that  
12 would have a brizant affect? Did I do --

13 A Yes. You could -- you could have a -- or  
14 relatively high brizance from compacting in the right  
15 mixture of, for instance, particular flash powder.

16 Q You've talked about high and low explosive.  
17 You've talked about brizant and nonbrizant. Now I  
18 want to introduce a third idea that I see in the  
19 notes. And that is the velocity --

20 A Yes.

21 Q -- in feet per second.

22 A Sure. Uh-huh.

23 Q How does the velocity in feet per second  
24 relate to the brizance and to the high and low  
25 explosive?

1 A If I could use this pen as a demonstration.

2 If that's a stick of explosive --

3 Q Holding up --

4 A Holding up an FBI Cross pen. Okay. If I  
5 could -- if I detonate this or I initiate an explosion  
6 in this pen and it's an explosive material, it doesn't  
7 just go all at once. It doesn't matter what your eyes  
8 are seeing. It takes a certain amount of time for the  
9 chemical reactions to go from this end to this end.  
10 You could measure the velocity of detonation from this  
11 end to this end. Okay. It -- we're not talking about  
12 the thing exploding all at the same time. Though it  
13 appears to be that way, you know, with fast  
14 photography, you can see the explosive cloud and I  
15 don't know if you've seen this before, but it sort of  
16 balloons out and moves along the length of the -- if  
17 they were a stick of dynamite, the length of the  
18 dynamite. The high -- high brizance, the explosives  
19 that have a high brizance have that velocity of  
20 detonation going faster. You would refer to the  
21 material as a high explosive, for instance, if the  
22 velocity of that reaction wave is faster than the  
23 speed of sound in that particular explosive. In that  
24 medium.

25 Q Okay. Faster than the speed of sound in

1 that medium.

2 A Yes. That's correct.

3 Q So that sound waves travel at a given speed,  
4 depending upon the temperature and density of the

5 material through which they are flowing; is that  
6 right?

7 A That's my understanding.

8 Q So that the speed of sound through a stick  
9 of dynamite would be different from at -- at STP,  
10 standard temperature and pressure --

11 A Yes.

12 Q -- would be different from the speed of  
13 sound through a mixture of ammonium nitrate and fuel  
14 oil?

15 A I would have to have empirical data to see  
16 that. I've seen dynamites -- ammonium nitrate fuel  
17 oil has a -- a range somewhere around 13,000 feet per  
18 second and dynamites go, you know -- there's a  
19 variation in the range there.

20 Q Well, then that -- then that was the next  
21 question I wanted to ask. Dynamite -- the speed of  
22 detonation of dynamite is in what range? 20,000 feet  
23 per second or so?

24 A I don't know that. Right offhand, I'd have  
25 to check in Rudolf Meyer or the Picatinny Arsenal

1 Encyclopedia of Explosives.

2 Q Is there something called an engineering  
3 handbook where we can look up the speed of detonation  
4 of different explosives?

5 A Rudolf Meyer puts a -- this little handbook  
6 out. It's Explosives. It's the 4th volume. It's --  
7 we carry it around like, you know -- there's The

8 Blasters Handbook. I personally don't look at that as  
9 often as I do Rudolf Meyer. And there's also the  
10 Picatinny Arsenal Encyclopedia of Explosives. I don't  
11 know if you're acquainted with it. It's ten volumes.  
12 Costs about \$500. You can get it from the --

13 Q The Bureau used to think I was acquainted  
14 with things like that, but it wasn't true.

15 A Okay. Okay. Well, I mean, it's ten volumes  
16 and it's got lots and lots of explosives in it.

17 MR. JONES: Can we ask who the publisher is,  
18 Mike?

19 MR. TIGAR: Who?

20 A The Picatinny Arsenal.

21 Q (BY MR. TIGAR) The Rudolf Meyer.

22 A Rudolf Meyer. Oh, boy. It's a German name.

23 I could get that information, but -- you know, John

24 Lloyd back there knows. He must know Rudolf Meyer.

25 I'm sure he does.

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1 Q Well, let's -- a moment ago, you mentioned  
2 ammonium nitrate and you mentioned a speed of  
3 detonation.

4 A Uh-huh. And velocity of detonation.

5 Q Velocity of detonation. How do you measure  
6 that? In feet per second or --

7 A Or meters per second, you know.

8 Q Whatever. But in feet per second, what is  
9 the -- the approximate speed of detonation of the  
10 ammonium nitrate fuel oil?

11 A I know it's in the range of 13,000 feet per  
12 second. Or, you know, I've read that. You might ask  
13 yourself how it's packed. What's the size of the  
14 particles? How dense is it? Do you know? What is  
15 the ratio of fuel oil to the ammonium nitrate, itself.  
16 That -- those kinds of questions would talk to the  
17 density of the material itself which you'd have to --  
18 if you read Myers' book, for instance, he'll say that  
19 is a velocity of detonation at density grams per cubic  
20 centimeter or whatever.

21 Q Now, if I come upon a crime scene and I'm  
22 wanting to know what the explosive was that was used,  
23 I'd like before -- this is the last thing I'll do  
24 before I get into the documents -- I'd like to go  
25 through a list of the things that we would want to

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1 look at if we were going to try to figure out what  
2 this explosive was.

3 A Yes.

4 Q Now, the first thing is we -- we get to the  
5 scene and let's imagine a bombing scene like Oklahoma  
6 City. Would we be able to see evidence that would  
7 tell us the speed of detonation of whatever it was  
8 that was used? Just as we walked around and looked  
9 at -- at objects?

10 A Though I belong to the International Society  
11 of Explosives Engineers, I am not an explosives  
12 engineer. I have talked with a number of people about  
13 this and asked, you know, how could this -- there are

14 people that actually get involved in that kind of  
15 science.  
16 Q Are there people -- are there people who get  
17 involved in the science?  
18 A Uh-huh.  
19 Q And -- and who then express opinions --  
20 A Yes.  
21 Q -- on what the device was made of based  
22 on --  
23 A No.  
24 Q -- observing the scene?  
25 A No. My understanding of that is the lab

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1 guys tell you what it was made of. It's -- you know,  
2 different explosives have ranges of velocities of  
3 detonation that interlock, intermesh. If you can  
4 imagine according to how you made the explosive, also  
5 the detonation velocity might be different according  
6 to how you placed the explosive. Do you know? What  
7 I'm getting into now is experiential and it's also --  
8 it is also -- what is the word what I've gotten out of  
9 the literature? And I think you would -- you'd be  
10 best served by getting an engineer; Frank Tatum, for  
11 instance, is a fellow who is well-known in his field.  
12 Q I wasn't asking your -- I didn't want you to  
13 express an expert opinion. Based on what you  
14 understand, there are people out there who do express  
15 these sorts of opinions; right?  
16 A Not the opinion of what the explosive was

17 specifically.

18 Q Uh-huh.

19 A That's too categorical. That's what I've  
20 heard.

21 Q The opinion they express is the velocity of  
22 detonation based on the impact on the things around  
23 it?

24 A Yes. And -- sure. And in the opinion I've  
25 heard, like, for instance, out of Frank Tatum is it's

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1 a sort of a -- a probabilistic situation. You can blow  
2 up the same explosive in the same location 100 times  
3 and 50 times, it might give you one set -- it's sort  
4 of 50-50 correct about -- you know, about what you're  
5 pulling out of that as far as velocity of detonation.

6 Q Okay. So this is -- now, the next thing --  
7 you told us about what these engineers could do. Now,  
8 let's move into something that's a little closer to  
9 where you are. They -- they know that Dr. Whitehurst  
10 is waiting in the laboratory back in Washington, D.C.

11 A Yes.

12 Q And what would you be asking them to collect  
13 at the scene and -- so that you could do your job?

14 A When I -- this is going to be a little long.  
15 When I got in the laboratory, there was an  
16 institutional knowledge among kind of the people that  
17 did it that I was able to talk to that decided to go  
18 to the crater and pick up objects at the crater. I  
19 had so many cases where I had stuff come at me that

20 came out of the crater and I didn't see any -- and it  
21 was obvious something had exploded. I had one  
22 particular case where there was a bucket up against a  
23 tree. It blew up, made a big hole in the ground.  
24 Couldn't find anything. And the problem that you face  
25 is some of these explosives can -- they -- they create

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1 temperature profiles of 5- to 6,000 degrees  
2 Centigrade. I mean, it gets very hot.  
3 Q When you blow it up, it blows up?  
4 A Yes. But it gets very hot and the  
5 materials -- the explosive materials, themselves,  
6 break apart, decompose above 3- to 400 degrees, so,  
7 you know, you're sort of asking the question, Can we  
8 model this environment. Well, it's chaotic and as far  
9 as I know -- there's a science of chaos, but I don't  
10 know that there is a forensic science of chaos, you  
11 know. We can -- can we model what's going on here?

12 Well, the problem that we face, sir, is  
13 every bombing takes place in a different place in a  
14 different environment. We've got a database of one.  
15 So where do you go pick up? One of the things we  
16 began to realize is if this was in the building or  
17 close to the bomb and it survived --

18 Q This --

19 A -- plastic --

20 Q A plastic water pitcher?

21 A -- a plastic water pitcher, because it's  
22 plastic, if it didn't -- if it didn't get charred,

23 burned all up, it indicates there's a visual history  
24 there that it didn't get so hot that it would  
25 decompose the explosive. And Tom Haynes out of

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1 England did some research back in the seventies and  
2 early eighties where he extracted some of these  
3 organic explosives from plastics. So we've sort of  
4 built this wisdom about go find plastic. Go find  
5 tires that are still intact. What might happen -- and  
6 Tom suggested this in his paper -- was that explosive  
7 is -- is moving very quickly. The plastic is very  
8 fluid. It just burns itself in and encapsulates  
9 itself in. It may or may not happen. That may be a  
10 good -- an organic place --

11 Q The first thing we're looking for are  
12 organic materials that would receive --

13 A Encapsulate.

14 Q -- something and encapsulate something.

15 Now, is the something unexploded particles?

16 A Yes.

17 Q All right. Because the unexploded  
18 particles -- I won't put words in your mouth because I  
19 don't know enough to do that. Are you looking for  
20 unexploded particles so that you can find a complete  
21 molecule of something that was an original constituent  
22 of the explosive?

23 A Not necessarily. You -- you might look for  
24 decomposition products of the explosive. You know, if  
25 TNT goes off, there's TNT around and my experiential

1 base with TNT is not really very good, but it still  
2 says if TNT went off there, there's liable to be some  
3 TNT residue and those are the molecules of TNT that  
4 are out there and you can't see them and you might  
5 find them on metal or whatever. Okay. You might find  
6 them adhering to any objects and it's -- it's really  
7 kind of a crap shoot. It is. There's some people  
8 that feel very strongly that they know exactly where  
9 you go. But my experience where I've gone to large  
10 craters is -- for instance, in one crime scene, I find  
11 TNT here and way over 250 yards away, I found an RDX  
12 and EPDN in it and you niche your brow, how could that  
13 be.

14 Q That was going to be my next question, so  
15 how could that be?

16 A When this thing called an explosive which is  
17 composed of a lot of components possibly blows up, we  
18 don't have data, experimental data that says where all  
19 those components go. We don't know that they are  
20 going to deposit themselves homogeneously and,  
21 therefore, we have what's referred to as a -- the  
22 deposition homogeneity problem, which is a term I  
23 coined trying to -- we don't have a lot of bombs that  
24 have blown up in a bell jar, for instance, and then we  
25 get to go and see where the things are. That data

1 isn't there. And it's -- it's -- when I worked that  
2 particular case, it was very confusing. I mean, we  
3 were looking at each other like how could you come up  
4 with that? You know, why wasn't that there? So  
5 suppose if you had an ammonium -- TNT explosive go  
6 off, well, where is the stuff? Where did it go to?  
7 What's -- if it blew up in the middle of the room, is  
8 some of it in that corner, is some of it in that  
9 corner? And we don't know.

10       When you blow up these bombs in these crime  
11 scenes, it is chaotic and it's different than we've  
12 seen before. You know, you can imagine blowing up  
13 explosives in a mailbox is much different than in a  
14 big building or outside a big building. Okay. So  
15 where do you go -- and another thing you have to  
16 concern yourself about is what is the environmental  
17 condition of the place where you're collecting this  
18 residue. Is it raining? Is it cold? Is it -- has  
19 the fireman come in and sprayed down the area? Do you  
20 see what I'm saying? It gets to be an extremely  
21 complex problem.

22       And so I'm trying to say, in my opinion,  
23 trying to say that the explosive was explosive X is at  
24 this point in understanding of explosives a little  
25 bit -- for the chemist, it's a little bit pushy. It's

1 way pushy. You know, I'm just a piece of the pie,

2 though. There are other people looking at the whole  
3 situation and just picking up pieces of -- of, you  
4 know, you put a whole thing together. A whole picture  
5 together.

6 MR. KOHN: Is this a good time to take a  
7 five-minute break?

8 MR. TIGAR: Of course. That's fine with me.

9 (There was a recess taken from 10:34 a.m. to  
10 10:50 a.m.)

11 Q (BY MR. TIGAR) We're back on the record if  
12 that's all right with everybody.

13 Doctor, I was asking you before the break  
14 about the velocity of detonation and can you tell me,  
15 is there a difference between compacting a substance  
16 that you're going to cause to explode and containing  
17 it?

18 A I don't think that has to do with my area of  
19 expertise. It has to do with -- I'm -- I understand  
20 compaction from reading about it, but there's a  
21 compaction issue, if you compact too much, but, sir,  
22 we're wandering into an area that it would be better  
23 for me not to go into.

24 Q Let's start with some of the material  
25 that -- that has been provided to us here. You had an

1 opportunity to review Special Agent Williams' report,  
2 did you not?

3 A Yes, sir, I did.

4 Q And you've written a number of comments

5 about it; is that right?

6 A Yes, sir, I have.

7 Q Well -- and if at any time you'd like to see

8 a document that I'm referring to, of course, I'd be

9 happy to show it to you.

10 The first thing I wanted to ask you about

11 was your discussion of a paint sample that -- or a --

12 a paint expertise at the scene. That is to say,

13 portions of the Ryder truck box that were -- that were

14 found.

15 MR. HARTZLER: Could you give us the date of

16 the letter you're referring to?

17 MR. TIGAR: Sure. I'm going to be referring

18 here to 1-9-96 that begins with Bate stamp 019469.

19 MR. HARTZLER: The letter to Mellado?

20 MR. TIGAR: Yes. To Mellado.

21 Q (BY MR. TIGAR) Did you look at Agent

22 Williams' discussion of the Ryder truck paint

23 specimens?

24 A Yes, I did.

25 Q Do you remember talking about specimen Q507?

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1 A Not particularly.

2 Q I'm going to show you Bates number 019475

3 and ask you to just take a look at the top paragraph

4 there.

5 A Yes.

6 Q Okay.

7 MR. HARTZLER: May I just see it.

8 MR. TIGAR: Of course. (Tenders document.)  
9 MR. HARTZLER: Thanks. The one sentence?  
10 MR. TIGAR: Yes. Just the one sentence.  
11 Q (BY MR. TIGAR) Now, you've never looked at  
12 Q507, have you, sir?  
13 A I don't know.  
14 Q Have you --  
15 A I've never analyzed it.  
16 Q Okay. You never analyzed it?  
17 A Yes.  
18 Q Okay. Now, I want to ask you, sir, if a  
19 piece of plywood that had Ryder yellow and standard  
20 gel coat on one side and just plywood on the other  
21 side were found at the scene in Oklahoma City and  
22 there were ammonium nitrate crystals found on it, what  
23 significance could we -- how would we analyze that bit  
24 of information?  
25 A I will ask you a question back. How do you

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1 know it's Ryder yellow? Just by looking at it, sir?  
2 You know, that was --  
3 Q The first question we raise is somebody  
4 tells us that it's Ryder yellow.  
5 A Yes.  
6 Q And let's, for the moment, set aside the  
7 reliability of that person's report.  
8 A Yes.  
9 Q We find a piece of plywood at the scene.  
10 A Yes.

11 Q We find ammonium nitrate crystals on it.

12 A Yes.

13 Q How would we go about analyzing that  
14 evidence?

15 A Are you trying to analyze it for probative  
16 value from the explosive or the paint or both?

17 Q Yes. The probative value from the  
18 explosive.

19 A Okay. I would do a microscopic analysis of  
20 the material.

21 MR. HARTZLER: I'm sorry.

22 A Microscopic.

23 MR. HARTZLER: I understood you -- I thought  
24 you posed as part of your hypothetical that you  
25 already had ammonium nitrate crystals found on it.

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1 MR. TIGAR: I'm sorry. Let me withdraw my  
2 question and make a better one.

3 Q (BY MR. TIGAR) We've got some crystals we  
4 see in -- or embedded in this piece of plywood. Now,  
5 go ahead. What would you do with it?

6 A I would do a microscopic analysis of the --  
7 of the material. I would remove some of the material,  
8 the white crystalline material and subject it to a  
9 diphenylamine solution. If it were a nitrate, an  
10 oxydizer, some oxydizers, nitrocellulose, whatever, it  
11 would turn a bright blue. It's a standard test that  
12 we do. A combination of chemicals, little dropper  
13 bottle. I'm acquainted with that for that particular

14 piece of evidence because I talked with Mr. Burmeister  
15 about it and I saw what he was referring to. He  
16 called me in one day to ask me about it.

17 Q Okay. Now, let me then interrupt you. So  
18 did there come a time, sir, when you were asked to  
19 look at a piece of wood?

20 A Yes. Steve was working on it and it was a  
21 brilliant find and we were excited and he called me  
22 in. He said, Fred, you've got to look at this. You  
23 know, we're colleagues in arms, if you will, and I  
24 went in and looked at it under the microscope.

25 Q So the -- these were crystals that he found

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1 on a piece of wood; is that correct?

2 A I don't know what the substrate was, but I  
3 know it was colored yellow and there were crystals on  
4 that substrate. I don't remember it being wood or  
5 plastic or whatever.

6 Q I'm going to show you a copy of a letter  
7 we've received that you sent to Mr. Glendinning on  
8 July 1, 1995, and ask you to look at the second page  
9 and over onto the third page of that letter. This was  
10 furnished to us on December 13, 1996.

11 A Do you want me to read --

12 Q Just read to yourself the bottom paragraph  
13 there about what Steve asked you to do and then on  
14 over the top few lines of the next page. And that  
15 will give a context for our questions.

16 MR. WYATT: I'm sorry. What was the date of

17 that letter?

18 MR. TIGAR: That's 7-1-95, I believe.

19 MR. WYATT: Okay.

20 MR. KOHN: Yeah.

21 MR. TIGAR: And there are no Bates numbers  
22 on it.

23 A That's a little crude, isn't it? And I

24 apologize for the vulgarity.

25 Q (BY MR. TIGAR) Does that take you back

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1 then to that time?

2 A Yes, it does.

3 Q Do you remember about when it was that  
4 Mr. Burmeister asked you to look at this piece of wood  
5 that he had been looking at?

6 A No, sir. But you could determine that from  
7 his notes. He keeps immaculate notes and you could  
8 determine that from his notes.

9 Q Is it fair to say that when a fly sneezes in  
10 the laboratory, Mr. Burmeister makes a note of it?

11 A He makes a lot of notes. You know, there  
12 are some things he doesn't note. If it was probative,  
13 he would make note of that.

14 Q When you went in to see Mr. Burmeister, what  
15 did he tell you that he had been asked to do with this  
16 piece of wood?

17 A Well, there were crystals on it and he was  
18 attempting to identify if it was ammonium nitrate or  
19 not.

20 Q All right. Was he able to tell whether or  
21 not it was ammonium nitrate?  
22 A Yes, he was.  
23 Q Did he tell you what the prosecutors had  
24 asked him to determine with respect to the ammonium  
25 nitrate?

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1 A He said something about could we determine  
2 if this was applied under -- under pressure. You  
3 know, what kind of stress had been -- essentially,  
4 what they were -- they appeared to be asking to me and  
5 in my conversation with Steve, did they just lay  
6 themselves on this surface or were they blasted into  
7 the surface, could you tell that.

8 Q And what, if anything, did Mr. Burmeister  
9 tell you about whether he would be able to determine  
10 if these were deposited on the surface or blasted into  
11 it?

12 A He said that he didn't have the expertise to  
13 do that and he wasn't aware of where the expertise  
14 was -- we discussed it a bit. It would have had to do  
15 with, we think, you know -- we're not really the x-ray  
16 crystallography experts. There are -- there are  
17 people that are -- that would look at this ammonium  
18 nitrate and decide whether it was put under stress or  
19 not, whether it had blown in there and that might be a  
20 way of looking at the problem. But we didn't have the  
21 expertise.

22 Q And did -- had the prosecutors -- had

23 Mr. Burmeister, to your knowledge, advised the  
24 prosecutors there was not any empirical data that  
25 would answer the question they were asking?

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1 A Yes, sir.

2 Q And did someone tell him that he must not  
3 have the expertise and maybe they would ask somewhere  
4 else?

5 MR. HARTZLER: Object. He doesn't know  
6 what -- you've prefaced your other questions with "did  
7 he say."

8 Q (BY MR. TIGAR) Did Mr. Burmeister tell you  
9 what the prosecutors had told him after he said he  
10 couldn't answer their question?

11 A Yes, sir, he did.

12 Q What did he tell you they said to him?

13 A He told me essentially that it looked like a  
14 fishing expedition. That they were going to go find  
15 whoever they were -- I don't know who the prosecutor  
16 was. Was going to go find the answer that they wanted  
17 and he was concerned about it. He was upset.

18 Q Did Mr. Burmeister tell you anything about  
19 who they might have said they were going to go see  
20 about this?

21 A There were conversations about this later.

22 Q With whom, sir?

23 A You know, it's a long time ago.

24 Q I understand.

25 A What I remember -- what I remember -- if I

1 go wrong, Joe, here, stop me, okay. I don't know if  
2 I'm directly answering your question. What I remember  
3 is that he -- he told me he had talked with David  
4 Williams about it and David had told him, if he can't  
5 tell, I can. If you won't say, I will. That's what I  
6 remember of that. And Steve was -- he had a concern  
7 that we were going to get this answer-of-the-hour type  
8 thing. That -- that we don't know that there's any  
9 empirical data for that. We're talking about stressed  
10 crystalline structures. Those crystals are tiny,  
11 tiny, tiny. And you know, the technology that we're  
12 aware of just -- just won't show it, that we're aware  
13 of. Did that answer your question, sir?

14 Q Now, do you think that you'd be able to  
15 answer the question that Mr. Burmeister was asked by  
16 using -- and I'm going to list some techniques here --  
17 scanning electron microscopy, ion chromatography,  
18 capillary zone electrophoresis, gas chromatography,  
19 refractive index, Fourier transform infrared  
20 spectroscopy and x-ray diffraction and using a  
21 Gandolfi camera?

22 A I did a post doc in x-ray crystallography  
23 for two years at Texas A&M. You need to have a  
24 certain size of crystal to mount just to get it done.  
25 I looked at those crystals and I'm not -- I'm not,

1 from my experience, sure that those crystals were big  
2 enough to use to determine that there had been sort of  
3 a stress on those -- those ammonium nitrate crystals.

4       So to answer your question, the thing  
5 that -- that I began to -- the thing that I began --  
6 when you say the Gandolfi camera, we don't use that.  
7 But when you say that, I might say, well, I'll have to  
8 go look in the book about that one. I -- I did x-ray  
9 crystallography. I didn't use a Gandolfi camera. I  
10 used a very expensive rig that Al Cotton had at Texas  
11 A&M. And those crystals needed to be bigger -- the  
12 ones we made needed to be bigger in order to do that,  
13 but so -- that was 1982, also. I'm -- I'm not -- I'm  
14 not fully -- all the rest of that equipment, I -- you  
15 know, I don't believe so. But the Gandolfi camera, I  
16 began to say, Well, what I'm going to have to do is  
17 get out of here and go look at, you know, what I know  
18 about the Gandolfi camera or what I can find out about  
19 the Gandolfi camera to answer that question.

20    Q   In your comments on the conversation you had  
21 with Mr. Whitehurst --

22    A   I'm Mr. Whitehurst.

23    Q   Excuse me -- with Mr. Burmeister, your  
24 comments about the conversation you had with  
25 Mr. Burmeister, you said that you thought the answer

1 that the prosecutors would get about whether these  
2 crystals were deposited under pressure or not would be

3 bullshit.

4 A Yes. That's correct.

5 Q All right. Now, why do you think it would  
6 be difficult or impossible -- whatever word you want  
7 to choose -- to get an accurate and scientifically  
8 valid answer to the question the prosecutors were  
9 asking Mr. Burmeister?

10 A My concern at that point was Mr. Williams  
11 was going to testify or render an opinion in an area  
12 that he didn't have a clue about. That -- that was my  
13 concern. We don't have that expertise in the FBI  
14 laboratory. We just don't. I bought the x-ray  
15 program -- procured, it's not my -- procured the  
16 x-ray -- x-ray powder diffraction capability that was  
17 in the lab at that time. I went to a number of  
18 schools in that area. We don't have an x-ray  
19 crystallography instrument. And really, the -- the  
20 gist of all of that conversation was we -- our concern  
21 that -- what was going to happen was whoever the  
22 prosecutor was -- and I don't know who the hell was --  
23 was a prosecutor was going to put the question before  
24 Mr. Williams and he was just going to give him an  
25 answer. And that's why I used that -- that term.

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1 Q Now, the -- Mr. Burmeister's finding the  
2 ammonium nitrate crystals, you thought that was good  
3 work on his part; correct?

4 A Sure. Uh-huh.

5 Q Now, are there circumstances under which the

6 way in which that piece of evidence was handled in the  
7 field could affect the reliability of Mr. Burmeister's  
8 results?

9 A The crystals are very, very small, sir.

10 Very small. I haven't seen ammonium nitrate crystals  
11 that small in a commercial product and I've studied  
12 the ammonium nitrate problem in the past, prills and  
13 crystalline material. I was left with the opinion  
14 that they had -- you know, there was a dust -- if you  
15 look at it, there was a dust on that surface. It  
16 wasn't like there were so -- so somebody in the field  
17 that might or might not have contaminated that -- you  
18 know, that would be a question to ask would be I'm --  
19 from the physical size, themselves, of those ammonium  
20 nitrate crystals, I don't think that would have been  
21 an issue. Of course, you know, if somebody ground up  
22 ammonium nitrate until it was a tiny -- tiny -- you  
23 know, very, very fine powder and had it on them, it  
24 isn't -- it isn't reasonable to me.  
25 I -- I don't mean to kind of beat around

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1 this issue, but I -- I can't see that at this point,  
2 that there would have been a contamination issue  
3 with -- with ammonium nitrate on that piece of wood.  
4 It's just, first of all -- my understanding was it was  
5 raining. And if I'm wrong, fine. That stuff just  
6 dissolves and washes away. It was a miracle to find  
7 that stuff. But not really. It's a chaotic  
8 environment. But then it's very small. It's -- you

9 know, it's tiny. And that it would have come from  
10 anything, but something that contained ammonium  
11 nitrate of some sort, I -- I can't see that. Am I  
12 answering your question, sir?

13 Q Yes. You're -- you're answering my  
14 question.

15 A Okay.

16 Q And I'm wanting now to -- to follow up and  
17 ask -- I want you to assume that at the crime scene,  
18 there were a number of personnel involved in  
19 collecting evidence.

20 A Uh-huh.

21 Q If some of those personnel were ATF  
22 employees who have been involved in constructing a  
23 mockup bomb and if the evidence after collection was  
24 stacked in a large facility in which the bags in which  
25 it was contained were open and debris was falling out

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1 on the ground, would there be opportunities for  
2 contamination that could affect the particular sample  
3 Agent Williams Burmeister was looking at?

4 MR. HARTZLER: I'm sorry. I need to object.  
5 The hypothetical doesn't have relevance to the case.  
6 We can discuss it. The mockup bomb is a mockup  
7 device -- it is something that I think Agent  
8 Whitehurst has heard of and we have heard of, but the  
9 timing is the issue.

10 MR. TIGAR: All right. Then I'll take it  
11 one step at a time to meet the objection.

12 Q (BY MR. TIGAR) First, Agent Whitehurst,  
13 have you heard about the mockup bomb?  
14 A Yes, I have.  
15 Q And from your understanding, when did that  
16 arrive on the scene?  
17 A I don't know.  
18 Q With whom did you discuss the mockup bomb,  
19 if you remember?  
20 A Supervisory Special Agent Tom Jordan --  
21 Q And what did he tell you about it?  
22 A -- and Supervisory Special Agent Bill Tobin  
23 and Supervisory Special Agent Steve Burmeister. And I  
24 think Mr. Martz talked about it. What was -- the  
25 conversation -- the gist of the conversation was just

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1 absolutely incredulous that that happened. It was  
2 just -- that the -- the introduction of a possible  
3 contaminant in that crime scene was just absolutely  
4 incredible. And what I was told was that a -- a  
5 vehicle had a bunch of ammonium nitrate put in it --  
6 and if I'm wrong, I'm wrong, but this is what I was  
7 told, in barrels. It was taken out for some sort of  
8 press release. The back door was opened and the  
9 ammonium nitrate spilled out on the ground and it  
10 was -- it was just, you know, something that leaves us  
11 completely aghast.  
12 Q And next question: You raised an issue at  
13 one point whether a particular paint sample item was  
14 questionable because it had been brought in by a

15 civilian.

16 A I didn't raise that issue. I wrote about  
17 it, though.

18 Q You wrote about that issue?

19 A Yes. That's correct.

20 Q Do you remember what particular paint sample  
21 was being talked about? What it was a sample of?

22 A The issue was that in order to relate the  
23 ammonium nitrate crystals on the yellow piece of wood  
24 or whatever it was, you would relate the paint on the  
25 wood back to a paint on a Ryder vehicle. And I told

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1 David that we hadn't written our protocol. According  
2 to protocol procedures in the FBI, that we hadn't  
3 validated protocols for forensic paint analysis.  
4 There's no documentation of any validation. And that  
5 the link between this ammonium nitrate and any bomb  
6 might be cut as a result of a lack of -- of  
7 reliability. And David said to me, Well, it doesn't  
8 matter because it's -- a civilian brought it in and  
9 we're not going to use it anyhow. And what I wrote  
10 there was that it was strange to me that now -- that  
11 there was an issue, that the evidence was going to be  
12 abandoned after we had done all the work on it. They  
13 already knew that a citizen or civilian had brought it  
14 in according to what Dave told me.

15 Q Now, are you --

16 MR. HARTZLER: Pardon me. I hate to leave  
17 this record unclear. I take it the answer is he does

18 not know which item we're referring to?

19 MR. TIGAR: That's right. I mean, I'm not  
20 saying he does. I now have the extent of his  
21 information and the ex -- the other people to whom he  
22 spoke. I mean, that's part 2.

23 Q (BY MR. TIGAR) Part 3, do you know someone  
24 named Latonia Gadson?

25 A I think Latonia is an individual who worked

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1 in the explosives unit, yes.

2 Q And have you spoken to her about this case?

3 A I don't remember it if I've written it. I  
4 would have to review it. I don't remember it.  
5 She's -- she's an assistant or secretary or she was in  
6 the explosives unit at the time. I wouldn't have  
7 any -- any need except maybe in passing, but we -- we  
8 don't, you know, work really in the same area.

9 Q All right. Now, I want you then for  
10 purposes of reasking the question to which an  
11 objection was made to -- this is what she said.

12 MR. HARTZLER: Pardon me --

13 MR. TIGAR: I'm going to read this into the  
14 record. I'm going to ask him a hypothetical question  
15 based on it. You objected to my question as not  
16 having a proper factual basis. I'm going to read what  
17 Ms. Gadson had said, Bates 21413 -- said about how the  
18 evidence was collected.

19 (There was a brief delay in the  
20 proceedings.)

21 MR. HARTZLER: Mr. Tigar, you're going to  
22 give him information based on another witness's sense  
23 of what happened to formulate your hype -- I have no  
24 objection to your formulating a hypothetical based on  
25 this, but I don't believe it's proper for you to

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1 convey information that someone gave to the Inspector  
2 General that you received under seal, especially when  
3 she works in his unit. If you want to formulate  
4 the -- the hypothetical and ask me to withdraw the  
5 objection based on a good faith basis that you're  
6 going to be able to elicit this evidence, I understand  
7 that, but to read into the record and advise them --  
8 if you want to read it into the record, we could  
9 excuse the witness.

10 MR. TIGAR: I have to read it to the  
11 witness. I want to ask him if he assumes that  
12 evidence was handled in a certain way, is there a risk  
13 of contamination. I'm going to read to him about how  
14 evidence was handled. I'll do it hypothetically  
15 because the witness is not here.

16 MR. HARTZLER: Well --

17 MR. TIGAR: Now, the other factor, of  
18 course, is in my hands, that's the admission of a  
19 party opponent, under Rule 801, within the scope of  
20 his duties, regardless of whether she has personal  
21 knowledge. I wasn't going to stand on that point. I  
22 was just trying to solicit this person's opinion.  
23 Since he is an expert in his field -- I take it all

24 parties agree, you're nodding yes -- I can inform him  
25 on any basis whatever --

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1 MR. HARTZLER: Certainly.

2 MR. TIGAR: -- of information and ask him to  
3 opine with respect to it, provided it's the kind  
4 customarily relied on.

5 MR. HARTZLER: We're not objecting. I urge  
6 you to --

7 MR. TIGAR: If you hand me back the paper,  
8 I'll do it.

9 MR. HARTZLER: -- attribute it to a  
10 particular individual and to give him that  
11 information. This is information that she conveyed to  
12 the Inspector General's office and we've tried not to  
13 tell him what other witnesses have told to the  
14 Inspector General. You can --

15 MR. TIGAR: I will ask him to take the  
16 information I had about the identity of this person  
17 with a -- under whatever terms you want to impose on  
18 him as an employee. I'm just trying to get the  
19 information in his hands to respond in a responsible  
20 way to your objection earlier.

21 MR. HARTZLER: May I just ask that you pose  
22 your hypothetical based on information you have. You  
23 can formulate your hypothetical. You need not put it  
24 in the mouth of a witness and somehow try to bolster  
25 it by saying there's a witness who will testify to

1 this.

2 MR. TIGAR: If it came from an FBI agent, I  
3 don't know that that's bolstering.

4 MR. HARTZLER: Let's find out if she's an  
5 FBI agent. I don't believe she is.

6 MR. TIGAR: No, she's not.

7 Q (BY MR. TIGAR) I want -- I'm sorry,  
8 Doctor. I almost lost my temper with my co-counsel.

9 MR. HARTZLER: No.

10 MR. TIGAR: I didn't mean to.

11 Q (BY MR. TIGAR) Let us assume that there  
12 were problems with the evidence in the Oklahoma  
13 bombing mostly related to the attempt to log it in.  
14 Similar to another case, a whole team of technicians  
15 worked in a room on floor 1B of the basement. The  
16 evidence was a mess when it came in because it had not  
17 been collected in an orderly fashion. Too much debris  
18 was sent from the site. Obvious -- that it obviously  
19 had not been sorted at the site. Additionally, most  
20 of the debris was not properly bagged, some was not  
21 bagged at all and many of the bags were not closed  
22 tightly, allowing debris to fall out. Boxes were  
23 stacked five stories high and, often, only the box was  
24 labeled. On two separate occasions, someone found an  
25 empty bag in a box with several bags. There was no

1 examiner present at the sorting of the evidence at the  
2 lab in the Oklahoma bombing case.

3       Now, if we assume that that was the  
4 situation there in Oklahoma City with respect to the  
5 collection of the sample Agent Burmeister was testing,  
6 would that raise questions in your mind as a scientist  
7 about the reliability or about the relevance, let us  
8 say, of the finding ammonium nitrate deposits?

9       A   There's -- I think if I were trying to  
10 analyze that situation as to whether this meant  
11 anything to me or not, I would say that's a -- you  
12 know, that's something I have to -- to look at. I  
13 hadn't heard that before. That's something I have to  
14 look at. I would look at then the ammonium nitrate,  
15 the size of the ammonium nitrate crystals on that  
16 object. We talked about whether there could have been  
17 a contamination from that -- that mock bomb.

18       Q   Yes, sir.

19       A   And we just -- you know, it just didn't --  
20 it wasn't reasonable in Burmeister's mind if it was  
21 contamination. If it had had been, you'd hear about  
22 it. He'd have never looked at that thing. But  
23 finally, if we can't -- if we cannot vouch for the  
24 chain of custody of that material. When I say chain  
25 of custody, if we can't vouch for what brushed up

1 against what, you know. Then, I mean, I have some  
2 doubts, but I looked at the deposit on the wood and

3 it's a dusting on that wood and it's -- it just  
4 isn't -- it's not like it got scraped on there or  
5 whatever. It just -- I don't have a feeling from  
6 remembering that -- I mean, I remember it very well  
7 because I was amazed that he found this stuff. It was  
8 a fine, even dusting. And my impression, you know --  
9 you know, I -- my impression was in thinking about  
10 that and thinking about that piece of evidence, I  
11 would have done what Steve Burmeister did. I would  
12 have analyzed it, but I -- you know, certainly,  
13 knowing what had happened with it, and where it had  
14 been and apparently the handling of it, if nothing  
15 else, I'd have reported --

16 MR. HARTZLER: Object to --

17 A I'm sorry.

18 MR. HARTZLER: He's asked you a  
19 hypothetical. I don't understand the hypothetical to  
20 be necessarily addressing the handling of that piece  
21 of evidence.

22 THE DEPONENT: Okay. Okay.

23 MR. HARTZLER: So if you --

24 A And you're right. And you're right. I

25 apologize. This is a difficult one for me. If a fine

1 even dusting is what I saw under the microscope, I  
2 can't imagine that that stuff got put on there with a  
3 physical contact. You know, we're not talking about  
4 explosives analysis now.  
5 Q (BY MR. TIGAR) That's the next question I

6 was going to ask you.

7 A Uh-huh.

8 Q What are the ways in which having looked at

9 that piece of wood that you could -- that one might

10 conclude that the stuff got on there?

11 A Could conclude how it got on there?

12 Q Yeah.

13 A I mean --

14 Q Can we draw any conclusions about how it got

15 on there?

16 A Not based on my experience. I've been

17 involved with this stuff for ten years now and I -- I

18 don't think -- I don't think so. I don't know of

19 any -- excuse me. I don't know of any empirical

20 studies or whatever that -- you know, I've got to --

21 I've got to talk outside -- I don't want to put this

22 on the table. Can I talk to him?

23 MR. KOHN: Let's --

24 THE DEPONENT: This is one of those

25 situations, Jim.

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1 (There was a recess taken from 11:24 a.m. to

2 11:25 a.m.)

3 Q (BY MR. TIGAR) Okay. Back on the record.

4 Go ahead.

5 A My experience with dusting on a surface is

6 something I was taught in my training in 1986. And it

7 doesn't include that kind -- I have no empirical data

8 to say whether that -- and that's as a scientist, what

9 I've got to draw from this in situation, to say  
10 whether that could have gotten there by contamination  
11 or otherwise. I -- I think that may be at the FBI,  
12 that empirical data maybe at the FBI. I haven't been  
13 involved with explosives for a couple years and that  
14 question was probably best, you know --

15 Q Did Mr. Burmeister look for other substances  
16 such as petroleum distillates; do you know?

17 A I heard that that was going on.

18 Q Do you know -- did he tell you whether he  
19 found any petroleum distillates on that sample where  
20 he found the crystals?

21 A I don't remember that, sir.

22 Q Is fuel oil a petroleum distillate?

23 A Yes.

24 Q And by "petroleum distillate," we mean  
25 something that's made by refining crude oil; is that

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1 correct?

2 A That's my understanding. I'm not a  
3 hydrocarbon -- you know, petroleum chemist. You know,  
4 there's -- there's a lot of us out there, but, you  
5 know, I need to --

6 Q I understand that.

7 A Yes, sir.

8 Q So you were -- when you were at A&M, you  
9 didn't work with any of the hydrocarbon people that  
10 were there?

11 A No. I've done some hydrocarbon work in the

12 lab, okay, but if you move into -- excuse me --  
13 petroleum distillate and start expanding it, you're  
14 best to ask somebody with a specialized expertise.  
15 Q I understand. But Mr. Burmeister never told  
16 you he found any petroleum distillates on there?  
17 A On that particular piece?  
18 Q On that particular piece.  
19 A I don't remember that, sir.  
20 Q Okay. And you told us that the ammonium  
21 nitrate was in fairly small crystals; is that --  
22 A Just a dust.  
23 Q A dust?  
24 A Yes. A dust. Uh-huh.  
25 Q And had you ever seen an ammonium nitrate

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1 dust in your experience?  
2 A I've only seen photographs and that's from  
3 dynamite and it's a process called ferning where when  
4 you blow the dynamite up and it's -- in a cold  
5 environment, it forms these fern-like shapes on metal.  
6 And there's only one example of that and it happened  
7 before I got to the lab that we've got in our  
8 experiential base.  
9 Q Now, did you ever make an ammonium nitrate  
10 fuel oil bomb?  
11 A I don't make bombs, sir. I've been present  
12 when ammonium nitrate fuel oil was mixed down at the  
13 bomb range, but I didn't do that.  
14 Q I'm sorry.

15 A Excuse me.

16 Q I want to make sure I'm getting the right  
17 term. Did you do that in Florida?

18 A No, sir. I made urea nitrate in Florida.

19 Q Okay. Where did you make or participate in  
20 or watch the mixing of ammonium nitrate fuel oil  
21 devices?

22 A A numb -- just the ammonium nitrate fuel  
23 oil, itself, a number of times at Quantico. There's a  
24 demolition range down there that we use. I've been  
25 down there and seen the stuff mixed before.

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1 Q How did the ammonium nitrate arrive at the  
2 scene down there?

3 A I don't know.

4 Q Do you know in what form it was when it was  
5 mixed?

6 A Sure. They are called prills. Little round  
7 balls.

8 Q Are the prills coated with something to keep  
9 water out?

10 A Yes. On a case -- can I expound on this?

11 Q Yes.

12 A On a case a few years ago, I went out into  
13 the ammonium nitrate industry and -- and -- and  
14 solicited information about that and I had ammonium  
15 nitrate material sent to me. And I also gave that  
16 information, relevant to this case, to Burmeister. I  
17 mean, you know, I had -- there's a Fred to Burmeister

18 letter in my files that explains, you know, this is  
19 one way we might be able to ask questions about an  
20 ammonium nitrate that's out there.

21 Q And ammonium nitrate is formed in prills by  
22 some kind of manufacturing process? Is that your  
23 understanding?

24 A Yes. Uh-huh.

25 Q When ammonium nitrate is sold to the public,

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1 is it sold in bags? Is that one form?

2 A One form is bags. It can be sold in bulk.  
3 Farmers buy it in bulk. And I've gone out and tried  
4 to actually look at the -- how do you buy it, you  
5 know, scenarios.

6 Q Based on your experience, can -- do you know  
7 the numb -- ways in which ammonium nitrate can get  
8 down into a powder or dust size of particle similar to  
9 that that Agent Burmeister received?

10 A Not based on my experience. You know, it  
11 doesn't come just in -- in prills. It also comes in  
12 crystalline form. And not based on my experience.  
13 I -- no.

14 Q Now, do you remember when you first saw  
15 Agent Williams' report on forensic evidence in the  
16 Oklahoma bomb matter?

17 A Yes, sir.

18 Q When was that?

19 A I had gone out to California to the Simpson  
20 trial and I returned and I was home for a few days,

21 maybe a week, something like that. And he approached  
22 me and asked me if I had seen his report yet.

23 Q Now, one thing you objected to in his report  
24 was the conclusion that none of the structural damage  
25 evident within the Murrah Building was caused by

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1 secondary explosive devices or explosions; is that  
2 right?

3 A If it's written there, yes.

4 Q Do you remember saying that Agent Williams  
5 had no scientific basis on which to render such a  
6 judgment?

7 A Yes.

8 Q And what led you to that conclusion?

9 A That was a unique database of one. We don't  
10 blow up that much explosive. We don't make holes in a  
11 building that big. Scientific conclusion would relate  
12 to some sort of empirical data. David doesn't relate  
13 back to data. He just -- he does this, sir: He pulls  
14 it out of the air and he puts it on paper. That's my  
15 impression. Without that empirical data, I was  
16 concerned that we would be misled. That the  
17 prosecution would be misled from that. There were  
18 also a number of conversations around the building  
19 that -- there was some angry people, angry about what  
20 David's report was saying. And a number of senior  
21 agents -- and this was part of those conversations,  
22 too. We were appalled that he would put the report  
23 out in that form.

24 Q Now, you also talked about Agent Williams  
25 having discussed window glass breakage and debris

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1 patterns. Do you remember that?

2 A Yes. I believe so.

3 Q Now, in discussing that in your letter --  
4 and I'm referring now to Bates 019473 -- you talked  
5 about pristine blast effect tests such as those that  
6 recently took place in New Mexico.

7 A Yes.

8 Q What tests were you referring to, sir?

9 MR. MADDOCK: I'm going to have to object to  
10 that. There's some testing that occurred that I don't  
11 believe is pertinent to this discussion. Can we go  
12 off the record for a minute so I can discuss with  
13 counsel?

14 MR. TIGAR: Sure.

15 (There was a recess taken from 11:34 a.m. to  
16 11:35 a.m.)

17 Q (BY MR. TIGAR) Go ahead.

18 A The empirical data of Steve Burmeister comes  
19 from testing in the University of New Mexico-Socorro  
20 that I was aware that he was doing. I don't know the  
21 results of that, but if we were trying to determine if  
22 the dust that you're talking about -- that one of the  
23 possibilities of where that dust arised from --  
24 okay -- you could go to that testing. Okay. To say  
25 if you blow up this size bomb and you've got objects

1 out there and the stuff hits it, do you --

2 Q I understand. Now, let me first go back.

3 The -- the tests to which you refer are not the ones

4 about which we've litigated; is that correct?

5 MS. WILKINSON: It's 1994 and 1995 because

6 my understanding is these conversations with Agent

7 Whitehurst and Agent Burmeister occurred in 1995 so

8 they, therefore, could not include the 1996 testing.

9 Q (BY MR. TIGAR) I understand. And Socorro

10 is --

11 A S-o-c-o-r-r-o.

12 Q Socorro. Is that right?

13 A Yes.

14 Q Okay. So these tests were held at New

15 Mexico. And these, you referred to as pristine blast

16 effect tests.

17 A Sure. You've got -- you know, if -- if I

18 can use this tissue paper box as an example. If I put

19 a bomb right here and there's a house over here and

20 something over here, I've got something I haven't got

21 empirical data on. I've never blown up a bomb in that

22 location before and what I have to do is just justify

23 what I'm coming up with based upon what data do I

24 have, my opinion.

25 Q Now, I want to ask about particular aspects

1 of the example you've just given us. When a blast  
2 occurs, there are residues that are deposited; is that  
3 right?

4 A Sometimes.

5 Q Sometimes. Now, we -- you refer to the  
6 thing on which a residue is deposited as witness  
7 material; is that correct?

8 A Yes.

9 Q And by that, you just mean that that's  
10 something you collect relevant residue from; is that  
11 right?

12 A Yes. Uh-huh.

13 Q And are you saying that there are limits to  
14 the extent to which you can generalize from a test  
15 such as that in New Mexico to what you saw in Oklahoma  
16 City?

17 A I'm saying that I don't know that the FBI  
18 laboratory has any empirical data to do that  
19 generalization. Mr. Tigar, it's an extremely chaotic  
20 situation when a bomb blows up and we do these simple  
21 tests and we -- we rule out the building, the cars,  
22 the weather, all of that, and all of those things  
23 affect our opinion. And if -- if it can be -- if it  
24 can be generalized -- it's like Steve and I talked  
25 about one time -- show us how you did it. Give us the

1 numbers, you know. Show us some -- show us, what is  
2 the size of the glass that broke, what kind of glass  
3 is it that broke. It's not just normal window glass.

4 Glass comes in all kinds of forms. Window glass -- we  
5 have people in the laboratory that test glass and you  
6 can tell if it came from a particular window or  
7 whatever. They form opinions on that. The testing  
8 that's done in those pristine environments, are we  
9 asking the composition of the glass, I'm saying no. I  
10 haven't seen -- you know, it's a -- it's a -- it's a  
11 science or it's an experience that bomb techs do.

12 Q Now, what is -- by the way, I wanted to ask  
13 you about, is ground-up ammonium nitrate used in any  
14 commercial explosives?

15 A Yes. I believe it is.

16 Q And --

17 A I've read the Colorado Mines -- Bureau of  
18 Mines article. I've got it -- I think I could -- I  
19 gave it to Steve Burmeister -- where the more you  
20 grind it up, the more cap sensitive it becomes. Okay.  
21 So sure. I don't know the extent of the grinding in  
22 the commercial product.

23 Q Is it in Kinepack, for example?

24 A It is in Kinepack packages, but I don't know  
25 how far it's ground up in those things.

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1 Q So another thing that we would want to know  
2 about this board is the correspondence, if any,  
3 between the size of those particles and the size of  
4 ammonium nitrate particles found in commercial  
5 explosives; is that right?

6 A That would be neat if you could do a size

7 distribution. What -- you know, if you keep in mind  
8 that there's going to be a distribution. It's not  
9 going to be a one-sized particle and so do a size  
10 distribution analysis on the particles that have been  
11 ground up and then do a size distribution analysis on  
12 the particles that are on this object, I don't see how  
13 it's possible. You do a size distribution analysis  
14 with sieves, with, you know, these other techniques,  
15 but that stuff was stuck on that board. It was just  
16 dust. And I don't know that that would be possible to  
17 do.

18 Q Well, if -- suppose that I were to show you  
19 this board that Mr. Burmeister was looking at and ask  
20 you, can I come to a reliable conclusion as to whether  
21 what got deposited on that board started out as prills  
22 as opposed to having started out as ground-up ammonium  
23 nitrate that was a part of some commercial product,  
24 would we be able to answer that question?

25 A I don't have any experiential base. I know

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1 of one large ammonium nitrate case that is based on an  
2 explosion that took place about 20 years in Chicago or  
3 Detroit or whatever. This is a part of my training in  
4 1986. When that big bucket of ammonium nitrate fuel  
5 went off, prills went everywhere. It didn't go off  
6 very well. So the experience -- the data that the FBI  
7 has got on size distribution analysis post-blast is  
8 this thing in Chicago.

9 Q And that you wound up with prills being

10 scattered, not dust; is that right?

11 A They found prills. There may have been dust  
12 there, too. But, you know, you -- you might have  
13 looked at that board, sir, and not seen -- not -- if  
14 you weren't trained to think that way, you might not  
15 have seen that ammonium nitrate.

16 Q My question is: Can I tell from looking at  
17 that board whether the ammonium nitrate particles that  
18 are on it used to be prills before they got down to  
19 that size or whether the ammonium nitrate that's  
20 deposited on that, in fact, came from some commercial  
21 product that involved grinding up ammonium nitrate?

22 A Okay. We're collecting data right now, not  
23 in '95 or '94. We're collecting data right now. Mr.  
24 Burmeister is looking -- he's looking at can we do an  
25 elemental analysis from the clay and materials that

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1 are on the prills where we might be able to draw on  
2 inference from that data, but we hadn't done it  
3 before.

4 Q And that analysis of which you're speaking  
5 involves looking at the silicon-based materials --

6 A Sure.

7 Q -- that is -- around the prills to prevent  
8 their hygroscopic character from causing water to join  
9 with them?

10 A That's what I understand. May I be excused  
11 for a minute before I bust?

12 MR. TIGAR: Yes, sir.

13 (There was a recess taken from 11:43 a.m. to  
14 11:45 a.m.)  
15 Q (BY MR. TIGAR) One more question about  
16 these crystals. Was what Agent Burmeister saw  
17 consistent with the ammonium nitrate in a water  
18 solution having gotten onto that board and then dried?  
19 A Wow. I never thought about that.  
20 Q Well, would you think about it now?  
21 A Well, yes.  
22 Q And --  
23 A And I've seen a lot of ammonium nitrate.  
24 Q Because we first established ammonium  
25 nitrate is -- what's that word -- hydroscopic?

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1 A Yes.  
2 Q How is that spelled?  
3 A H-y-d-r-o-s-c-o-p-i-c.  
4 Q That means it sucks up water?  
5 A Yes. It has an affinity for water.  
6 Mr. Tigar, I've never thought about it. I've seen --  
7 I have an experiential base for this. I've seen lots  
8 and lots and lots of ammonium nitrate on microscope  
9 slides where we've dried on washed glass dishes.  
10 Yeah. That's -- that's a reasonable explanation for  
11 what I personally saw through the -- through the  
12 microscope.  
13 Q Now, in your comments on Agent Williams'  
14 letter, you quoted from some testimony that Agent Hahn  
15 had given, I believe, in United States vs. Dandeny,

16 Monoz-Mosquera?

17 A Yes, sir.

18 Q Was that the Avianca case?

19 A Yes.

20 Q In that case, Agent Hahn gave an opinion  
21 about the velocity of detonation; is that correct?

22 A Yes.

23 Q And he said that it was consistent with the  
24 presence of dynamite; is that right?

25 A No.

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1 Q No? All right. Well, tell us what you  
2 remember him saying.

3 A What he -- what he said was, I remember, to  
4 sum it up in order to have that kind of -- of what do  
5 you call it -- pitting and cratering and damage or  
6 whatever, the velocity of detonation had to be a very  
7 high velocity, 20,000 feet or --

8 Q That's the issue?

9 A Yes, that's correct.

10 Q The issue is under what circumstances would  
11 we expect to see pitting and cratering in evidence  
12 collected from the blast scene.

13 A Uh-huh.

14 Q That's -- do we agree that's what we're  
15 talking about?

16 A Yes.

17 Q Now, the second thing is the pitting and  
18 cratering that's on this witness material; right?

19 A Yes.  
20 Q Okay. The witness material we're talking  
21 about are metal car parts and things like that? Is  
22 that your recollection?  
23 A Well, in Avianca --  
24 Q In Avianca --  
25 A -- no, it's airplane parts.

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1 Q Airplane parts. Excuse me.  
2 A Specifically aluminum.  
3 Q Now, are you able to tell, from pitting and  
4 cratering, the velocity of detonation of the explosive  
5 device and if so, within what range?  
6 A I wrote a -- did a study of that when I was  
7 asked about that issue during Avianca by Ricky Hahn.  
8 And I -- I looked in the literature for the material  
9 and what -- what I was able to learn was that the  
10 pitting and cratering is -- it's what our metallurgist  
11 tells me, Bill Tobin. We are not considering the  
12 substrate that's pitted and cratered.  
13 If I can give the example of the frozen ice  
14 cream and the pudding, if you drop an object on the  
15 ice cream, it sets. If you drop it in the pudding,  
16 it's down in it. If you had aluminum, you'd have  
17 different pitting and cratering maybe than steel. And  
18 I talked at length about this to Bill Tobin. I am not  
19 a metallurgist. I'm not a metallurgist, but I was  
20 asked to disqualify a -- whatever it is, an alibi and  
21 you studied the issue and could not -- I could not and

22 I looked into our literature that's in the explosives  
23 community that we've got that -- in fact, it's in one  
24 of Dr. Alexander Beveridge's papers that was put out  
25 back in '86, I believe, and what I found said to me

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1 that we are not clear about what pitting and cratering  
2 means.

3 I brought the issue up with Bill Tobin, who  
4 is our -- he's been there 20-some odd years and Bill  
5 said, We're not -- what we're failing to do is  
6 consider the substrate as being pitted and cratered.

7 Q Now, by "substrate," you mean --

8 A The material.

9 Q -- the material in which the pitting and  
10 cratering occurs?

11 A You can imagine -- also, we're not --

12 Q I want to stop you because I want -- I need  
13 to understand this. Is the substrate the witness  
14 material?

15 A Sure. You could call it the witness  
16 material.

17 Q So that's a -- the substrate is just a name  
18 for the witness material. Go ahead.

19 A If you can imagine that also if I put the  
20 explosive here, as opposed to right here, you know,  
21 we're going to have different blast damage. (Deponent  
22 indicating.)

23 Q You're showing two items that are about 18  
24 inches apart?

25 A Or five feet apart or whatever. There's

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1 an -- I've seen these phenomena, this pitting,  
2 cratering and what people call blueing and  
3 crystallization, but we've also Mr. Tobin growling and  
4 growling and madder than the devil that people are  
5 rendering opinions with really no strong basis for  
6 about these -- these -- these metallurgical phenomena.

7 Q If we were to see pitting and cratering and  
8 want to understand its significance in terms of  
9 knowing what the blast was caused by, what kind of  
10 device, we'd want to first ask what is the substrate  
11 or witness material; is that correct?

12 A When I speak, I speak from having the  
13 information from metallurgists.

14 Q Right.

15 A Okay. It's not an expert opinion.

16 Q I understand.

17 A And from having read the literature. It's  
18 common-sensical that if you were 500 feet away, you  
19 might not see pitting and cratering. As you get  
20 closer and closer, it's -- well, at what point does  
21 it -- but also, what is this material. I saw --

22 Q When you say "this material" --

23 A This material that the pitting and cratering  
24 is on.

25 Q The substrate.

1 A Yes, I saw tens of thousands of bombs blow  
2 up in Vietnam. I saw lots of explosives go off. I  
3 used them and I've had them used against me. I've  
4 seen all the shrapnel, but I never applied a  
5 scientific examination to that. You know, what is --  
6 I know that we used ammonium nitrate fuel oil in  
7 Vietnam when this country ran out of TNT. It sure  
8 blew up, anyhow, and there were pieces all over the  
9 place. But I didn't compare TNT to ammonium nitrate  
10 fuel oil pitting and craters. When I talked to Tobin  
11 about it, he said there was some research done at  
12 Battelle and that's all there is that he was aware of  
13 to describe this metallurgical phenomenon called  
14 pitting and cratering.

15 Q If we saw some evidence of pitting and  
16 cratering, we would want to ask what valid scientific  
17 basis is there to ascribe significance to it?

18 A Yes, sir. And I did that to the best of my  
19 ability in the Avianca matter when -- when I was asked  
20 to -- you know, to consider this issue. Not pitting  
21 and cratering, but, you know, what kind of explosive  
22 was it.

23 Q Now, the next question is, is there -- is  
24 there some way that based on velocity -- that based on  
25 a guess about or knowledge of velocity of detonation,

1 we can figure out what the explosive was? Is there a  
2 book about that?

3 A But, sir, you can say this explosive has  
4 this velocity of detonation, but it doesn't  
5 necessarily mean when you've got the VOD that that's  
6 just that explosive that did it. Do you know? It --  
7 it doesn't mean that. It -- there could be 100 dozen-  
8 odd explosives out there that have got the same range  
9 of velocity of detonation. It could be the same  
10 explosive packed differently or arranged differently,  
11 so you asked me if you knew the velocity of  
12 detonation, could you say what the explosive was.

13 That's what you asked. I don't know how. And I don't  
14 know that -- and I've looked real, real hard for that  
15 information. I just -- I don't -- I don't find it.

16 But just like the -- the issue of water -- you know,  
17 this thing about the water in the ammonium nitrate,  
18 you might have some idea that would brighten my face.

19 Q Well, next -- next issue. You have written  
20 that nitrates are ubiquitous; is that right?

21 A Pretty much so, yes.

22 Q And that the presence of ammonium and  
23 nitrate ions in somebody's home doesn't necessarily  
24 have significance in terms of explosives having been  
25 present there; is that right?

1 A That's correct. I wouldn't, in fact, be  
2 surprised to find nitrate and ammonium ions on your  
3 hand right now. I just wouldn't. You've walked

4 around outside, you know. In a farming community,  
5 you've got the, for instance, ammonium -- ammonia goes  
6 up off of stockyards. And it'll travel so many feet  
7 and I've written in -- in fact, I did a study recently  
8 on this, it'll go so many -- so many miles, you know,  
9 600 kilometers or whatever, settles back down,  
10 combined with nitrates and, you know, nitrogen,  
11 oxygen, molecules and makes ammonium nitrate on the  
12 ground or ammonium sulfate. That's information that  
13 the -- the Federal Government has had since the  
14 seventies when environmental issues became very  
15 prevalent. If you find the stuff, what does it mean?  
16 I saw one quote where it says 7.1 million metric tons  
17 of nitrogen materials fall on the face of the  
18 Continental United States in a year. So am I -- am I  
19 going along too far with this?

20 Q I understand your point.

21 A Yes.

22 Q So that anytime we see a chemical analysis  
23 or residue analysis of a site, we want to ask the  
24 level of background, level at which the items found  
25 exist in the background?

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1 A Yes, sir. And there's a kind of a problem  
2 with that because, you don't know -- the background is  
3 not there anymore. It's blown away. So how do you  
4 find it out? One way would be to go out where you  
5 know the bomb is going to be blown up and test and  
6 find out what the background is. Once the bomb is

7 blown up, where do you go to get a -- a control sample  
8 to -- do you know? Where would you go? If you go  
9 right to the crater, that's crazy. If you go three,  
10 four blocks away, when you get further and further  
11 away from the site, you get further and further away  
12 from the possibility that the control sample you've  
13 got represents what was at the site before the blast.  
14 So it's kind of a Catch-22 situation. And we have  
15 gnashed our teeth over that for a while.

16 Q Now, in the FB -- in the Oklahoma bomb case,  
17 there were thousands of pounds of debris collected.

18 Do you recall that?

19 A I was told that, yes, sir.

20 Q You were told -- I think Agent Williams  
21 wrote 7,720 pounds of debris were transported and  
22 received in the laboratory on May 8, '95. Do you  
23 remember writing that?

24 A If I wrote it.

25 Q It's -- the page I'm quoting from your

1 letter is Bates -- is the page I just lost -- 019473.

2 Now, what should have been done with that evidence?

3 You asked a question, was it sifted.

4 A Sifting was referring to the size of the  
5 ammonium nitrate crystals.

6 Q I see. Well, I wonder if you could help me  
7 out and read just item 5. It starts at 019473 and  
8 goes over to 019474. And then I want to ask you about  
9 that.

10 (There was a brief delay in the  
11 proceedings.)

12 A Oh, yes.

13 Q (BY MR. TIGAR) Did you have a chance to  
14 read it to yourself? First, what's a microballoon?

15 MR. KOHN: I think he's still looking.

16 MR. TIGAR: I'm sorry, Counsel.

17 MR. HARTZLER: May I take a look at it, too?

18 THE DEPONENT: Yes, sir. Here you go.

19 MR. HARTZLER: What page? I'm sorry. 5.

20 MR. TIGAR: It's item 5, Counsel. Yeah.

21 There it is. If the Government doesn't have these,  
22 we'd be happy to produce these. We need time to  
23 redact them over the lunch hour.

24 MR. WOODS: I don't know if we've got that  
25 much time to redact that much.

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1 MR. HARTZLER: Please note the humorous face  
2 of Mr. Tigar. Thank you.

3 Q (BY MR. TIGAR) First, what is a  
4 microballoon?

5 A They are small spherical materials made out  
6 of various things like glass or phenolic resins which  
7 is an organic type material, plastic type material.  
8 Very small tiny little things. You put them in  
9 explosives to boost the sensitivity of the explosive  
10 and they are in just -- there's just -- they have been  
11 around for a long time. They are in a lot of  
12 commercial explosives.

13 Q And what is a tipper tie? T-i-p-p-e-r,  
14 t-i-e?

15 A You stuff the explosive into a plastic,  
16 sausage like, and tie it on the end just like you  
17 would sausage with a little tipper tie.

18 MR. JONES: Mike, our agreement was we would  
19 take an hour and a half for lunch and I notice it's  
20 12.

21 MR. KOHN: I thought since we started at  
22 9 -- I was trying to figure, take a lunch break at --  
23 what time do people want? 12:30? I don't think we  
24 need a full hour and a half.

25 MR. TIGAR: If I could have 15 more minutes,

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1 I'd get through with this document and we would take a  
2 break. If that's all right. Doctor, are you okay  
3 with that?

4 MR. KOHN: I think we can do -- unless  
5 people need an hour and a half, I think from our  
6 perspective, we could just have an hour for lunch.

7 MR. TIGAR: Whatever you want to do.

8 Q (BY MR. TIGAR) Doctor, you had a  
9 technician conduct a quality assurance test at the FBI  
10 lab?

11 A Yes.

12 Q Do you remember when that was?

13 A It was after the -- the Murrah Building  
14 incident in the summer sometime.

15 Q So -- was it between the Murrah Building

16 incident and the times that Williams' report came out?

17 A Sure, it is.

18 Q And did you find PETN residue contamination?

19 A Yes. Our data was consistent with PETN

20 residue contamination.

21 Q Do you think that was the only contamination

22 problem in the lab?

23 A I know it wasn't.

24 Q What other contamination issues -- and

25 again, I'm not asking you to give, you know, the sign-

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1 off on an opinion. I'm asking you to help me ask

2 questions when evidence comes in. What other

3 contamination issues in the lab should we be looking

4 out for, based on your knowledge and experience?

5 A I think with the FBI laboratory, first of

6 all, it's not a system contamination. It's not on

7 every surface and if we were, we'd see a background

8 everywhere. What's insidious is you don't know where

9 it's at. And if you've got that kind of contamination

10 where it's not -- it's not -- it's not everywhere on

11 every surface, but it's random, okay, then what you

12 should do when you look at the data is ask the

13 question, who handled the evidence? What's their job?

14 Where did they put it? Did they put it in a bomb tech

15 cart? Did a bomb tech pick up the evidence? Was he

16 clean? Do you have swabs from his hands? Did he

17 change gloves between items of evidence? Did he go

18 from one crime scene to the next, possibly

19 contaminating one or the other? You know, you can't  
20 see the stuff at all. So it's very easy -- it would  
21 be very easy to move.

22       Okay. The contamination issue can be  
23 addressed, not only -- in the British lab, they have  
24 addressed it with things like positive pressure  
25 environment and concrete walls. I've been there and,

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1 boy, they don't put up with it for a minute. But our  
2 issue is that we have a thoroughfare right through the  
3 middle of our trace analysis area which has got a rug  
4 on it. And you can imagine that if a guy from the  
5 bomb crew came in from the bomb range and walked  
6 through our -- our rugged area and had it on his hands  
7 and stopped and talked or shook somebody's hand, you  
8 see, those issues, they are difficult to -- because  
9 you can't see it, to address. They are addressable  
10 and, you know, Maurice Marshall's lab over in BRA  
11 addresses them, I mean, like -- they are -- they're  
12 just really a hold-tight situation. We're not able to  
13 do that right now at the FBI lab. So you'd ask where  
14 did you put this.

15       It doesn't mean because we've got  
16 contamination, Mr. Tigar, that the evidence is  
17 contaminated. You just have to ask for the chain of  
18 custody. This is -- from my perspective, it's a chain  
19 of custody problem. The object has got the explosive  
20 and I'm not speaking about the counsel, the object  
21 that's got the explosive on it is not the item of

22 evidence when you talk about residue. It's what's on  
23 there. And you have to ask the question --  
24 Q I understand the chain of custody law and  
25 the law of evidence, but when you go out and advise

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1 about contamination --

2 A Yes.

3 Q -- as it affects the chain of custody, it's  
4 a scientist that would have to tell you what kind of a  
5 chain of custody and what kinds of precautions we  
6 ought to take at each stage; is that right?

7 A I think that it would be good to have  
8 someone that was not a technician, but a scientist in  
9 charge of a program to describe the contamination  
10 issues, yes.

11 Q So that if you're -- if I wanted to make a  
12 list that said, Wear gloves, change the gloves after  
13 you examine each thing, don't walk from one part of  
14 the crime scene to another, don't walk on the rug and  
15 then from the bomb range and then shake hands with  
16 people in the lab -- if I were going to make those  
17 rules, it would be a scientist that would tell us what  
18 kind of rules we need to be making; is that right?

19 A Or --

20 Q Could Agent Hahn tell us what kind of rules  
21 we need or should Dr. Whitehurst tell us what kind of  
22 rules we need?

23 A It -- once you -- once you understand what  
24 the issue is, it starts to become a common-sensical

25 thing. You know, you can't see it. It's on this

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1 table. It may -- maybe it's on the coat. You and I  
2 have shaken hands already. So you can start to think  
3 of the -- the vectors of contamination that are  
4 possible and you need to sit around and brainstorm  
5 about that sort of thing.

6 Q But to understand the problem to begin with,  
7 that's a scientific inquiry?

8 A You asked could it be Mr. Hahn. Can I  
9 address that?

10 Q Sure.

11 A I raised these issues and I raised them and  
12 I raised them and I raised them and I raised them.  
13 Mr. Hahn wouldn't listen and a lot of people over  
14 there wouldn't listen. They just don't listen to that  
15 because they can't see it, sir. They just -- you  
16 know, oh, well, what I heard was I'm a perfectionist  
17 and idealist and all that kind of stuff, but, by  
18 golly, you know, I visited the British lab -- I saw if  
19 you walk into Maurice Marshall's -- into his place,  
20 you put something on to make sure -- and they -- they  
21 interrogate you, they ask with instruments are you  
22 dirty or not and don't you dare lean on anything or  
23 touch anything. Do you know? We haven't got that  
24 awareness yet in our laboratory and it's because, I  
25 think, that you just can't see it. You just don't --

1 don't think about it and so you do need maybe a  
2 scientist that's been working on this stuff to raise  
3 the issues and to build the protocol.

4 Q Now, did someone tell you that evidence that  
5 was gathered with respect to Mr. Nichols had been --  
6 for analysis, those analyses had been thrown out or  
7 not done because of contamination problems?

8 A No. I raised an issue with some evidence,  
9 but that wasn't -- I don't know what's happened with  
10 that issue since then.

11 Q Okay. You said in a -- in one of your  
12 letters that you could make explosives out of most  
13 anything; your cotton panties, coffee, flour,  
14 potassium bromate, grass, et cetera.

15 A Yes.

16 Q Would you just tell me about the cotton  
17 panties part of that; how you could make an explosive.

18 A Sure. It's cotton and you just put it in a  
19 nitrate, in nitrocellulose -- I mean, sulfuric acid  
20 and nitrate acid, concentrate it and, in fact, I've  
21 had nitrated blankets that were cotton blankets that  
22 they came to me and so that -- that's very possible.

23 Q Now, you wrote in your report you -- you  
24 singled out a reference to aluminum powder having been  
25 found in the residence of James Nichols. Do you

1 remember?

2 A No, I don't remember that particular thing,

3 but --

4 Q I'll show you. That's page 019491.

5 A Okay. Okay.

6 Q Now, is that the only time you can remember

7 writing something in reference to the Oklahoma City

8 case that dealt with aluminum powder?

9 A I can't remember that.

10 Q Okay.

11 A I don't know.

12 MR. TIGAR: I've reached a convenient

13 breaking point here if that's all right with

14 everybody.

15 MR. KOHN: Okay. Take a break, but the only

16 issue is how much time for lunch.

17 (There was a luncheon recess taken from

18 12:09 p.m. to 1:33 p.m.)

19 Q (BY MR. TIGAR) Okay. Dr. Whitehurst,

20 you're aware that David Williams and Richard Hahn

21 worked together in the World Trade Center case, are

22 you, sir?

23 A Yes.

24 Q And did Mr. Williams assume the role of

25 advisor to the general management staff on forensic

1 issues as well as addressing management concerns? Is

2 that an accurate --

3 A I would have no knowledge of that.

4 Q Okay. Well, did Mr. Hahn at the World Trade

5 Center case -- was he the general manager for the  
6 crime scene?

7 A I don't know what you call him. My  
8 perception of what he was doing was -- was assisting  
9 in moving -- administrative tasks. Moving evidence  
10 around -- or having people move it and that sort of  
11 thing, but I worked in a different area than he did  
12 most of the time, sir.

13 Q Now, in the World Trade Center case, there  
14 were some questions about urea nitrate; is that right,  
15 sir?

16 A Mr. Maddock, can I -- yes, there were.

17 Q And did you and Mr. Burmeister make some  
18 samples that you submitted to be analyzed in that  
19 case?

20 A Yes, sir, we did.

21 Q And what was the reason that you made the  
22 samples that you submitted to be analyzed?

23 A We sent the evidence back to headquarters to  
24 be analyzed with the analyst working it in a  
25 technician role for us. We came home to find that

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1 they were rendering expert opinions in areas that they  
2 hadn't been qualified in and reports were going out.  
3 Mr. Burmeister and I reviewed those reports and just  
4 had some difficulty with the -- what was being said,  
5 you know. We brought those concerns to management and  
6 thought it was -- you know, that that would take care  
7 of it, but it didn't.

8 Q Let me -- let me get specific here. You  
9 were concerned, were you not, about the opinions of  
10 Martz and Lasswell; is that correct?

11 A Yes. That's correct.

12 Q And Mr. Martz is someone we've already  
13 identified here today, I believe. Who is  
14 Mr. Lasswell?

15 A Mr. Lasswell is a chemist that -- senior  
16 agent that worked in Mr. Martz's area. Chemistry/  
17 toxicology unit. And specifically, Mr. Lasswell was  
18 the one that sent those opinions out. Mr. Martz  
19 signed off on them.

20 Q Now, Mr. Lasswell, in the course of coming  
21 to his opinions, had altered or changed one of the  
22 machines in the laboratory, had he not, sir?

23 A Yes. He did. He --

24 Q What machine did he change?

25 A It was an ion mobility spectrometry. He

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1 didn't change the machine. There's a computer  
2 algorithm software in the instrument that identifies,  
3 if you will -- don't identify, but it gives you a  
4 possibility of what the material is. And there were  
5 six -- I think six different explosives that the  
6 instrument had been built for that read out normally.  
7 Urea nitrate was not one of those. We were in the  
8 process of experimenting, trying to extend the  
9 capability of the instrument further, but we didn't  
10 understand the data that we were getting and when we

11 reviewed the -- the output, there was a peak that  
12 showed up that you had to go into the computer  
13 software and type in urea nitrate in order for that  
14 instrument to say urea nitrate. They were using the  
15 Barringer I-mass instrument to corroborate, validate  
16 the triple quadropole mass spectrometer data that they  
17 were getting.

18       And we -- we just -- you know, we hadn't  
19 reached a -- we had found that it fails in a  
20 significant number of times. We were becoming  
21 cautious of it and we found in field trials and in the  
22 laboratory. And it was Steve Burmeister and I that  
23 had determined that because it was our area of  
24 expertise and so to say that there was urea nitrate  
25 and what we were seeing was urea nitrate was

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1 misleading.

2       Q Now, when you say that the machine was  
3 programmed to read out urea nitrate, physically, what  
4 I would see on the readout of the machine was a --  
5 would be a graph with a peak in it? Was that one  
6 thing I would see?

7       A That's correct.

8       Q And then would the machine actually print  
9 out the words "urea nitrate"?

10       A Well, there's a chart on the -- well, from  
11 my -- you know, big chart and over on this side,  
12 there's -- there's -- the -- the list of things that  
13 are in there. Okay. And you know, the list of

14 things. The materials that are detectable or the  
15 instrument was built to detect PETN, RDX, TNT, you  
16 know, those sorts of things. There were also spaces  
17 that you could put other -- the names of other  
18 materials in. That's the way the computer program is  
19 built so that you -- you -- I'm going too far.

20 Q No, you're not.

21 A So you could -- once you've shown this  
22 instrument is reliable for that, you can put it in  
23 there.

24 Q So if I understand, what Mr. Lasswell did  
25 was to adjust the software so that the machine saw a

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1 certain kind of a peak, you would see the words "urea  
2 nitrate" indicated?

3 A Yes. That's correct.

4 Q Now -- and did you determine, you and Dr. --  
5 did you and Mr. Burmeister determine to test the  
6 reliability of this urea nitrate reading?

7 A Yes. What we did was to submit some samples  
8 that might also give the same results. We had run  
9 into a stone wall about -- we just weren't being --  
10 weren't being -- they weren't paying attention to our  
11 concerns and so --

12 Q When you say you ran into a stone wall, who  
13 did you talk to and who told you that they weren't  
14 going to do anything about it?

15 A Well, it wasn't necessarily they weren't  
16 going to do anything about it. We talked to

17 Mr. Martz. We talked to Mr. Lasswell.  
18 Mr. Lasswell -- in a conference with Steve and I, it  
19 became an issue and we were told by management, Get in  
20 a room, make up your mind and decide this -- and we  
21 got together with -- with -- Len and Steve and I, and  
22 we sat down in our conference room and came through  
23 it. We -- you know, it was obvious that we didn't  
24 have enough understanding of the technology and the  
25 substrate, the material we were looking at in order to

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1 put that in there. And so that was the understanding  
2 when we walked out of there. So we thought, okay,  
3 this is fine. You know. This is a settled issue. I  
4 didn't pay a lot of attention to it after that. It's  
5 a settled issue.

6 But reports went out and nobody called them  
7 back. Reports went out after that and nobody called  
8 them back. And we had a concern that this is really  
9 misleading. Okay. And at that point, that's when  
10 we -- we analyzed the other two samples.

11 Q All right. Now, one of the samples you  
12 analyzed -- strike that.

13 You and Mr. Burmeister made a sample; is  
14 that right?

15 A I made one, he made the other.

16 Q All right. Now, the sample you made, you  
17 made with urine; is that correct?

18 A My urine, yes.

19 Q And the sample he made he made by going and

20 buying some commercial fertilizer?  
21 A I think he had it at his home already, yes.  
22 Q He brought it in from his house?  
23 A Yes. That's correct.  
24 Q What happened when the sample made from your  
25 urine was put into the machine?

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1 A It gave the same result. Couldn't tell.  
2 Q It said urea nitrate?  
3 A Yes. And the triple quadropole mass  
4 spectrometer gave the same result, too. So it was  
5 obvious the signals we were getting from both  
6 instruments, we could get them from spurious other  
7 types of material. We didn't know. It said to us as  
8 a chemist, as a scientist, whoa, back up. Okay.  
9 Q Now, so one problem you saw during that  
10 investigation was that reports went out identifying  
11 a -- a substance as being a particular compound when,  
12 in fact, the readings that led to that conclusion were  
13 consistent with that substance being many other  
14 things?  
15 A Well, two other things that we know of, yes,  
16 sir.  
17 Q All right. But at least some other things?  
18 A Yes. Uh-huh.  
19 Q Now, the next problem is -- the next issue  
20 is that you say that the machine registers a peak; is  
21 that correct?  
22 A Yes. That's correct.

23 Q Now, in the materials that I've seen, you  
24 talk about something being hidden behind that peak or  
25 hidden under that peak.

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1 A There could be.

2 Q Could you tell me what you mean by that.

3 A Well, if the peak represents a time that it  
4 takes for a material to go through an instrument,  
5 suppose what you're measuring is a retention time of a  
6 material in an instrument, more than one material  
7 might have the same retention time. So what you'll  
8 see is coming out of a non -- out of a separation  
9 technique into a nonspecific detector, you might see  
10 one peak when, actually, there's -- there's maybe one,  
11 two or a number of things in that peak. You haven't  
12 been able to separate them successfully.

13 Q In the World Trade Center case, did reports  
14 go out identifying compounds that you thought were in  
15 error?

16 A I thought that -- that what I was looking  
17 at, the reports out of Mr. Lasswell were misleading  
18 and Mr. Burmeister also thought the same thing.  
19 They -- there were identifications made when you could  
20 clearly see in data that there were significant  
21 differences. They weren't -- you know, you'd have  
22 to -- instead of identifying it, you'd have to use the  
23 word "consistent with." This material -- this sample  
24 contains in part this material because you don't know  
25 what the other stuff is, that kind of thing, sir, yes.

1 Q Now, in your interviews with the office of  
2 the Inspector General, you say that in some reports  
3 that you had drafted using the words "consistent  
4 with," the language was changed to "identification  
5 of."

6 A Yes, sir.

7 Q Now, in what cases do you remember there  
8 being a change in your report from "consistent with"  
9 to "identification of"?

10 A Sir, those changes were made -- those kinds  
11 of changes were made to my reports during -- by one or  
12 more people in the explosive unit during the full time  
13 that I was an examiner without my authorization or  
14 knowledge. It doesn't mean that every report was  
15 changed, but during the full time, there were selected  
16 personnel in the explosive unit that were changing my  
17 reports without authorization.

18 Q And without violating the understanding that  
19 is Whitehurst Deposition Exhibit 1, let me ask you,  
20 based on what you were able to find out -- and I'll  
21 take these one at time and you can make an objection  
22 if you like -- did Mr. Williams ever change one of  
23 your reports?

24 MR. KOHN: I just want to interject given  
25 the way you phrased your question. We're relying on

1 Mr. Maddock to raise the objection.

2 THE DEPONENT: Can I just watch you, Jim, so  
3 that --

4 MR. MADDOCK: Yes. Answer the question.

5 Q (BY MR. TIGAR) We've all made eye contact.  
6 I'm going to go down this list. Let's take a beat  
7 after every one of these questions.

8 A Okay.

9 MR. HARTZLER: You're not asking about the  
10 substance of the change; just any change whatever.

11 MR. TIGAR: No. No. Let me make my  
12 question clear.

13 Q (BY MR. TIGAR) I want to ask you, sir --  
14 I'm going to go down a list of names and ask you  
15 whether any of these individuals ever changed any of  
16 your reports in what you as a scientist would regard  
17 as a significant way.

18 A Yes, sir.

19 Q Okay. Mr. Williams?

20 A Yes, he did.

21 Q Did Mr. Williams ever make a change that you  
22 were able to determine from a finding of consistent  
23 with to a finding of identification as?

24 A I don't remember. Wait a minute. That's --  
25 there's so many reports that were changed. I don't

1 remember -- no, I -- I don't -- I don't believe that.

2 Q Did Mr. Thurman ever make a -- any  
3 significant change in any of your reports?

4 A Yes, sir.

5 Q Did Mr. Thurman ever change any of your  
6 reports from consistent with to identified as?

7 A Yes, sir.

8 Q Did Mr. Hahn ever change any of your  
9 reports?

10 A I have no knowledge of that. I need to  
11 qualify that, if that's all right.

12 Q Yes, of course.

13 A When I determined in 1992 that Mr. Thurman  
14 had been altering my reports for five years, I went up  
15 to records and got so many -- the people that had been  
16 bullying me around, I thought maybe they have been  
17 changing my reports, too. And I got a few of  
18 Mr. Hahn's -- not all of his, but -- I don't know if  
19 he did it, but the ones I looked at, he hadn't been  
20 changing the dictation.

21 Q Did Mr. Martz ever make any changes --  
22 significant changes to your reports?

23 A No. Mr. Martz didn't handle my reports.

24 Q Did Dr. Terry Rudolph ever make any  
25 significant changes in your reports?

1 A No. Not that I'm aware of.

2 Q Did Mr. Bender ever make any significant  
3 changes in your reports?

4 A No, he didn't.

5 Q Was it your experience that the opinions of  
6 Mr. Martz and Mr. Lasswell in the World Trade Center  
7 bombing were not based on appropriate training and  
8 experience?

9 MR. HARTZLER: I'm sorry. This is Lasswell  
10 and Martz?

11 MR. TIGAR: Yes, sir.

12 MR. HARTZLER: I probably should have  
13 objected before. They are not being called as experts  
14 in our case. And I guess my question is: Are you  
15 asking him about their qualifications?

16 MR. TIGAR: Did Mr. Martz have anything to  
17 do with collecting the evidence in this case?

18 MR. HARTZLER: No.

19 MR. TIGAR: We didn't see his name anywhere.

20 MS. WILKINSON: Did he have anything to do  
21 with collecting the evidence?

22 MR. HARTZLER: Just so you're clear, he may  
23 be a chain of custody witness, Mr. Tigar, but he's not  
24 going to be called as an expert. We've not tendered  
25 him as an expert.

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1 MR. TIGAR: Okay.

2 MR. HARTZLER: Same as Mr. Lasswell.

3 MR. TIGAR: Can he answer the question in  
4 spite of your objection?

5 MR. HARTZLER: Certainly.

6 Q (BY MR. TIGAR) Was it your view that the  
7 opinions of Mr. Martz and Mr. Lasswell in the World

8 Trade Center bombing case were not based on  
9 appropriate training and background?  
10 A No. Mr. Lasswell has the appropriate  
11 training and background. It's my opinion that what we  
12 did was sloppy in that situation. It's -- it's  
13 partially based on his lack of understanding of  
14 energetic materials responses in these instruments.  
15 But Mr. Lasswell is a good chemist and I -- I'm of  
16 the opinion that he should have known better than  
17 to render the opinions that he did the way he did  
18 them.

19 Q A few minutes ago, you referred to people  
20 who were bullying you around?

21 A Yes.

22 Q What kind of bullying were you experiencing?

23 MR. HARTZLER: Pardon me. I just have to  
24 interject an objection as to the relevance to our  
25 case. Go ahead.

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1 MR. TIGAR: All right.

2 A When I learned my skill in my training, I --  
3 after I learned it, I had some misgivings, Mr. Tigar,  
4 about -- about it, but I thought you know -- these  
5 guys really know this better than me. Okay. And so  
6 as I progressed and I studied very hard to what is it  
7 that I need to put in my reports, how do I need to  
8 present. I started to want to present in my reports  
9 not one-liners, but what I did in a succinct sort of  
10 index and what I found and the significance of what

11 that was to me. And Mr. Corby, my unit chief, and I  
12 worked this out over months. A lot of discussions.  
13 When those kinds of reports went forward to the  
14 disposal unit, there was a lot of concern that came  
15 back, went through management, you know, what are the  
16 reports being written like this for and it was -- it  
17 was kind of bizarre concern because none of those  
18 people are chemists over there and Mr. Corby was the  
19 last person that was -- that was it. I mean,  
20 Mr. Corby signed off on it and that was it.

21 And the -- the concerns every once in a  
22 while blew up and like Mr. Hahn walked in my room one  
23 day and he wanted me to change a report and I said,  
24 you know, we -- it was a matter of two sets of  
25 firecrackers and I had done between 4- and 500

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1 analyses with the ICP or I had Charlie Peters do it  
2 and I couldn't say that this set of firecrackers came  
3 from that set of firecrackers. I couldn't, but they  
4 are firecrackers and at that time, I was comfortable  
5 saying they could have originated from the same  
6 source. Mr. Hahn, wouldn't -- he finally put his  
7 finger out. That's his famous garbage he fed at me  
8 was, you know, you -- something to the effect of if I  
9 couldn't change the report, he'd replace me with a  
10 bright high school kid. Essentially, what he was  
11 doing was threatening my employment. He wasn't in my  
12 chain of command, but it was still that kind of -- I  
13 blew up. You know, I just about had just enough of

14 this and he's a short little guy that, you know, don't  
15 come at me like this. This is a scientific  
16 laboratory. I blew up. My unit chief came down. He  
17 tried to push my unit chief into making me change my  
18 report, Mr. Mohnal.

19 Q (BY MR. TIGAR) Let me pause here and ask  
20 about this. This is Mr. Richard Hahn that came to you  
21 and asked you to make this change?

22 A What's bizarre about this, he has some  
23 education in English and, you know, he could have  
24 learned the stuff, but he doesn't know it. He doesn't  
25 know. And his concern was that the word "could" in my

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1 report, as he said, it -- it would hurt the  
2 prosecutor's case and he articulated that and that was  
3 the concern about the way my reports were getting, you  
4 know. The grumbling that was going on that Mr. Corby  
5 and I talked our way through that. That was the  
6 final -- that was the final answer. You know, my unit  
7 chief was aware where it was supposed to stop. Tom  
8 Mohnal, we went for his first testimony out to -- oh,  
9 what is it -- Hot Springs, Arkansas.

10 Q M-o-h-n-a-l? Mohnal?

11 A M-o-h-n-a-l. Yes. And Tom had said some  
12 statements in the pretrial or the prehearing or  
13 whatever it was that I disagreed and when I tried to  
14 talk to Tom about it, he just blew up. He was trying  
15 to tell the prosecutor that black powder was one of  
16 the most dangerous explosives known to mankind. And

17 well, you know, that doesn't fit with -- with reality.  
18 And I tried to -- to enter into a conversation which  
19 would -- you know, Tom, we're going to be appear to be  
20 at odds here, let's talk this over. The conversation  
21 went on in a car, at which point he got -- just blew  
22 up. And there was no -- no words between there and  
23 the airport. It was a very tense situation. And I  
24 went in and got the data for it and brought it back to  
25 him to show this is what I'm depending on and he ended

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1 up by telling me if I couldn't change my opinion, he  
2 would go to the unit chiefs and they would force me to  
3 change my opinion.  
4       There were instances like that that -- there  
5 wasn't -- Mr. Tigar, there wasn't a basis for what  
6 they were saying. You know, there was -- there was a  
7 concern that equivocal -- I think that's the right --  
8 that, you know, sort of -- we can't know anything  
9 positively. You said it. It's the Heisenberg  
10 uncertainty principle. There are alternative  
11 explanations for data. Sometimes those alternative  
12 explanations for the data may be of trouble to  
13 somebody. That doesn't matter. My job is, you know,  
14 to tell you what science can tell you. Their issue  
15 was that if I put in alternative explanations for the  
16 data as like in the World Trade case -- Jim Corby came  
17 to me and he said he had this piece of paper and I  
18 had -- this could have come from a urea nitrate bomb,  
19 however, it could have come from da-da. There were

20 reasonable explanations. Jim had marked it out. Had  
21 signed it out. He gave me this piece of paper and  
22 highlighted yellow the alternative explanations for  
23 the data were gone. I mean, they -- he said they want  
24 you to take this out. I remember very specifically.  
25 Q Who was the "they" that wanted you to take

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1 it out?

2 A He never told me who they were.

3 MR. HARTZLER: Pardon me. You recognize the  
4 continuing objection throughout all of this?

5 MR. TIGAR: Yes.

6 MR. HARTZLER: Thank you.

7 MR. WYATT: Who is the "he"? I got lost  
8 there.

9 Q (BY MR. TIGAR) Mr. Corby brought you back  
10 the report; is that correct?

11 MR. WYATT: Okay.

12 Q (BY MR. TIGAR) And there had been parts  
13 highlighted?

14 A Yes.

15 Q And when he referred to "they," you  
16 understood he was talking about whoever was in charge  
17 of the World Trade Center?

18 A I didn't ask him, sir, because the -- the  
19 animosity had grown to the point where I didn't -- I  
20 just didn't want to pursue things, but I went and  
21 stared out the window and I said, Tell them they can  
22 fire me. I'm not going to lie and that's all there is

23 to it.

24 I was at a Christmas party and a field agent  
25 came up to me, Hey, I want to talk to you. This is a

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1 Christmas party, sir. And he starts telling me that I  
2 shouldn't be putting this stuff in my reports, that  
3 New York juries were stupid, that they would be misled  
4 by this, that it could hurt the prosecutor, that, you  
5 know -- wait a minute. You know, I'm a physically big  
6 guy, don't push me around. But I sat there and I  
7 listened to him because he started telling me and it  
8 was -- from what I believe, it was garbage, that the  
9 prosecutors were seeking to find another expert to  
10 testify to my stuff and they would get the right  
11 answers. What he was telling me about, in my opinion,  
12 was prosecutorial misconduct and obstruction of  
13 justice. That's when I started. That's when my  
14 famous letters started to the Inspector General.

15 The --

16 Q Let me ask you, if -- some questions on this  
17 line that relate more immediately to this case. Has  
18 Mr. Burmeister used the phrase "internal marketing" to  
19 you?

20 A Yes. It's his phrase. He invented it, yes,  
21 sir.

22 Q And what -- what do you understand  
23 Mr. Burmeister to mean when he talks about internal  
24 marketing? What did he tell you about that?

25 A Well, he described a practice of really

1 pretty vicious slander, you know. It gets back to  
2 you. You're trying to do all your job and you get  
3 somebody doing so-and-so said this and so-and-so said  
4 that. And you know, where's this really coming from.  
5 And too often, we -- we know where it's coming from.  
6 We feel we know -- it's like I walked up behind Ricky  
7 Hahn and Haldiman at the World Trade Center and Ricky  
8 Hahn was describing me as fried. My brain is fried.  
9 You know, come on. I'm a chemist. This is an  
10 irrelevant issue. Stop this childishness. And the  
11 internal marketing was sort of a -- a slander routine  
12 to -- well, if we can't force him to change his  
13 reports, we can -- you know, we can spread any kind of  
14 rumor and Steve recognized pretty quickly what was  
15 going on and that's what he called it.

16 Q Now, you also have reported that Dr. Mary  
17 Tungol was beside herself about the testimony that  
18 Mr. Martz gave.

19 A In what case, sir?

20 Q In the World Trade Center case.

21 MR. HARTZLER: Same objection.

22 A Mr. Martz didn't testify in the World Trade.

23 She -- it was another case, but I don't know -- I'll

24 wait for counsel.

25 Q (BY MR. TIGAR) Okay. Well, then I'm

1 perhaps -- I've got the wrong case here in the notes  
2 that I have. Let me show you what's been Bate stamped  
3 as 0394649 and 650. Just read down to the markings.

4 MR. TIGAR: This is from the Whitehurst  
5 interview of --

6 A I know what this is before. Of March 20 and  
7 21.

8 MR. HARTZLER: You can testify if it's in  
9 the transcript.

10 A She was upset about Martz's testimony in the  
11 O.J. Simpson trial.

12 Q (BY MR. TIGAR) I see. And what was she --  
13 what was the basis on which she was upset?

14 MR. HARTZLER: Pardon me. I have the same  
15 objection. You recognize the continuing objection?

16 MR. TIGAR: I understand.

17 MR. HARTZLER: Thanks.

18 A I think that what -- what she was saying to  
19 me were -- was, you know, if I remember, it was just  
20 Martz's testimony was inappropriate or something to  
21 that effect. There were -- as you can read, there  
22 were three other individuals who described it in  
23 another way, but Mary was -- you know, she thought the  
24 testimony was inappropriate and she was very vocal  
25 about it.

1 Q (BY MR. TIGAR) Now, in the interview that  
2 we're talking about, you referred to the cases of the

3 Gilford 4 --

4 A Yes.

5 Q -- and the McGuire 7?

6 A Yes.

7 Q What were those? I mean, I understand they  
8 are important in the scientific community of which  
9 you're a part.

10 A They were some cases involving suspected IRA  
11 personnel that evidence -- misleading evidence was  
12 presented and they were overturned and it was  
13 explosives residue or explosives evidence. I -- and  
14 I -- there are -- you know, they are something  
15 everybody knows about out there.

16 Q I should have asked this earlier. How is an  
17 ammonium nitrate crystal formed? What do you do to  
18 make ammonium nitrate?

19 A You put ammonia gas and nitrous acid  
20 together. What you end up with is a hydrogen  
21 transferring over to the nitrogen so you've got a  
22 positively charged entity, ion, and then the nitrous  
23 acid itself, loses the nitrogen ion so you end up  
24 negative and they combine together in an ionic bond.

25 Q Earlier today, we were talking about your

1 not being in Oklahoma City. Did you learn that  
2 portable equipment that the FBI had bought was sitting  
3 in a closet because members of the explosive unit have  
4 already decided what the bomb was composed of?

5 A That was the impression. That was the

6 impression I was hearing. We've got an ammonium  
7 nitrate fuel oil explosive and we had a whole  
8 laboratory that had been put together, small mass  
9 spectrometers that weigh 100 pounds. We knew that,  
10 for instance, the IMS equipment was failing. I mean,  
11 it has a high failure rate.

12 Q When you say IMS --

13 A Ion mobility spectrometry equipment has a  
14 high failure rate and it's a --

15 Q What do you mean, has a high failure rate?

16 False-positives?

17 A Yes. And kind of at that time, the  
18 Barringer 100 and 250 series instruments were -- we  
19 didn't understand some of the things. Sometimes it  
20 would see -- it would detect nitroglycerin and  
21 sometimes it wouldn't. That happened in World Trade.  
22 If you had other materials in the ionization chamber  
23 as nitrate ions, it'll drawn out signals from other  
24 types of explosives. It -- we put it alongside in our  
25 protocol the established techniques and found that it

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1 just failed quite often. And Burmeister was -- he  
2 didn't want it out there. He wanted something called  
3 GC chemiluminescence, but it went out there anyway and  
4 the small mass specs and some of that stuff was --  
5 when I wrote that was still sitting, sitting unused.

6 Q Now, did there come a time when you heard  
7 someone say to you in FBI headquarters and FBI circles  
8 that they thought that this was an ammonium nitrate

9 fuel oil bomb?

10 A Sure. Roger Martz told me that.

11 Q When did Roger Martz tell you that?

12 A He came to me with evidence that he  
13 needed -- he doesn't have the equipment in his unit.

14 At that time -- no, he didn't -- he's never used it  
15 and it's not in his unit area and he needed an HVLC --  
16 HPLR, high performance liquid chromatography analysis  
17 run. That's what he wanted to happen and, you know,  
18 he was very positive, you know, it's ammonium nitrate  
19 fuel oil. That's what they decided.

20 Q When was this?

21 A It wasn't too long into the investigation.  
22 It was when people were still out on the scene. I  
23 think within the first week, but, sir, I'd have to --  
24 you know, I'd have to look at the dates.

25 Q I'm -- I'm going to show you just to help

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1 your recollection. Your letter number 58. It's the  
2 letter of April 19, 1995, to Mr. Glendinning. I've  
3 highlighted a portion at the bottom there. I'll be  
4 happy to show it to Government counsel.

5 MR. HARTZLER: I didn't hear the date.

6 MR. TIGAR: April 19, 1995.

7 Q (BY MR. TIGAR) And you're expressing a  
8 view that the members of the explosive unit had  
9 determined what the bomb was composed of and I just  
10 wanted to know what you had heard that led you to that  
11 conclusion.

12 A It was Roger Martz coming in and saying this  
13 is an ammonium nitrate fuel oil bomb. That's what --  
14 that's what -- that's why he had to come to me. He  
15 didn't have the capability of -- if he thought that's  
16 what it was, then he didn't have the capability of  
17 conducting the analysis.

18 Q Now, this letter, what time of day on the  
19 19th of April, 1995, do you remember writing it?

20 A Oh, if I wrote that, it would have been  
21 evening. I -- I don't do this at work, sir.

22 Q I wasn't trying to --

23 A No. That's all I'm saying. I don't do this  
24 at work. And so I -- I go home and sit down and think  
25 about it and write at home on my computer there. So

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1 when this letter was written, it would have been in  
2 the evening.

3 Q Now -- and was your conclusion that members  
4 of the explosive unit already had decided what the  
5 bomb was composed of as of the time you wrote this?

6 A I couldn't conclude that. I could say Roger  
7 Martz -- you know, from what Roger Martz told me,  
8 sure, that was -- we knew it was an ammonium nitrate  
9 fuel oil bomb and that was sort of disconcerting. The  
10 bomb just blew up. There's -- this is a very complex  
11 problem, chemical analysis problem. Extremely  
12 complex. You just decide it's an ammonium nitrate  
13 fuel oil bomb and now let's prove that's what it was.  
14 It's -- anyhow --

15 Q Did Martz send the instrument that had been  
16 proven unreliable in the analysis of explosives?

17 A Yes. It went to the field.

18 Q And did Burmeister disagree with that  
19 decision?

20 A Yes, he did now, on April 27, 1995 --

21 MR. HARTZLER: Can I just interject back to  
22 the last questions? I'm assuming the answer reflects  
23 Burmeister's statement of disagreement to the witness.  
24 I'm assuming.

25 MR. TIGAR: Right.

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1 MR. HARTZLER: Okay.

2 Q (BY MR. TIGAR) On April 27, 1995, you  
3 wrote to Mr. Glendinning?

4 MS. WILKINSON: April what?

5 MR. TIGAR: April 27, 1995.

6 Q (BY MR. TIGAR) And you said he -- and I  
7 think you're referring to Mr. Martz -- is not  
8 following the time-honored profession of looking for  
9 the answer. Could you take a look at that statement.  
10 It's just below what I've outlined in pink there.  
11 Start with the pink statement and read on down. Were  
12 you expressing a criticism of Mr. Martz from the  
13 standpoint of a scientist?

14 A Yes.

15 Q And what was it about Mr. Martz's way of  
16 approaching the Oklahoma City bombing evidence that  
17 you thought was inconsistent with the way a scientist

18 should do that?

19 MR. HARTZLER: I have the same objection in  
20 that we're not calling Martz as an expert, to render  
21 an expert opinion.

22 MS. WILKINSON: Could I see that letter,  
23 please.

24 MR. TIGAR: Our position on that is Mr.  
25 Martz was one of the people out there collecting the

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1 evidence.

2 MR. HARTZLER: I heard you say that.

3 A That's not true. He was in the laboratory.

4 Q (BY MR. TIGAR) Mr. Martz was in the  
5 laboratory. He was responsible for --

6 A He was managing the analysis of the -- and  
7 analyzing the evidence as it came in.

8 Q Thank you. I stand corrected. Mr. Martz  
9 was analyzing the evidence as it came in. I think  
10 that's enough for relevance.

11 A You know the -- you can prove, sir, that you  
12 are -- you've been using explosives. I can prove that  
13 right now. You give me some water extract and I'm  
14 going to take off your hand some acetone, I'm going to  
15 take off urea because you're sweating it, I might get  
16 nitrate. I'm going to get potassium ions, chloride  
17 ions. Now, all of sudden, you've moved yourself in  
18 the arena of flash powder. I'm going to find maybe  
19 some ammonium because these things are on your hands.  
20 If I go at this to prove that you're guilty,

21 Mr. Tigar, I can prove you're guilty. I can do that.  
22 If all I'm going to present, you know, is I'm -- the  
23 fact that finding these things means -- means that you  
24 had -- these things are in explosives. Okay. The  
25 question that invariably -- I really -- I really asked

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1 over this and -- and ran after this question and ran  
2 it into the ground in meetings and colleagues all over  
3 the world, what is the question that we're being asked  
4 in the United States, I would go to the explosive  
5 unit, I'd say what is it you want. They want to know  
6 what the explosive was. Okay. They want to know what  
7 the explosive was when I just came at them. Really,  
8 what they kept pushing at me wasn't that. Well, if  
9 you want to know what the explosive was, you know,  
10 you've got to follow our protocol because there's lots  
11 and lots of things in explosives. There's lots of  
12 things -- you know, an explosive is a material that  
13 you took some things that occur naturally and you put  
14 them together in a way they don't want to be and it's  
15 a metastable material and you add a little energy to  
16 it and it becomes things that are out there already.  
17 That, you know -- like TNT goes to nitrogen and CO2  
18 and whatever.  
19 Okay. You can't -- it's -- it's a difficult  
20 thing for me to -- to say -- to have somebody say I  
21 know what the bomb was, you give me the data that  
22 proves what the bomb was. Do you know? And when I  
23 got in these discussions with Al Jordan, the guy in

24 the explosives unit that I have a lot of respect for  
25 and Al was a guy I could talk to about it. He said, I

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1 want to know what the explosive was. I'm not telling  
2 you what the explosive was and you prove it because,  
3 Mr. Tigar, I can -- I can prove anybody in this room  
4 right now, anybody, is involved in making explosives  
5 if I present the data right. What I want to do is I  
6 want to find out what's there and I want to find out  
7 what's there and I want to give an interpretation of  
8 what that means. And an objective interpretation,  
9 here's what it could be. If you find ammonium and  
10 nitrate ions, they could have come from an ammonium  
11 nitrate-based material. However, they are everywhere.  
12 Not literally everywhere, but you've got to know the  
13 background. If you find TNT, you know, and it's on  
14 somebody's hand, well, then prove he had anything to  
15 do with TNT, not at all. I mean, it's -- it's  
16 consistent with, though not proof of, but there's  
17 other reasons it could be there.

18 And one of the things is the way we handled  
19 explosives crime scenes in this country. We send  
20 explosives bomb techs who are very professional in  
21 their own arena, which is blowing things up, from the  
22 bomb range to the crime scene. Maybe you know, when  
23 you found TNT or PETN, it's contamination. If you  
24 come at me and say prove it's ammonium nitrate,  
25 Mr. Tigar, I can prove it's an ammonium nitrate bomb.

1 I could do that. I can do that. Even if you had  
2 ammonium nitrate and fuel oil on the same piece of  
3 material, there are explosives out there that are not  
4 ammonium nitrate fuel oil explosives that have  
5 ammonium nitrate and fuel oil in them. I've been to  
6 Tamaqua, Pennsylvania, and wherever and seen multi-  
7 component explosives that have got those two  
8 components. Even if you found them, it doesn't prove  
9 it. It's consistent with, but not proof of.

10 Q If we wanted to find a list of explosives  
11 that contain these two things, where would we go?

12 A The FBI has a database called --

13 Q The FBI has a database. We'll stop --

14 MR. MADDOCK: You want to talk about it?

15 MR. KOHN: Let me go off the record on this.

16 MR. MADDOCK: Let's step outside.

17 MR. HARTZLER: Do you care? Do you want to  
18 move on?

19 MR. WOODS: I can solve this another way,  
20 sir. I can solve this another way.

21 MR. MADDOCK: Can we go off the record for  
22 just a minute? I want to make a point.

23 (There was a recess taken from 2:15 p.m. to  
24 2:17 p.m.)

25 Q (BY MR. TIGAR) May I begin?

1 A I think there are two -- three experts, I  
2 think, that would be able to help you with those names  
3 that would be useful to you. We do have a database,  
4 but we'll not go there. Dr. Jimmie Oxley, O-x-l-e-y,  
5 and Dr. Oxley is one of the foremost experts in  
6 ammonium nitrate-based explosives in this country.  
7 She's at the University of Rhode Island now. She was  
8 in the University of New Mexico-Socorro. Mr. Robert  
9 Hopler, H-o-p-l-e-r. He's with Dynamit Nobel  
10 Explosives. He's one of the -- one of the people  
11 that -- that we go to all the time for information.  
12 And there's Dr. Kathy -- Kathleen, I think -- I'm not  
13 sure -- Vanomeren, V-a-n-o-m-e-r-e-n. She's in  
14 Tamaqua, Pennsylvania, with what used to be Atlas  
15 Explosives. And those people will know the  
16 information where to get it.

17 You know, it is my understanding that most  
18 of the explosives that are used in this country, most  
19 of the bulk explosives is ammonium nitrate based,  
20 Mr. Tigar.

21 Q Now, in this analysis of the evidence, there  
22 came a time when the evidence was taken away from  
23 Mr. Martz; is that your understanding?

24 A That was my understanding.

25 Q And to whom was it given?

1 A I believe it was given to Mr. Burmeister.

2 Q Did anyone talk to you about the reason why

3 the evidence was taken away from Mr. Martz?

4 A Mr. Martz -- Burmeister --

5 MR. HARTZLER: Was that a yes or no? I'm

6 sorry. I object to the substance of this, but -- he

7 asked you a yes or no question.

8 A Yes.

9 MR. HARTZLER: I didn't mean to interrupt.

10 I want to be able to object.

11 THE DEPONENT: I didn't quite understand.

12 Maybe it's the Tylenol.

13 MR. HARTZLER: I take it the answer is

14 somebody did talk to you. I object to the substance

15 of that.

16 Q (BY MR. TIGAR) What did they say to you

17 about why it was taken away from Mr. Martz?

18 A Mr. Burmeister was angry that Mr. Martz was

19 working on it, working on the evidence and rendering

20 opinions because he didn't think Mr. Martz was

21 qualified to do that.

22 Q Now, did you have any discussions with

23 people in the FBI about the absence of wrappers found

24 in the debris from the Oklahoma bombing scene?

25 A I talked very shortly to Dave Williams about

1 that.

2 Q Do you believe that the fact that no

3 wrappers were found doesn't preclude a large number of

4 other types of ammonium nitrate-based explosives from

5 having been used?

6 A It doesn't -- yes. That's correct. And may  
7 I expound on this?

8 Q Of course.

9 A It doesn't even preclude any ammonium  
10 nitrate-based explosives. In 1983, Dr. Dennis Reuter  
11 with the FBI laboratory published the first  
12 significant work that we're aware of on ion  
13 chromatography of explosive residues and the reason  
14 he -- he introduced ion chromatography to the FBI is  
15 because he says in his paper, we very often have  
16 situations where the wrapper, the stuff has been taken  
17 out of the wrapper. Okay. And we have numerous  
18 instances where we have gotten explosives that were  
19 removed from the wrapper for whatever reason, so  
20 because there's no wrapper doesn't mean there wasn't  
21 that type of material. It -- it just doesn't.

22 Q Now, going back to Mr. Martz's --  
23 Mr. Burmeister having taken over for Mr. Martz,  
24 speaking in terms of this problem of contamination,  
25 would there be some examinations that Mr. Burmeister

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1 would not be able to replicate because of the  
2 collection techniques or examination techniques that  
3 had been used? I understand that since you didn't  
4 have --

5 A Yes, sir.

6 Q -- hands-on knowledge, you might have to --

7 A No.

8 Q -- speculate a bit, but --

9 A I was close to --

10 Q -- to the extent you can answer --

11 A The protocol requires a microscopic analysis  
12 first. I mean, everybody that does explosives knows  
13 you look through the microscope to see if there are  
14 inorganic residues or big chunks of stuff.

15 Q That's number 1, microscopic examination?

16 A Yes. But when you have removed the material  
17 from a surface, you know, like the residue with water  
18 or acetone or whatever, you know, to do -- with water,  
19 in this case to do ion chromatography, you don't have  
20 necessarily the material that you started with. Okay.  
21 And so you've disturbed that material. If you can get  
22 the pure material and remove it mechanically under the  
23 microscope and examine it as Mr. Burmeister did, then  
24 you can get a much -- a much harder, a much more  
25 positive answer.

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1 Q You're aware that Mr. Martz did not perform  
2 microscopic examinations as required by protocol; is  
3 that right?

4 A That's what Mr. Burmeister told me.  
5 Mr. Martz doesn't normally do microscopy and he  
6 doesn't have any experience with that.

7 Q Now, is it a concern that the failure to  
8 perform -- is it a legitimate concern that the failure  
9 to perform microscopic examinations could harm or  
10 damage the sample so that you couldn't come back and  
11 do the microscopic examination again later?

12 A It -- if there's -- can I go to the ammonium  
13 nitrate crystal on wood?  
14 Q We've been talking about that, sure.  
15 A Okay. If you remove it with water, if you  
16 can see it and then you put it in water, it's kind of  
17 chemically silly because, you know, once you put that  
18 in the water -- I've got data that I see where the  
19 stuff starts going away. I mean, it starts  
20 decomposing. So, you know, it's like with PETN or  
21 RDX. Peter Kolla, K-o-l-l-a, of the German lab -- I  
22 just heard him a couple of weeks ago describing -- and  
23 he's really looking into the degradation of materials  
24 and he talks about PETN and RDX being -- their  
25 decomposition being catalyzed by water. I mean,

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1 that's just -- whoof. So if you extracted with water  
2 and it was PETN and RDX or supposedly was potassium  
3 nitrate explosive and ammonium sulfate, when you did  
4 the extraction, you might destroy the organic  
5 explosive, but you also might -- what you might have  
6 is referred to as a metathetical reaction. You've got  
7 ions that are like the ammonia and chloride, for  
8 instance, and you've got the potassium and nitrate and  
9 they are stuck together. When you put them in water,  
10 they hydrolyze, they break apart, the ions go messing  
11 around.  
12 I've done this experiment myself and when  
13 you come back, when you -- when you evaporate the  
14 water, they come up and you end up with ammonium

15 nitrate and potassium chloride and ammonium chloride  
16 and potassium nitrate. It's boom. You kind of --  
17 things become confusing. So you can't say as a result  
18 of that anymore than what ions are present as opposed  
19 to how they are attached together, which is very  
20 important. If you were trying to say this was a  
21 potassium nitrate-based explosive as opposed to an  
22 ammonium nitrate-based explosive, you have lost that  
23 information. You just -- you know, it's very possible  
24 that you could.  
25 Q Now, second, Mr. Martz, to your knowledge,

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1 had used a moistened swab to obtain residue material  
2 from an item rather than rinsing it. What was wrong  
3 with that and what would that lead to?

4 A You know, the more things that touch that  
5 material -- the more things that touch that material,  
6 you have to be concerned about was there anything in  
7 the moistened swab. The -- the --

8 Q By a moistened swab, that's what we call a  
9 Q-tip at our house; is that correct?

10 A Or it could be just a piece of cotton.  
11 The -- the British laboratory has made, with very  
12 strict quality assurance, this little round cylinder  
13 canister that's got in it quality assured --  
14 absolutely quality assured materials for collecting.  
15 They -- they have got, in fact, an independent  
16 contractor that makes these because when you pull the  
17 cotton out, you're not sure where it came from. So

18 you need to boil it in this and clean it up and make  
19 sure that you haven't got ammonium or nitrate or  
20 something already in it. Okay. If you use  
21 ammonium -- I mean, use a swab, but you don't concern  
22 yourself about, well, did the material you're -- that  
23 you -- detect, not identify, but detect, was it on the  
24 swab or was it on the -- the -- you know, the piece of  
25 evidence.

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1 Q Okay. Now, the next thing Mr. Martz did was  
2 he used a vacuuming technique to obtain samples from  
3 clothing.

4 A Yes.

5 Q What's wrong with that?

6 A That -- that vacuum is just that. It's a  
7 vacuum. And how do you know that the vacuum is clean?  
8 And the way that rig was built at that time was it had  
9 a vacuum with a brush on it. Suppose you were -- you  
10 brushed across 50 pieces of evidence and one of them  
11 had RDX on it and the RDX bound to the brush. We  
12 don't have any data to talk about the absorption, how  
13 sticky is RDX on that particular brush. So you might  
14 analyze evidence from location A and pick up some RDX  
15 and when you go to location B, the RDX that's on that  
16 brush comes falling right off and goes downstream. Do  
17 you know? And we had some concern about that.

18 There's -- another concern is that if the  
19 material is -- is as Tom Hayes' paper talked about, in  
20 the plastic, not on the surface, but in the plastic,

21 suppose it's raining and it's decomposed the stuff,  
22 well, the brush vacuum is not going to get to it. So  
23 what we've done with that instrument -- what Steve and  
24 I were doing was not brushing things. It sure lets  
25 you make -- analyze a lot more evidence, but we

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1 thought this process through and when we did use that  
2 instrument, when we trusted that version of that  
3 instrument, we would do acetone extraction on the  
4 surface. Okay?

5 Q Now, explosives are sticky. You've said  
6 that, haven't you?

7 A Some of them are. The organic explosives  
8 are, yes.

9 Q What do you mean organic explosives are  
10 "sticky"?

11 A It's a term that Frank Conrad from Sandia  
12 Labs lent to this. They -- they will get on glass or  
13 they get on metal or they get on your clothes or  
14 whatever. If you get them on your hands, they will  
15 stick to your whole environment. What's really going  
16 on is an absorption on the surface. There are other  
17 explosives that might not necessarily be sticky, but  
18 the ones that we're looking at -- and that's very  
19 important when we say explosives, when we're out there  
20 detecting explosives, we're only talking about, I  
21 think, six explosives that we really go looking for.  
22 Those have got what Frank calls stickiness to them.  
23 They just bind on surfaces. Makes the contamination

24 issue much more important.

25 Q Now, do you know Brett Mills?

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1 A Yes, I do.

2 Q Brett Mills is an examiner, a trainee in the  
3 tool marks unit?

4 A Yes, he is.

5 Q And during the time you were working in the  
6 lab, did you hear that instruments in the 1B area were  
7 contaminated? I'm talking now about the summer and  
8 spring of 1995.

9 A Instruments, sir?

10 Q Yes. Instruments. That's the -- have you  
11 heard anything about that?

12 A No, sir. There's a 1B area, but there's not  
13 instruments down there that I'm aware of.

14 Q Were you aware that Mills and Fanning took  
15 swabs in this 1B area?

16 A I heard that that happened, yes.

17 Q And were you aware that Laycock and Casso  
18 were taking swabs in 1B and other LD units?

19 A Laycock and Casso were working on a project  
20 for me.

21 Q Did you supervise them in taking swabs?

22 A Yes, absolutely.

23 Q And did you ever learn that evidence from  
24 the Oklahoma bombing case was in an area that was  
25 determined to be contaminated for PETN, RDX, and

1 nitroglycerine?

2 A Yes. But can I clarify?

3 Q Of course.

4 A Yes. The evidence goes through the

5 explosives unit. Whether it goes down in the area, I

6 don't know in that particular matter. But it goes

7 through the explosives unit and it would just -- well,

8 it doesn't necessarily absolutely have to, but that

9 would indicate -- and that area had some hot spots for

10 PETN, if I remember. Some contamination for PETN.

11 But I think to be very clear about that, I -- I don't

12 remember if I wrote it -- I wrote it, but I don't

13 remember it, sir.

14 Q No. I will --

15 A You understand?

16 Q The reason I'm asking the questions in this

17 form is I am looking at a report of an interview of

18 someone else.

19 A Okay. Okay.

20 Q And I don't want to put before you the

21 information that you don't already possess. For the

22 record, I'm looking at Bates 032840. And I ask --

23 that's what I've been asking Dr. Whitehurst about.

24 Now, directing your attention to April 21,

25 1995, that is two days after the bomb; is that right,

1 sir?

2 A Yes, I believe so.

3 Q And that -- April 19 was a Wednesday? Do  
4 you remember that?

5 A No, sir.

6 MR. TIGAR: Do we have agreement on that?

7 MR. HARTZLER: Yes. From us.

8 MR. TIGAR: All right.

9 (Mr. Jones enters the conference room.)

10 Q (BY MR. TIGAR) Now, you wrote in a letter  
11 dated April 21 to Mr. Glendinning that Mr. Martz came  
12 to you on Thursday to tell you that the bomb was an  
13 ANFO bomb. Do you remember having written that, sir?

14 A Yes. I remember writing that letter.

15 Q All right. Good. Could you read the  
16 paragraph there -- there's only one paragraph on that  
17 page -- was that a -- an accurate --

18 MR. HARTZLER: May I see it?

19 MR. TIGAR: Yes.

20 MR. HARTZLER: Thanks. Thank you.

21 MR. WYATT: What is the date of that letter?

22 I'm sorry.

23 MR. TIGAR: April 21.

24 Q (BY MR. TIGAR) And did Mr. Martz tell you  
25 that he knew the velocity of detonation, the packing

1 density, the confinement, the structural integrity of  
2 the target, the atmospheric pressure --

3 A Mr. Tigar --

4 Q -- and placement of the bomb?

5 A The way you phrase that, I'd have to say no.

6 Of course, he didn't.

7 Q Oh, did he --

8 A Okay.

9 Q What did he tell you?

10 A That is his -- that he knew. He knew so

11 much, it's amazing.

12 Q What is it that he knew?

13 A What I'm saying there is he knew that we had

14 an ammonium nitrate-based explosive. In order to know

15 that -- in order to know that -- this is -- yes, I'll

16 have to be clear.

17 Q Please deconstruct that. In order to know

18 what Mr. Martz told you, what would he have evidence

19 of to have found out as a careful scientist?

20 MR. HARTZLER: May I interject? I read the

21 letter and I believe your question was that Martz came

22 to him and said that the bomb was an ANFO bomb. Now,

23 looking at the first couple sentences, is that a

24 correct statement that he said it was an ANFO bomb?

25 THE DEPONENT: Yes, he did.

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1 MR. HARTZLER: Does not the letter record

2 that it was probably an ANFO?

3 THE DEPONENT: Yes. Uh-huh.

4 MR. HARTZLER: Okay.

5 Q (BY MR. TIGAR) All right. Go ahead.

6 A There are a lot of things that you'd have to

7 know in order to make those kinds of statements and  
8 Mr. Martz doesn't have an expertise in explosives that  
9 would address those things and that's what I was  
10 saying. I should have been clearer about that.

11 Q And did there come a time when  
12 Mr. Burmeister told you that Mr. Hahn was running the  
13 forensic investigation at the bombing crime scene?

14 A Yes.

15 Q At --

16 MR. WYATT: Burmeister.

17 Q (BY MR. TIGAR) Mr. Burmeister told him  
18 that. Had Mr. Hahn been transferred out of the lab at  
19 some time?

20 A Yes. He was no longer attached to the lab.

21 Q Why was he transferred out of the lab, if  
22 you know?

23 A It was -- he was -- he went -- he wanted to  
24 go out to Long Beach is what I understood. To be in  
25 charge of the resident agency.

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1 Q And you have a reference at Bates number  
2 001704 to "Mr. Hahn's little lying fingers."

3 A Yes.

4 MS. WILKINSON: What is the Bates stamp  
5 number again?

6 MR. TIGAR: 0017014.

7 Q (BY MR. TIGAR) And what is that a  
8 reference to, sir?

9 A Well, I was a little vulgar there.

10 MR. HARTZLER: Again, I object on the same  
11 basis as before.

12 MR. TIGAR: Well, I'll -- I wanted to be  
13 clear. Last week, we received Ms. Jones' report and  
14 two reports of Mr. Hahn. You will be receiving a  
15 letter from us about the two 302's from Mr. Hahn that  
16 will make this clearer. But since he was in charge at  
17 the crime scene, we're going ahead.

18 MR. HARTZLER: I appreciate that. I  
19 understood you're asking him about his opinion. Maybe  
20 I misunderstood.

21 Q (BY MR. TIGAR) Tell us what you meant by  
22 "little lying fingers."

23 A I -- I have a -- an opinion of Mr. Hahn that  
24 he will give the answer of the hour. He -- he doesn't  
25 have the technical background, in my opinion, and I

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1 had a concern that he was going to go -- we were just  
2 going to find out no matter what it took that the  
3 theory, if you will, of the hour was the correct  
4 theory.

5 I'd also dealt with Mr. Hahn for quite a  
6 while and, you know, I think it probably came to a  
7 head with his ordering me to change my report in that  
8 other bombing matter or attempting to order me to  
9 change my report. And I just don't think that  
10 Mr. Hahn's going to render the appropriate opinion  
11 about these things.

12 Q Now, earlier on, we discussed the term

13 "internal marketing." Could that also refer to the  
14 attempt to shop for an opinion?  
15 A No. When Mr. Burmeister makes that or I  
16 make that, it's really talking about the slander or  
17 the -- the, you know, running to management with  
18 every -- you know, going around you. You know, just  
19 the slander.  
20 Q Did you have any contact with Monica  
21 Knuckles in connection with examination of the  
22 evidence from the Oklahoma bomb scene?  
23 A I know that she was involved in it.  
24 Q Did you ever talk to her about that? About  
25 what she was doing?

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1 A I don't remember that, sir.  
2 Q Did you ever talk to Agent Buechele about  
3 the Oklahoma bomb scene evidence?  
4 A You know, I do remember that. I do  
5 remember. It's just very vague and a long time ago.  
6 Q I'm -- would it refresh your recollection if  
7 I suggested that you might have talked to either Agent  
8 Buechele or Ms. Knuckles about plastic?  
9 A I know what issue it -- is -- is on the  
10 table.  
11 Q Do you remember what those conversations  
12 were?  
13 A Well, I went to Mr. Corby when that thing  
14 blew up, when the incident happened, when I became  
15 aware that there was some blue plastic and there was

16 an attempt to do analysis and said I'd be very glad to  
17 work on that because I'd had some background in  
18 plastics from plastic explosive analysis. And told  
19 Mr. Corby, I'm on line if you need me and he didn't  
20 need me for that. I was working another case at that  
21 time, another high-profile case which was requiring a  
22 lot of my time and so the -- the plastic analysis  
23 was -- was given to Mr. Buechele.

24 Q And did you ever hear what he did with that?

25 A Well, I suggested to Mr. Corby what we might

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1 do with it. We should just completely tear that piece  
2 of plastic apart and analyze it in every way we could;  
3 physical characteristics as well as the chemical  
4 characteristics. And I understood that there was an  
5 extensive amount of analysis done on that, but I don't  
6 know exactly what.

7 Q And in order to render an opinion that  
8 plastic found at the scene was identical to plastic  
9 found somewhere else in someone's house, what kinds of  
10 tests would you have had to do?

11 A That depends on what kind of plastic it was  
12 and I don't think ultimately we can say use the word  
13 "identical" with the technology that we've got at the  
14 FBI. It's the same issue that comes out of saying the  
15 paints are identical, chemically identical. Because  
16 we have lower detection limits on all of our  
17 equipment. You know, there maybe very well can be  
18 materials -- in fact, I've just finished a paint

19 research project where I found, you know, there were  
20 some 30 to 35 materials in the paint and we can only  
21 find four or five. Okay?  
22 Plastic is -- to say that plastic is  
23 identical is -- is -- is -- I think is a very  
24 dangerous thing for us in our laboratory with our  
25 capability. If you take the plastic out to the

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1 manufacturer who puts the plastic out or you suspect  
2 puts the plastic out and if it goes and they look at  
3 it and they are in the plastics industry, I think  
4 that, you know, you can pretty much be comfortable. I  
5 think that you still have to review what people in the  
6 industry tell you because you've got to look at the  
7 basis of it. They don't think the same way about the  
8 things as we do. When -- when you -- when you make  
9 plastic, there's all kinds of chemistry that goes on  
10 to make it. There's things called cross-linkers and  
11 there's functional groups. Just all kinds of things.  
12 Okay. I remember the plastic was blue or I  
13 was told it was blue. I saw some of it. That blue  
14 was -- is a dye. It's extremely difficult to find  
15 enough of the material, that dye material. The dyes  
16 really stand out, even though there's tiny amounts and  
17 finding out what the dye was, being sure about what  
18 the dye was, what -- minor but important components of  
19 plastics are is some -- I think with our level of  
20 expertise is -- my opinion is it's stretching it.  
21 Again, if you take the plastic to the company because

22 you recognize that, then you may be able to justify  
23 saying that plastic is identical.  
24 Q Now, do you remember Mr. Burmeister  
25 complaining to you about Mr. Martz putting pressure on

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1 him?

2 A I think I wrote about that, yes. Uh-huh.

3 Q Do you remember what that pressure was?

4 A Right now, I don't. Roger Martz --

5 MR. HARTZLER: I'm sorry. I have to object.

6 If you don't remember, you don't remember.

7 THE DEPONENT: Okay.

8 Q (BY MR. TIGAR) Go on to something else.

9 Now, do you remember Mr. Burmeister talking to you  
10 about accentuation of the power of aluminum powder?

11 A I wrote about that, but I don't remember  
12 that at this point.

13 Q Well, could you take a look at this letter.

14 This is, again, the one dated 7-1-95. The last  
15 paragraph on the first page and going over to the  
16 first paragraph on the second page.

17 A I remember that, yes.

18 Q At the time you wrote it, did you -- did you  
19 remember the name of the Assistant U.S. Attorney?

20 A No, sir.

21 Q Do you remember it today?

22 A No, sir.

23 Q Do you remember --

24 MR. HARTZLER: Just --

25 Q (BY MR. TIGAR) Do you remember which

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1 Nichols --

2 MR. HARTZLER: Can we make the record clear?

3 MR. TIGAR: Yeah.

4 MR. HARTZLER: You're asking him about a  
5 conversation he had with --

6 MR. TIGAR: Steve Burmeister.

7 MR. HARTZLER: In which Mr. Burmeister  
8 related yet another conversation and your question  
9 assumed that there was a name given?

10 MR. TIGAR: No. I asked him if he  
11 remembered a name of the Assistant United States  
12 Attorney. He says he doesn't. Now we're going on to  
13 something else.

14 MR. HARTZLER: May I simply ask if he was  
15 given a name?

16 A Sir, I would have put it in the letter if I  
17 had been given it.

18 Q (BY MR. TIGAR) Do you remember which  
19 Nichols was -- has anybody ever told you which Nichols  
20 was being investigated there, James or Terry?

21 A No. I -- I wouldn't know that today. I'm  
22 sorry.

23 Q Okay. And what was your judgment about the  
24 propriety or impropriety, if any judgment you made, of  
25 that call to Mr. Burmeister?

- 1 MR. HARTZLER: I object.
- 2 A I wrote it down because I had a concern that
- 3 there was an impropriety. And Steve also did.
- 4 Q (BY MR. TIGAR) Okay. Was the impropriety
- 5 just trying to shop for a conclusion?
- 6 A That's -- uh-huh.
- 7 Q Okay. You mentioned in your interviews that
- 8 one of the things that people in the FBI, experts, go
- 9 through is a moot court.
- 10 A Yes.
- 11 Q Now, so any expert we see from the Bureau
- 12 will have been subject to a moot court process?
- 13 A A number of moot courts, yes, uh-huh.
- 14 Q And is that designed to prepare them to
- 15 testify?
- 16 A Yes. That's part of the reason. The other
- 17 part is will they perform appropriately under our --
- 18 you know, our questioning. Those of us that really
- 19 know the areas.
- 20 Q One of the things we've talked about today
- 21 is this process of a report. And I want to make sure
- 22 I'm clear about it. If a technician works for you on
- 23 a case, the technician reports results to you; is that
- 24 right?
- 25 A Yes. And sometimes renders an opinion.

1 Q Okay. And that opinion then must be signed  
2 off on by you as the technician's superior?

3 A Yes. I read -- that opinion does not go  
4 into the report necessarily. I read the opinion. I  
5 read the data. I look at it and decide if, you  
6 know -- if I agree. If there's an over-inference of  
7 data, I'm not going to change the opinion on the  
8 paper. You know, there it is. This was an opinion  
9 rendered by somebody that worked on the evidence. I  
10 disagree with that. But I don't think that, you know,  
11 there's somebody that agrees with me and I think  
12 that's a valuable piece of information for the justice  
13 process to know.

14 Q Now, after you have signed off and put --  
15 incorporated your conclusions, then the report goes to  
16 the unit chief; is that right?

17 A Yes. That's correct. Uh-huh.

18 Q And at that point, that's the opinion of the  
19 lab? Am I right about that?

20 A In theory, sir.

21 Q Now in theory. Now, is that the way it's  
22 supposed to be? That is, that that's the opinion of  
23 the lab?

24 A Yes.

25 Q But there are some people who have used

1 politics to change the unit chief report; isn't that  
2 right?

3 A I -- I -- I feel a political agenda has been

4 inserted into the process.

5 Q You have said that David -- I guess

6 referring to David Williams -- uses politics to stop

7 my answer. That's not science.

8 A Yes. Yes.

9 Q And what did you mean by that, sir?

10 MR. HARTZLER: I have the same objection to

11 the whole line that I've had with respect to David

12 Williams.

13 MR. TIGAR: Okay.

14 MR. HARTZLER: Not being relevant.

15 MR. TIGAR: Uh-huh.

16 A Taking the opinion over to Martz, taking the

17 opinion over to the section chief, you know, my unit

18 chief has signed off on this thing. Why are we all of

19 a sudden raising issues about the science? And if

20 you've got issues, why don't you come to me and let's

21 sit and talk about it as opposed to let's march down

22 to the section chief's office or let's -- you know,

23 it's -- it's -- it's rather frustrating.

24 Q (BY MR. TIGAR) You said that you thought

25 it was important for the justice process to know about

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1 disagreements, for example, between you and your

2 technician; is that right?

3 A Between me and my colleagues.

4 Q Under the procedures as you understand them,

5 how does the justice system become aware of these

6 disagreements? What mechanism is there?

7 MR. HARTZLER: I object to the relevancy of  
8 his opinion as to what the mechanism is. Please  
9 proceed.

10 Q (BY MR. TIGAR) You can answer.

11 A I don't think that they do become aware of  
12 our disagreements, sir. And I think that until I  
13 began to raise these issues with the Inspector  
14 General's office, that there were strong disagreements  
15 among people in the laboratory that if the  
16 Government's own witnesses don't agree with each  
17 other, I believe that -- that that sounds -- I'm not a  
18 lawyer. I'm not an attorney, but it sounds like it's  
19 something that -- that counsel should know. You know,  
20 it -- it reduces the weight or -- or understanding of,  
21 you know, how strong this is.

22 Q Now, does the term "principal examiner" have  
23 a defined meaning in crime investigation in the FBI?

24 A That's the individual that receives the  
25 evidence and farms it out and decides who will get the

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1 evidence, what kinds of -- of analyses need to be  
2 done. That sort of thing.

3 Q Do you need a break?

4 A I'm good right now. When my bladder breaks,  
5 you'll know.

6 Q At the crime scene in -- the Oklahoma City  
7 crime scene, were you aware that David Williams was  
8 the laboratory principal examiner?

9 A That was my understanding.

10 Q And as laboratory principal examiner, what  
11 were -- and so we don't have a relevance objection,  
12 I'm referring to a 302 dated the 10th of December,  
13 1996 -- what were his duties as laboratory principal  
14 examiner, as you understood the process?

15 A He would look at the crime scene. Collect  
16 the evidence or be in charge of collecting evidence.  
17 Bringing it back to the laboratory and farming out  
18 that evidence to the auxiliary examiners who would do  
19 the science on it. He'd also do some examinations  
20 himself. When those examinations were from the  
21 auxiliary examiners, they would be sent back to David  
22 Williams and incorporated into a report that would be  
23 sent out.

24 Q Now, is David Williams a scientist?

25 A I don't believe so, sir.

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1 Q Speaking as a scientist, do you think that  
2 it is proper to have a non-scientist exercising the  
3 role of laboratory principal examiner in an explosive  
4 crime scene?

5 A No, sir, I don't.

6 Q Could you tell us what, from the standpoint  
7 of good science, is wrong with it?

8 A One -- one way of doing that -- doing  
9 what -- you know, having a non-scientist run the  
10 situation would be all the scientists would get  
11 together with the non-scientist before evidence was  
12 sent out, but we don't do that. We don't have these

13 meetings where the people with the technical expertise  
14 sit in, they hear about all the evidence, whatever.  
15 It just shows up on your desk. If you don't know --  
16 there have been cases where -- you know, one high-  
17 profile case where the prosecutor showed me some  
18 evidence that made a big difference to him and it had  
19 never come to me and, you know, I -- I was able to  
20 have him -- having seen the stuff and recognized the  
21 significance of it tell him. When there are issues,  
22 scientific issues that arise in the handling of  
23 evidence or the analysis of evidence, a non-scientist  
24 doesn't understand how to, in my experience -- how to  
25 address those issues. A lot of times, though, the

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1 issues become people -- you know, the perspective is  
2 they take it personally instead of this is just a  
3 scientific debate. You know, it becomes kind of -- I  
4 know that -- I know that in the laboratory, the  
5 scientists that are there often express their concern  
6 that we could do a much better job if we had  
7 scientists that were at least involved in the, you  
8 know, principal examiner process. But what do we need  
9 to do with -- with this evidence.

10 For instance, in our metallurgy area, for  
11 years and years and years, we had metallurgical  
12 testimony, according to Mr. Tobin, going out of the  
13 laboratory that metallurgists have never seen. Well,  
14 they -- that's really something. You know, that's --  
15 boy, that kind of takes your breath away. So there

16 are those issues that -- you know, that we've all got.

17 Q And looking specifically at Mr. Williams, he  
18 was principal -- was he principal examiner in the  
19 World Trade Center case?

20 A Yes, he was.

21 Q And when -- and was that the big -- the  
22 biggest case before Oklahoma City in which he'd been  
23 principal examiner?

24 MR. HARTZLER: I object. Irrelevant.

25 A I believe so, sir.

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1 Q (BY MR. TIGAR) Okay. And in the  
2 Oklahoma -- in the World Trade Center case, he -- he  
3 drew the final conclusion for the trier of fact in  
4 terms of presentation of scientific evidence?

5 MR. HARTZLER: Same objection.

6 Q (BY MR. TIGAR) Is that fair?

7 A You know -- when he objects, I don't know if  
8 I'm supposed to talk. Somebody say something.

9 MR. KOHN: The way --

10 MR. TIGAR: You can answer.

11 MR. KOHN: The way it goes, an objection is  
12 made for the record. You can still answer because  
13 there's no judge here.

14 THE DEPONENT: If I open my mouth, would  
15 somebody else --

16 MR. TIGAR: Unless he does it. When  
17 Mr. Maddock does it. The reason he's objecting for  
18 whatever reasons he wants, our relevance view of this

19 is this is his immediately preceding principal  
20 examiner responsibility and I want to find out how he  
21 discharged his responsibility before.  
22 A What is your --  
23 Q (BY MR. TIGAR) My question is: Did he  
24 override the judgment of scientists in doing his job  
25 as principal examiner in the World Trade Center and,

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1 if so, how? I have --  
2 A Yes, sir, I did.  
3 Q Can you give us some examples?  
4 MR. HARTZLER: Same objection. I can have a  
5 continuing objection throughout this?  
6 MR. TIGAR: Yes.  
7 A He changed the format of my report. Whoever  
8 they were that wanted me to take the alternative  
9 explanations off of the data had to start with David  
10 Williams because he was the principal examiner. He  
11 was the guy that was supposed to -- whether David was  
12 responsible for that, he ultimately was. I mean, if  
13 somebody ordered him to tell me to do that, I don't  
14 know that. On the stand, under -- you know, in  
15 testimony, despite the fact that Mr. Burmeister said  
16 that we couldn't tell what the bomb was made of, he  
17 rendered an opinion that it was a urea nitrate-based  
18 explosive.  
19 That -- that was, you know, I remember Steve  
20 being particularly frustrated that he could do all  
21 this work and it didn't matter what he had to say,

22 David Williams could say what he damn well pleased  
23 whether there was any scientific basis for it or not.  
24 And I reviewed his testimony in World Trade. There  
25 are other issues that I saw there. I don't remember

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1 them right now, sir.

2 Q (BY MR. TIGAR) Now, in the World Trade  
3 Center situation, you had a lot of experience with  
4 contamination issues, did you not?

5 A Well, there was -- that was a kind of -- a  
6 very -- you know, it was a very high-profile type of  
7 issue, if you will, yes, uh-huh.

8 Q And one of the things that you mentioned in  
9 talking about that were fire extinguishers.

10 A Uh-huh. Uh-huh.

11 Q Now, do some solutions that are used in  
12 putting out fires contain ammonium?

13 A Yes. Ammonium phosphate and ammonium  
14 sulfate.

15 Q And do you know what happens to those  
16 ammonium phosphate and ammonium sulfate compounds when  
17 they interact with the -- a fire scene or fire  
18 situation?

19 A You -- I don't think I can, though -- you  
20 know, the problem is that every fire scene is  
21 different and every major -- you put it on this desk,  
22 it's different than if you put it on this rug. It's  
23 different chemistry. The fact that somebody put  
24 ammonium out there, ammonium-based materials, then

25 that renders the ammonium question kind of, you

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1 know -- it loses a lot of weight.

2 Q So certainly, if a -- a fire personnel have  
3 come on the scene and have sprayed it with some liquid  
4 containing ammonium, you're going to find ammonium  
5 ions, right, from that?

6 A According to what -- the chemistry of the  
7 scene.

8 Q Now, I'm -- I'm just wondering whether we  
9 should also look to see how the ammonium phosphate,  
10 ammonium sulfate might react with other things to get  
11 ammonium-based compounds that are the result of the  
12 interaction of the phosphates and sulfates with other  
13 things.

14 A Well, that would be very good. That would  
15 be a very expensive, you know -- it's a research  
16 project that I haven't -- haven't taken part in.

17 Q Okay. All right. You said in 1994 that  
18 Mr. Burmeister was still getting flak about his  
19 testimony in the World Trade Center case. Do you  
20 remember that?

21 A Yes. That's correct.

22 Q Who gave him flak about that?

23 A There were just various and sundry people in  
24 the lab that had a concern. You know, he talked with  
25 me about it, you know. The -- Assistant U.S.

1 Attorney, Gil Childers, was elated. He was very  
2 pleased. We had overcome some tremendous difficulties  
3 and those -- all of those internal issues we had.  
4 Steve, this was his first big testimony. He stayed on  
5 the stand three or four days. He just did it better  
6 than I would have. You know, he just really did it  
7 very well. And he came back to headquarters feeling  
8 very proud of himself and found that -- and I can't  
9 tell you who -- some of the colleagues were, you know,  
10 why would you do that, you know. It was -- it was  
11 flak. And we talked about it. This is -- you know,  
12 it went along with his concern it didn't really matter  
13 what we did. Dave went in and said it was urea  
14 nitrate anyhow. It went on for a few weeks and we  
15 went on to other crises.

16 THE COURT REPORTER: I need to add some  
17 paper, please.

18 MR. TIGAR: Let's take the afternoon break.

19 (There was a recess taken from 3:03 p.m. to  
20 3:21 p.m.)

21 Q (BY MR. TIGAR) Dr. Whitehurst, when you  
22 received performance appraisal reports, those were  
23 authored by whom, sir, in the 1995 period?

24 A In 1995, it was James Corby.

25 Q And we've been given some of those. I don't

1 know if you knew that, sir.

2 A Yes.

3 Q And the performance appraisal report that  
4 you reviewed on April 17, 1995, that would have been  
5 written by Mr. Corby?

6 A Yes. That's correct.

7 Q Okay. And in that, he wrote his expertise  
8 in the chemistry of explosives and explosives residues  
9 is rivaled by no one else in the laboratory. Was that  
10 true?

11 A I believe it was, yes.

12 Q Did there come a time, sir, when the  
13 explosives residue analysis was placed within the  
14 chemistry/ toxicology unit?

15 A Yes. It's there now, sir.

16 Q And when was that change made?

17 A Oh, boy. Mr. Corby retired in December of  
18 '9 -- December of '95 and it happened shortly  
19 thereafter.

20 Q Was Mr. Burmeister then transferred to that  
21 unit as the responsible examiner?

22 A Yes, he was.

23 Q Did that correspond in time to your being  
24 reassigned to examine paint and plastics?

25 A No, sir.

1 Q When were you reassigned to examine paint  
2 and plastics?

3 A In June of 1994. The 14th of June is when I  
4 was relieved of duty of explosives analysis.

5 Q Do you regard Mr. Burmeister as a good  
6 scientist?

7 A Exceptional.

8 Q And thus, if we came into possession of an  
9 opinion expressed by Mr. Burmeister about Mr. Martz,  
10 could we count on that?

11 A I would count on it, sir.

12 Q Were you aware that a man -- Mr. Bender was  
13 at the Oklahoma crime scene?

14 A Yes, I was.

15 Q And do you regard him as a sloppy  
16 technician?

17 A Yes, sir.

18 Q He's also a bigot, isn't he?

19 A That's --

20 MR. HARTZLER: I object to the relevance.

21 Q (BY MR. TIGAR) In what way did you regard  
22 Mr. Bender to be a sloppy technician?

23 A He was the technician of my training agent.

24 He just maintained a laboratory in a pigsty state of  
25 affairs. In fact, the -- the room that he and my

1 training agent were in had a sign on the door that  
2 said garbage pit or garbage dump or something like  
3 that. It was a big joke for them. There was evidence  
4 on top of evidence. There was raw explosives. When I  
5 moved into the room, there was a cart that had enough  
6 raw explosives, it could have taken us right out and  
7 killed numerous people sitting there. TNT, C4, very

8 sensitive potassium chloride, sulfur-sugar mixture,  
9 five pounds of it. When I moved in the room -- and I  
10 didn't understand the implications of it until I had  
11 been studying the stuff for about 90 days. And TNT  
12 has a very -- relatively high vapor pressure. That  
13 means if you've got a block of it here and leave it  
14 here, it very well might end up over here while the  
15 block is here. (Deponent indicating.) You get  
16 residue.

17 Q By "here" and "here," you're describing --

18 A Two feet away or five feet away. There is  
19 empirical data and research about that in the  
20 explosive detection community. His work was sloppy.  
21 He wouldn't label output. There were some things that  
22 Mr. Bender did that were very good. That were very  
23 good. But, overall, his work product was pretty  
24 sloppy.

25 Q And with specific reference to the Oklahoma

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1 City crime scene, did you talk to Unit Chief Tom  
2 Jordan about Mr. Bender's performance?

3 A Yes, I did.

4 Q And did Mr. Jordan tell you that he wanted  
5 to slap some sense into Bender on a couple of  
6 occasions?

7 A That's what he said.

8 Q And how did he describe his wanting to slap  
9 some sense into Mr. Bender?

10 MR. HARTZLER: Again, I have the same

11 relevance objection.

12 Q (BY MR. TIGAR) This is about the Oklahoma  
13 crime scene?

14 A Yes, it is.

15 MR. HARTZLER: Okay.

16 Q (BY MR. TIGAR) Go ahead.

17 A The context of what was going on in the  
18 conversation with Mr. Jordan was that they had --  
19 Mr. Jordan had a hypothesis that possibly the glass  
20 that was -- I understood there was glass that was  
21 forced into walls and sticking out and it might have  
22 reasonable explosive residue on it and he was  
23 partnered up with Bender at the point and Bender  
24 apparently did some foolish things that Dr. Jordan  
25 was -- found inappropriate and he made that comment, I

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1 wanted to slap some sense into him a couple of times.

2 Q Now, is it your opinion that when we see a  
3 report by anyone who claims to be an expert, that we  
4 should get the name of every FBI employee and ATF  
5 employee that was on the crime scene and that  
6 processed evidence?

7 MR. HARTZLER: Any -- I'm sorry. Any FBI  
8 report?

9 Q (BY MR. TIGAR) Any report of an expert who  
10 opines about the blast scene.

11 A I think that -- I think that there's a lot  
12 of -- I hear a lot of disagreement about scientific  
13 opinions or a fair amount of disagreement about

14 scientific opinions from that scene. It's  
15 controversial. And if there's -- if you receive  
16 evidence -- excuse me -- if somebody in the lab  
17 receives evidence, they are not the only guy to touch  
18 the evidence. And we need to understand who touched  
19 it, where it came from, did it go in a truck that is a  
20 bomb truck, you know, those kinds of things. Do we  
21 have swabs, control swabs. Whatever. That -- that's  
22 important, mostly important for organic explosives.  
23 If there were organic -- and I understand that the  
24 organic explosive -- that's PETN, RDX, TNT,  
25 whatever -- is not an issue at the bombing scene,

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1 itself. Ammonium nitrate is what they found there.

2 Q Let me -- so organic -- ammonium nitrate is  
3 not an organic explosive?

4 A It really is. But we refer to --

5 Q Inorganic. Doesn't it need an organic  
6 explosive to get it started?

7 A Well, it's -- not necessarily. You can  
8 grind it up very fine, put aluminum powder in it, put  
9 microspheres in it, it becomes cap sensitive. If you  
10 grind it up very fine and put it with --

11 MR. HARTZLER: I'm not sure you're answering  
12 his question. I'm not sure we need to elicit your  
13 bomb-making knowledge.

14 MR. TIGAR: That's okay. I wanted to know,  
15 what does it need to get it started.

16 A You don't necessarily need a booster charge

17 to make it get started.

18 Q (BY MR. TIGAR) It's your understanding

19 there was a booster charge of some kind in the

20 Oklahoma City --

21 A I don't know.

22 Q All right. Go ahead. And so if there were

23 organic explosives, then there are certain questions

24 you want to ask? That's what you were telling us?

25 A Yes.

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1 Q Please go ahead.

2 A That would require that we understand who

3 was on the crime scene and who was processing the

4 evidence.

5 Q Do you remember writing about a disagreement

6 over metallic blast damage at the Oklahoma City crime

7 scene?

8 A Yes.

9 Q What do you know about that disagreement

10 that you can tell us?

11 A Our metallurgist supervisor, Special Agent

12 Bill Tobin, was in a disagreement with Tom -- Unit

13 Chief Tom Thurman. Tom Thurman rendered an opinion

14 and Bill did not feel that he could render that

15 opinion. And so that -- that, you know, disagreement

16 was rolling along there.

17 Q And do you remember specifically what the

18 disagreement was about?

19 A Tom has an experiential base with blast

20 damage and Tobin has a scientific base. I mean, you  
21 know, it's -- and he was disagreeing with him about --  
22 Tom was angry that Bill would -- would, you know,  
23 raise the issue of how do you really know it's blast  
24 damage or whatever and Bill talked about it to me on a  
25 number of occasions.

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1 Q Ask you -- in the World Trade Center case,  
2 would you say that you worked closely with David  
3 Williams?

4 A No. I worked right -- he was directly above  
5 me. I mean, he was the guy I reported to, but I -- I  
6 only saw him at my laboratory one time, at the lab  
7 that we put together there on one occasion. He was  
8 very busy and he was very difficult to get hold of.

9 Q Did you have any opportunity to observe  
10 whether he abused alcohol?

11 MR. HARTZLER: I object. Relevance.

12 Q (BY MR. TIGAR) You can answer yes or no if  
13 you had any opportunity to observe it.

14 A I didn't actually observe it. I heard  
15 some -- some -- one of my managers make a statement  
16 that, you know -- about that, but I didn't observe it.

17 Q Okay.

18 A You know, yes. Excuse me.

19 Q Go ahead.

20 A After ten days, I was so physically  
21 exhausted -- I was also going to law school at the  
22 same time, but, you know -- so the exhaustion, when I

23 got there anyhow -- it was my first year of law  
24 school. I was so physically exhausted, I was ceasing  
25 to be very effective and Dave came over to get me and

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1 he explained to me, he said the -- the exhaustion  
2 doesn't bother me at all, I just take a drink or two  
3 and keep on going. Okay. That's what Dave told me.  
4 I didn't -- I didn't observe him to be -- to be  
5 inebriated when he was in my presence.

6 Q I have a note here -- I want to go back to  
7 something I asked you earlier. I asked you about  
8 whether a peak that you saw in a machine reading could  
9 mask the presence of nitroglycerine. Do you remember  
10 that?

11 A Sure. Yes.

12 Q And then on -- in another interview in July  
13 of this year, you were asked about whether  
14 instrumental overload can mask the presence of  
15 nitroglycerine.

16 A It could.

17 Q Can you just tell me what instrumental  
18 overload is because I don't understand it.

19 A The detector -- you get so much material in  
20 the instrument that the detector just sort of pegs  
21 out. It's like if you had a needle, you know, and  
22 you're going faster than 125 miles per hour, you're  
23 going 180 miles per hour in a car, you can't measure  
24 that next 60 miles an hour. And sometimes peaks come  
25 together very close. They -- you know, two materials

1 will have retention times in chromatography that are  
2 very close. And if you cap out -- if you plateau out,  
3 you might not see that there's two peaks instead of  
4 one in your instrument.

5 Q Earlier today, we were talking about this  
6 part Q507. I know you don't perhaps know it by that  
7 number, but it's a piece of a Ryder truck body from  
8 which these ammonium nitrate crystals were found. Do  
9 you recall that?

10 A I recall Q507, sir. I don't know that it's  
11 a piece of a Ryder truck.

12 Q Well, without regard to whether it's Q507 or  
13 whatever, we were talking about these crystals that  
14 Mr. Burmeister found.

15 A Yes. Uh-huh.

16 Q Now, do you remember writing a letter to  
17 Mr. Mellado or April 23, '96, in which you said, "I  
18 know that Burmeister found ammonium nitrate crystals  
19 on the evidence but was that from a load of  
20 fertilizer?"

21 A I very well could have written it. If I  
22 could see it.

23 Q Let me just show you. I'd like to -- I'm  
24 showing Dr. Whitehurst Bates number 042405. If you  
25 could read the first half of that page, please.

1 A Okay.

2 MR. HARTZLER: May I see it?

3 A Yes, sir.

4 Q (BY MR. TIGAR) Could what Mr. Burmeister  
5 found be from a load of fertilizer?

6 MR. HARTZLER: Objection.

7 A I don't know why it might not be. I mean,  
8 suppose that I -- I can imagine an alternative  
9 explanation for that ammonium nitrate as being  
10 somebody used that Ryder truck to haul fertilizer in,  
11 the fertilizer busted and, you know, went up against  
12 the wall or whatever. Okay? That was what I was  
13 asking there.

14 Q (BY MR. TIGAR) Now, I understand that you  
15 didn't actually perform the tests that Mr. Burmeister  
16 did, but is it your testimony that the load of  
17 fertilizer hypothesis is one that should be excluded  
18 as a matter of good science?

19 MR. HARTZLER: Objection.

20 A Excluded?

21 Q (BY MR. TIGAR) That is, if one wished to  
22 opine that an ammonium nitrate bomb had been carried  
23 in the truck from which this panel came, would good  
24 science dictate that you exclude the hypothesis that  
25 the truck had previously been used to carry a load of

1 fertilizer?

2 A If we had the empirical data, the -- that  
3 allowed us to say ammonium nitrate crystals of that  
4 size couldn't have come from a fertilizer -- but we  
5 don't have that that I'm aware of. So I don't know --  
6 I don't know that you could exclude it. If we have  
7 the data that says we can exclude it, then fine. But  
8 if we don't, it's one of the things that maybe science  
9 can't give an answer for.

10 Q I want to show you a letter that you wrote  
11 on May 14, 1996, that begins at Bates number 044010.  
12 And I'd like you to read the first page and I'd like  
13 to ask you about that.

14 MS. WILKINSON: Can you give us the date?

15 MR. TIGAR: I'm sorry. That's May 14, 1996.  
16 Bates number 044010.

17 A Yes.

18 Q (BY MR. TIGAR) Now, do you continue to  
19 hold the opinions today --

20 MS. WILKINSON: Mr. Tigar --

21 MR. TIGAR: I'm sorry. I didn't know that  
22 you didn't have the material.

23 MR. WOODS: It's in the notebook in front of  
24 them.

25 MR. HARTZLER: This is a transcript. I

1 didn't bring all the other documents with us.

2 MR. TIGAR: Just the first page.

3 Q (BY MR. TIGAR) Do you continue to hold the  
4 views that you expressed in this letter?

5 A I continue to be confused about what's going  
6 on, sir. And so do my colleagues.

7 Q Well, you say there's a pattern showing up  
8 here that repeats itself again and again. High-  
9 profile cases, unqualified personnel testifying to  
10 areas of expertise they do not have, incorrect results  
11 going out to juries, management being aware of the  
12 situation, and nothing happening. There are some  
13 excisions here so I can't tell all of it. Do you  
14 believe there was a -- that there is a pattern that  
15 has showed up; that is, as I've read?

16 MR. HARTZLER: Pardon me. I thought you  
17 were asking in relation to our case, if it still  
18 exists. Did I misunderstand?

19 MR. TIGAR: I asked if there was a pattern  
20 showing up here. That's my first question. Then I  
21 get to ask the next one.

22 MR. HARTZLER: Okay. Well, I obviously  
23 object to the relevance as to -- the relevance as to  
24 the pattern showing up here.

25 MR. TIGAR: Uh-huh.

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1 A There appears to me, sir -- I'm confused and  
2 some of my colleagues are confused that individuals  
3 can rewrite our reports, can testify to baseless  
4 evidence, can, you know, point a finger in our face,  
5 can alter our opinions and nothing.

6 Q (BY MR. TIGAR) You've studied set theory,  
7 haven't you?

8 A Well, yeah. Group theory and set theory and  
9 whatever, uh-huh.

10 Q So when you use the word "pattern," you know  
11 what the word means; correct?

12 A Well, there's a profile that appears to be  
13 here to me, yes. Uh-huh.

14 Q Now, is it evidence of this pattern that  
15 David Williams was wanted at the Oklahoma City matter  
16 because he's good at public relations?

17 A Yes.

18 Q And could you interpret that sentence about  
19 Ricky Hahn and what you meant by that? Could you read  
20 it to us and tell us what you meant by that?

21 MR. MADDOCK: Before he answers that  
22 question, could we take a time-out here?

23 MR. TIGAR: Okay. Sure.

24 (There was a recess taken from 3:41 p.m. to  
25 3:45 p.m.)

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1 Q (BY MR. TIGAR) The pending question was  
2 whether you could tell us what you were trying to  
3 express about Mr. Hahn without revealing the matter  
4 that's been redacted from here and with specific  
5 reference to Oklahoma City.

6 A Yes. Mr. Tobin had a conversation with  
7 Mr. Kearny in which Tobin told me -- and this is  
8 hearsay. Tobin told me that Kearny said don't come  
9 forward with this stuff right now. That we don't need  
10 the guy running the Oklahoma City bombing matter

11 exposed right now for this other problem. Okay. And  
12 that -- that's again, what Tobin told me after a  
13 conversation because Bill was getting mauled, also.

14 Q Bill?

15 A Bill Tobin was getting -- getting mauled  
16 also and he was expressing his -- trying to express  
17 his concern at section level. I need to point out  
18 something I think that's important. These are issues  
19 of -- that I asked about as of 5-14-96. We are making  
20 changes, Mr. Tigar. The FBI laboratory is making  
21 significant changes. You know, the issues have been  
22 raised and we stumbled a little bit, but please  
23 realize that.

24 Q I understand -- and I understand that, also,  
25 sir, and that's one reason I'm trying to focus my

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1 questions on things that happened in the past that  
2 would still be relevant today.

3 A Okay.

4 Q We're bound to have disagreements about that  
5 with our adversaries, but that's where I wanted to be.  
6 In that vein, had you -- you expressed on April 23,  
7 1996, concern that evidence in the lab was not being  
8 controlled as tightly as you thought it should. Is  
9 that right, sir?

10 A I see the paper.

11 Q I'm going to show you Bates pages 042402 and  
12 042403 and ask you to just read what's on those two  
13 pages. And then when you've had a chance to read it,

14 I'll ask you about it.

15 A Yes, sir. I know this.

16 MR. HARTZLER: May I see it?

17 A Yes.

18 MR. HARTZLER: Okay.

19 Q (BY MR. TIGAR) Did the situation described

20 as those two Bates pages exist during the processing

21 of evidence from the Oklahoma crime scene?

22 A Until the day that I was locked out of

23 Mr. Burmeister's room, yes.

24 Q And what day was that, sir?

25 A I -- it's somewhere around when I wrote that

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1 letter.

2 Q Sometime around April 1996?

3 A Yes.

4 Q And --

5 A Well, I don't know. When's the date of that

6 letter? I said yes.

7 Q The date is April 23, 1996.

8 A Okay.

9 Q I'll read this, if I can, into the record.

10 "For years, there has been little tight control over

11 evidence. Just outside Burmeister's door at this time

12 in two fume hoods sits evidence which is left

13 unsecured 24 hours a day. There are no locks on that

14 evidence. Evidence has been stored like that ever

15 since I came to the lab in 1986. Evidence is also

16 left overnight in the laboratory on scraping tables

17 and, at times, simply stored out in the lab without  
18 security. The people with access to that evidence are  
19 the maintenance staff, security staff, contractors who  
20 wander in the building at night without escort,  
21 visitors in the daytime who are shown through the lab,  
22 other laboratory examiners, technicians, all  
23 laboratory personnel, and FBI employees with access to  
24 the J. Edgar Hoover building. Lots of people? Yes.  
25 Lots of people. And it still goes on. Roger said

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1 that he trusts me, but that Steve's room contains  
2 Unabomb and OK bomb evidence and we need to be  
3 particularly careful about that evidence." And that  
4 expressed your opinion as of that time; is that right?

5 A Yes. That's correct.

6 Q A while ago, you were talking about  
7 Mr. Tobin and Mr. Kearny. Those are both employees of  
8 the Bureau; is that correct?

9 A No. Mr. Kearny is retired.

10 Q Was he an employee at the time he spoke to  
11 you on this subject?

12 A Yes. Well, he was my section chief when he  
13 spoke to Mr. Tobin on the subject.

14 Q All right. And you referred, also, to your  
15 colleagues being confused. What colleagues can you  
16 mention to us?

17 A There was -- I just conferred with Mr. Corby  
18 the other day and he brought it up in a conversation  
19 and he's retired, but it's just -- it's some -- some

20 people just don't understand. You know, I heard this  
21 from the first week I was in the laboratory. There  
22 just seems to be -- it just -- it seemed at that time  
23 to be out of control, Mr. Tigar. You know, we -- it's  
24 kind of like you did a double take, a mental double  
25 take. We talk about it in the hallway. We say how do

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1 these people do this? How do they get away with it?

2 Who is in charge here?

3 Q Thus, when you say colleagues -- and I don't  
4 want to get into the names of a whole lot of people  
5 that aren't already in this -- people, would that be  
6 more than a dozen people that have knowledge of this  
7 that could be described as your colleagues?

8 A I think so, sir.

9 Q Now, you mentioned earlier the name of  
10 Dr. Jimmy Oxley, O-x-l-e-y.

11 A Yes.

12 Q Have you spoken to her about the Oklahoma  
13 City explosion?

14 A No. She was -- she was employed or there  
15 was some situation where she was going to be employed  
16 by a commercial firm where there was some sort of  
17 lawsuit.

18 Q ICI, I believe?

19 A ICI. And she just mentioned that.

20 Q Would it refresh your recollection if I  
21 suggested that you had spoken to her after she  
22 lectured at Quantico?

23 A No, it wouldn't.  
24 Q Okay. Let me show you Bates page 044183 and  
25 ask if that refreshes your recollection.

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1 MS. WILKINSON: The date, please?

2 MR. TIGAR: 5-19-96.

3 A We were -- we were talking about the ICI  
4 affair. You know, you can't talk to these people  
5 about --

6 Q (BY MR. TIGAR) I wasn't asking about  
7 anything substantive. I'm just trying to get some  
8 leads on how we find out about ammonium nitrate so  
9 whatever you can relate to me.

10 A Jimmy said something about this ICI thing --

11 MR. HARTZLER: May I just glance at that  
12 before you answer?

13 A She said something about this ICI thing and  
14 she had mentioned that she had been contacted about  
15 the ICI civil suit or whatever it was because she is a  
16 foremost expert in ammonium nitrate explosive  
17 research.

18 Q (BY MR. TIGAR) Earlier today, I had asked  
19 you about an FBI employee named Monica Knuckles. Do  
20 you remember that?

21 A Yeah.

22 Q Now, I understand that -- this is for  
23 counsel's benefit, that she will not testify as an  
24 expert, but have you had an opportunity to assess her  
25 ability to handle evidence in the laboratory?

1 A Yes, I have.

2 Q And do you have a present opinion as to  
3 whether she's qualified to examine evidence in a  
4 laboratory?

5 A I think in -- in some areas. I think she  
6 works more from a technician role and my -- you know,  
7 my opinion of what's she's doing is she's using  
8 boilerplate language with paints and plastic and  
9 polymers and those sorts of things can really get you  
10 in trouble. You know the language, like color, type,  
11 texture and composition, which is boilerplate which we  
12 put out isn't necessarily -- you know, it's not  
13 necessarily true every time. In fact, the composition  
14 question is -- is really in question now. But she has  
15 a great deal of problem dealing with scientific  
16 issues. If you try to discuss it with her, she loses  
17 her temper.

18 Q Now, who is Chris Fiedler?

19 A He's an examiner who was a metallurgist in  
20 the lab for a long time. He's a non-agent examiner  
21 who is, you know, really a famous guy. Everybody  
22 knows about, you know, his minerology expertise and he  
23 has acted as my acting unit chief on a number of  
24 occasions.

25 Q Is he a qualified person?

1 A Oh, yes. Very much so.

2 Q Would he be qualified to express an opinion  
3 on Ms. Knuckles' capabilities?

4 A I believe so.

5 Q Did he tell you that Monica -- that he does  
6 not believe that Monica can tell the difference  
7 between reality and fantasy?

8 A Yes. He does that on a number of occasions.  
9 I mean, he'll -- if I went and talked to him about her  
10 right now, he would say the same thing.

11 Q And was he being serious when he said that?

12 A Yes. Sure. He's very serious and very  
13 concerned about that situation.

14 Q Do you know what role, if any, Ms. Knuckles  
15 had in examining the evidence in this case?

16 A I heard that she delivered some plastic to  
17 some company or something like that, but I -- she may  
18 have worked -- I don't know. I mean, she is not going  
19 to -- she's associated with that blue plastic, from  
20 what I understand.

21 Q What is the function of a teflon-lined metal  
22 can in evidence collection?

23 A Well, if you put explosives in certain  
24 plastics, they just leak right through. Polyvinyl  
25 chloride bags and things like that. They can just go

1 right through. Some of them -- nitroglycerin and  
2 whatever. If you put it into a teflon-lined paint

3 can, then you don't have that problem. And that's  
4 what they are doing right now. They have a new -- a  
5 protocol, a sampling protocol that Mr. Burmeister has  
6 put in place and Mr. Thurman is standing very strongly  
7 behind. If we want to do residue, then it -- at this  
8 point, Steve tells me -- I have no personal knowledge,  
9 but he tells me that the sampling is very well-refined  
10 and very disciplined or we just don't do residue. You  
11 know, it throws out the contamination issue. And the  
12 can, itself, addresses the fact that explosives can go  
13 right through polyvinyl chloride and we have  
14 experiential base data that shows us that's true.

15 Q So if you put residue in a PVC bag, it  
16 can -- that PVC bag can -- residue can move out from  
17 the bag?

18 A Sometimes. Some types of -- like  
19 nitroglycerin or EGDN or something. Other materials,  
20 I don't know whether we've -- we've established  
21 whether it can leak through or not.

22 Q Now, you found out that Mr. Burmeister wore  
23 overclothing during the search of Mr. Nichols' home,  
24 correct?

25 A Yes. Mr. Burmeister told me that.

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1 Q Did he tell you that no one else at the  
2 Murrah Building crime scene wore overclothing?

3 A I believe so.

4 Q I want now to talk about the difference  
5 between consistent with and identified as.

6 A Yes.

7 Q Did you ever have an agreement with  
8 Mr. Thurman that a -- with respect to the issue of  
9 consistent with versus identified as?

10 A I don't remember. What kind of an agreement  
11 would you be talking about?

12 Q An agreement that you could do a quick  
13 report to show consistent with and then he'd come back  
14 to you later if he wanted more?

15 A I had such an agreement with Mr. Jordan --  
16 with Al Jordan for a very short time. That didn't  
17 last very long. We were overwhelmed with cases out of  
18 Florida and we were trying to find out if we could  
19 just give them anything to go with and it didn't last  
20 very long.

21 Q And what period of time was that, sir?

22 A Oh, boy. I -- I think the way I define that  
23 was Danny Deffenbaugh, who is the inspector in charge  
24 of this, I think, investigation was a supervisor or  
25 assistant special agent in charge down in Florida at

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1 that time. It was his cases that were -- we were  
2 trying to move.

3 Q Now, there came a time, did there not, when  
4 you prepared the first flowchart for the residue  
5 analysis protocol and put it on a big piece of paper;  
6 right?

7 A Yes.

8 Q And so far as you know, that piece of paper

9 is still on the wall at the FBI lab; correct?

10 A Yes.

11 Q Now, what does that residue analysis

12 protocol look like? Is it what you were describing

13 before?

14 A Yes. It's -- it's a block diagram. It has

15 the name of the -- the technique that we use, yes, no

16 question, go to the next -- you know, whatever, and --

17 it's -- you know, I -- I could give you a copy of it,

18 but it's just a flow diagram.

19 MS. WILKINSON: You have a copy.

20 MR. TIGAR: Mr. Maddock is saying he can't

21 give us a copy.

22 MS. WILKINSON: You have a copy in Agent

23 Burmeister's notes, I believe.

24 MR. MADDOCK: Just so you understand, we

25 can't furnish any documents --

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1 MR. TIGAR: I understood that and I

2 understood, Mr. Maddock, that's why you interjected.

3 A copy of it exists and Ms. Wilkinson says we already

4 have it.

5 MS. WILKINSON: Just for the record, I

6 believe it's the exact same document that

7 Dr. Whitehurst was referring to, but we'd have to ask

8 Agent Burmeister. It's my understanding it's the same

9 one-page document.

10 MR. TIGAR: We can verify that.

11 Q (BY MR. TIGAR) I just now want to focus on

12 when -- there came a time when you had a meeting in  
13 which you presented this protocol to six people. Do  
14 you remember that?

15 A Well, it was more than six.

16 Q All right.

17 A The whole explosive unit and some people in  
18 the -- in the materials analysis unit.

19 Q All right. When was that?

20 A Somewhere around '89, I believe. '88.

21 Something like that. A long time ago.

22 Q And did Mr. Hahn attend that meeting?

23 A Yes, sir, he did.

24 Q And did Mr. Hahn express an opinion about  
25 the value or utility of following this protocol?

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1 MR. HARTZLER: I'm sorry. Just so we're  
2 clear. This is a flowchart for residue analysis --

3 MR. TIGAR: Yes.

4 MR. HARTZLER: -- that you're asking about  
5 and your question is Hahn's response at the meeting in  
6 which the protocol for the residue analysis was  
7 explained?

8 MR. TIGAR: Yes.

9 MR. HARTZLER: Okay.

10 A His response was he went to sleep. He  
11 folded his arms in front of him and he went to sleep.

12 Q (BY MR. TIGAR) Did he actually go to sleep  
13 as you were explaining it or did he feign going to  
14 sleep?

15 A I don't know. There were five other guys.  
16 We were trying to explain to them why it takes so long  
17 to do a protocol and they didn't want to be in the  
18 room. They didn't want to listen to what I had to say  
19 and so six of these guys just -- they folded their  
20 arms up as in protest and sat through this hour, hour  
21 and a half conference with their eyes closed as if,  
22 you know, I'm not interested.  
23 Q Was Mr. -- Mr. Hahn was one of those people  
24 that did that; is that right?  
25 A Yes.

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1 MR. HARTZLER: I have a continuing objection  
2 to this whole line.  
3 MR. TIGAR: Uh-huh.  
4 MR. HARTZLER: You appreciate Hahn will not  
5 be called for an expert opinion.  
6 MR. TIGAR: I appreciate that the Government  
7 believes that Mr. Hahn will not be called in its case  
8 in chief.  
9 MR. HARTZLER: Very well. Okay.  
10 Q (BY MR. TIGAR) Was Mr. Williams present at  
11 that meeting?  
12 A Yes, he was.  
13 Q Did he also sleep or feign sleep?  
14 A I don't remember.  
15 Q Do you remember whether Mr. Thurman was at  
16 that meeting?  
17 A I know specifically he did not.

18 Q He did not?  
19 A He did not feign sleep, no.  
20 Q Okay. Did he state his agreement with the  
21 protocol?  
22 A No. He had questions to ask about it.  
23 Q Were they respectful questions?  
24 A Specifically, the question that he said,  
25 Well, you've shown me each step and what time it takes

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1 and so why in the hell is -- excuse me, but why does  
2 it take so long and I -- I -- I hadn't made it clear  
3 enough for him.  
4 Q Okay. Now, looking at this Oklahoma scene,  
5 we talked about Mr. Hahn going out to Oklahoma City on  
6 the 19th of April. Do you remember that?  
7 A No, sir.  
8 Q Well, were you aware that he went out to  
9 Oklahoma City on the 19th of April?  
10 A I was told that he was at the crime scene.  
11 Q Now --  
12 MR. HARTZLER: Just so I don't have to cut  
13 you off, but you recognize the continuing objection to  
14 the questions about Hahn?  
15 MR. TIGAR: Yes.  
16 Q (BY MR. TIGAR) If Mr. Hahn was general  
17 manager of the crime scene, what would his  
18 responsibilities be, based on your knowledge and  
19 experience?  
20 A I think he was administering the crime

21 scene. You know, there's a lot of assets that have  
22 got to be brought in. There's a lot of people and  
23 expertise that have got to be brought in.

24 Q Would one of his jobs then be supervising  
25 handling of evidence?

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1 A I know that -- I know that he did that in  
2 the World Trade Center, but I -- I don't know that  
3 that would have been particularly assigned to him  
4 in -- in Oklahoma.

5 Q If Mr. Hahn were responsible for handling of  
6 evidence, would the way in which he did that job have  
7 relevance for expert reports about what was found at  
8 the scene?

9 A I'm sure.

10 MR. WYATT: I'm sorry. What was that  
11 answer?

12 A Yes. Yes.

13 Q (BY MR. TIGAR) Given FBI practice,  
14 assuming that Mr. Hahn arrived at the scene on April  
15 19, 1995, and was there until the end of April 1995,  
16 when would you expect to see him dictate a 302 about  
17 what he did?

18 MR. HARTZLER: I object. I don't understand  
19 the relevance. You mean, dictate a 302 about his --

20 MR. TIGAR: About his activities at the  
21 scene.

22 MR. HARTZLER: Not as to his opinions.

23 MR. TIGAR: I'm just asking the agent

24 what --

25 MR. HARTZLER: I fail to see, obviously, the

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1 relevance, but you recognize continuing objection.

2 MR. TIGAR: I understand.

3 A Sir, it's been ten years since I was in the  
4 field and when I did 302's, they were -- I'd take my  
5 notes and there was a certain amount of time after  
6 that I took the notes that I was required to write a  
7 302. I don't know what the practice is in the field  
8 now --

9 Q (BY MR. TIGAR) Okay.

10 A -- so I can't comment on that.

11 Q Given that if a person had responsibility  
12 for examining the evidence and getting it into the  
13 lab, you know, is there some benefit to doing a 302  
14 within a week or so after having done the work?

15 MR. HARTZLER: I'm sorry, Mr. Tigar. This  
16 is really not the witness to be going into this with.  
17 You know the dates. You have the dates.

18 MR. TIGAR: I'm asking whether or not we're  
19 likely to have lost something -- I'll just put it out  
20 on the table and then anybody can object that wants.

21 Q (BY MR. TIGAR) I'm sitting here looking at  
22 Mr. Hahn's 302. He says he was general manager for  
23 the crime scene. He was at the crime scene from April  
24 19 to April 27. He dictated his 302 on the 10th of  
25 December, 1996. And I'm asking Dr. -- I'm sorry. I

1 have the 302 here if you want to see it.

2 MR. HARTZLER: I'm not --

3 MR. TIGAR: I'm asking Dr. Whitehurst

4 whether from the standpoint of science in our review

5 of the evidence, there's any questions that we could

6 legitimately raise. If he says he doesn't have an

7 opinion on it, he doesn't have an opinion.

8 A Mr. Tigar, I couldn't really render an

9 opinion on that.

10 Q (BY MR. TIGAR) Okay. Winding down here.

11 Now, in addition to the protocol for explosive

12 residue, are there other protocols that are in use in

13 examining bomb scene evidence?

14 A Yes.

15 Q And what are they, sir?

16 A There's a tape analysis protocol. Tape, you

17 know, like black plastic tape and duct tape analysis

18 protocol. And at this point, there's a protocol for

19 paint, which I wrote during my training, that's being

20 used. So there are protocols that are available for

21 review.

22 Q Okay. Sir, I want to ask you about a letter

23 that you wrote on September 8, 1996, expressing the

24 opinion that the testimony of Hahn in the Avianca case

25 and of Williams in the World Trade Center will be

1 extremely important in proving that McVeigh and  
2 Nichols are innocent. I'm going to show you page  
3 050416.

4 MR. WYATT: The date? I'm sorry. September  
5 8?

6 MR. TIGAR: I believe so. I just gave away  
7 the letter. Yes. September 8, 1996.

8 A Yes. I know this.

9 Q (BY MR. TIGAR) Would you tell me how?

10 MR. HARTZLER: I'm sorry. I will have the  
11 same objection. May I see the letter?

12 A Yes, sir.

13 MR. HARTZLER: I'm familiar with this one.

14 MR. TIGAR: Objecting to the part that he's  
15 innocent or to the part that --

16 MR. HARTZLER: I'm objecting to the  
17 relevance of this case.

18 Q (BY MR. TIGAR) Could you tell us how, sir?

19 A Yes. It was my understanding when I wrote  
20 that letter that the theory was that ammonium nitrate  
21 fuel oil had been used and that pitting and cratering  
22 were found on aluminum objects and if you read the  
23 testimony of Mr. Hahn in the Avianca case, he  
24 testifies that you'd need a high-velocity explosive to  
25 cause pitting and cratering. I was in a

1 conversation --

2 Q Then high velocity, he means 20,000 feet per

3 second or so?

4 A Yes.

5 Q Whereas the VOD of ammonium nitrate or ANFO  
6 is typically in the 13,000 range; is that right?

7 A Yes. Uh-huh.

8 Q Go ahead.

9 A There is an alternative explanation for what  
10 I stated in that letter that has been brought to my  
11 attention. A booster might very well -- a booster is  
12 a high velocity -- high velocity of detonation  
13 booster. Might have been up -- when the stuff was  
14 boosted, if it was boosted, whatever it was, might  
15 have been up against the -- the aluminum that was  
16 pitted and cratered or whatever and it might be a  
17 booster that's 20,000 or more. When I wrote that, I  
18 hadn't considered that, Mr. Tigar.

19 Q What kind of a booster would we be looking  
20 for there?

21 A Analyte, TNT, something to set it off. You  
22 know, just as you brought to my attention this thing  
23 about the ammonium nitrate dissolved in the water,  
24 wow. You know, I was talking the other day with  
25 Ms. Wilkinson about it and that -- wow, you know,

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1 that's an alternative explanation that did not come to  
2 my mind there.

3 Mr. -- Mr. Williams in the World Trade was  
4 asked by Judge Duffy -- there was this confusion how  
5 do you know it's urea nitrate and because

6 Mr. Burmeister -- he said we can't tell. And  
7 Mr. Williams said it -- you know, it's based on my  
8 opinion and Judge Duffy said, Well, could it have been  
9 ANFO and Dave said, Sure, it could have been ANFO;  
10 however, in my opinion, it was urea nitrate. No basis  
11 for that. If it could be urea nitrate or ANFO, you  
12 know, when -- then, you can't point to urea nitrate --  
13 I mean, you can't point to ANFO if it could be one or  
14 the other. Dave sort of -- didn't give a basis for  
15 his opinion.

16 But during our testing of urea nitrate after  
17 we made 1,200 pounds of it down in Florida, we found  
18 that we couldn't use -- we couldn't do the test. And  
19 so a test was done with ammonium nitrate fuel oil and  
20 David was asked on the stand, I believe -- I'll have  
21 to look at the testimony again -- well, you know, how  
22 is this relevant and he said well, they are the same.  
23 I mean, you know, they are pretty much the same.

24 Well, the thing that points to the innocence  
25 of McVeigh or Nichols has -- there is alternative

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1 explanations. I hadn't thought about it at the time,  
2 I would have, you know -- I would have put that in my  
3 thought process when I wrote that. But if a booster  
4 was used and it's reasonable, then it doesn't -- you  
5 know, the velocity of detonation issue when David was  
6 saying it's definitely 13,000 feet per second, that  
7 issue would have said of this 13,000 feet per second,  
8 it's ammonium nitrate, then you never could have had

9 this -- this -- this pitting and cratering thing  
10 because in the Avianca testimony, what the Government  
11 presented was the pitting and cratering could only  
12 come from high explosives.

13 MR. HARTZLER: You're talking about Hahn's  
14 testimony?

15 A That's correct. I didn't say that.

16 Q (BY MR. TIGAR) Turning specifically to the  
17 Oklahoma City event, if the presence of a booster  
18 caused the velocity of detonation to be 20,000 feet  
19 per second --

20 A Yes. Uh-huh.

21 Q -- would that be inconsistent with the  
22 report of an expert who said that blast damage caused  
23 by the pressure wave was consistent with 13,000 feet  
24 per second?

25 A No. The booster is a small charge.

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1 Q Yes, sir.

2 A It could, you know, and when it goes off, it  
3 sets off this larger charge of explosive. I don't  
4 know how the velocity of detonation of the ammonium  
5 nitrate is related to the velocity of detonation of  
6 the booster used in it. You know, you can set off  
7 some explosives with a blasting cap or with a black  
8 powder fuse. You get different velocities of  
9 detonation. Okay. I don't -- I don't have empirical  
10 data to raise that -- you know, to make a judgment  
11 about what kind of a booster you had. So -- my

12 perception in reading those two cases at the time,  
13 without the alternative explanation that Ms. Wilkinson  
14 gave me, which is -- that was kind of neat, was we  
15 have proven by our testimony in other courts of law  
16 that these -- that the -- the theory that ammonium  
17 nitrate fuel oil was used can't be true. Okay. I --  
18 well, that's -- that's where it is.

19 Q If a booster were used that had a velocity  
20 of detonation of 20,000 feet per second, that could  
21 have caused pitting and cratering only on material  
22 that was in contact with the booster charge as opposed  
23 to the main charge; is that right?

24 A We don't have any data that I'm aware of to  
25 support the hypothesis that you've just put on the

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1 table.

2 Q Do we have any data to support the  
3 hypothesis that a booster charge could have caused  
4 pitting and cratering in aluminum that was within any  
5 given distance of the booster charge?

6 A Well, we have -- according to Mr. --  
7 Mr. Williams, we have pitting and cratering. It's  
8 there. Now, I understand in talking to Mr. Tobin that  
9 he didn't render that metallurgical, you know,  
10 opinion, if you will. But the fact that there is  
11 pitting and cratering there is consistent with, though  
12 not proof of, a booster charge being close to that --  
13 that aluminum. Do you see?

14 Q So first, we have to ask whether the opinion

15 that there's pitting and cratering is rendered by a  
16 person competent to render it; is that correct?  
17 A Yes. When I really was going through this  
18 exercise, my opinion was that these people were making  
19 statements, giving the answer of the hour. Okay.  
20 That there wasn't a very strong basis for or any basis  
21 for. And in reality, if the Government was going to  
22 present that opinion in other cases, it -- you know, a  
23 problem with the answer of the hour is that you could  
24 be held to it two hours later. Okay. Do you know  
25 what I'm saying?

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1 Q I understand.

2 A Pitting and cratering only takes place at  
3 20,000 feet per second or greater, like Mr. Hahn  
4 suggested. Well, okay, we're stuck with that.

5 Q Okay. Is there any reliable evidence that  
6 pitting and cratering only takes place at 20,000 -- at  
7 velocities of detonation of 20,000 feet per second?

8 A You know, I don't -- I sent to prosecutors  
9 in the Avianca matter my study of the literature and I  
10 talked to Bill Tobin and he said, you know, that  
11 they're really stretching that. They are just -- the  
12 empirical data is just not -- you look for it. You  
13 can't find it.

14 Q And isn't the pitting and cratering that  
15 you'll see dependent also upon the -- what the  
16 substrate is made of?

17 A Yes. I would imagine it would be.

18 Q That is, aluminum is more like pudding --

19 A Yes.

20 Q -- and steel is more like ice cream --

21 A Yes.

22 Q -- in terms of the example with which we

23 started the day?

24 A Yes, sir. Uh-huh.

25 Q So that regardless of whether you would

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1 agree that Ms. Wilkinson's suggestion might be  
2 something to investigate, your view of the scientific  
3 techniques involved in coming to the initial  
4 conclusion remains the same; is that right?

5 MR. HARTZLER: I'm sorry. I just did not  
6 understand the question.

7 MR. TIGAR: I didn't understand it, either.

8 A I didn't, either. I'm sorry.

9 MR. HARTZLER: Just for point of  
10 clarification, not to claim credit or responsibility,  
11 but I think it was me.

12 THE DEPONENT: I apologize. Sorry. Okay.  
13 You're a brilliant man, Joe.

14 MR. HARTZLER: I wasn't trying to take  
15 credit but to relieve responsibility, so --

16 THE DEPONENT: Okay. Okay.

17 MR. TIGAR: Is that what it's called?

18 Q (BY MR. TIGAR) Okay. Let's come back  
19 then. You -- you originally expressed a criticism of  
20 the haste with which people came to conclusions in the

21 Oklahoma City matter; correct?  
22 A Yes.  
23 Q Does the suggestion that Mr. Hartzler or Ms.  
24 Wilkinson made about some other possible explanation  
25 for pitting and cratering affect the validity of your

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1 observation that there was undue haste in expressing  
2 conclusions in Oklahoma City?

3 A I feel as if there was undue haste. Okay.  
4 But what I've written on that piece of paper is an  
5 alternative explanation for which there is a  
6 reasonable alternative explanation in light of what  
7 the Government has presented in the case.

8 Q And that alternative explanation is one in  
9 order to validate, it would have to be subjected to  
10 good science?

11 A Yes, sir. That's correct.

12 Q The fact that a prosecutor might suggest it  
13 or that I might suggest it doesn't make it good or  
14 bad; simply, it proposes it as a hypothesis to be  
15 investigated?

16 A Yes, sir. Uh-huh.

17 Q Now, on September 24, 1996, there was an  
18 article in the Washington Times that said "FBI Lab  
19 Called Contaminated." Do you recall that?

20 A Not specifically. If I wrote about it, I  
21 would have done --

22 Q Did you talk Mary Tungol about these  
23 contamination issues? Do you remember doing that?

24 A Yes. Mary spoke a bit about a contamination  
25 concern.

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1 Q And do you remember what she said about  
2 that?

3 A Something to do with a knife, I believe,  
4 sir. And I may be wrong about this. The fact that  
5 there was -- there was something on a knife that there  
6 wasn't on the sheath or was something on the sheath  
7 that wasn't on the knife. It was a knife in evidence.  
8 It was strange that that contamination issue, you  
9 know, I mean -- excuse me. That if you had a knife  
10 and it had residue on it and you stuck it in a sheath,  
11 why didn't you find residue on the sheath. That's --  
12 that's what I remember about the conversation.

13 Q All right. And was this a knife and a  
14 sheath that had been in the possession of Mr. McVeigh?

15 A That's what I remember.

16 Q Uh-huh. Do you remember something about  
17 some test being performed that showed the presence of  
18 cocaine initially?

19 A There was something about that that, yes,  
20 she -- it had something to do between her and Roger  
21 Martz. I think you'd probably get, you know, a better  
22 explanation out of that out of Mary Tungol.

23 Q Okay. There is a -- is there a paint  
24 protocol in the FBI laboratory at this time?

25 A Yes, sir.

1 Q And do you believe that it was followed in  
2 examining the Oklahoma City evidence?

3 MR. HARTZLER: Objection. Relevance.

4 A Not the protocol that we've got right now  
5 because I wrote the protocol that we've got right now.

6 Q (BY MR. TIGAR) In a letter dated October  
7 13, 1996, you express the view this may blow our paint  
8 analyses in the Oklahoma City bombing matter all to  
9 hell.

10 MR. HARTZLER: You'll allow a continuing  
11 objection?

12 MR. TIGAR: Thank you. It exists.

13 Q (BY MR. TIGAR) This is Bates 053208  
14 highlighted up there.

15 MS. WILKINSON: I'm sorry. Would you give  
16 the date, please?

17 MR. KOHN: 10-13-96.

18 MS. WILKINSON: And the page number again?  
19 053 --

20 MS. TIGAR: 208.

21 Q (BY MR. TIGAR) What were you referring to,  
22 sir?

23 A The -- when I was assigned to paint  
24 analysis, Mr. Corby wanted me to -- to question --

25 MR. HARTZLER: May I see it?

1 MR. TIGAR: I'm sorry.

2 THE DEPONENT: Should I wait for you to read  
3 that, sir?

4 MR. HARTZLER: If you don't mind.

5 THE DEPONENT: I will.

6 MR. HARTZLER: They have recognized a  
7 continuing objection. Please go ahead. I don't mean  
8 to slow us down.

9 A Mr. Corby asked me to review the paint  
10 protocol and so -- you know, how we were doing paint  
11 analysis and I said, Well, can you show me the  
12 protocol. And what he gave me was guidelines, but  
13 there weren't specifics in the protocol and the  
14 protocol, in fact, did not follow the FBI -- the  
15 present FBI protocol establishment SOP. We have a  
16 document that's a '95 document, I think, that tells us  
17 how to make a protocol. And that -- what we had there  
18 did not even satisfy what the FBI recognized as a  
19 valid protocol.

20 Well, he -- I asked him have you validated  
21 what we do anyhow. And he told me, you know, he  
22 was -- he was -- well, sure, we've been -- you know,  
23 how do you know it works correctly. It differentiates  
24 paints or whatever. And he said, Sure, we've been  
25 using this for 30 years. And I said, Well, you know,

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1 we don't have any documentation of validation. We  
2 haven't tried it on paints.

3 As I progressed in my understanding of

4 paints, I -- I found that the Clean Air Act volatile  
5 organic compound regulations is forcing the alteration  
6 of paint formulas at a horrendous speed to try and  
7 stop volatile organic compounds going out and we  
8 haven't addressed -- we can't. It's just -- you know,  
9 it's a multi-million dollar effort, in fact. Right  
10 now, we're working with a large technical working  
11 group on paint, trying to address these issues. And  
12 there is a recognition that, okay, you know, we've got  
13 caught in the -- we ran out of people. You know, we  
14 used to have a lot of paint analysts and they went  
15 right on down to where we only had one paint analyst  
16 and he had 60 cases and we couldn't keep up with the  
17 changes in paint.

18       So without having validated our protocols,  
19 then I started going about the validation procedure,  
20 but it's a -- it's -- first of all, protocol is -- you  
21 know, is very extensive. It's not just using one  
22 instrument. You know, we use a number of instruments  
23 and we need to validate the protocol for an  
24 appropriate population of paints that represent the  
25 kinds of paints that are out there on the market in

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1 automobiles and -- and houses or whatever. And my  
2 concern was that we would lose in a Daubert question.  
3 I mean, if you asked for reliability, we couldn't --  
4 you know, we couldn't establish the reliability of the  
5 protocol. The Collaborative Testing Service, which is  
6 a -- it's a testing forensic testing service in the

7 northern Virginia area, quit putting out paint panels,  
8 new paint panels about '89 or '90. So we couldn't  
9 tell then even from CTS whether our protocol was  
10 working right and we were -- we were just overwhelmed  
11 with cases and we only had one guy doing the paint and  
12 we just got left in the dust and I talked with Jim  
13 about it. I arranged national, international  
14 conferences. I went to Germany to study for a week.  
15 You know, I went up to Canada and I worked with the --  
16 a sort of -- really got the technical working group on  
17 paint off the ground. Got a class going in paint and  
18 we kind of understood that -- okay, we are kind of --  
19 we are kind of left in the dust and let's see if we  
20 can't address these issues.

21       As of today, unless I'm wrong, we've got  
22 paint panels representing the paints, the types of  
23 paints, we've got them from Ford Motor Company, but  
24 the effort to get those analyzed is prohibitive with  
25 the amount of wherewithal that we've got. It's

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1 nobody's fault. It's just we've been left in the  
2 dust.

3       And my concern is that I understood that the  
4 Ryder vans were late '80. The Ryder van was late  
5 eighties, early nineties. That then represents a  
6 paint that maybe we haven't addressed. I did a study  
7 on whether our protocol even addressed -- and I  
8 finished that recently -- our protocol even addresses  
9 when we see these are chemically identical. If we are

10 saying they are chemically identical, we should be  
11 able to say what's in them and I got a -- just a  
12 regular old battleship gray paint and did the analysis  
13 on it and then I went back to the company and they  
14 told me what was in it.

15 We had 30, 35 components and we were seeing  
16 three or four. So if we were to say that the  
17 composition --

18 Q (BY MR. TIGAR) Let me -- this is an  
19 example. You took some gray paint --

20 A Yes. Uh-huh.

21 Q -- and you interrogated the sample?

22 A Using the protocol that we used.

23 Instrumental protocol.

24 Q Using the FBI's instrumental protocol and  
25 you found approximately four substances?

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1 A Four, maybe five substances.

2 Q Then you went to the company?

3 A Yes.

4 Q And they told you that there were how many  
5 substances?

6 A In the wet paint, there were -- there  
7 appears to be maybe 30 components. Something like  
8 that. Maybe 30, 35 components. You know, I can go  
9 count them. They gave me the components and gave me  
10 the recipe. And what I found was the issue of the  
11 paint protocol is there are, for instance, two types  
12 of titanium dioxide. We only do know there's titanium

13 dioxide. We don't know we can't analyze the gray of  
14 titanium dioxide. There's lots of grays. We  
15 couldn't -- we don't do a quantitative analysis on  
16 anything. We just can't. There's -- you're talking  
17 about reverse engineering on one paint and if it's a  
18 big -- big piece, that's one thing. But if it's a  
19 tiny little speck, we're over-inferring our data is  
20 what's going on. I am -- know the data is there to  
21 show here's what we can get out of this analysis. And  
22 we can't say that the compositions of these paints are  
23 identical. Okay?  
24       So that's what Jim Corby asked me to do. He  
25 said, Delve into this. Tear it all apart. And I did.

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1 And in fact, I was doing a research study in  
2 collaboration with Hewlett-Packard Corporation on a  
3 new instrument -- new gas chromatography mass spec  
4 with a power analysis on the front of it.

5       MR. KOHN: I just --

6       MR. MADDOCK: Let's chat again.

7       (There was a recess taken from 4:31 p.m. to  
8 4:33 p.m.)

9       MR. MADDOCK: I'd like to strike that  
10 reference to Hewlett-Packard for the record.

11       MR. TIGAR: Okay. I don't intend to rely on  
12 what I just heard. Whatever company that was.

13       Q (BY MR. TIGAR) You've told us about the  
14 way in which -- in general terms, you reworked the  
15 paint protocol; is that right?

16 A I wrote it according to the FBI's protocol.

17 In the SOP, we have directions on how to write a  
18 protocol.

19 Q That was my next question. Are there  
20 directions on how to write a protocol?

21 A Yes, there is.

22 Q Is there a provision in the FBI for updating  
23 your protocols?

24 A Yes, there is.

25 Q Now, in your interview of October 9, you

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1 asked the question, Has hair and fibers changed?

2 MR. KOHN: 10-9-96.

3 Q (BY MR. TIGAR) 10-9-96 at page 242, Bates  
4 page 053950. You asked, Has hair and fibers changed?  
5 Has metallurgy changed? I want to start with  
6 metallurgy. Is there a protocol that Mr. Tobin uses  
7 for his metallurgical exam?

8 A I don't know that.

9 Q Have you ever spoken to Mr. Tobin about  
10 whether he's -- he is updating or changing his  
11 protocol?

12 A No, sir.

13 Q Okay. Do you know if there's a protocol for  
14 hairs and fibers?

15 A I don't know that. I don't work in those  
16 areas.

17 Q And you've never spoken to anybody about  
18 that?

19 A Not about protocols.

20 Q The explosive residue protocol that you use  
21 in the FBI laboratory, is that the same one that is  
22 followed in other countries, as well?

23 A In some other countries, yes. Uh-huh.

24 Q Now, you referred in your testimony, your  
25 deposition in the Simpson case to an -- a protocol

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1 that the explosive residues analysis community has put  
2 together to most appropriately address residues that  
3 you find.

4 A Uh-huh.

5 Q Now, can you tell me the relationship  
6 between that protocol that the explosive residue  
7 community has put together and the one that is used in  
8 the FBI laboratory.

9 A The -- there's quite a bit of literature on  
10 it that has developed over a -- has developed over the  
11 last 25, 30 years. And, essentially, what you -- you  
12 get an unknown and you go asking for organic and  
13 inorganic analysis, separations, extractions. The ATF  
14 follows it, pretty much. The Japanese follow it.  
15 We -- we had an international conference in 1993 and,  
16 you know, there are some differences in the organic  
17 explosive analysis side or -- or you know, but,  
18 essentially, what -- what is required is that you ask  
19 is there organic explosive and inorganic explosive and  
20 the reason for that is because explosives are all  
21 mixed. I mean, an explosive is not an inorganic

22 explosive. It could be mixtures of. So if you find,  
23 say, ammonium nitrate, but you don't look for TNT or  
24 RDX or whatever, then you may have missed it. You  
25 know, so you need to do this bifurcated kind of

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1 analysis where you ask what's the inorganic and what's  
2 organic.

3 Q When you -- the question about the way you  
4 asked the question, is it improper for somebody to  
5 come into your laboratory and say I'm the principal  
6 evidence collector at a scene, I think what happened  
7 here is dynamite, can you run that for me.

8 A What happens is -- that's funny that you  
9 named dynamite. We got that quite often when I was  
10 practicing explosive residue analysis. Everything is  
11 dynamite. You know, I know this is dynamite. They  
12 really don't know from the blast damage. You might  
13 want to narrow down -- you might want to narrow down  
14 and we did that --

15 Q So the first thing is they -- they don't  
16 know. The second is from the point of view of  
17 science, is that the right question to be asking? Is  
18 asking the question in that form likely, in the  
19 atmosphere in which you work, to produce a biased  
20 result?

21 MR. HARTZLER: I object.

22 A I think that it can. If I'm not allowed to  
23 put in exculpatory -- come on -- alternative  
24 explanations for the data. If you ask me is it a

25 dynamite and -- well, dynamite requires you need to

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1 follow this because dynamite has got organic and  
2 inorganic materials in them very often. Not very  
3 often. Dynamite has just got explosives oils in them  
4 and nitroglycerine and ethylene glycol nitrate and  
5 some have PETN in them. If you come in and say to me  
6 I'm not interested in your doing anything except I  
7 want to know this is dynamite, well, you know, I'm  
8 going to look for ammonium ions and I'm going to look  
9 for nitrate ions. I'm going to look maybe for  
10 nitroglycerine. Whatever. When I find those things,  
11 I -- I also would like to say and -- and choose to say  
12 I found these things, but this is also what is  
13 consistent with.

14       When you follow the protocol that we follow,  
15 you look for -- it's a screening protocol and you look  
16 for a lot of things so that you don't narrow in on,  
17 you know, a police officer's feeling that this had to  
18 be dynamite. You know, otherwise, you could take  
19 these residues and -- and use them all up.

20       Q (BY MR. TIGAR) Did someone in the FBI once  
21 say to you, Science can be used to prove anything,  
22 Fred, why don't you just join the team?

23       A Yes. That was young Mr. Tom Mohnal.

24       MR. WYATT: I'm sorry. Young who?

25       A Tom Mohnal.

1 Q (BY MR. TIGAR) When did he say that to  
2 you?

3 MR. HARTZLER: I have the same objection  
4 about relevance, Tom Mohnal's statement.

5 A Don't remember. It's been -- been years  
6 ago. It developed out of the Hot Springs, Arkansas,  
7 issue.

8 Q (BY MR. TIGAR) Is there a bonus system for  
9 people in the FBI lab?

10 A I don't know. I mean, I -- in the past,  
11 I've gotten a bonus, you know. 3- or \$400. Something  
12 like that.

13 Q Is -- after some high profile -- you said in  
14 the Simpson transcript after some high-profile cases,  
15 we receive bonuses. I just wanted to know how that  
16 worked.

17 A Sure. I don't know how it works. Somebody  
18 decides that you're going to get a check and you get a  
19 check. And usually, it's somebody like David Williams  
20 or Ricky Hahn or their management. They will  
21 recommend a bunch of people for bonuses.

22 Q And is this in connection with your work on  
23 high-profile cases?

24 A It's in connection with your work. In my --  
25 in my situation or in my experience, it -- but, for

1 instance -- oh, goodness. You know, we used to get a  
2 bonus, all of us, if we had an exceptional or superior  
3 year or something like that, all of the examiners. It  
4 was just an end-of-year bonus. I think that's -- I  
5 remember walking across the stage. They have given us  
6 an envelope with money. All the examiners got, you  
7 know, a little bit of money in the envelope. In, for  
8 instance, the World Trade, we went into a room and  
9 people that had worked on the case got bonuses. That  
10 was a high-profile situation.

11 Q And did you know who had decided that you  
12 should get bonuses in the World Trade case?

13 A I remember that Dave Williams had written  
14 up --

15 MR. HARTZLER: I have the same continuing  
16 objection.

17 A Had written up people. I think that's what  
18 happened. But somebody in management up higher would  
19 have to -- would have to, you know, decide that.

20 MR. TIGAR: May we take five minutes for me  
21 to look at my notes? I think I'm just about done.

22 (There was a recess taken from 4:44 p.m. to  
23 4:48 p.m.)

24 Q (BY MR. TIGAR) I have two more questions.

25 MR. HARTZLER: Literally?

1 MR. TIGAR: Yes.

2 Q (BY MR. TIGAR) First question: What  
3 happens to a ammonium nitrate and fuel oil when it

4 blows up?

5 A Well, it becomes gas and it becomes, you  
6 know, nitrogen. It becomes nitrogen gas and nitrogen-  
7 oxygen entities. It -- some of it doesn't blow up at  
8 all. Doesn't initiate and gets thrown all over. The  
9 fuel oil becomes -- you know, is oxidized, becomes  
10 carbon-oxygen entities like CO<sub>2</sub> or carbon dioxide.  
11 That's -- some of the fuel oil could be thrown out.  
12 Thrown away from the -- you know, gone in aerosol away  
13 from the explosive.

14 Q Question 2: What did you all talk about on  
15 Saturday?

16 A I'm waiting for an objection, if you would  
17 rather --

18 Q No. See, this is one of these things --

19 MR. MADDOCK: I'd like to talk to him about  
20 that. Just -- okay.

21 MR. TIGAR: Here's -- every time a witness  
22 who is identified with the Government comes on the  
23 stand, it is the practice of defense counsel in a case  
24 to say well, what interviews have you done with the  
25 prosecutor. It happens in civil cases, too. That's

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1 the question I'm asking. If you want to tell him what  
2 the limits are --

3 MR. MADDOCK: If you don't mind.

4 MR. TIGAR: Not at all. I'll take the  
5 narrative and then we're done.

6 MR. HARTZLER: I could do the narrative when

7 he's out of the room and he could confirm it.

8 (There was a recess taken from 4:50 p.m. to  
9 4:51 p.m.)

10 Q (BY MR. TIGAR) Okay. You can answer.

11 A Sure. What happened on Saturday was that we  
12 discussed a lot of these issues. What needs to be on  
13 record, it was a very collegial, professional meeting.  
14 There was -- there's concerns about the issues I'd  
15 raised. We discussed alternative explanations for the  
16 data. Things just like you and I just did, this water  
17 solution thing. And really, it was -- you know, it  
18 was a one-day meeting in which what I saw was -- was  
19 some very -- some very valid concern by -- by the  
20 Government's counsel. What's going on? Come on.  
21 Let's talk about this. If -- if I were dissatisfied,  
22 you'd know about it right now. Okay? But I felt very  
23 good about that, Mr. Tigar. You know, sometimes  
24 there's miscommunications and we cleared a lot of that  
25 up. So essentially, a lot of the questions that you

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1 asked, sir.

2 Q I know I said only two, but --

3 MR. HARTZLER: I knew that was a lie.

4 Q (BY MR. TIGAR) Was anybody taking notes at  
5 the meeting?

6 A Oh, boy. You guys were there. Man, I was  
7 so intense about what was going --

8 MR. KOHN: Just to answer it, the  
9 understanding between the parties was that the meeting

10 would not be recorded in any way, but that people  
11 could take handwritten notes. Whether I took notes or  
12 not, I'm just going to invoke an attorney work product  
13 privilege.

14 MR. TIGAR: I wasn't asking you about that,  
15 Mr. Kohn.

16 MR. KOHN: But the understanding was it was  
17 not to be taped or electronically or otherwise  
18 recorded, but people could have pads and take notes.

19 A If the notes were about conversations and  
20 answers I gave, I can't imagine that anybody, you  
21 know -- you've heard -- you've heard it all.

22 Q (BY MR. TIGAR) Was Mr. Burmeister at that  
23 meeting?

24 A No, sir, he wasn't.

25 MR. TIGAR: That's all we have for

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1 Mr. Nichols.

2 MR. HARTZLER: Thank you. One thing,  
3 typically, a deposition will begin by putting the  
4 appearances. Do you know everyone here?

5 MR. WYATT: I have given the appearances  
6 from our side.

7 MR. HARTZLER: Great. Thank you.

8 MR. KOHN: You do have the identity of  
9 everyone.

10 ... WHEREUPON, the deposition was adjourned  
11 at 4:54 p.m.

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11 Re: USA vs. McVeigh, et al.  
12 Case No. 96-CR-68-M  
13 United States District Court  
14 District of Colorado

15 Dear Mr. Tigar:

16 In order to conform to the requirements of  
17 the Colorado Rules of Civil Procedure, attached is the  
18 original deposition of FREDERIC WHITEHURST, Volume I,  
19 taken in the above cause.

20 Deposition not signed \_\_\_\_\_  
21 Deposition signed by the deponent \_\_\_\_\_  
22 Correction sheet(s) included therein,  
23 and copy(ies) of same forwarded to  
24 interested counsel \_\_\_\_\_  
25

Signature waived \_\_\_\_\_  
16  
17 Please retain the original copy of the  
18 deposition UNOPENED in your possession until such time  
19 as it is required by any party in a hearing or trial  
20 of the above cause.  
21 Yours truly,  
22  
23 Bonnie Carpenter, CSR, RPR  
24 Trial Date: March 31, 1997  
25  
26 RECEIVED BY \_\_\_\_\_ DATE \_\_\_\_\_

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1 CERTIFICATE  
2 STATE OF COLORADO )  
3 ) ss  
4 CITY & COUNTY OF DENVER )  
5  
6 I, Bonnie Carpenter, Notary Public of  
7 the State of Colorado, duly appointed to take the  
8 deposition of the above-named Deponent, do hereby  
9 certify that previous to the commencement of the  
10 examination of the said above-named Deponent, he was  
11 first by me duly sworn to testify the truth, the  
12 whole truth and nothing but the truth touching and  
13 concerning the matters in controversy between the  
14 parties hereto, so far as he should be interrogated  
15 concerning the same;  
16  
17 That said deposition was stenographically  
18 reported by me at the time and place heretofore set  
19 forth, and was reduced to typewritten form under my  
20 supervision as per the foregoing;  
21  
22 That the foregoing is a true and  
23 correct transcript of my shorthand notes then and  
24 there taken;  
25  
26 That after the deposition was transcribed,  
27 the same was submitted by letter to the Deponent for  
28 reading and signing, a copy of which is hereto  
29 annexed;  
30  
31 That I am not kin or in anywise  
32 associated with any of the parties to said cause of  
33 action or their counsel and that I am not interested  
34 in the event thereof;

18

IN WITNESS WHEREOF, I have hereunto  
19 set my hand and seal this \_\_\_\_\_ day of \_\_\_\_\_,  
1996.

20

My Commission Expires: 9-16-99.

21

22

\_\_\_\_\_  
Bonnie Carpenter

23

Notary Public

24

999-18th Street

25

Suite 1230

Denver, CO 80202

25

Denver, CO 80202