

1                   IN THE UNITED STATES DISTRICT COURT  
2                   FOR THE DISTRICT OF COLORADO  
3                   Criminal Action No. 96-CR-68  
4                   UNITED STATES OF AMERICA,  
5                   Plaintiff,  
6                   vs.  
7                   TERRY LYNN NICHOLS,  
8                   Defendant.

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10                   REPORTER'S TRANSCRIPT  
                     (Trial to Jury: Volume 99)

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fffffffffffffff  
12                   Proceedings before the HONORABLE RICHARD P.  
MATSCH,  
13                   Judge, United States District Court for the District of  
14                   Colorado, commencing at 8:45 a.m., on the 1st day of  
December,  
15                   1997, in Courtroom C-204, United States Courthouse,  
Denver,

16                   Colorado.

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11449

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12 \* \* \* \* \*

13 PROCEEDINGS

14 (In open court at 8:45 a.m.)

15 THE COURT: Be seated, please.

16 Good morning.

17 MR. TIGAR: May I approach?

18 THE COURT: Yes.

19 (At the bench:)

20 (Bench Conference 99B1 is not herein transcribed by  
court

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

22

23

24

25

11453

1 (In open court:)

2 (Jury in at 8:48 a.m.)

3 THE COURT: Members of the jury, good morning.

4 JURORS: Good morning.

5 THE COURT: You will recall that when we recessed on

6 Friday, we were hearing testimony from agent Steven Burmeister,

7 and we will continue with his testimony this morning.

8 Agent Burmeister, if you'll resume the stand  
under the

9 oath taken last week --

10 THE WITNESS: Yes.

11 THE COURT: -- we'll continue.

12 (Steven Burmeister was recalled to the stand.)

13 THE COURT: Miss Wilkinson.

14 MS. WILKINSON: Thank you, your Honor.

15 DIRECT EXAMINATION CONTINUED

16 BY MS. WILKINSON:

17 0. Good morning, Agent.

18 A. Good morning.

## 19 Q. When you left

about

20 your examination of a piece of wood fragment from the  
bombing

21 scene; is that right?

22 A. Yes.

23 Q. And I believe you were about to discuss some photographs

24 that you had taken?

25 A. Yes.

1 Q. Could you just remind the jury when you took those

2 photographs?

3 A. The photographs were taken after I received the  
items in

4 April, just after April 28, 1995.

5 Q. Had you removed anything from Government's Exhibit  
664, the

6 portion of the truck, before you took those  
photographs?

7 A. No. I'm sorry, I removed various small particles  
for some

8 color testing prior to the photograph.

9 Q. Did other particles or crystals remain on the wood  
10 fragment?

11 A. Yes. Yes.

12 MS. WILKINSON: Your Honor, may I exhibit  
those

13 photographs to the jury?

14 THE COURT: Yes, what part --

15 MS. WILKINSON: They're the ones we moved in  
on

16 Friday. They're a series, and they're large  
photographs.

17 THE COURT: How are they designated?

18 MS. WILKINSON: I believe they're 831 through  
835.

19 I'd have to go up to the front to --

20 THE COURT: For the record, we need to know  
which --

21 MS. WILKINSON: Sure.

22 There's Government Exhibits 830 through 835.

23                   THE COURT: All right. Yes, you may use them.  
24   They're in evidence.  
25   BY MS. WILKINSON:

11455

Steven Burmeister - Direct

1   Q. Agent Burmeister, if you can grab that wood  
pointer. Let's  
you                   2 start, if we could, with Government's Exhibit 834. Did  
                       3 take this photograph?  
4   A. Yes, I did.  
this                 5 Q. Can you tell the jury what they're looking at in  
                       6 photograph.  
of what             7 A. This is a photograph, a black-and-white photograph  
It's the           8 I'm designating as Q507, the Government Exhibit 664.  
up to              9 wooden side of that particular fragment.  
the                 10 Q. Now, could you take 664 out of the bag and hold it  
seat.              11 the photograph and show the jury how you match it up to  
                       12 edge of the photograph. You can stand up from your  
and if             13 A. Okay. Here we see the actual fragment itself, 664,  
                       14 I'm holding it up next to it, the top as we follow

along the

it out. 15 top is just up here on this portion here. Let me point

right in 16 Along in here, all the way, is this particular edge

there. So you can sort of it hold that way.

looking 18 Q. Now, if we turn that over to see what we would be

is the 19 at if you could flip this photograph, what is the color

corner? 20 side of this large portion here on the upper right-hand

this 21 A. We would see that it would be the red side over on

22 side as we see on this specimen.

turn it 23 Q. So this portion would be what color, if you could

24 over?

25 A. That would be the yellow side.

11456

Steven Burmeister - Direct

1 Q. And did you examine this entire exhibit under the  
2 microscope?

3 A. Yes, I did.

Exhibit 4 Q. Did you focus on particular areas of Government's

5 664 when you were looking at it under the microscope?

6 A. Well, I sequentially looked at the entire item back

and

7 forth as if you're mowing grass, you would go sequentially back

8 and forth. That's the same technique, so I cover every square

9 inch of that item.

10 Q. Did you find certain areas of interest when you looked at

11 Government's Exhibit 664?

12 A. Yes, I did.

13 Q. Did you photograph those areas?

14 A. Yes.

15 Q. Let me show you 835. Did you take that photograph?

16 A. Yes, I did.

17 Q. What are we looking at here?

18 A. It's the same specimen, Q507. It's an enlarged area. Now

19 we're looking closer onto the surface, but it's this general

20 area right here that I wanted to focus in on.

21 Q. Why is that?

22 A. It's in this general area right here I started noticing a

23 line of crystalline material, some embedded but on the surface

24 of this particular wooden area.

25 Q. Was there just one crystal here or numerous crystals?

Steven Burmeister - Direct

way  
1 A. No, there was a whole series of crystals all the

line and  
2 through here and also extending down this particular

3 some actually in here.

4 Q. How were the crystals attached to the wood  
fragment, Q507?

area,  
5 A. Some of them were actually down inside the wooden

over in  
6 embedded into the surface. Some were on the top of it

material.  
7 this area, and they were adhering to the particular

crystals  
8 Q. Did you use a certain term to describe how these

Q507?  
9 were -- or how you observed the crystals attached to

10 A. Yes, I did.

11 Q. What is that?

surface, and  
12 A. In my notes I described them as a glaze on the

this  
13 that's generally a glaze being just a covering over

14 particular area.

15 Q. Now, I'm going to show you 832. Is this an  
enhancement of

16 what we were just looking at?

17 A. Yes, it is.

We've  
deeper  
along here,  
itself. And  
of sugar  
surface

18 Q. And explain to the jury what this is.  
19 A. Now we're actually looking closer at the surface.  
20 magnified the actual image with the microscope, looking  
21 and closer into the material. And we can see right  
22 this deposit on the surface right here, the crystalline  
23 particles; each little, tiny particle is a crystal  
24 they're sort of clear, very much like a small particle  
25 or salt, but that's what it would look like on the

11458

Steven Burmeister - Direct

1 here. And you can see those little individual  
particles.

2 Q. How did you distinguish between these little  
particles and

3 little particles we see up in this area?

4 A. That was part of the initial testing with the color  
spot

5 could

6 test. I talked on Friday about diphenylamine where we  
7 take an individual particle and then react it with this  
chemical and look for the color response. And in this  
case, a

8 strong deep color was produced indicating that there was a

9 oxidizer present, and that allowed me to go to the next  
step.

10 So sequentially testing some of these particles all the  
way

11 through, and especially in this particular area, some  
even up

12 in here, were giving me this strong blue color.

13 Q. Did you examine these crystals in this area and up  
here for

14 their crystalline structure?

15 A. Yes.

16 Q. Did you see similarities in the crystalline  
structures of

17 some of these small particles that you pointed out to  
the jury?

18 A. Yes.

19 Q. Agent Burmeister, did you also take color  
photographs of

20 this -- Government's Exhibit 664?

21 A. Yes, I did.

22 Q. Let me show you 830. What is this?

23 A. This is a color photograph of the same surface on  
again  
24 Government Exhibit 664 or what I'm calling Q507. But

25 it's in this particular area; we see the deposit all  
the way

photo, 1 along in this line and some, as we saw on the previous

it's 2 up in -- into this area and some down in here. But

photograph of the 3 principally along this area, but it's a color

4 same material.

this 5 Q. Were the crystals that you found glazed on Q507 in

6 general area here?

7 A. Yes.

Exhibit 664? 8 Q. Did you find them on the entire Government's

9 A. No.

focus on 10 Q. And here is Government's Exhibit 831. Does this

11 that same upper right-hand portion of Q507?

We're 12 A. Yes. It's now we're coming away from the object.

We look 13 still focusing on this particular area right in here.

on this 14 at the particular item itself. We're actually focusing

15 particular spot right in here. I always like to -- if

compare it 16 you're -- if you have this item and you're trying to

this 17 to the photo, not only the ridges across the top, but

18 little indentation right here is sort of a good landmark to try

19 to key in on where the particular item is. But it's

right

20 along this ridge right here.

21 Q. Does the color photograph assist you in any way in  
seeing

22 the contrast with the crystals?

23 A. It does assist in that -- I prefer the black and  
white, but

24 the color does show some depth to the particular wood.

25 Q. Why do you prefer the black-and-white photographs?

11460

Steven Burmeister - Direct

1 A. Because I can see the crystals a little bit better  
on the

2 photo.

3 Q. After you took these photographs, Agent Burmeister,  
did you

4 conduct a series of tests on the crystals that you  
found on

5 Government's Exhibit 664?

6 A. Yes.

7 Q. And did you take notes as to the results of that  
testing?

8 A. Yes, I did.

9 Q. Did you analyze the data that you received?

10 A. Yes, I did.

11 Q. Did you come to some conclusions about the crystal?

12 A. Yes.

13 Q. And have you formulated a chart for the jury that  
14 summarizes the testing and your results?  
15 A. Yes.  
16 Q. Let me show you Government's Exhibit 1744. Do you  
17 recognize that?  
18 A. Yes, I do.  
19 Q. Is that the chart that you prepared?  
20 A. Yes.  
21 Q. Or assisted in preparing?  
22 A. Yes.  
23 Q. And does it summarizes the tests and the results of  
those  
24 tests that you performed on the crystals on Q507?  
25 A. Yes, it does.

11461

Steven Burmeister - Direct

1 MS. WILKINSON: Your Honor, we'd offer 1744  
under Rule  
2 1006 as a summary chart of Agent Burmeister's results.  
3 MR. TIGAR: May I inquire from here, your  
Honor?  
4 THE COURT: Certainly.  
5 VOIR DIRE EXAMINATION  
6 BY MR. TIGAR:  
7 Q. Mr. Burmeister, I've got one, two, three, four,

five, six,

is that 8 seven, eight, nine, ten, eleven tests reflected here;

9 correct, sir?

sounds 10 A. I'd have to see the chart to verify that, but it

11 correct.

12 Q. Okay.

13 There you are.

14 A. You're right. Yes.

report; 15 Q. And each one of these tests is the subject of a lab

16 correct?

report 17 A. It's incorporated within the particular laboratory

are used 18 as far as the data that's derived from these tests and

laboratory 19 to interpret to come to the result that's in the

20 report.

in it? 21 Q. Okay. So just one report that has all these tests

together 22 A. The results of all these tests were incorporated

23 to form the opinion which is in the report.

demonstrative 24 MR. TIGAR: Your Honor, no objection for

25 purposes. It doesn't meet 1006.

Steven Burmeister - Voir Dire

1                   THE COURT: Yes, it's not 1006. It includes  
his  
2                   opinions.

3                   MS. WILKINSON: We'll show it for  
demonstrative  
4                   purposes.

5                   THE COURT: All right.

6                   DIRECT EXAMINATION CONTINUED

7                   BY MS. WILKINSON:

8                   Q. Will this assist you, Mr. Burmeister, in explaining  
to the

9                   jury the testing you did on Q507?

10          A. Yes.

11          Q. Now, first, Mr. Burmeister, you told us that you  
took

12          photographs of the crystals that you found; isn't that  
right?

13          A. Well, the initial testing was doing a microscopic  
14          examination, and several particles which were  
15          interesting-looking particles were removed. A color  
test was

16          performed on those particles. Subsequent to that, a  
photograph

17          was taken of the area.

18          Q. The results of that first test showed you there was  
a

19          reading for a oxidizer?

20 A. Yes.

21 Q. And can you tell us again what an oxidizer is.

22 A. An oxidizer is a material that will readily promote  
the

23 release of oxygen. In the world of explosives, it  
plays a very

24 important part because materials that do release oxygen  
are

25 those that look for a fuel source which can come  
together to

11463

Steven Burmeister - Direct

1 form an explosive material.

2 Q. Now, when you took the photographs of Q507 or  
Government's

3 Exhibit 664, why did you take photographs?

4 A. The purpose was to record its actual location and  
to show

5 its actual crystalline form on the particular surface.

6 Q. Did any of the crystals that you photographed  
survive on

7 Q507 today?

8 A. No.

9 Q. Okay. Did -- after you finished conducting your  
tests on

10 the crystals you found on the exhibit, did you send  
that

11 exhibit in the FBI Laboratory for further testing?

me, and 12 A. I returned it to the individual who presented it to

13 it went for further testing, yes.

further 14 Q. And would that further testing -- could that

15 testing have affected the crystals that you found?

16 MR. TIGAR: Object to what could have been.

17 BY MS. WILKINSON:

18 Q. If you know.

19 MS. WILKINSON: Excuse me, your Honor.

20 THE COURT: Okay.

21 BY MS. WILKINSON:

have 22 Q. Agent Burmeister, if you know, could that testing

23 affected the crystals on Q507?

24 A. It's entirely possible, yes.

25 MR. TIGAR: Objection as to possibility.

11464

Steven Burmeister - Direct

1 possibility. THE COURT: Yes, it's stricken as to

2 BY MS. WILKINSON:

3 Q. Are you aware of Mr. Buechele's testing on Q507?

4 A. Yes.

5 Q. And did he do a paint analysis?

6 A. He looked at the coating material that was on the

surface,

7 the opposite painted surface.

8 Q. And only if you know, could that affect the  
crystals on

9 Q507?

10 THE COURT: Well, again, the question here is  
did it,

11 not could it.

12 BY MS. WILKINSON:

13 Q. Did it, Agent Burmeister?

14 THE COURT: If you know from your own  
knowledge.

15 THE WITNESS: I don't know for a fact if that  
was the

16 particular part of the examination that removed or  
caused it to

17 disappear.

18 BY MS. WILKINSON:

19 Q. Okay. But the crystals did disappear from Q507  
since you

20 did your testing; is that right?

21 A. Yes.

22 Q. And do the photographs show the crystals that you  
actually

23 saw under the microscope?

24 A. Yes.

25 Q. Can you describe for the jury generally the  
crystalline

Steven Burmeister - Direct

the 1 structure of those particles that you examined under  
the 2 microscopes?

table salt 3 A. The particles themselves looked like crystals of  
table salt

much 4 or sugar. That would be the size -- not the size, but  
much

if we 5 smaller than that, but still it's a crystalline form as  
if we

6 looked at sugar or table salt.

7 Q. Are you familiar with the crystalline structure for  
8 ammonium nitrate?

9 A. Yes, I am.

the 10 Q. And what were -- if you -- can you tell us whether  
the

crystalline 11 results of your microscopic examination of the  
crystalline

with your 12 structures of those particles on Q507 was consistent  
with your

13 knowledge of the crystals of ammonium nitrate -- the  
14 crystalline structure of ammonium nitrate?

15 A. Certainly was consistent with it, yes.

16 Q. What test did you conduct next?

light 17 A. The next test that I conducted was a polarized  
light

using a 18 microscopy examination of the particle. It's again  
using a

19       microscopic test, but it's looking at the particular  
crystals

20       themselves, using a specialized microscopic  
examination.

21       Q.   What were the results of those tests?

22       A.   It was consistent with ammonium nitrate.

23       Q.   And what are you looking for in that type of test?

24       A.   Essentially you're looking at the material's  
ability to

25       essentially bend light.   Essentially that's what you're  
looking

11466

Steven Burmeister - Direct

1       for.

2       Q.   Did you cause another test to be conducted after  
that?

3       A.   Yes.

4       Q.   What test was that?

5       A.   After that was conducted, a FTIR or Fourier  
transform

6       infrared spectroscopy examination was conducted.

7       Q.   Can you tell us generally what FTIR does.

8       A.   I know that's a mouthful.   It's essentially taking  
the

9       material and passing a beam of infrared energy through  
the

10      material and sort of capturing how much of that  
infrared beam

11 is actually absorbed into the material itself, and you  
can

12 record that on the opposite side and measure a  
spectrum, if you

13 will, a fingerprint pattern of how much of that light  
is

14 absorbed.

15 Q. How does that assist you in identifying what the  
particle

16 is?

17 A. You can run the sample and then run a known sample  
and

18 compare the two and determine whether it's consistent  
with that

19 particular spectrum.

20 Q. At that point did -- had you concluded that the  
crystals

21 were consistent with ammonium nitrate?

22 A. Yes.

23 Q. Did you inform the operator of the FTIR machine of  
that

24 conclusion?

25 A. Yes, I did.

11467

Steven Burmeister - Direct

1 Q. And did she compare a known sample of ammonium  
nitrate with

2 the crystal -- or the crystals that you gave her from  
Q507?

3 A. Yes.

4 Q. What were the results of that comparison?

5 A. That it was consistent with ammonium nitrate.

6 Q. Did you cause further testing to be conducted?

7 A. Yes.

8 Q. What type of tests were conducted after that?

9 A. Next it was a ion chromatography test, basically to

10 determine what ions were present in the particular  
substance

11 itself.

12 Q. Now, are ions different from the crystal itself?

13 A. Yes.

14 Q. How is that?

15 A. Once you take a material and place it into water,  
the

16 material will break down into its ions, and the ions  
are

17 basically charged particles. If we look at something  
like

18 sodium chloride, sodium has a positive charge to it.  
It's

19 entire positive charge. Chloride has a negative  
charge. And

20 it works the same way as batteries or magnets where  
they will

21 attract one another, the positive and the negative will  
attract

22 one another. In the world of chemistry, we look at the  
same

23 way we look at batteries. The positive side of any cat  
-- any  
with  
24 ion is considered a cation, and it's also consistent  
negative  
25 batteries where it's called cathode on a battery. The

11468

Steven Burmeister - Direct

1 side of a particular ion is called an anion, and it  
for  
2 corresponded to a battery's anode, so it's the same way  
are  
3 electrical impulses, but ions are formed when material  
charged  
4 placed into water, they will break down into their  
5 particles.  
crystals in  
6 Q. Did you break down some of the ammonium nitrate  
water  
7 that type of testing?  
a  
8 A. Yes. Now, ammonium nitrate, when placed into a  
9 solution, will break down into ammonium ions which have  
charge.  
10 positive charge and nitrate ions that have a negative  
to find  
11 Now, they're floating around in the solution. We have  
12 a way, now, to analyze those particular ions.  
13 Q. What were the results of that testing?

14 A. Based on ion chromatography for the cations, it was  
15 identified that ammonium ions were present in that  
particular  
16 material.

17 MR. TIGAR: Your Honor, I'd like some -- I  
object to

18 the form of the question and answer. We don't know  
who's doing

19 the testing here. It's in the passive voice and no  
basis or

20 foundation for the opinion.

21 MS. WILKINSON: I believe I said "under your  
22 direction" or "caused it to be conducted" --

23 BY MS. WILKINSON:

24 Q. Agent Burmeister, did you conduct every one of  
these tests  
25 yourself?

11469

Steven Burmeister - Direct

1 A. No.  
2 Q. And is that your policy in the laboratory?  
3 A. Yes.  
4 Q. Do you have technicians who operate instruments for  
you?  
5 A. Yes.  
6 Q. And who interprets the results of that instrument  
testing?

7 A. I interpret the results, yes.

8 Q. Are you the only one who did that for Q507?

9 A. Yes.

10 Q. Now, did you conduct these tests on the ions,  
yourself?

11 A. I had an operator conduct the actual examination on  
the

12 instrument under my direction.

13 Q. And did you review the results?

14 A. Yes.

15 Q. And did you interpret the results?

16 A. Yes, I did.

17 Q. And what did you find?

18 A. The material for the cation analysis identified  
ammonium

19 nitrate -- ammonium ions. When the anions were  
identified, it

20 was identified as nitrate ions.

21 Q. Did you cause any other tests to be -- well, let's  
stop

22 there.

23 kinds of In your laboratory, do you make different

24 findings when you're trying to identify substances?

25 A. There are different findings, yes.

1 Q. Do you sometimes say something is consistent with?

2 A. Yes.

3 Q. And do you sometimes actually identify something as  
a

4 substance?

5 A. Yes.

6 Q. What is the difference between "consistent with"  
and

7 "identified"?

8 A. The "identified" is an absolute. We have two  
alternative

9 technologies coming up with results, and the two must  
match

10 together for an identification. These are two  
different

11 technologies. If I have the same finding with those  
two

12 different technologies, it's an identification. When I  
have

13 one finding, I will consider that consistent with the  
material

14 being present.

15 Q. All right. At this point in your examination,  
before you

16 conducted further testings, were you able to identify  
the

17 crystals as ammonium nitrate?

18 A. At this point in time, I would have considered it  
an

19 identification, yes.

20 Q. Despite that, did you conduct further testing?

21 A. Yes.

22 Q. Or cause further testing to be conducted?

23 A. Further testing was conducted.

24 Q. Did you work with any other examiner in your laboratory at

25 that point?

11471

Steven Burmeister - Direct

1 A. Yes.

2 Q. Who did you work with?

3 A. A Special Agent Bruce Hall.

4 Q. And what is his area of specialty?

5 A. He is a mineralogist and a microscopist.

6 Q. And why did you work with him on Q507?

7 A. He has an ability to actually look at the microcrystalline

his

8 areas of particular materials, and I wanted to see what

itself.

9 opinion was on looking at the particular material

10 Q. Did you both look under the microscope at the crystals on

11 Q507?

12 A. Yes.

13 Q. And what additional test did he assist you with?

14 A. One of the things that he was able to conduct --  
one, he

15 has the abilities with the various reagents and  
chemicals to

16 conduct this, but to make the determination of the  
actual

17 refractive index, and when I talked about how much  
light was

I call 18 actually bent by that particular material, that's what

particular 19 refractive index. It's a very specific number for

20 materials, especially for crystalline materials.

determine 21 And one of the things that you have to do to determine

materials to -- 22 this refractive index is have a series of known

all of 23 known refractive indexes that you compare to. He has

him, 24 those chemicals, and that's the reason why I went to

side by 25 because he had all the chemicals present, and I did it

11472

Steven Burmeister - Direct

1 side with him.

FBI 2 Q. Did you have additional testing done outside of the

3 Laboratory?

4 A. Yes, I did.

5 Q. What did you do?

6 A. A particle of material was analyzed using a  
technique

7 called x-ray diffraction, but it utilizes a special  
type of

8 tool with x-ray diffraction, called a Gandolfi camera.

9 Q. Does the FBI Laboratory have a Gandolfi camera?

10 A. No, it does not.

11 Q. Where did you go to have this type of analysis  
done?

12 A. The Smithsonian Institution has a Gandolfi camera  
which we

13 used to conduct that particular test.

14 Q. How -- and just simply if you could -- how does a  
Gandolfi

15 camera operate?

16 A. The Gandolfi camera operates by taking an actual  
tiny

17 particle, an actual crystal itself, placing it into the

18 instrument, and striking that little, tiny particle  
with a beam

19 of x-rays. And if we look at a simple analogy of  
taking a

20 flashlight and shining it onto the surface of the  
mirror, we

21 see that the beam can strike the mirror and be  
reflected off at

22 a different angle. Well, if you imagine a crystalline  
material

23 as having hundreds and thousands of little, tiny  
mirrors built

24 up inside and if you shine the flashlight on that  
particular

25 material, the beams will be diffracted or bent off at  
different

11473

Steven Burmeister - Direct

1 angles. That's what's going on inside the particular  
material

2 when you strike it with a beam of x-rays. The x-rays  
are bent

3 off at various angles. The angles at which it can be  
bent off

4 can be analyzed, and that forms a fingerprint pattern  
for a

5 particular substance.

6 Q. And was a picture of this fingerprint taken of the  
crystals

7 or a crystal from Q507?

8 A. Yes.

9 Q. And did you and others compare that to a known  
photograph

10 of ammonium nitrate crystals?

11 A. Yes.

12 Q. And what were the results?

13 A. It was consistent with ammonium nitrate.

14 Q. Did you cause any other testing to be done on  
crystals from

15 Q507?

16 A. That was the end of the examination.

17 Q. Did you look at Q507 itself for any high explosives?

18 A. Yes, I did.

19 Q. And what were the results of those tests?

20 A. They were negative for any of the explosives we tested for.

21 Q. And did that assist you in coming to the conclusion that

22 the crystals on Q507 were ammonium nitrate?

23 A. Yes.

24 Q. How did it assist you?

25 A. It essentially ruled out any other particular materials

11474

Steven Burmeister - Direct

1 that were present.

2 Q. Did you find any other elements on Q507?

3 A. One of the things that was also conducted was an elemental

4 examination of the materials itself.

5 Q. What elements did you find on Q507?

6 A. The trace elements that were present on the crystalline

7 material on Q507 were silicon, aluminum, and sulfur.

8 Q. After conducting all these tests, Agent Burmeister, what

9        were your conclusions as to the identification of the  
crystals

10      on Government's Exhibit 664, what you refer to as Q507?

11      A.     The crystalline material on Q6 -- Item 664 or Q507  
was

12      identified as ammonium nitrate.

13      Q.     You are -- are you familiar in your work with  
explosives

14      that contain ammonium nitrate?

15      A.     Yes.

16      Q.     And what type of explosives contain ammonium  
nitrate?

17      A.     There's wide number of explosives that actually  
contain

18      ammonium nitrate. There's dynamites that contain  
ammonium

19      explosives nitrate. There's slurries and emulsions which are  
explosives

20      out on the market today. There's various blasting  
agents --

21      ANFO -- for example, ammonium nitrate and fuel oil which is  
ANFO --

22      which contains ammonium nitrate.

23      Q.     Now, after you came to these conclusions that you  
could

24      review the identify the crystals as ammonium nitrate, did you

25      chain of custody for Q507, Government's Exhibit 664?

Steven Burmeister - Direct

1 A. Yes, I did.

2 Q. And did you determine whether the chain of custody  
could

Exhibit 3 have contaminated -- or the handling of Government's

4 Q507 or 664 could have contaminated that item?

5 A. Yes.

6 Q. What were your conclusions?

7 A. That it would not have contributed to any  
contamination on

8 that item.

front 9 Q. Knowing that -- you see Government's Exhibit 664 in

10 of you; correct?

11 A. Yes, I do.

12 Q. And do you see the two plastic bags, 664A and B?

13 A. Yes.

14 Q. Was 664 contained in those plastic bags when you  
received

15 it?

yes. 16 A. They were in these plastic bags when I received it,

17 Q. In your opinion, could the ammonium nitrate  
crystals have

18 penetrated the plastic bag to land on Government's  
Exhibit 664?

19 A. No.

20 Q. And could they have appeared in that crystalline

structure

21 if they had somehow penetrated the plastic bag?

22 A. No.

23 Q. During your work on this case, did you also examine  
plastic

24 fragments that were taken from the bombing crime scene?

25 A. Yes.

11476

Steven Burmeister - Direct

1 Q. I'm going to show you 785, 785A, 786, and 786B.  
Excuse me,

2 I'm not going to show you 785A. The others are 785,  
786, and

3 786B. Did you recognize those?

4 A. Yes, I do.

5 Q. And did you -- are they also designated Q112 and  
Q116?

6 A. Yes.

7 Q. Were they tested by the Chemistry and Toxicology  
Unit?

8 A. Yes, they were.

9 Q. Were they tested for high-explosives residue?

10 A. Yes.

11 Q. And during that testing process, what type of  
solution did

12 you put on the plastic fragments?

13 A. During the testing process, there would have been

two

14     solutions that were placed onto them. The first one  
would have

15     been water. The second one was methanol.

16     Q. And would those solutions have consumed any powders  
or any

17     particles that were on the outsides of the plastic  
fragments?

18     A. Yes, that's -- would have been the purpose of the  
19     solutions.

20     Q. Do you recall when you conducted that testing for  
21     high-explosive residue on the plastic fragments?

22     A. Offhand, the exact date, I'm not sure of.

23     Q. Do you recall the month?

24     A. Without checking my documents, I'm a little --  
having

25     trouble right at the moment recalling the exact date.

11477

Steven Burmeister - Direct

1     Q. If I showed you a document to refresh your  
recollection in

2     chain of custody, would that assist you?

3     A. Yes.

4     Q. Does that refresh your recollection?

5     A. Yes, it does.

6     Q. When did you test the Q112 and Q116 for high-  
explosives

7 residue?

8 A. It would have been shortly after April 26, 1995.

9 Q. And did you find any high-explosives residues on  
the

10 plastic fragments?

11 A. No.

12 Q. Agent Burmeister, from examining Q507 and  
identifying the

13 crystals as ammonium nitrate, can you identify or can  
you tell

14 the jury how those crystals were placed on Government's  
Exhibit

15 Q507?

16 A. The crystals were on the surface of the material as  
well as

17 embedded up inside the wooden area of the material,  
penetrated

18 some parts of the material itself.

19 Q. Based on that examination, can you tell the jury  
whether or

20 not those crystals could have been reformed; that is,  
that they

21 were applied there from the rain or some water solution  
instead

22 of embedded in some other way?

23 MR. TIGAR: Object to what could have been,  
your

24 Honor.

25 THE COURT: Perhaps you ought to use  
"consistent"

Steven Burmeister - Direct

1 with."

2 MS. WILKINSON: I'll rephrase it. Thank you.

3 THE COURT: Thank you.

4 BY MS. WILKINSON:

5 Q. Mr. Burmeister, can you tell us whether the  
crystalline

6 structure that you saw of the ammonium nitrate on Q507  
is

7 consistent with the reformulation of ammonium and  
nitrate on

8 that Government's Exhibit 664 from a water solution, or  
from

9 rain, or from something like that?

10 A. It's not consistent with that crystalline form, no.

11 Q. Why is that?

12 A. The crystalline form of recrystallized ammonium  
nitrate is

13 in a different visual format. It's more of a  
flattened, all

14 one segment of crystalline development. It's not  
individual

15 particulate crystals. It's just a flattened all-one-  
mass that

16 usually is formed.

17 Q. So were the crystals that you saw in Government's  
664 or

18 Q507 consistent with being in the original crystalline  
19 structure of ammonium nitrate?

20 A. Yes.

21 your MS. WILKINSON: We have no further questions,

22 Honor.

23 THE COURT: All right.

24 Mr. Tigar.

25 CROSS-EXAMINATION

11479

Steven Burmeister - Cross

1 BY MR. TIGAR:

2 Q. Good morning, Agent Burmeister.

3 A. Good morning.

4 Q. In May of 1995 -- April, May of 1995, you were the  
sole

5 person qualified in the FBI Laboratory as an expert on  
6 explosives; is that right?

7 A. No. That's not correct.

8 Q. Who else was?

9 MS. WILKINSON: Objection, your Honor,  
relevance.

10 THE COURT: Well, I don't know yet.

11 BY MR. TIGAR:

12 Q. Who else --

13                   THE COURT: For this particular question, I  
overrule

14       the objection.

15       BY MR. TIGAR:

16       Q. Who else was qualified?

17       A. Mr. Kelly was partially qualified in the area of  
explosives

18       examination on bulk analysis. He was not qualified for  
the

19       residue side.

20       Q. In terms of explosives residues, were you the  
person best

21       qualified in the laboratory?

22       A. I would consider myself, yes.

23       Q. And since then you've been promoted; you're the  
acting

24       chief; is that right?

25       A. Yes.

11480

Steven Burmeister - Cross

1       Q. So -- and you agreed that you should be acting  
chief;

2       correct?

3                   MS. WILKINSON: Objection, your Honor.

4                   THE COURT: Sustained.

5       BY MR. TIGAR:

6       Q. Well, I'm just saying, you're qualified to give the

7      opinions you've given; correct, sir?

8      A.    The courts make that determination. But I feel so,  
yes.

9      Q.    And are you able to tell the jury what the bomb  
that blew

10     up the Murrah Building was made of?

11                MS. WILKINSON: Objection, your Honor; that's  
beyond

12     his area --

13                THE COURT: Sustained.

14     BY MR. TIGAR:

15     Q.    Well, let's start, sir. You identified some  
ammonium

16     nitrate on Q507; correct?

17     A.    Yes.

18     Q.    You tested Q507, Government 664 -- if we can take  
this

19     down, now. I'll put it up on . . .

20                You testified on direct examination that you  
tested it

21     for high-explosive residue; correct?

22     A.    Yes.

23     Q.    Why did you do that?

24     A.    It's part of the entire protocol and procedure that  
I

25     follow. The materials will always be tested for the  
inorganic

Steven Burmeister - Cross

fall under 1 side as well as the organic side. The organics will

2 the side of the high explosives.

out what 3 Q. And you did that because you were trying to find

4 was in the device; right?

explosives 5 A. It is part of the test used to determine what

6 are present on a particular item.

that you 7 Q. Well, you testified, sir, on direct examination

19th; you 8 saw the reports of the weather on the evening of the

9 remember that?

10 A. Only from the television reports.

weather 11 Q. Right. And you were concerned when you saw the

12 reports; correct?

13 A. Yes.

14 Q. Why were you concerned?

15 A. For me as a person who's involved with determining

16 residues, anytime something is deluged with rain, it's

to deal 17 certainly an environmental-type situation that I have

be washed 18 with where potentially water-soluble explosives could

19 off of particular items.

by  
20 Q. And that . . . You dealt with that concern in part

that is  
21 trying to test items at the scene on the underside;

22 correct, sir?

23 A. That is correct, yes.

24 Q. And you tested glass fragments; is that right?

25 A. Yes.

11482

Steven Burmeister - Cross

1 Q. Did you pick up any foam?

from the  
2 A. Not off of the surface, but I did remove some foam

3 protected areas of vehicles.

4 Q. And did you test that for high-explosive residue?

5 A. Yes.

6 Q. Did you find any?

7 A. No.

8 Q. Did you pick up some plastic?

plastic  
9 A. I don't recall whether I retrieved any particular

10 pieces, myself.

11 Q. A number of plastic pieces were retrieved; correct?

12 A. Yes.

13 Q. And they were sent to your laboratory; correct?

14 A. Yes.

15 Q. How many of them were sent to your laboratory?

16 A. I have no idea the number of pieces of plastic.

17 Q. Hundreds?

18 A. I really can't come up with a number.

19 Q. Did Mary Tungol work under your direction?

20 A. Yes.

21 Q. Was she responsible for looking at the plastic?

22 A. I have no idea whether she was involved with that.

front of  
23 Q. Who washed the pieces of plastic that you have in

24 you with water and methanol?

25 A. That was myself.

11483

Steven Burmeister - Cross

of  
1 Q. Are those the only pieces that you washed?

2 A. I conducted residue examination on numerous pieces

conducted  
3 items, and the extraction practice with solvents was

4 on many of those items.

in front  
5 Q. Well, my question was, sir, the pieces of plastic

crime  
6 of you, are those the only pieces of plastic from the

7 scene that you washed with water and methanol?

8 A. I really am not sure. There's a possibility other

pieces

9      were examined. I'm not sure.

10     Q. Well, what was the purpose, again, of your washing  
those

11     particular pieces?

12     A. For explosive residues.

13     Q. And you didn't find any; correct?

14     A. That's correct. Yes.

15     Q. Now, you said that the purpose of washing them  
wasn't to

16     make them clean, was it?

17     A. No. My examination is for explosive residues.

18     Q. And is it your testimony that that washing removes  
every

19     trace of everything that was on there, makes them just  
20     spotless?

21     A. No. There are materials still left behind. Even  
with the

22     rinsing, there's some materials -- for example, high  
23     explosives -- that will be absorbed into particular  
plastic

24     material.

25     Q. And these plastics that you have there, they're  
distorted,

11484

Steven Burmeister - Cross

1     they have little pockmarks on them; correct?

but

2 A. Well, I don't know what their original form was,

would

3 they're irregular shapes.

have

4 Q. And is it your testimony that the washing you did

me in

5 remove everything that was on them, anything that might

6 adhered?

me in

7 A. It would not remove everything, but it would assist

looking at

8 conducting an examination.

9 Q. Now, did you also -- were you -- why were you

10 plastic?

11 A. One of the many types of surfaces that are  
extremely useful

12 for explosive residue analysis happens to be plastic  
materials,

13 plastic, foams, rubber material, glass, pieces of metal  
-- all

14 are very good surfaces, including wood surfaces -- are  
very

15 good to capture and hold. Plastic, for example, is an  
area of

16 outstanding surface for high explosives because in the  
we have a

17 organic explosives, likes dissolve in likes; and here  
would be

18 case that likes, the high explosives, the organics,

19 soluble in plastic which are organic in nature.

20 Q. Well, when we talk about high explosives, you mean

things

21 like what's contained in a blasting cap, PETN?

22 A. That's correct.

23 Q. Okay. And then there's the stuff that's inside  
that orange

24 shock tube that's in Primadet that's called HMX;  
correct?

25 A. Yes.

11485

Steven Burmeister - Cross

1 Q. Is that a high explosive?

2 A. Yes, it is.

3 Q. Ammonium nitrate is not a high explosive, is it?

4 A. It can be considered a high explosive, yes.

5 Q. I'm talking about ammonium nitrate that I go to the  
high hardware store and buy in a bag. Is that considered a

6 explosive?

7 with 8 A. Certain types of ammonium nitrate, certainly mixed

9 certain fuel samples can instantly become a high  
explosive.

10 ammonium 10 Q. Well, I didn't ask you that, sir. I asked you if

11 explosive. 11 nitrate that I buy at the hardware store is a high

12 A. It could be.

13 Q. How do I get it to detonate?

14 A. There's various methods of detonating particular --

15 particular ammonium nitrate samples. The ammonium  
nitrate

16 itself has been shown under the right conditions can be

17 detonated, itself.

18 Q. By burning it; correct?

19 A. No. Burning will not actually detonate the  
ammonium

20 nitrate itself.

21 Q. What do I have to do to it to make it explode?

22 A. You have to have some other high force that's  
applied to it

23 in order for it itself to detonate.

24 Q. Such as by mixing fuel oil with it and putting a  
25 charge-like blast right with it or putting dynamite  
with it?

11486

Steven Burmeister - Cross

1 Would that -- that would make it explode, wouldn't it?

2 A. Dynamite would allow that combination, if properly  
mixed

3 with -- your ammonium nitrate and fuel oil is properly  
mixed.

4 Q. If I have a bag of ammonium nitrate in my house and  
I don't

5 have any fuel oil and I don't have any other things  
like that,

6 it's just fertilizer; correct?

7 A. Well, it's been shown that ammonium nitrate can be  
exploded

8 by itself under the right conditions.

9 Q. And what are -- I'm sorry, but you have to add  
something to

10 it; correct?

11 A. Not necessarily, no.

12 Q. What do you have to do to it, sir?

13 A. You again have to apply some sort of high energetic  
force

14 to have it detonate.

15 Q. What kind of high energetic force do you have to  
apply it?

16 A. It would have to be something that's a high  
explosive

17 that's operating in a strong force-like manner to break  
it

18 down.

19 Q. So it has to be ammonium nitrate plus something --  
right --

20 plus some other chemical substance; right?

21 A. No, that's not necessarily correct.

22 Q. Well, how -- the high explosive you're talking  
about is

23 another chemical substance, isn't it, sir?

24 A. The other material that would be providing that  
extra force

25 in order to initiate is another high-explosive  
material.

Steven Burmeister - Cross

1 Q. Now, when you went to the crime scene, did you  
cause people

2 to look for plastics that were inside, underneath the  
protected

3 areas of the Murrah Building?

4 A. These would be areas that would be good locations  
to look

5 for.

6 Q. All right. And did you test any of those things  
for high

7 explosives that you found inside? Explosive residue?

8 A. There were numerous items submitted, the exact  
location of

9 those items, I'm not sure.

10 Q. Did you test a piece of blue PVC plastic that you  
found

11 inside the building?

12 A. I don't recall examining that.

13 Q. You know that there was one; correct?

14 A. I recall seeing various pieces of blue plastic that  
were

15 submitted for the polymer individuals. I never looked  
at those

16 particular items, myself.

17 Q. Well, was the plastic that you have in front of you

18 examined under your direction?

19 A. I examined these pieces of plastic, myself, yes.

20 Q. Well, how did you choose which ones you were going  
to

21 examine and which ones you were not?

22 A. Initially these were the items that were submitted  
to me

23 for examination for explosive residue.

24 Q. And who made the choice as to which ones you were  
going to

25 look at?

11488

Steven Burmeister - Cross

1 A. I would have made the initial request for various  
pieces of

2 plastic for the examination, and they would have been  
provided

3 to me for examination.

4 Q. On what basis did you make your choice?

5 A. Again, plastic material being a good surface to  
adhere to

6 high explosives.

7 Q. Why were you looking for high explosives?

8 A. This is again part of the overall protocol that I  
will

9 follow on any crime scene or any bombing matter that I  
will go

10 to or any item.

that

11 Q. Well, you wanted to know what it was that caused  
12 ammonium nitrate, if it was ammonium nitrate, to  
detonate;

13 correct, sir?

14 A. No. My mission was to examine the particular item,  
15 determine what explosives and explosive residues were  
actually

16 on the surface.

17 Q. You were the auxiliary examiner; correct?

18 A. That would have been the designation for the  
examination,

19 yes.

the

20 Q. And were you telling us that you were just doing  
the

be left

21 technical work and that any conclusion drawing was to  
be left

22 to the principal examiner?

Depending on

23 MS. WILKINSON: Objection, your Honor.

of

24 what he's talking about, on the residues or on the type  
of

25 bomb. That's two different questions.

11489

Steven Burmeister - Cross

1 THE COURT: Overruled.

2 BY MR. TIGAR:

3 Q. You can answer.

4 A. I make all my determinations as to what chemicals  
are

5 present on the particular item. That's my job and  
that's my

6 responsibility. No one else makes any chemical  
determinations

7 other than myself.

8 Q. My question is: Did you leave to somebody else a  
decision

9 as to what the significance of your findings was?

10 A. I'm the one who determines what materials are  
actually on

11 of any of the surface of that particular item, the significance

12 the other materials that are present on it.

13 Q. Do you determine what to test for?

14 A. For the high explosives, is that what --

15 Q. Yes, sir.

16 A. I'm the one who determines what kinds of chemical  
analysis

17 will be examined -- will be performed on that  
particular item.

18 Q. There are many, many, many kinds of high  
explosives;

19 correct?

20 A. Yes.

21 Q. You can't test for all of them; correct?

22 A. That's right.

23 Q. You have to choose; correct?

24 A. Yes.

25 Q. And you did choose, didn't you?

11490

Steven Burmeister - Cross

for in 1 A. It's within the realm of material that we examined

2 the lab, yes.

things to 3 Q. Right. No, sir. You chose -- correct -- which

4 test for; is that right?

we 5 A. It's within the scope of the actual procedures that

can 6 followed. There's a limited number of items that we

determined 7 actually explore, but these are ones which are

8 within the protocol and procedure that I employ.

9 Q. Okay. I'm asking what Special Agent Steven  
Burmeister did.

10 Did you choose what things to test for?

11 A. This is part of the protocol --

you 12 THE COURT: Well, answer that question. Can't

13 just answer the question he's asking you?

choose out 14 THE WITNESS: I don't individually take and

protocol 15 of the entire protocol what items to test for. The

what the 16 will assume a variety of different items, and that's  
as 17 protocol is, to encompass as many different materials  
possible.  
18  
19 BY MR. TIGAR:  
20 Q. You followed the protocol, didn't you?  
21 A. Yes.  
22 Q. And the protocol said test for HMX, didn't it?  
23 A. The test itself does not specifically say that.  
24 Q. Did you test for HMX?  
25 A. For this particular item, it's not within the  
screen of

11491

Steven Burmeister - Cross

1 particular items.  
2 Q. Did you test any of the items that were submitted  
to you in  
3 connection with this test for HMX?  
4 A. Yes.  
5 Q. And you know that HMX is what lines the orange  
shock tube  
6 of Primadet; correct?  
7 A. Yes.  
8 Q. You testified on direct examination that Primadet  
was found

9 in Mr. Nichols' home; correct?

10 A. Yes.

11 Q. Did you ever find any HMX?

12 A. I found HMX on the interior of the Primadet tube.

13 Q. Did you find any in the bomb scene residues?

14 A. No.

15 Q. Now, HMX consists of the -- the kind you had was  
the

16 200-millisecond delay No. 8 Primadet; correct?

17 A. I don't know that particular numeric numbers.

18 Q. Okay. You're familiar with what Primadet is;  
correct, sir?

19 A. Yes, I am.

20 Q. And you know that it -- it's made in different  
delays;

21 correct?

22 A. That, I'm aware of, yes.

23 Q. It's made in different lengths; correct?

24 A. Yes.

25 Q. And the particular kind you had that you found --  
was found

11492

Steven Burmeister - Cross

1 in Mr. Nichols' house was 60-foot length; correct?

2 A. That particular number, I'm not sure of without  
referring

3 to the actual item itself.

4 Q. All right. I'll find a photograph in a minute,  
sir.

5 If -- now, did you also look at Primadet for

6 Mr. Fortier's house -- or from -- that had been  
recovered from

7 someone that Mr. Fortier gave it to?

8 A. I don't recall the exact examination.

9 Q. Okay. Showing you now, sir -- thanks to Government  
10 counsel -- what's been received in evidence as  
Government

11 about Exhibit 141. Does that refresh your recollection, sir,

12 the Primadet?

13 Perhaps the MS. WILKINSON: Excuse me, your Honor.

14 blocking the marshal could take down the easel. I believe it's

15 jury's view.

16 THE COURT: Okay.

17 MR. TIGAR: Thank you, Marshal.

18 exhibit THE WITNESS: I can't see the Government

19 number, but that's --

20 BY MR. TIGAR:

21 Q. All right. I'll show you the bottom. There it is,  
141.

22 Do you see it?

23 A. Yes, I do.

24 Q. All right. Now -- and that's the 60-foot length; correct?

25 A. Yes.

11493

Steven Burmeister - Cross

1 Q. And it has an "8" on the little tag; correct?

2 A. Yes.

3 Q. So we're talking about 60 foot. And this thing here that

4 I'm pointing to, that's a blasting cap; correct, sir?

5 A. Blasting cap or detonator, yes.

6 Q. Now, the way this works is that this end that I'm pointing

7 to down here, you can't see it, that's crimped; correct?

8 A. Yes.

9 Q. And in its natural state, if you don't handle it, the HMX

10 is not supposed to come out of there; correct? It's not

11 supposed to leak out?

12 A. I don't know that for a fact, but that's part of the

13 crimping, I would assume.

14 Q. Well, on direct examination, you said that you would not

15 expect that -- any HMX to get out of there because it was

16 sealed; do you remember saying that?

17 A. Yes.

18 Q. Well, is it true?

19 A. That would assist in allowing it to filter out.  
You'd have

20 to vibrate it or something like that in order to get it  
to come

21 out.

22 Q. Vibrate?

23 A. Yes.

product? 24 Q. Okay. Now, are you familiar with this Primadet  
I

25 mean have you read up on it?

11494

Steven Burmeister - Cross

1 A. I'm aware of the chemical materials that's on the  
interior

2 of the Primadet surface itself. Product information,  
I'm not

3 fully aware of.

4 Q. Do you know that there's a minute quantity of HMX  
on that;

5 correct?

6 A. Yes.

7 Q. And are you aware that when this stuff is used,  
that the

8 orange shock cord survives?

9 A. I'm not aware of that.

10 Q. Have you spoken in connection with your study of  
Primadet

11 that you told us about on direct examination to any

12 representatives of the Ensign Bickford Company that

13 manufactures this product?

14 A. No.

15 Q. And you've never read any of their product  
literature; is

16 that right?

17 A. Oh, I've read their product literature, but I  
haven't

18 spoken to any of the representatives.

19 Q. When you read the product literature, were you  
looking to

20 see whether or not portions of this would survive a  
blast?

21 A. No, I didn't look for that.

22 Q. As a person interested in examining residue from  
crime

23 scenes, is it important to you to know what sorts of  
things

24 survive and don't survive blast events?

25 A. Yes.

11495

Steven Burmeister - Cross

1 Q. Did you find any orange plastic at the crime scene?

2 A. I personally don't recall looking for orange pieces  
of

3 plastic.

4 Q. Did -- was any orange plastic submitted to you?

5 A. I don't recall seeing any pieces of orange plastic.

6 Q. So we have no HMX -- correct -- at the crime scene?

7 A. None that I detected.

8 Q. Uh-huh. And we have no orange plastic; correct?

9 A. I don't know what was submitted as far as plastic.  
I never

10 received any orange plastic.

11 Q. You never saw any orange plastic, okay.

12 Now, did you find any pieces of timing  
mechanisms that

13 you tested for residues?

14 A. I don't know what you're referring to as timing  
mechanisms.

15 Q. Bomb -- bomb-type timing mechanisms?

16 A. Again, I don't know. I wouldn't -- I wouldn't be  
looking

17 at material that's specifically timing mechanism.

18 Q. Okay. Did you find any pieces of leftover pieces  
of the

19 metal, metal fragments consistent with blasting caps  
and

20 detonation cord?

21 A. Again, I don't recall any particular pieces that  
were

22 designated that way.

23 Q. Now, did you participate in the decision to send  
pieces of

24 plastic to Smurfit?

25 A. No.

11496

Steven Burmeister - Cross

1 Q. Now, I want to ask you, sir, now about the chain of  
2 custody. Did you review the testimony of Mr. Kelly and  
Agent

3 Wilson about how this matter -- how this item,  
Government

4 Exhibit -- if I can retrieve it from you.

5 These are the bags in which it was?

6 A. Yes.

7 Q. Government Exhibit 664: Did you review the  
testimony of

8 those agents as to how and where it was found?

9 A. No.

10 Q. Do you know -- Mr. Kelly has worked for you for a  
long

11 time; correct?

12 A. He's technically in the strata of the FBI. He has  
only

13 worked with me since January of this year when I  
assumed the

14 acting unit chief position. Prior to that time, he did  
not

15 work for me.

16 Q. He worked with you. He's worked with you for how  
long,

17 sir?

18 A. I would say for the last three years he's worked  
with me.

19 Q. Now, when you retrieve things -- when one retrieves  
for something in the field, okay, that's going to be tested

21 residue, it is important to follow retrieval  
procedures;

22 correct?

23 A. There are -- there are procedures in place for  
collecting

24 particular items.

25 Q. And at this bombing crime scene, the procedure was  
that the

11497

Steven Burmeister - Cross

1 item was supposed to be either marked on a map or  
photographed

2 in place; correct?

3 A. I did not designate any procedures like that, no.

4 Q. Do you know whether those are the proper  
procedures?

5 A. I don't know what the exact procedures that were  
actually

6 employed.

7 Q. My question is: Do you know whether it's proper to

mark it

8       on a map or photograph it in place if you recover  
something at

9       a bomb crime scene, sir?

10      A. There is various techniques of doing it, one of  
which would

11      be to take a map and mark on a map where a particular  
item is.

12      It's not always the case.

13      Q. How about photography? Is it important to  
photograph

14      things in place?

15      A. It's not always the procedure to photograph things  
in

16      place.

17      Q. Have you looked at photographs of 664, where Mr.  
Kelly said

18      he found it?

19      A. Yes.

20      Q. And does that photograph help you in any way in  
your

21      testimony that you're presenting today?

22      A. The only way that it would help me would be the  
actual

23      configuration at which it was recovered.

24      Q. And what's helpful about that, sir?

25      A. The particular surface of the particular item was  
recovered

Steven Burmeister - Cross

1       in a mode where it was in a protected mode. The wooden  
side

2       would have been protected from the elements.

the  
3       Q. Now, when you say "would have been protected from

there at  
4       elements," are you assuming that the item came to rest

exactly the  
5       shortly after 9:02 a.m. on the 19th and remained in

6       same position until 10:30 a.m. on the 21st?

7       A. I don't know.

elements.  
8       Q. Well, you told us it had been protected from the

the  
9       The picture of it shows that it's lying with this side,

on a  
10      color side, up -- correct -- and that the red is lying

11      piece of metal? Do you remember that picture?

12      A. I vaguely recall that configuration, yes.

evidence  
13      Q. Showing you now page 10 of what's been received in

14      as Defense Exhibit E5.

15                  Do you remember seeing that picture before?

I could  
16      A. If you can back off from the magnifications so that

17      see the entire photo.

18      Q. Yes, sir. There you are.

19      A. Yes, that photo looks familiar.

the

20 Q. Okay. And do you remember that as a photo taken at

21 crime scene?

22 A. I know it was taken at the crime scene, yes.

23 Q. And do you know who took it?

24 A. No.

on the

25 Q. Now, at -- were you walking around the crime scene

11499

Steven Burmeister - Cross

1 21st?

2 A. Yes, I was.

correct?

3 Q. And you were walking around it on the 20th;

4 A. Yes.

the

5 Q. Did you see the pink painted circles that were on

6 ground on the 20th and 21st?

7 A. I saw them, yes.

8 Q. And did you know how those were made?

9 A. No.

10 Q. Did you have some understanding for your  
investigative

11 purposes as to how they were made?

12 A. No.

13 Q. Do you see what appears to be pink paint on the

ground

14 here, where I'm pointing?

15 A. I see a pink area that you're referring to.

16 Q. Yes. Now, does Government Exhibit 664 have any  
pink on it?

17 A. My recollection of 664 has an area on the painted  
side that

18 would be of a pink color.

19 Q. All right. Right here; correct?

20 A. Yes.

21 Q. Is that correct? Okay.

22 Now, 664, it's fair to say -- excuse me --  
it's what

23 used to be a regular piece of plywood; correct?

24 A. It was much thicker than that.

25 Q. As it started out, it was a thick piece. And it's  
fairly

11500

Steven Burmeister - Cross

1 light; correct? It's light.

2 A. I'd agree with you, it's a light object.

3 Q. In a -- is it light enough that it could be picked  
up and

4 turned over in a windstorm?

5 A. I don't know.

6 Q. Okay. But we could lie it on the ground and blow  
on it or

7 run a fan; we could find out, couldn't we?

I'm

8 A. You could set up a test scenario to demonstrate it,

9 sure.

10 Q. We could do it.

whether

11 Now, is there a practice with respect to

be moved

12 items -- if they are going to be photographed, should

before they're photographed?

says one

14 A. There's no designated procedure written down that

way or the other that I'm aware of.

think it's

16 Q. All right. Well, from your standpoint, do you

them and

17 better to pick them up and put them in a bag and move

take a

18 then try to remember where you move them back, or to

picture of them right where they were?

place

20 A. It's my opinion that I would photograph the item in

that type

21 in its original form. That's the best way to conduct

of recovery.

should

23 Q. And then the next thing is that of course the item

24 be documented all the way through; correct?

item.

25 A. There should be documentation with that particular

Steven Burmeister - Cross

1 Q. Now, you say that you received this item at the  
warehouse;

2 is that correct?

3 A. No.

4 Q. Who received it? Where did you first see it?

5 A. First time I saw the item, it was in a collection  
of other

6 items; but it was at the crime scene itself.

7 Q. And at that point did somebody give it to you?

8 A. Yes.

9 Q. So you received -- what did you do with it?

10 A. I took custody of the items and then transported  
those

11 items to the Evidence Control Center in Oklahoma City.

12 Q. So it is not the case that Agent Wilson took it to  
the

13 Evidence Control Center and gave it to you there? That  
didn't

14 happen?

15 A. My recollection is that I received custody of these  
items

16 at the crime scene.

17 Q. My question is: It is not the case, sir, that  
Agent Wilson

18 gave it to you at the Evidence Control Center?

19 A. He did not give it to me at the Evidence Control Center.

20 Q. Now, when you got to the Evidence Control Center, as you

21 remember it, you gave the items to whom, Mr. Elliott,

22 Mr. Norman?

23 A. No.

24 Q. To whom?

25 A. I signed it in to the custodian that was at the evidence

11502

Steven Burmeister - Cross

1 center, and that was a June Buckner.

2 Q. And then the next time you saw it was when you opened up

3 your package; correct?

4 A. The next time I saw it was when I was at the FBI

5 Laboratory, and I received it from Mr. Mills.

6 Q. Now, did Mr. -- did you get it from Mr. Mills in a box in

7 which it had been shipped?

8 A. I received it in a envelope that it was packaged in, and

9 then packaged in plastic bags.

10 Q. Let me show you now what's been marked as Government

11 Exhibit E132. Is that what arrived with the package?

12 MS. WILKINSON: Excuse me, he said Government  
exhibit

13 marked 1 --

14 MR. TIGAR: I'm sorry, Defense Exhibit E132.

15 MS. WILKINSON: Could I take a look at that?

16 MR. TIGAR: Of course.

17 MS. WILKINSON: You're talking about this  
entire --

18 MR. TIGAR: I'm going to show it to him, yes.

19 MS. WILKINSON: This is different --

20 MR. TIGAR: We'll find out.

21 MS. WILKINSON: Your Honor, I'm going to  
object to him

22 showing this item. He's including two different  
documents.

23 THE COURT: Let the witness tell us what it  
is.

24 MR. TIGAR: Your Honor, I object to the  
sidebar. I'm

25 going to show the witness an item received from the  
Government,

11503

Steven Burmeister - Cross

1 and I'm going to ask the witness what that is.

2 THE COURT: You may do that.

3 BY MR. TIGAR:

4 Q. Sir, this consists of a number of pages. And I  
just want

got the 5 to ask you: Is page 1 something that you got when you

6 item in from Mr. Mills.

7 A. No.

being 8 Q. Okay. Then -- so -- do you recognize this item as

9 any part of your records?

10 A. I would not keep this in my records, no.

how it 11 Q. Okay. And do you have any personal knowledge as to

12 was made?

at the 13 A. The front item of this was filled out at the time,

other 14 Evidence Control Center. Aside from that, I have no

15 information where it was --

Center; is 16 Q. So page 1 was filled out at the Evidence Control

17 that right?

18 A. Yes.

19 MR. TIGAR: We offer page 1. E132.

20 The Government may withdraw the other.

21 THE COURT: Well, these are loose pages.

22 MR. TIGAR: Yes, your Honor.

we 23 MS. WILKINSON: He's only offering page 1. If

no 24 could just mark it as a separate exhibit, I would have

25 objection.

Steven Burmeister - Cross

1                   MR. TIGAR: Page 1 is what he has in front of  
him.

2                   MS. WILKINSON: I'm sorry. I thought he was  
showing

3                   me what he was offering.

4                   MR. TIGAR: I'm showing the other pages of the  
5                   exhibit.

6                   THE COURT: Let's take a look at what's being  
offered.

7                   MR. TIGAR: Uh-huh.

8                   MS. WILKINSON: Your Honor, I'm going to  
object to

9                   this. I don't think this was the page that Mr.  
Burmeister said

10                  was filled out. I think it was the first page with the  
11                  signature on it.

12                  THE COURT: I heard him say it was filled out  
at the

13                  Evidence Control Center.

14                  Take a look at it again.

15                  MR. TIGAR: Yes, I'm sorry, sir --

16                  THE WITNESS: There is some more to --

17                  MR. TIGAR: -- what was was, and what wasn't  
wasn't.

18                  BY MR. TIGAR:

That

19 Q. Was this filled out at the Evidence Control Center:

20 page I'm showing you here now?

to it.

what 22 Q. All right. Well, then, let's took through and see

23 more there is to it.

24 A. Okay. I'm familiar with this particular page.

correct? 25 Q. All right. That's a part of the chain of custody;

11505

Steven Burmeister - Cross

1 A. Right.

2 Q. And then page 3: Part of the chain of custody?

3 A. Uh-huh.

4 Q. And page 4: Part of the chain of custody; right?

search 5 And then these remaining pages are part of a

6 log. Does that look like what that is?

7 A. It's information that I would not receive.

we would 8 MR. TIGAR: All right, then. So, your Honor,

9 offer these four pages.

something 10 THE COURT: Perhaps we should staple them or

11 to make them --

until I 12 MR. TIGAR: Yes, I will. I could not do that

13 found out --

14 THE COURT: I understand.

dire? 15 MS. WILKINSON: Your Honor, may I just voir

16 THE COURT: You may.

17 VOIR DIRE EXAMINATION

18 BY MS. WILKINSON:

this page. 19 Q. Agent Burmeister, you said you're familiar with

20 Is that the page with your signature on it?

21 A. Yes.

page? 22 Q. Can you verify any of the other signatures on this

23 A. No, only mine.

pages? 24 Q. And what about the signatures on the remaining

25 A. My signature appears on the other pages.

11506

Steven Burmeister - Voir Dire

complete 1 Q. Okay. Agent Burmeister, is this document the

2 chain of custody for Government's Exhibit 664?

pages 3 A. No. I don't know what the -- I'm just aware of the

4 themselves from my signature.

5 Q. Do you keep a chain of custody for exhibits when  
they come

6 into the laboratory for your review?

7 A. Yes.

8 Q. And did you provide that chain of custody in your  
notes?

9 A. Yes.

10 Q. And would that complete the chain of custody for  
11 Government's Exhibit 664?

12 A. Yes.

13 MS. WILKINSON: Your Honor, we would object,  
unless we

14 offer those other pages that show the complete chain of  
15 custody.

16 MR. TIGAR: I have no objection to that, your  
Honor.

17 THE COURT: All right.

18 MS. WILKINSON: Thank you.

19 THE COURT: Well, where are they?

20 MS. WILKINSON: I'll pull them out.

21 MR. TIGAR: In the meantime, I ask Miss  
Hasfjord to

22 staple what we have.

23 THE COURT: All right. We'll staple this, and  
this

24 will be E132.

25 MR. TIGAR: Yes, your Honor.

Steven Burmeister - Voir Dire

the 1 THE COURT: And it's being received subject to

2 addition of --

3 MR. TIGAR: -- the other material.

exhibit, 4 THE COURT: Which we will call a Government

5 and they will relate.

6 MR. TIGAR: Right.

somebody 7 THE COURT: Go ahead. Well, I guess -- can

8 else look at this?

Honor. 9 MS. WILKINSON: I've got it right here, your

10 I'm sorry.

11 THE COURT: Well, we can come back to that on  
12 redirect. Let's continue with the examination.

ask him 13 MR. TIGAR: Yes, your Honor. I only want to

14 two questions about the front page.

15 THE COURT: All right.

up. 16 MR. TIGAR: It's been received. I can put it

17 CROSS-EXAMINATION CONTINUED

18 BY MR. TIGAR:

received as 19 Q. Mr. Burmeister, showing you now what's been

20 132, you note that Items 1 through 5 and 7 through 15,  
and then

21 there's a note here. Do you know what that means?

22 A. No.

23 Q. It says, "Item 6 stored at Room A, Row 1, Unit B,  
Shelf 2";

24 correct?

25 A. That's what it looks like.

11508

Steven Burmeister - Cross

1 Q. Now, Item 6 is what's now been received as  
Government's

2 664; correct?

3 A. I'm not sure how -- what that Item 6 designation  
calls for.

4 Q. Item 6 is Item 06 off the evidence log; is that  
right?

5 A. I'd have to see the evidence log to demonstrate  
that.

6 THE COURT: There's no dispute about that, is  
there?

7 MS. WILKINSON: No, your Honor. I believe  
it's down

8 further on the page.

9 THE COURT: You can accept: 06 is the same as  
Item 6.

10 BY MR. TIGAR:

11 Q. Do you know why Item 6 is stored in a different

place?

12 That's the only question.

13 A. No.

the  
14 Q. Now, in addition to concerns about what happens at

it can  
15 crime scene, chain of custody is also important because

16 affect the significance of your findings; correct?

17 A. Yes.

to you  
18 Q. That is, if somebody finds an object and brings it

really don't  
19 and says, Well, I found this six months ago but I

some  
20 know where it's been since then, would that cause you

21 concerns?

22 A. If someone doesn't know how they packaged it and  
stored it,

23 that would be a variable.

24 Q. It's a variable; correct?

25 A. Uh-huh.

11509

Steven Burmeister - Cross

1 Q. And that can affect the reliability of the  
conclusions that

2 you draw in terms of the particular case you're working  
on;

3 correct?

you're

4 A. It would depend on the particular finding that  
5 discussing.

6 Q. Now, you are -- you have some experience in the  
7 investigation of arson scenes; correct?

8 A. Yes.

it's

9 Q. And you are aware that in an arson scene -- that

may have

10 necessary to protect items of physical evidence that  
11 some significance, evidentiary significance; correct?

12 A. There's procedures to take for that, yes.

physical

moved;

13 Q. Yes. And in terms of investigating arson scenes,  
14 evidence should be thoroughly documented before it's  
15 correct?

16 A. Documentation is part of the procedures.

Guide to

17 Q. No, my -- well, are you familiar with the NFPA

18 Fire and Explosion Investigations?

19 A. Yes.

to the

20 Q. And do you accept that as an authority with respect  
21 investigation of arson scenes?

gospel

22 A. It's a guide tool. I don't know if it's the actual  
23 authority for it. It's a tool that people can use.

24 Q. Sir, we're not talking about the Gospels. No

blasphemy

25 meant. We're talking about the investigation of arson  
scenes.

11510

Steven Burmeister - Cross

1 Do you accept this as authoritative with respect to the  
2 investigation of arson scenes?

3 A. It's one of many items that's used as a guide tool  
for

4 people to use when they go to investigate incidents  
with

5 accelerant-type materials.

6 Q. And do -- my question, sir: Do you, Steven  
Burmeister,

7 accept it as authoritative.

8 A. I would of numerous documents, I would accept it as  
a

9 document to refer to if I want to find various  
information.

10 Q. And there are similarities, are there not, between  
the

11 investigation of arson crime scenes and bombing crime  
scenes,

12 techniques?

13 A. Some of the techniques are used.

14 Q. And that -- and that's because the search for  
accelerants

15 and residues is a feature that's common to the  
investigation of

16 bombing scenes and arson scenes; correct, sir?

17 A. There are some similarities.

18 Q. Is one of the those similarities that both involve  
the

19 search for accelerants and residues?

20 A. No. The only -- if I can explain what I mean by

21 "similarities." The similarities are really in the  
area that

22 some accelerant materials have an ability to be  
vaporized and

23 penetrate, and some high explosives have the ability to

24 penetrate through various packaging items. That's why  
it would

25 recommend some packaging methods. That's really the  
difference

11511

Steven Burmeister - Cross

1 between the two investigations.

2 Q. Come back to that.

3 Do you agree with me, then, that physical  
evidence

4 should be thoroughly documented before it's moved; do  
you agree

5 with that?

6 A. Yes.

7 Q. Do you agree with me that plastic bags are not the  
best way

8 to store evidence that may contain or have accelerant residues?

9 A. What type of plastic bags do you refer to?

10 Q. Ordinary plastic bags, Ziploc.

11 A. Ordinary plastic bags are not recommended for  
12 accelerant-type evidence.

13 Q. Now, the advantages of plastic bags are that  
they're

at the 14 readily available, they're economical, and you can look

15 evidence without opening the bag; correct?

16 A. Yes.

easy 17 Q. The disadvantages are that they're susceptible to

in the 18 damage, such as by tearing and penetration, resulting

correct? 19 contamination of the physical evidence in them;

20 A. Ordinary plastic bags, yes.

plastic 21 Q. And by "ordinary" -- Now, does the FBI use ordinary

22 bags, or unordinary ones?

plastic 23 A. These are evidence bags that we utilize in the FBI  
24 Laboratory. I wouldn't designate them as ordinary

25 bags, since --

1 Q. I'm holding up now 664B, which has a zip-type top  
on it.

2 What is the difference between this and a Ziploc I  
could buy at  
3 the store?

4 A. It's the thickness of the bag is somewhat  
different.

5 Q. Okay. This is thicker?

6 A. Yes.

7 Q. Well, what's the difference between this and a bag  
I buy at

8 the store marked "freezer bag"?

9 A. That, I don't know.

10 Q. Okay. What's the difference between this and a bag  
I could

11 buy advertised on television that shows a piece of meat  
inside

12 and an animal that can't find it?

13 A. I don't know that type of bag.

14 Q. Okay. Plastic bags have this characteristic that  
they can

15 be penetrated by certain evidence. They can't be  
penetrated by

16 ammonium nitrate; correct?

17 A. Plastic bags -- right -- ammonium nitrate doesn't  
penetrate

18 the plastic bags.

19 Q. And that's because ammonium nitrate is not organic;  
20 correct?

21 A. That's correct, yes.

22 Q. Now, certain hydrocarbons can penetrate; correct?

23 A. Hydrocarbons can penetrate certain types of plastic bags.

24 Q. Can they penetrate polyethylene plastic bags like this?

25 A. Yes.

11513

Steven Burmeister - Cross

1 Q. And do hydrocarbons include fuel oil?

2 A. Yes.

3 Q. And nitromethane?

4 A. Yes.

5 Q. And gasoline?

6 A. Yes.

7 Q. Hydrocarbons are petroleum. That's what most hydrocarbons

8 are; right --

9 A. Yes.

10 Q. -- that we see in common use? Okay.

11 And can HMX penetrate plastic bags?

12 A. At a certain time period, it will; but its ability to

it will

13 penetrate plastic bags -- the chemical configuration of

certain

14 restrict it from penetrating very quickly. It's

15 explosives that will go quick. It's one of the ones  
that will

16 go on a lesser scale.

17 Q. What happens if you put a whole bunch of plastic  
bags in

18 the same box? Things can cross. Hydrocarbons that  
might be

19 there can cross from one sample to another; correct?

20 A. If it's in the improper plastic bag, it could  
occur, yes.

21 Q. Did you find any hydrocarbons or hydrocarbons on  
664?

22 A. I didn't look for any.

23 Q. Were you aware that hydrocarbons -- that there was  
a theory

24 that hydrocarbons might have been used as a part of  
this bomb?

25 A. At what particular point are you referring to?

11514

Steven Burmeister - Cross

1 Q. At the time you were doing your tests.

2 A. That's certainly one of the many types of materials  
that

3 could be mixed with various materials. A finding of  
ammonium

4 nitrate, looking for a fuel oil, that would be one  
particular

5 fuel that you could look for.

You had

6 Q. Okay. Well, now, you say at one particular time.

wanted;

7 the opportunity to test 664 as many times as you

8 correct?

yes.

9 A. I could have requested it as many times as I liked,

could have

10 Q. And, for instance, in -- on July the 21st, you

11 requested it; correct --

12 A. Yes.

13 Q. -- 1995?

14 A. Yes.

there had

15 Q. And were you aware that prior to July of 1995,

put out a

16 been a theory that this was an ANFO device?

17 A. I'm not aware of that particular theory in place.

anything

18 Q. Well, were you aware that your principal examiner

individuals

19 theory that this was an ANFO device?

anything

20 A. I don't know whether at that particular time frame

individuals

21 had been written down about that by any particular

22 at that time frame.

23 Q. Well, you were the auxiliary examiner; correct?

24 A. Yes.

to look

25 Q. And as the auxiliary examiner, you have the right

Steven Burmeister - Cross

1 at this and to test it; correct?

2 A. Yes.

3 Q. Are you aware that at some period of time, when you  
still

4 had access to 664, your principal examiner wrote down a  
5 conclusion that this was an ANFO device?

6 A. I'm not aware of that.

7 Q. Are you telling this jury that you don't know --  
well, who

8 is your principal examiner?

9 A. The principal examiner on this particular matter  
was

10 Special Agent Dave Williams.

11 Q. Are you telling this jury that you don't know that  
12 Mr. Williams expressed a conclusion in a written report  
that

13 this was an ANFO device? Is that what you're saying?

14 A. Well, you have to put a time frame on it.

15 Q. All right. Prior to August 1, 1995.

16 A. I'm not sure of the exact date that I had learned  
that

17 something had been written down. I'm not sure of the  
exact

18 date.

19 Q. You're aware that at sometime that report was  
written;

20 correct?

21 A. Again, I'm not sure of the exact written format of  
that

22 particular document. I know something had been written  
down.

23 When it had been written down, I'm not aware of it.

24 Q. Now, let me see if I could refresh your  
recollection, sir.

25 Showing you this --

11516

Steven Burmeister - Cross

1 MS. WILKINSON: Excuse me, could I just --

2 MR. TIGAR: Uh-huh.

3 BY MR. TIGAR:

4 Q. I'm going to show you now this, and just to refresh  
your

5 recollection. You see the date, sir?

6 A. Yes.

7 Q. Okay. Do you see that?

8 A. I see what you're pointing to.

9 Q. Yes. Okay. Does that refresh your recollection as  
to when

10 somebody at a time when you still had control or access  
to 664

11 expressed a conclusion?

12 A. No.

reached 13 Q. Do you remember being questioned about a conclusion

14 by Mr. Williams that this was an ANFO device?

15 A. By whom?

16 Q. By anyone connected with the Department of Justice.

17 A. There were individuals who did question me about  
that, yes.

18 Q. And did they ask you -- did they inform you that

19 Mr. Williams had reached a certain conclusion?

20 MS. WILKINSON: Objection, your Honor.

21 THE COURT: Sustained.

22 BY MR. TIGAR:

23 Q. When you got to the crime scene, sir, on the 20th,  
was the

24 possibility that this device was made of ammonium  
nitrate and

25 fuel oil one that you were considering?

11517

Steven Burmeister - Cross

1 A. I'm not sure if I considered it. I'm sure that it  
was of

2 the entire grouping of materials that I would have  
considered.

3 Whether I was specifically focusing on that particular  
one, I

4 doubt it, since I was staying open to whatever was  
available.

5 Q. I didn't ask you about a conclusion, sir. Was this

one of

6 the options, one of the items you thought could be?

7 A. Any large bombing crime scene --

8 THE COURT: Just answer the question, will  
you.

9 THE WITNESS: It could be. I don't remember  
whether I

10 was specifically focusing on that particular material.

11 BY MR. TIGAR:

12 Q. You're a scientist; right?

13 A. Yes.

14 Q. And you don't want to leap to conclusions; right?

15 A. Absolutely.

16 Q. Okay. And so we got to be careful; right?

17 A. Yes.

18 Q. Let's start. Ammonium nitrate: How many billion  
pounds of

19 ammonium nitrate are sold in America every year?

20 A. I don't know.

21 Q. Do you know Paul Rydlund?

22 A. I'm aware of the name.

23 Q. Do you know that he -- do you accept him as an  
expert in

24 the field of ammonium nitrate and fuel oil  
combinations?

25 A. I would accept him as an expert in that particular  
field,

Steven Burmeister - Cross

1 yes.

2 Q. You know that he holds a master's degree that has  
to do

3 with timing devices or blast delays? Did you know  
about that?

4 A. No.

5 Q. Do you know that he held a patent?

6 A. I'm not aware of that particular patent.

7 Q. But you know that he's an expert -- correct -- in  
the field

8 of ammonium nitrate and fuel oil; correct?

9 A. Yes.

10 Q. And ammonium nitrate, you know is used for  
fertilizer;

11 correct?

12 A. Yes.

13 Q. How many pounds a year are sold and used for  
fertilizer?

14 A. I have no idea.

15 Q. Do you know how it's sold, in what form?

16 A. I'm not an expert in the packaging of ammonium  
nitrate.

17 Q. You testified on direct examination that ammonium  
nitrate

18 Do you prills would not come out of a sealed fertilizer bag.

19 remember that?

20 A. Yes.

21 Q. How do you know?

22 A. I have seen bags of ammonium nitrate in a prill  
form in

23 bags, and I've seen how they -- they would withhold --  
withhold

24 the particular material inside.

25 Q. And do you know how those bags are filled?

11519

Steven Burmeister - Cross

1 A. No.

2 Q. Do you know whether they're sewed or heat-sealed?

3 A. The ones that I have seen were heat-sealed.

4 Q. And they're made of plastic or paper and plastic?

5 A. I have seen some that were in a combination of both  
with a

6 plastic liner on the interior and some which were  
plastic

7 overall.

8 Q. All right. And the ones that are paper and plastic  
in the

9 sealed? interior: Is it your testimony that those are heat-

10 A. The ones that I saw had a heat-sealed interior  
plastic

11 lining.

12 Q. And did you have any opinion as to how the heat

seal could

13 be applied through the paper?

14 A. I really don't know how that would be applied.

back  
the  
15 Q. Did you -- had you looked at any pictures of the

storage room of the Kansas co-op, looked at pictures of  
the  
16 floor there?

18 A. No.

show you  
19 Q. So did anybody show you pictures and did anybody

the testimony or talk to you about the testimony of

have to  
21 Mr. Schlender about how their floor gets dirty and they

22 sweep it out?

23 A. No.

which  
24 Q. Have you ever watched any manufacturing process in

commerce?  
25 ammonium nitrate bags are filled to be shipped in

11520

Steven Burmeister - Cross

1 A. No.

that an  
2 Q. Well, then on what basis are you giving an opinion

there's  
3 ammonium nitrate bag purchased at a feed store -- that

4 no way the ammonium nitrate could leak out of it?

and

do not

penetrate outside of the bag.

Q. And -- but did you -- where did you do that?

Canada. I

at the

saw plastic bags that were filled up there and looking

construction of those particular bags.

Q. Now, these were all-plastic bags?

A. Some were paper and some were plastic.

Q. So that's the basis for your opinion; right?

A. Yes.

pictures

correct? In

of an actual place where these things are stored;

a farm supply store -- you never did that?

A. No.

is sold

all over the country -- correct -- and we've established that?

A. Right.

looked

nitrate

at -- that you thought this bomb might have been a urea

25 bomb. That was a possibility; correct?

11521

Steven Burmeister - Cross

1 A. It certainly was a possibility.

2 Q. Now, is there a way that -- is there a similarity  
between

3 urea nitrate and ammonium nitrate improvised explosive  
devices?

4 A. There are some chemical similarities in the sense  
of its

5 detonation abilities and speeds.

6 Q. Now, is it possible to -- in testing to mistake an  
ammonium

7 nitrate for a urea nitrate?

8 A. Using what method?

9 Q. Well, is it possible to make up a sample containing  
10 ammonium nitrate and things that you might find just  
around

11 your house and have that show up as a urea nitrate on  
the

12 machine, on the testing machine?

13 A. Again, you have to tell me which instrument you're  
14 referring to.

15 Q. Yes. Well, did you ever have an experiment in  
which you

16 tried to see whether or not a machine reading for urea  
nitrate

17 was actually urea nitrate, or whether the machine could  
be --

18 could read out a urea nitrate even though it wasn't a  
urea

19 nitrate sample? You've done that; right?

20 A. Yes.

21 Q. And how did you do it?

22 A. Was using an instrument called a "solids probe mass

23 spectrometer," one which was not used in this  
particular case;

24 but that's the particular instrument that was used to  
make that

25 type of a finding.

11522

Steven Burmeister - Cross

nitrate

1 Q. Uh-huh. And what you did was you had some ammonium  
nitrate

2 at your house?

3 A. No.

there?

4 Q. Where did you get the ammonium nitrate to use  
there?

5 A. It was from a test vial.

in

6 Q. All right. And was that an ammonium nitrate bought  
in

7 commerce or at a hardware store?

8 A. I don't know where the FBI purchased it from.

9 Q. And then something was added to it; correct?

10 A. Yes.

11 Q. What was added to it?

12 A. It was urea, prills of urea.

13 Q. All right. And didn't you and Mr. Whitehurst add  
something

14 else?

15 MS. WILKINSON: Objection, your Honor.

16 THE COURT: Well, the objection is overruled.

17 BY MR. TIGAR:

18 Q. Didn't you and Mr. Whitehurst add something else to  
the

19 sample?

20 A. No.

21 Q. Didn't you have a test in which you and Mr.  
Whitehurst

22 mixed up some ammonium nitrate and something else that  
you and

23 Mr. Whitehurst, or one of you, had provided to see if  
you could

24 make the machine read out urea nitrate?

25 A. No. The only mixture was the one that I made with  
ammonium

11523

Steven Burmeister - Cross

1 nitrate and urea.

2 Q. Is it your testimony, sir, that you never  
participated in

3 an experiment in which you or Mr. Whitehurst urinated  
into a

4 beaker, reduced it down, and added it to ammonium  
nitrate and

5 got a machine reading on it?

6 A. The urine study that you're referring to was never  
one in

7 flat out which ammonium nitrate was added to the urine. It was

8 mass extracts of urine were examined using the solids probe

9 spectrometer. There was nothing added to the urine.

10 Q. And that read out urea nitrate?

11 A. The results were the presence of urea and nitric  
acid,

12 placed into which is consistent with a sample of urea nitrate

13 that particular instrument.

14 Q. Is it your testimony, sir, that you never did an  
experiment

15 involving urine and ammonium nitrate?

16 A. There were no experiments where urine and ammonium  
nitrate

17 were added together.

18 Q. Is it your testimony, sir, that you never did an  
experiment

19 involving urine and ammonium nitrate?

20 A. Together?

21 Q. No.

22 A. Separate?

23 Q. Separately.

24 A. The test was one of which urine was tested and then  
the

25 combination of ammonium nitrate and urine, two separate  
ones.

11524

Steven Burmeister - Cross

1 Q. Ammonium nitrate and urine?

2 A. I'm sorry. Now you got me fouled up. It's  
ammonium

3 nitrate and urea mixed together was one test. The  
other test

4 was the urine dried down. So there were two separate.

5 Q. And what was the purpose of that?

6 MS. WILKINSON: Objection, your Honor.

7 THE COURT: Overruled.

8 BY MR. TIGAR:

9 Q. What was the purpose of doing that?

10 A. This was -- the purpose of this entire test was in  
the

11 various World Trade Center bombing case. We were looking at

12 the articles of clothing where extracts were removed from

13 those clothing. These were invisible residues. And based on

14 presence of invisible residues, we were getting findings of the

15      urea and nitric acids, using the solids probe mass  
16      spectrometer. The testing was done in order to find  
out

17      whether that particular instrument could receive other  
samples

18      and still produce the same type of a signal.

19      Q. Now, we've talked now about ammonium nitrate.  
We've talked

20      about some of these high explosives. You -- did you  
ever test

21      664 to see if any fuel oil residues were present?

22      A. No.

23      Q. Why not?

24      A. I made a determination early on that the samples  
themselves

25      would not be tested for any type of hydrocarbon  
material based

11525

Steven Burmeister - Cross

1      on the location of that particular -- of items removed  
from

2      that particular parking lot area. These were items  
that were

3      potentially exposed to hydrocarbons within the air, so  
a

4      finding would not be of any significance.

5      Q. Did you make -- did you test anything that was  
found away

6      from the parking lot for hydrocarbons?

7 A. Nothing from that entire crime scene was tested for  
8 hydrocarbons.

9 Q. Now, the blast center was in the parking pullout  
just in

10 front of the Murrah Building; correct?

11 A. Yes.

12 Q. And this Item 664 was found a hundred-and-some feet  
from

13 the blast center; correct?

14 A. I don't know the exact distances.

15 Q. A number of feet; correct?

16 Now, if you paced off the same number of feet  
towards

17 the Murrah Building, you'd be inside the building;  
correct?

18 A. That, I'm not sure.

19 Q. I'm going to show you what's been received in  
evidence as

20 Government 940. The truck was parked -- the crater  
that you

21 saw was right here -- sort of front and center of the  
Murrah

22 Building on N.W. 5th; correct?

23 A. Yes.

24 Q. 664 was found over here, by the Athenian Building;  
correct?

25 A. In that general area, yes.

Steven Burmeister - Cross

1 Q. So if we paced off the same number of feet, we'd be  
into

2 the Murrah Building; correct?

3 THE COURT: I'm not sure I understand "the  
same number

4 of feet."

5 MR. TIGAR: The same number of feet from the  
crater,

6 your Honor, but taking a different direction.

7 THE COURT: All right.

8 BY MR. TIGAR:

9 Q. Taking the truck as the center point, we'd be  
within the

10 Murrah Building?

11 A. Well, if I measure it off, myself, with my fingers,  
I'm

12 outside the Murrah Building.

13 Q. So that debris that was inside the Murrah Building  
would be

14 closer to the center of the blast than 664 was found;  
is that

15 correct?

16 A. Yes.

17 THE COURT: Is this an interrupting point? We  
ought

18 to take the recess.

19 MR. TIGAR: Yes, your Honor, thank you.

break,  
other  
you to  
aspect  
avoid

20                   THE COURT: All right. You may step down.  
21                   And we're going to take our usual morning  
22                   members of the jury; and of course this week, like all  
23                   weeks and all other days of trial, I must again caution  
24                   keep open minds, avoid discussion about the case or any  
25                   of it among yourselves and with others, and continue to

11527

your

1                   anything outside of our evidence that could influence  
2                   decision in the case.

3                   You're excused now, 20 minutes.

4                   (Jury out at 10:23 a.m.)

5                   THE COURT: All right. We're in recess.

6                   (Recess at 10:24 a.m.)

7                   (Reconvened at 10:44 a.m.)

8                   THE COURT: Please be seated.

9                   MR. MACKEY: May we approach?

10                  THE COURT: Yes.

11                  (At the bench:)

12                  (Bench Conference 99B2 is not herein transcribed by  
court

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

14

15

16

17

18

19

20

21

22

23

24

25

11531

1 (In open court:)

2 THE COURT: Okay.

3 (Jury in at 10:46 a.m.)

4 THE COURT: Please resume the stand, Agent  
Burmeister.

5 MR. TIGAR: Excuse me, your Honor.

6 BY MR. TIGAR:

7 Q. Mr. Burmeister, before coming to court today, did  
you

8 participate in any moots?

9 A. Years ago. Several years ago.

10 Q. And that was to help you to become familiar with  
what it

11 means to testify; correct?

12 A. That was -- that was one aspect of the entire  
process.

13 Q. And that is a part of your training as an FBI agent  
who may

14 be giving testimony in court, the moot?

15 A. It's part of the training process, yes.

16 Q. And then you met with Government counsel to discuss  
the

17 basis of your testimony; correct?

18 A. Again, years later.

19 Q. Yes, of course. Years later.

20 A. Yes.

21 Q. Before coming here today, you've discussed it with

22 Government counsel; correct?

23 A. Yes.

24 Q. And you're aware that there are certain guidelines  
that

25 you're supposed to follow while you're testifying;  
correct?

2 Q. And that includes testifying in a manner which is  
clear,

3 straightforward, and objective in answers to all  
questions on

4 direct and cross-examination; correct?

5 A. Yes.

6 Q. Now, sir, we were talking at the time we broke  
about

7 ammonium nitrate; correct?

8 A. Yes.

9 Q. And we were also talking about some of these other  
residues

10 that you either did or did not look for. Do you recall  
that?

11 A. Yes.

12 Q. And specifically at the break we were talking about  
the

13 items that you would find inside the Murrah Building;  
correct?

14 A. That was part of the testimony, yes.

15 Q. Now, you found inside the Murrah Building a number  
of

16 pieces of shattered and broken plastic; correct?

17 A. I personally didn't find those.

18 Q. Were a number of pieces of shattered and broken  
plastic

19 from inside the Murrah Building presented to you for  
20 examination?

21 A. I'm not sure whether those items came from within,  
or from

22 the exterior of the building.  
23 Q. How about -- about how many pieces of plastic were  
24 presented to you for examination?  
25 A. I really can't give you a number.

11533

Steven Burmeister - Cross

1 Q. Would it be enough to cover the top of the counsel  
table  
2 here that I'm pointing to?  
3 A. Oh, I don't think so.  
4 Q. Well, were there more than 100?  
5 A. Again, you're asking me to put a number on it. I  
can't put  
6 a number on it.  
7 Q. More than you can remember; is that correct?  
8 A. Again, I can't put a number to the actual specimens  
that  
9 were submitted.  
10 Q. And did you test each of these for explosive  
residue?  
11 A. Each one that came to me, I would have tested for  
explosive  
12 residues.  
13 Q. With what result?  
14 A. My recollection right now is the pieces of plastic  
that I

15 tested were negative for explosive residues.

16 Q. Now, did you test them all for hydrocarbons?

17 A. No.

18 Q. Now, you had a reason for not testing for  
hydrocarbons;

19 correct?

20 A. Yes.

21 Q. And that was because of the background levels?

22 A. Yes.

23 Q. That is, when you are testing for something, you  
want to

24 make sure that your findings will be significant --  
correct --

25 if you can?

11534

Steven Burmeister - Cross

1 A. I'm not sure what you mean by "significant."

2 Q. Well, if there is a high background level -- for  
instance,

3 if you walk into a place that repairs cars and you pick  
up a

4 piece of evidence and take it back to your laboratory  
and find

5 that you've got something consistent with a medium-  
grade fuel

6 oil on it, that doesn't tell you very much except that  
it's got

7 fuel oil on it; correct?

8 A. That's right.

9 Q. Because the background of the fuels that are in and

10 hydrocarbons that are present in an auto repair shop is  
going

11 to be pretty high. Correct?

12 A. It depends on the particular auto shop, of course;  
but I

13 would expect them to be present -- hydrocarbons being  
present.

14 Q. Now, is it a part of your job when you look for  
something

15 to make -- that might be deposited on an object to make  
sure

16 that it didn't come from the surrounding environment,  
as

17 distinct from having been placed on the object by some  
external

18 force?

19 A. It's always information which is helpful in  
assessing the

20 particular finding.

21 Q. And you knew, did you not, that the parking lot  
across from

22 the Murrah Building was covered with debris of various  
kinds;

23 right?

24 A. I saw that, yes.

25 Q. And you saw that there were cars that had burned;  
correct?

Steven Burmeister - Cross

1 A. Yes.

2 Q. You saw that there were firemen. They put out the  
fires;

3 correct?

4 A. I didn't see the firemen putting out fires.

5 Q. But you knew that had happened; correct?

6 A. Yes.

7 Q. Now, you testified on direct that ammonium nitrate  
is not

8 used as a fire suppressant. That's right, isn't it?

9 A. Yes.

10 Q. Now, did you find background levels of nitrates,  
evidence

11 gathered of background levels of nitrates in debris that was

12 from the parking lot?

13 A. There were samples that were taken from the parking  
lot

14 that had nitrate ions on them.

15 Q. And did you find -- now, how is ammonium nitrate  
made? If

16 I wanted to make some, what would I do?

17 A. You would react ammonia with a nitric acid solution  
and

18 allow the precipitate to form.

19 Q. Okay. So that -- nitric acid: What's that in?  
Well, I

20 guess from the nitric acid store -- I mean the pharmaceutical

21 company. But what's it in, in other stuff?

22 A. I'm not aware of -- offhand, I'm not aware of commercial

23 products right now that actually contain nitric acid.

24 Q. Then, where do those nitrate ions come from that you found

25 in the parking lot?

11536

Steven Burmeister - Cross

1 A. The source of those nitrate ions, I'm not sure exactly.

2 Q. Now, nitrate ions are charged particles; correct?

3 A. Yes.

4 Q. And you use the term "cations" and "anions"; right?

5 A. Yes.

6 Q. Right? And that refers to something called "polarity";

7 correct?

8 A. Yes.

9 Q. Now, we could illustrate that with a pair of bar magnets,

10 couldn't we?

11 A. Yes.

12 Q. That idea of polarity?

13 A. Yes.

14 Q. That is, if I had two bar magnets and I tried to bring them

15 together, if I found that they were resisting coming together,

16 I'd know that I had -- the two poles were the same; correct?

17 A. Yes.

18 Q. That I was bringing together?

19 A. Yes.

20 Q. And if they stuck, like two magnets sticking together, we'd

21 know that I had the opposite poles; right?

22 A. Yes.

23 Q. That I'd have a plus on one side and a minus on the other

24 side; right?

25 A. Yes.

11537

Steven Burmeister - Cross

1 Q. And the ion process is nothing more than -- that's a

2 chemical version of what I'm seeing when I use the bar magnets

3 in that way; correct?

4 A. Your reference is an -- oversimplified, but yes.

5 Q. I understand. Well, correct me if I get oversimplified,

6 please. Thank you. But it's kind of like that; right?

7 A. Yes.

acid  
8 Q. Okay. Now, nitrate ions that are present in nitric

-- is  
9 then join up with something that's present in ammonia

10 that right -- to precipitate out ammonium nitrate?

11 A. The entity of ammonia takes on a charge of its own.

12 Q. Yes.

And  
13 A. And the nitrate has a charge of its own as well.

magnetism  
14 again, those two would come together and have the

15 that you're talking about.

could use,  
16 Q. So if I pour household ammonia -- That is what I

17 household ammonia that I could just buy at the store?

18 A. You could, yes.

chemistry  
19 Q. -- and nitric acid together -- I forgot from

doesn't  
20 class. What am I not supposed to add to what so it

21 splash?

22 A. You don't want to add water to the acid.

nitric  
23 Q. Okay. So I start with the ammonia, then I add the

24 acid to it; correct? Is that what -- I could do that?

25 A. You could do that, yes.

Steven Burmeister - Cross

out;

1 Q. And then I would begin seeing things precipitating

correct? 2 that is, some white stuff coming down to the bottom;

3 A. You'll have a precipitate, yes.

correct? 4 Q. And that precipitate will be ammonium nitrate;

5 A. Yes.

to form 6 Q. Now, is there any way for ammonium nitrate crystals

may be 7 by the existence of nitrate ions and ammonium ions that

process? 8 present in nature without going through this mixing

we start 9 A. You need to have the forms present; and again when

the nitric 10 talking about ammonia ions and nitrate ions being in

11 acid and the ammonia solution, you have to have those

12 conditions present in order for it to precipitate out.

a beaker 13 Q. And if I took ammonium nitrate and dropped it into

14 of water and mixed it up, it would dissolve; correct?

15 A. Yes.

to 16 Q. And there is a certain maximum amount that's going

nitrate; 17 dissolve based on the chemical properties of ammonium

18 correct?  
19 A. Yes.  
20 Q. And based on the temperature and pressure and those  
things;  
21 right?  
22 A. Right.  
23 Q. Now, if I dehydrate that sample that I've mixed it  
in, I'll  
24 get back some ammonium nitrate crystals; correct?  
25 A. Yes.

11539

Steven Burmeister - Cross

1 Q. Now, a characteristic of ammonium nitrate is that  
it is  
2 very sensitive to water; is that right?  
3 A. It's water soluble.  
4 Q. And is that called hygroscopic, or hydroscopic, or  
neither?  
5 A. I've also referred to it as hygroscopic.  
6 Q. H-Y-G-R-O?  
7 A. Yes.  
8 Q. Hygroscopic. Now, what is that? H-Y-G-R-O-S-C-O-  
P-I-C;  
9 right?  
10 A. Yes.  
11 Q. What does that mean?

12 A. Will take on water and absorb it over time.

13 Q. And do you have an opinion if I took some crushed ammonium

14 nitrate and placed it in a 100-percent-humidity condition in a

15 watch glass, a small vessel, what would happen to the ammonium

16 nitrate?

17 A. Based on your particular scenario with 100 percent

18 humidity, I would expect over a certain time frame, which I'm

19 not sure of, that it would break down.

20 Q. And now what do you mean "break down"?

21 A. It would dissolve into the air and evaporate off.

22 Q. Disappear; right?

23 A. Yes.

time  
24 Q. That is, after a certain amount of time -- and a

and  
25 you're not aware of -- you'd come back and look at it

11540

Steven Burmeister - Cross

correct?  
1 wouldn't see any more little white powder there;

2 A. Yes.

3 Q. Where would it be?

4 A. It would be floating around in the jar that you've

got the

5 container in as a gaseous-type flotation.

under  
6 Q. And if I then gradually then reduced the humidity

ammonium  
7 controlled circumstances, what would happen to this

8 nitrate that's running around in the air?

basis for  
9 A. I -- I could only guess. I don't know a factual

10 it.

11 Q. Have you ever done such an experiment?

12 A. No.

nitric  
13 Q. Now, when ammonium nitrate precipitates out in a

certain form;  
14 acid or an ammonia solution, the crystals have a

15 correct?

16 A. Yes.

17 Q. Can you predict the form?

18 A. Under certain conditions, you can predict the form.

crystals are  
19 Q. All right. And what form do you predict those

20 in?

21 A. I'm sorry. Could you repeat the question?

the form.  
22 Q. You say under certain conditions you can predict

crystals.  
23 How would we know? That is, now we've got some

say we  
24 We're going to look at them under our microscopic. You

25 can predict the form; that is, we can predict the shape  
those

11541

Steven Burmeister - Cross

1 crystals are going to be. Under what circumstances and  
what

2 form would we expect to see when we started looking  
under our

3 microscope?

4 A. The form on a solution that is being evaporated in  
a

5 dish -- for example, a petri dish -- the form is  
different than

6 those that you actually start to attempt to grow  
crystals. And

7 growing the crystals is completely different.

8 Q. Now, you say the form if you evaporate. A petri  
dish:

9 That's just a small, flat dish with not high very sides  
on it;

10 correct?

11 A. Yes.

12 Q. So if we evaporated out in the petri dish, we're  
going to

13 get crystals of one form; correct?

14 A. Yes.

15 Q. Then you said there is another way. We can grow  
the

16 crystals?

17 A. Yes. You can start to promote the formation of  
specific

18 types of crystals either by seeding it or providing an  
avenue

19 for crystals to develop.

20 Q. Now, this is a study you made because you  
specialized in

21 microcrystals; correct?

22 A. Yes.

23 Q. Now, you told us on direct examination that there  
was

24 something about the shape of the crystals that you saw  
on

25 Government's Exhibit 664 that interested you. Correct?

11542

Steven Burmeister - Cross

1 A. Yes.

2 Q. And how did -- tell us about that. First of all,  
did

3 you -- did you take any pictures of the crystals in  
which you

4 could measure their size?

5 A. No pictures were taken other than the photos that  
you have

6 seen.

7 Q. I've seen those photos. Based on those pictures,  
is there

8 a record of the size of the crystals in microns?

9 A. No.

10 Q. What's a micron?

11 A. A micron is a form of measurement, a very small  
form of

12 measurement that's classically used with scanning  
electron

13 microscopy because it's looking at very small levels of

14 particular materials.

15 Q. But I don't know how big it is. How big is it?  
How big is

16 a micron?

17 A. Let's see. I'll have to be -- on how many --  
offhand, I'm

18 not sure as far as meters and centimeters the size is,  
but

19 it's --

20 Q. Is it a metric-type measurement?

21 A. Yes.

22 Q. So it's some fraction of a centimeter; correct?

23 A. Yes.

24 Q. And you're just not sure what fraction it is;  
right?

25 A. Yes. The decimal place, I'm not sure of right now.

11543

Steven Burmeister - Cross

1 Q. Okay. But teeny-weeny; right? Small?

2 A. Yes.  
3 Q. Okay. Real small. Now, did you -- do you have the  
4 capability to measure the individual crystals to get

their

5 dimension?

6 A. That is possible, yes.

7 Q. Did you do it?

8 A. No.

9 Q. Now -- well, were the crystals that you found on  
10 Government's Exhibit 664 unusual in your view in terms

of their

11 size?

12 A. Not in their size. It's in the overall shape.

13 Q. Okay. I asked you first size. The answer is no.  
Correct?

14 A. Yes.

15 Q. What shape were the crystals that you saw?

16 A. They were in irregular crystalline forms.

17 Q. They were in what kind?

18 A. Irregular.

19 Q. Irregular or regular?

20 A. Irregular.

21 Q. Irregular crystalline forms. Yes.

22 A. In a clear pattern.

23 Q. In a clear pattern. Now, in your lab notes, you  
said the

24 pattern was a glaze. Correct?

The

25 A. When you go to a distance, it's in a glazed form.

11544

Steven Burmeister - Cross

1 clear -- when I refer to "clear," that the crystal  
itself is

2 opaque, it's not colored or anything like that.

3 Q. So the crystal does not appear to have any foreign  
bodies

4 in it; correct?

5 A. Yes.

6 Q. It's pure. Is that what you'd say?

7 A. Well, "clear" being that there is no other foreign  
bodies

8 inside the crystal.

9 Q. Right. Now, what would make -- is an ammonium  
nitrate

10 nitric acid crystal that precipitates out by mixing ammonia and  
nitric acid

11 clear, or opaque?

12 A. It's a -- hugely foggy in its nature. It's not  
something

13 that you could pick up and see opaqueness through it.

14 Q. All right. Were these crystals more, or less,  
transparent

15 nitrate to light than ones you would make by adding ammonium  
nitrate

16 and -- or ammonia and nitric acid together?

17 A. I'm not sure.

18 Q. So you don't know.

19 A. Right.

20 Q. So in terms of their color, you don't know whether  
they're

21 more, or less, transparent than ones that would be the  
result

22 of this chemical process; is that correct?

23 A. They may be foggier than the other crystals; that  
is, the

24 clearness is not as much. But that slight  
determination I

25 can't make, and I didn't make it.

11545

Steven Burmeister - Cross

1 Q. Okay. So on -- all right. You can't make and you  
didn't

2 make; right?

3 A. Yes.

4 Q. So that what you say is different about them is the  
shape.

5 Correct?

6 A. Yes.

7 Q. Do you have pictures that show the shape?

8 A. The photos that you have seen demonstrate the  
crystals

9 themselves.

10 Q. I understand. We saw the pictures. But we're talking

11 about crystals that are a little -- that are 5 or 6 microns in

12 diameter; correct?

13 A. Without measuring, I'm not sure of the exact size.

14 Estimating, it's possible that they would be several microns in

15 size.

16 Q. Can we see something that small on those pictures?

17 A. How small?

18 Q. 5 or 6 microns.

19 A. It's possible under the one magnification you could see a

20 particle there.

21 Q. Particle. Now, is that particle a single crystal, or is it

22 more than one crystal?

23 A. The particle could be made up of several different crystals. It's entirely possible.

25 Q. So you don't know. Is that correct?

11546

Steven Burmeister - Cross

1 A. Yes.

2 Q. So the answer is you don't know whether you can see  
3 individual crystal shapes on the pictures that you

have; isn't

4 that right?

5 A. I can see individual crystals and their irregular  
shapes on

6 those photos that we see here.

7 Q. All right. And on those photos, then, what is the  
shape of

8 those crystals?

9 A. Again, they're irregular crystalline forms.

10 Q. Are they different from crystals that would occur  
or could

11 occur as a result of combining ammonia and nitric acid?

12 A. It depends on your preparation procedure that  
you're

13 referring to.

14 Q. So they could be different. Correct?

15 A. It's possible.

16 Q. You don't know?

17 A. Yes.

18 Q. Well, then tell us, please, what it is that's  
different

19 about these crystals from what could occur from the  
normal

20 fabrication of ammonium nitrate by adding ammonia and  
nitric

21 acid together?

22 A. The normal manufacturing process could, in fact,  
produce

23 crystals that look this way. There is a possibility  
that under

24 the manufacturing process, they could look different.

25 Q. Okay. So -- all right. And is it then the case  
that if I

11547

Steven Burmeister - Cross

1 had my bell jar with 100 percent humidity and I -- and  
then

2 caused crystals to reform there -- that is, to  
precipitate out

3 of the atmosphere -- do you know what such crystals  
would look

4 like?

5 A. In recrystallizing material that would have been  
residue

6 that falls within a petri dish like that, I would  
expect to

7 find them in a different shape.

8 Q. All right. You would expect to find them in a --  
have you

9 ever done that experiment?

10 A. I've taken liquids of ammonium nitrate solutions of  
11 ammonium nitrate and allowed them to dry and observed  
their

12 crystalline formation.

13 Q. Now -- and did you -- when you did that, did you  
find a

14 single type of crystal, or shape of crystal, or there  
were

15 different shapes of crystals?

16 A. The studies that I did, the crystalline formation  
was more

17 in a sheet-like formation of crystals, not individual  
crystals

18 as we see on this specimen.

19 Q. Like a glaze?

20 A. No.

21 Q. What's the difference between a glaze and a sheet-  
like one?

22 A. A glaze is what we see here. A sheet is a  
continuous sheet

23 or very much like this piece of glass on the table top.

24 Q. That's -- a piece of glass on a table top: That's  
a sheet;

25 right?

11548

Steven Burmeister - Cross

1 A. Yes.

2 Q. And you say a glaze is what we see here. I'm not  
--

3 without regard to what we see here, in your vocabulary,  
what's

4 the difference between a glaze and a sheet?

5 A. Well, a glaze is the particles that we see on this

6 particular specimen. A sheet is a continuous sheet of

7 crystalline formation.

8 Q. Uh-huh. Now, are you saying that a sheet is a  
glaze that

9 goes over a larger area and is more consistent than a  
glaze?

10 A. I don't understand what you mean.

11 Q. Well, a sheet, you say, is something that has  
12 characteristics. It is flat, it is shiny, and it is  
uniform.

13 Correct? Is that your definition of a sheet?

14 A. No.

15 Q. What is your definition of a sheet?

16 A. A sheet would be a formation of a solid formation.  
If you

17 want, a piece of ice, for example, forming on a  
surface: That

18 is what I would consider a sheet. If you see  
individual

19 particles like salt or sugar, that's a glaze.

20 Q. Are you telling us that when you use the word  
"glaze" in

21 your laboratory notes -- and you did use that word;  
correct?

22 A. Yes.

23 Q. And you didn't ever use the word "embedded" in your  
24 laboratory notes describing this phenomenon, did you?

25 A. No.

1 Q. You're telling this jury when you use the word  
"glaze," you

2 meant individual particles. Is that your testimony?

3 A. Yes.

4 Q. Now, in addition to examining plastic and these  
items --

5 oh, I forgot to ask: Did you ask anyone to take soil  
samples

6 or dirt samples from the parking lot to determine what  
chemical

7 substances were present there -- were present there?

8 A. No.

9 Q. Did you attempt to determine what background levels  
of

10 nitrates existed in the environment in the parking lot?

11 A. No.

12 Q. You found a number of nitrate ions -- you found a  
number of

13 evidences of nitrate ions on items submitted from the  
parking

14 lot; correct?

15 A. I don't know the exact number. I know some items  
that were

16 submitted from that parking lot area did contain  
nitrate ions

17 on them.

18 Q. And you're unable to say whether those were the  
result of

19 background levels of nitrate ions or whether they were  
part of

20 some ammonium nitrate; is that correct?

21 A. Yes.

22 Q. Now, you also conducted a test on a dynamite  
wrapper;

23 correct?

24 A. It was reported to be consistent with a dynamite  
wrapper.

25 Q. Uh-huh. And that was recovered inside the Murrah  
Building;

11550

Steven Burmeister - Cross

1 correct?

2 A. I'm not sure where the actual item was recovered  
from.

3 Q. Would it refresh your recollection if I suggested  
it had

4 been recovered from a body bag?

5 A. A body sounds familiar. A bag, I don't remember  
that

6 aspect.

7 Q. Now, you were -- we were talking earlier about the  
ammonium

8 you find nitrate vs. urea nitrate. Now, ammonium nitrate, if

9 that at a blast scene, what have you learned? What  
does it

10 tell you? What is -- suppose the ammonium nitrate on  
this --

11 suppose -- let's assume this came from -- whatever was

on here

12 came from the blast. All right? What does that tell us?

13 A. Well, if you're determining that it came from the blast,

14 that that particular blast could have contained ammonium

15 nitrate.

16 Q. So now we know it could have contained ammonium nitrate.

17 Correct? So it could be ammonium nitrate and fuel oil;

18 correct?

19 A. It's possible.

20 Q. It could be ammonium nitrate and nitromethane; correct?

21 A. Yes.

22 Q. Could be dynamite; correct?

23 A. Yes.

24 Q. Could be slurry; correct?

25 A. Yes.

11551

Steven Burmeister - Cross

1 Q. Could be a water gel emulsion; correct?

2 A. Yes.

3 Q. What else could it be?

4 A. Could be an emulsion.

5 Q. What's an emulsion?

6 A. It's another one of the ammonium-nitrate-containing

7 explosives very similar in the category of the slurries  
and

8 water gels.

9 Q. So do you know how many million pounds of ANFO are  
used

10 every year in the United States?

11 A. No.

12 Q. Okay. And -- but all of these -- well, have I gone  
through

13 all the different kinds of explosives that contain  
ammonium

14 nitrate?

15 A. No.

16 Q. How many more are there?

17 A. There could be others. I'd have to pull out the  
reference

18 texts to find all of the other combinations of  
explosives that

19 contain it.

20 Q. Okay. So there are many; correct?

21 A. There are --

22 Q. Dozens?

23 A. Yes, I would say, more than.

24 Q. Dozens. And each of the dozens may be sold under  
more than

25 one brand name; correct?

Steven Burmeister - Cross

1 A. Yes.

2 Q. Now, ammonium nitrate explosives -- an ammonium  
nitrate and

3 fuel oil combination can have a very broad range of  
velocity of

4 detonation; correct?

5 A. Yes.

6 Q. And that's going to be based on a number of  
variables.

7 Correct?

8 A. Yes.

9 Q. Now, it would be important, would it not, if we  
found

10 ammonium nitrate on here -- be important not to leap to  
a

11 conclusion as to exactly what the explosive charge was.  
Right?

12 A. You don't want to leap to any conclusion; yes.

13 Q. Right. And so it would be improper just because  
you find

14 ammonium nitrate on here to hypothesize that any  
particular

15 thing caused the blast. Correct?

16 A. You would need more information at that point.

17 Q. Right. Now, if I took this piece to the laboratory  
-- of

18 course, I've been handling it. This is Government's

Exhibit

19 664 -- would I find any ammonium nitrate on it?

20 A. Are you referring to now?

21 Q. Yes. Now.

22 A. It's possible.

23 Q. Well, let's look. You first got it in your laboratory on

24 the 20th of April; correct?

25 A. I received it on the 28th, yes.

11553

Steven Burmeister - Cross

Correct? 1 Q. And you caused a number of tests to be performed.

for 2 A. Yes.

3 Q. Showing you now what's in Government's Exhibit 1744

these when 4 demonstrative purposes. And we'll look at some of

strong 5 we get the focus here.

6 Now, you told us about the chemical spot test.

7 Correct?

8 A. Yes.

9 Q. And that, you did yourself. Right?

10 A. Yes.

11 Q. And you said that it showed the presence of a

12 oxidizer; right?

13 A. Yes.

14 Q. You said ammonium nitrate; that is, consistent with

15 ammonium nitrate. You just know it's a strong  
oxidizer?

16 A. Yes.

17 Q. Do you have any idea what proportion of the  
ammonium

18 nitrate that's made is used for explosive applications  
and what

19 proportion is used for fertilizer applications?

20 A. No.

21 Q. So when you in your direct examination kept calling

22 ammonium nitrate an explosive, we could just as well  
call it a

23 fertilizer; right?

24 A. You could do that, yes.

25 Q. Right. And as far as proportions are concerned,

11554

Steven Burmeister - Cross

1 fertilizer, explosive, you don't know; right?

2 A. That's correct.

3 Q. Okay. The next thing that happened was that  
somebody did

4 polarized light microscopy. Right?

5 A. Yes.

6 Q. Who did that?

7 A. I did.

8 Q. Fourier FTI -- what do we call it Fourier transform

9 infrared -- FTIR?

10 A. Spectroscopy, but yes.

11 Q. Right. And who did that?

12 A. Chemist Mary Tungol.

13 Q. And do you know -- and then you did X-ray  
diffraction with

14 the Gandolfi camera, single crystal exam. That was  
done at the

15 Smithsonian?

16 A. Yes.

17 Q. Who did that?

18 A. I forget the actual individual, but it was Special  
Agent

19 Bruce Hall who witnessed the examination.

20 Q. Now, with the Gandolfi camera, could you take a  
picture of

21 the crystal?

22 A. No.

23 Q. You just analyze it. Correct?

24 A. It's kind of -- by saying "camera," it's an  
apparatus that

25 records a spectrum of diffracted X-ray beams, and  
that's all

Steven Burmeister - Cross

1 it's recording and photographing.

2 Q. Did you have in the lab a device by which you could  
look at

3 these individuals crystals to see their structure one  
crystal

4 at a time?

5 A. The scanning electron microscope could have done  
that, yes.

6 Q. But you didn't do it?

7 A. No.

8 Q. Then you had ion chromatography anions; and now  
you're

9 finding nitrate ions. Correct?

10 A. Yes.

11 Q. Now, you found nitrate ions in a large number of  
the

12 samples submitted; correct?

13 A. Many of the items had nitrate ions in them.

14 Q. And you did not test the area from which they were  
15 collected to see the background level of nitrate ions;  
correct?

16 A. Yes. That's correct.

17 Q. Nitrate ions do occur in nature; that is to say, as  
18 background matter in a large number of applications;  
correct?

19 A. I'm not sure what you mean by "applications."

20 Q. Well, in -- nitrate ions are going to show up in  
acid rain;

21 correct?  
22 A. It could.  
23 Q. Nitrate ions are going to show up if people have  
been  
24 fertilizing their lawns; correct?  
25 A. It could.

11556

Steven Burmeister - Cross

our  
1 Q. What other ways do nitrate ions occur naturally in  
certain  
2 environment around us?  
3 A. They could be found in various food articles or  
4 manufactured products.  
5 Q. Food articles. You mean, what, bacon?  
6 A. Yes.  
take some  
7 Q. So that nitrate -- nitrate -- one test -- if you  
there  
8 bacon and test it for nitrate ions, you'll find them in  
9 usually?  
trying to  
10 A. I don't know usually. I thought that they were  
products that  
11 phase out nitrates, but you could find some food  
12 have it.  
13 Q. In other words, you could go to the store and look

and it

it -- 14 says canned ham -- for instance, would have nitrates in

but does 15 correct -- often listed on the label? I don't know,

16 it?

out 17 A. Like I said, I thought they were trying to phase

18 nitrates in food products, but it could.

19 Q. All right. But in some food products. Right?

20 A. Possible, yes.

21 Q. Okay. And anything else?

22 A. Not that I recall right at the moment.

You 23 Q. Okay. Then you did capillary zone electrophoresis.

24 found some more nitrate ions; correct?

25 A. Yes.

11557

Steven Burmeister - Cross

cations 1 Q. Then you did ion chromatography cations, and the

were 2 are just ions that have that different polarity that we

3 talking about before. Who did the ion chromatography?

with 4 A. That was a chemist, Tim McLaughlin, who was working

5 me.

6 Q. How about the capillary zone thing --  
electrophoresis?

7 A. It was either the chemist or myself who would have  
run that

8 particular --

9 Q. Which chemist?

10 A. Tim McLaughlin.

11 Q. McLaughlin. And how about the ion chromatography  
cation?

12 A. That would have been again the chemist Tim  
McLaughlin.

13 Q. Now, there you're looking for ammonium ions. In  
what way

14 do -- do they occur in nature? I mean in our  
environment? I

15 don't mean in nature. But as we walk around, are we  
going to

16 see things that have ammonium ions on them?

17 A. You could find some things, yes.

18 Q. And what kind of things will we find these ammonium  
ions

19 on?

20 A. Things that are close by: a fertilizer that  
contains

21 ammonium ions in it. It's very possible.

22 Q. And how about household ammonia?

23 A. Household ammonia, yes.

24 Q. Things we use to clean ourselves up. What other  
things?

25 The fertilizer, household ammonia. What else?

11558

Steven Burmeister - Cross

1 A. That's all that's coming to mind right at the moment.

2 Q. Okay. Then we did the UV detection, the ion chromatography

3 cations. Who did that?

4 A. Again, that could have either been myself or chemist Tim

5 McLaughlin.

6 Q. How about the scanning electron microscope?

7 A. That would have been done by our scanning electron microscopist, Dennis Ward.

8 Q. And then you did gas chromatography and ion mobility, and

9 10 you didn't detect any high explosives. Correct?

11 A. Yes.

12 Q. Now, what role, if any, did Mr. Martz play in this?

13 A. None.

14 Q. He didn't do any of these tests. Is that right?

15 A. That's right.

16 Q. Now, we were talking about this -- you examined this --

17 correct? By started your examinations on the 28th of April;

18 when was all of this testing that you've described here  
19 completed?

20 A. The item went back May of -- May 22, 1995.  
21 Q. Okay. So from April 28 to May 22; correct?  
22 A. Yes.  
23 Q. And when did -- did you then come to look at it  
later and  
24 find that there were no crystals on it?  
25 A. Sometime later, there was a very cursory  
examination

11559

Steven Burmeister - Cross

1 performed by myself, and I did not find any crystals on  
it.  
2 Q. Okay. When was that that you looked at it and  
didn't find  
3 any crystals on it?  
4 A. I'm -- my recollection, I think November of '96, I  
believe,  
5 was the date that an examination was done by myself.  
6 Q. Now, you testified on direct examination that in  
the  
7 meantime it had gone out to Mr. Buechele; correct?  
8 A. Well, after I received it, I know that it had gone  
to other  
9 examiners. The exact sequence and who exactly it went  
to, I'm  
10 not familiar.  
11 Q. Okay. And therefore, you -- do you have any  
explanation

12 that's scientifically valid or scientific-based explanation for

13 the disappearance of the crystals?

14 A. I could provide an explanation as possible sources for the

15 crystals to have disappeared.

16 Q. My question is do you have any possible sources?

If we  
17 Okay. I objected before. I'll take it now.

for?  
18 were going to look for a reason why, what would we look

those  
19 A. Well, handling of that particular item could cause

20 crystals to be scraped or removed off of the surface.

surface?  
21 Q. All right. Are you aware that anyone scraped this

table and  
22 A. When I say scraped, if someone applies it to the

23 it's moved slightly, that's a scraping of the surface.

correct?  
24 Q. All right. So you say that could remove it;

25 Scraping.

11560

Steven Burmeister - Cross

1 A. Yes. Scraping, brushing --

2 Q. Okay.

3 A. -- touching.

4 Q. Moving. Moving just across a surface of a table,  
just

5 like -- without any pressure on it. That could do it?

6 A. It's possible.

7 Q. Okay. So that could cause it to disappear. What's  
No. 2?

8 A. Just the course of time exposed to high-humidity  
9 environments could cause it to disappear.

10 Q. Okay. Do you have places in the FBI Laboratory for  
the

11 storage and retaining of crucial evidence in bombing  
cases that

12 are of such high humidity that trace evidence  
disappears?

13 A. I'm not aware of any.

14 Q. But you believe that that's possible based on your  
15 experience that these things disappear because of that.  
Is

16 that correct?

17 A. Sometime if the item is exposed to a high-humidity  
18 environment over the course of a long term, it's  
entirely

19 possible that could contribute to the loss of those  
particular

20 crystals.

21 Q. All right. Do you have a third explanation  
possible we

22 should think about?

23 A. Not that I can recall right at the moment.

24 Q. Were you concerned when you looked in whenever it

was,

25 1996, and found that your crystals weren't there?

11561

Steven Burmeister - Cross

1 A. I don't know what you mean by "concerned." They  
were gone.

2 Q. Did that concern you at all?

3 A. I would say that I was -- I don't know if I can say  
I was

4 concerned about it. There was an explanation from all  
the

5 traffic that the particular item had that it doesn't  
surprise

6 me that they were no longer there. I was, if you will,  
7 disappointed that they weren't there.

8 Q. You were disappointed. And when you said you were  
-- it

9 didn't surprise you, did you then conduct an  
investigation to

10 verify which ones of these hypotheses might be true?

11 A. No.

12 Q. If environmental conditions inside the FBI  
Laboratory could

13 cause these crystals to disappear, did you consider  
what the

14 effect on the crystals might have been of having been  
through

15 an Oklahoma-style gully-washer rainstorm, the trample  
of feet

objects            16 of officers across a parking lot, the resting on metal  
and                17 that were being retrieved and handling in the course of  
be                18 evidence collection? Did you think back to that time  
                  19 wonder whether your initial conclusions might have to  
                  20 revisited?  
                  21 A. No.  
                  22 Q. Did you conduct any tests in the FBI Laboratory to  
                  23 determine what it was that among your various  
hypotheses, your  
                  24 various theses, that caused the crystals to disappear?  
                  25 A. Would you ask that one more time.

11562

Steven Burmeister - Cross

crystals        1 Q. Did you do anything to try to figure out why the  
                  2 disappeared?  
                  3 A. No.  
                  4 Q. We've established that before the crystals  
disappeared, you  
show the        5 hadn't -- you hadn't done any photographs that would  
                  6 shape or size of the crystals -- individual crystals;  
correct?  
                  7 A. At the time of the examination, yes.

8 Q. Now, earlier, before the break, we were talking  
about a

9 test. And I will ask you, sir, isn't it a fact that  
you

10 questioned one agent's finding on a prior occasion,  
prepared a

11 blind test, and asked the agent to test a mixture of  
urine,

12 ammonium nitrate, and urea? Did that happen?

13 A. Yes.

14 Q. And this blind test: The agent concluded that the  
mixture

15 was urea nitrate; correct?

16 A. Well, I'm not sure if it was a conclusion. It was  
17 consistent with the presence of urea nitrate.

18 Q. And in that case, where did the ammonium nitrate  
come from?

19 Is that from the FBI purchases?

20 A. That's correct.

21 Q. And where did the urea come from?

22 A. The urea that was used was urea that had been  
seized as a

23 result of a search during that particular case.

24 Q. And where did the urine come from?

25 MS. WILKINSON: Objection, your Honor.

1                   THE COURT: Sustained.

2 BY MR. TIGAR:

3 Q. But it was human. A human product; correct?

4 A. Yes.

sir, with  
5 Q. All right. Now, you are familiar, are you not,

6 how to build an ammonium nitrate/fuel oil bomb?

7 A. I'm aware of the components that would -- could go  
into it.

8 Q. And you've read the Anarchist's Cookbook, have you  
not?

9 A. Parts of it. Most of it, yes.

10 Q. Now, where can you buy the Anarchist's Cookbook to  
show you

11 how to build one of these things?

12 A. You could get information off of the Internet for  
where to

13 purchase texts on this. You can go to particular  
companies

14 that will sell various anarchist literature.

15 Q. Can you get these books at gun shows?

16 A. I don't know. I've never been to a gun show.

17 Q. Do you know of a particular publisher where you can  
buy

18 books on how to make these devices?

19 A. Yes.

20 Q. Which one is that, or which ones are those?

21 A. You could go to a company called Paladin Press.

22 Q. And if we wanted to go to Paladin Press and find

and buy

they 23 these books -- How many books on how to build these do

24 sell at -- do they make at Paladin Press?

25 A. I don't know the exact number.

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Steven Burmeister - Cross

1 Q. More than a dozen?

2 A. Again, I don't know a number that they sell.

wanted 3 Q. But you've read some of theirs; correct? And if we

would we go? 4 to go buy one right from where they're made, where

5 A. Buy the what?

6 Q. Paladin Press. Where is Paladin Press?

Honor. 7 MS. WILKINSON: Objection. Relevance, your

8 THE COURT: Overruled.

9 BY MR. TIGAR:

10 Q. Where is Paladin Press?

11 A. I believe it's in Colorado.

12 Q. It's in Boulder, isn't it?

13 A. Again, I believe. I don't know for a fact.

ammonium 14 Q. Now, would you agree with me that in view of

Evidence in 15 nitrate -- well, do you know the book Scientific

16      Criminal Cases by Moenssens?

17      A. I don't think I've seen that.

18      Q. Well, would you agree with me, sir, that in view of

19      ammonium nitrate's widespread use in farming as a  
fertilizer as

20      well as in blasting agents, an analytical procedure  
which

21      reveals ammonium nitrate traces has not necessarily  
proved its

22      use as a blasting agent?

23      A. Could you read that one more time.

24      Q. Sure. In view of ammonium nitrate's widespread use  
in

25      farming as a fertilizer as well as in blasting agents,  
an

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Steven Burmeister - Cross

1      analytical procedure which reveals ammonium nitrate  
traces has

2      not necessarily proved its use as a blasting agent. Do  
you

3      agree with that?

4      A. Yes, I would agree with that.

5      Q. Now, would you agree that the constituents of  
blasting

6      agents are generally inorganic nitrates -- that is,  
ammonium

7      nitrate -- and carbonaceous fuels and may also contain

powdered

8 aluminum or ferrosilicon?

9 A. I would go very heavily on the "may."

10 Q. All right. Now, you tested and found aluminum,  
silicon,

11 and sulfur; correct?

12 A. Yes.

13 Q. Now, aluminum is a constituent of commercially  
produced

14 blasting agents, isn't it?

15 A. It's not found in the pure powdered aluminum. It's  
in a --

16 it's a part of a molecule. There is more to it.

17 Q. Yes.

18 A. But it's not in the original pure-metal form of  
aluminum.

19 Q. Of course. That is, the -- so you're saying that  
there is

20 an aluminum compound present in blasting agents;  
correct?

21 A. Yes.

22 Q. And at what temperature would we expect that  
compound to

23 come apart and to get a deposition of aluminum?

24 A. I don't know.

25 Q. But it is your testimony that aluminum is a  
constituent of

Steven Burmeister - Cross

1 commercial blasting agents; correct?

2 A. It's in very trace amounts, but it is a constituent.

3 Q. Now, at the crime scene, you instructed agents to wear

4 gloves; correct?

5 A. I'm not sure if I actually made an outward endorsement of

6 wearing gloves. It was my understanding that individuals would

7 wear gloves at the crime scene.

8 Q. And you wear gloves in the laboratory; correct?

9 A. Yes, I do.

10 Q. And you use two pairs. Is that right?

11 A. Yes, I do.

12 Q. And are they lined, or unlined? I mean are they powdered,

13 or unpowdered?

14 A. Actually, I used both in certain situations. The ones that

15 I usually use that I have right now are unlined -- they do not

16 have material inside to take up moisture.

17 Q. The ones you use now do not?

18 A. Right.

19 Q. Now, do you know what kind of glove Mr. Kelly was using on

20 the day in question?

21 A. No.

22 Q. Do you know what kinds of gloves were issued to the  
agents

23 at the scene?

24 A. No.

25 Q. Now, sir, you also testified that you participated  
in a

11567

Steven Burmeister - Cross

1 search of Mr. Nichols' home. Do you remember that?

2 A. Yes.

3 Q. Now, what time did you arrive in Kansas? You got  
to Kansas

4 on the 22d?

5 A. I arrived on the 22d, yes.

6 Q. And that was a Saturday?

7 A. Let's see. Wednesday being the 19th. Yes.

8 Q. Now, did you attend a briefing before the search?

9 A. Yes.

10 Q. Where was the briefing held?

11 A. It was at the Herington public service -- I'm not  
sure if

12 fire it was the police, but it was a fire station, police/  
fire

13 station combination.

14 Q. And you -- who conducted the briefing?

15 A. I'm not sure the exact individual at this point.  
16 Q. Were a number of other agents present?  
17 A. There were a number of people there for the  
briefing.

18 Q. Was Ms. Jasnowski, Agent Jasnowski present?  
19 A. Yes.  
20 Q. And so -- and the other agents that were present:  
They

21 were the ones who were going to do the search; correct?  
22 A. At that particular point, I didn't know who was  
exactly  
23 going to be doing what. I just remember there were a  
number of  
24 people at that particular briefing.

25 Q. You testified on direct examination that you  
conducted a

11568

Steven Burmeister - Cross

1 procedure before other agents entered the house to  
check for  
2 booby traps; correct?  
3 A. Not myself, no.  
4 Q. That was done; correct?  
5 A. It was done.  
6 Q. Now, were you aware that there had been a  
conversation  
7 between the FBI agents and Mr. Nichols about whether or

not

is, on 8 there were booby traps? Were you aware of that; that

9 the 22d of April?

I'm not 10 A. I may have been aware that -- I'm not sure. No,

11 sure whether I knew at that particular point in time.

were aware? 12 Q. On direct examination, did you testify that you

now 13 A. I'd have to see the testimony to recall that. It's

14 possible that I knew at that particular point. Right

15 today, I'm not sure whether I did or not.

be 16 Q. Now, did you have a diagram of where weapons might

17 located within the house?

18 A. I did not have a diagram.

19 Q. Did anybody have a diagram?

20 A. I don't know if anybody did or not.

21 Q. You didn't see one; is that right?

22 A. That's correct.

-- what 23 Q. Did you -- did anybody at the briefing go over the

24 Mr. Nichols had said to the FBI the night before?

25 A. I don't recall that.

1 Q. Now, in the house, you said you found nitromethane.

2 Correct?

3 A. There was a container that had a label on it that  
suggested

4 nitromethane.

5 Q. "Suggested." Now, tell us about the container.  
What did

6 it look like?

7 A. The container stood about this tall. It was a  
plastic

8 the jug-like container and had a label on the front end of  
the

9 label -- on the front end of the container.

10 MR. TIGAR: Is that exhibit in court?

11 MS. WILKINSON: Yes.

12 MR. TIGAR: This has a Government number on  
it, your

13 Honor, 2119, but I'd like to offer it.

14 MS. WILKINSON: We have no objection.

15 THE COURT: All right. We'll keep it marked  
as a

16 Government's exhibit. Is that all right?

17 MR. TIGAR: Yes, your Honor.

18 BY MR. TIGAR:

19 Q. Is this the container?

20 A. Yes, it looks like it.

21 Q. Do you want to take a look at it so you can tell?

22 A. Yes.

23 Q. Now, this -- where was the container, sir?  
24 A. It was in the basement area of the main house.  
25 Q. And -- now, this container says -- let's see if we  
can make

11570

Steven Burmeister - Cross

1 this machine work for us here. There we go.  
2 "15 percent nitro," and it says "model engine  
fuel."  
3 Correct?  
4 A. Yes.  
5 Q. Okay. And then it says, "Specially formulated for  
today's  
6 radio-control model applications, assures top  
performance and  
7 peak rpm," etc. Correct?  
8 A. I agree, because it's a little blurry for me --  
9 Q. It is? Well, this has auto focus.  
10 Does that help? Can you read it now?  
11 A. It's getting better.  
12 Yes.  
13 Q. Okay. Now, this is the sort of thing that you can  
buy in a  
14 model-airplane store; right?  
15 A. I would assume. I've not purchased that kind of  
material

16 in a model store.

17 Q. Did you see a cardboard box in the basement that  
was near

18 the bottle of model-airplane fuel?

19 A. Yes.

20 Q. And tell the jury what was in the cardboard box.

sort of

21 A. My recollection is vague, but I seem to recall some  
model-type apparatus in the box.

22

23 Q. It was a model-airplane engine -- wasn't there?

sort of

24 A. Like I said, my recollection is vague, but some  
model-type material.

11571

Steven Burmeister - Cross

model

1 Q. So what you saw was a box full of components for a  
model

2 airplane; correct?

my

3 A. My recollection is extremely vague, but that's --

in the

4 recollection is there is some sort of model-type stuff  
in the

5 box.

6 Q. Okay. Now, you seized this. Right?

7 A. The container was taken, yes.

8 Q. Yes. And you tested it; correct?

9 A. The contents of that container was tested.

10 Q. Yes. And you found out that it contained model-airplane

11 fuel; correct?

12 A. It contained nitromethane and methanol.

13 Q. Well, it contained what's labeled on the front here;

14 correct?

15 A. Yes.

16 Q. The label says methanol 99.9 percent, nitromethane

17 98 percent, and so on. It contained what it said on there;

18 right?

19 A. I wasn't comparing the label with the chemical findings,

20 but the chemical findings were nitromethane and methanol.

21 Q. Now, what's methanol? Alcohol?

22 A. Yes.

23 Q. Okay. Now, do you consider methanol a hydrocarbon?

24 A. Yes.

25 Q. And this says 15 percent nitro. Correct?

11572

Steven Burmeister - Cross

1 A. Yes.

2 Q. So this is not the 100 percent nitromethane that I would

a fuel            3 get if I went to a racetrack and bought nitromethane as

4 in a barrel; correct? Or do you know?

it's            5 A. I don't know the exact percentages, but I believe

6 higher than that.

7 Q. And did you take the model airplane?

8 A. No.

that you        9 Q. When you reported out your results, did you report

10 had found model-airplane fuel and a model airplane?

11 A. No.

right?        12 Q. You just reported you had found nitromethane;

13 A. The result was nitromethane and methanol.

14 Q. Yes. Okay. You reported that result. Right?

15 A. Yes.

incorporated    16 Q. And were you aware that your result was then

17 in a report concerning the presence of nitromethane in

18 Mr. Nichols' house?

this item.        19 A. I'm not sure the exact report that went out with

were going      20 Q. But did you take steps to make sure that people

21 to understand that this was found right next to some

22 model-airplane parts? Did you do that?

23 A. No.

24 Q. Are you aware of what your principal examiner --

how your

25 principal examiner reported the nitromethane finding?

11573

Steven Burmeister - Cross

1 A. No.

2 Q. You've never -- is your testimony, sir, that you  
have never

3 read a report of your principal examiner, Special Agent  
4 Williams, containing his discussion of the nitromethane  
5 finding? Is that your testimony?

6 A. I do not recall what he put down, or nitromethane.

7 Q. I didn't ask you that, sir. Is it your testimony  
that you

8 never read the report of your principal examiner,  
Senior

9 Special Agent Williams, about -- that contained a  
reference to

10 nitromethane? Do you remember reading his report, or  
not?

11 A. I don't recall reading a report where it discusses  
12 nitromethane.

13 Q. Now, you mentioned, also, that when you went into  
the

14 Nichols house, the Nichols home there, you used an ion  
mobility

15 spectrometer; correct?

16 A. Yes.

the

17 Q. And you detected the presence of nitroglycerine in  
atmosphere; correct?

18 A. Not in the atmosphere. On some items.

business

20 Q. On some items. Now, you know what Mr. Nichols'  
is; correct?

22 A. No.

weapons;

23 Q. Well, you looked around the house and saw a lot of  
correct?

25 A. There was a room that had numerous weapons in it.

11574

Steven Burmeister - Cross

1 Q. And you saw some ammunition; correct?

2 A. Yes.

3 Q. Did you see double-base smokeless powder?

4 A. I don't recall seeing any particles of double-base

5 smokeless powder in any container or anything like  
that.

smokeless

6 Q. Now, double-base -- do you know if double-base  
powder was found?

found

8 A. I'm not aware of double-base smokeless powder being  
in the residence.

9

10 Q. Okay. Now, what is double-base smokeless powder?

comes -- 11 A. Double-base smokeless powder is a propellant. It

single-, 12 propellants come in basically three different types:

used in 13 double-, and triple-base smokeless powder. Double-base

we use in 14 smokeless powder is traditionally the propellant that's

15 the cartridges that are then attached to bullets that

16 firearms.

17 Q. Okay. So -- now, is nitroglycerin an ingredient of

18 double-base smokeless powder?

19 A. Yes.

they've got a 20 Q. So that if you walk into somebody's house and

traces of 21 lot of guns and ammunition, are you surprised to find

22 nitroglycerin?

23 A. No.

24 Q. Would you be surprised not to?

25 A. I think I would be surprised not to find it.

11575

Steven Burmeister - Cross

that this 1 Q. Okay. Now, you testified on direct examination

have 2 object, the GX -- Government's Exhibit 664, appears to

3      been sheared. Correct?

4      A. Yes.

5      Q. And what do you mean "sheared"?

normal  
6      A. That's in comparison to the known exemplar from a

have  
7      truck panel that is much thicker, and obviously layers

8      been sheared or removed off of that particular item.

sign of  
9      Q. Now, did you see when you first examined it any

10     scorching?

that item.  
11     A. I don't recall seeing any kinds of scorching on

absence of  
12     Q. Now, did you reach any conclusions based on the

13     scorching?

14     A. No.

it's clear  
15     Q. Now, if we look at it in its present form, sir,

16     it's been handled a lot; right?

17     A. Yes.

that I'm  
18     Q. Okay. Now, do you see the light-color part here

19     pointing to?

20     A. Yes.

has been  
21     Q. Does that appear as though a shard of the material

22     taken off? A piece of the material?

23     A. I don't know.

24 Q. Would you like me to bring it up to you so you can  
look?

25 That's not a very good way to look, is it, on that  
machine?

11576

Steven Burmeister - Cross

1 A. No.

2 MR. TIGAR: May I approach, your Honor?

3 THE COURT: Yes.

4 BY MR. TIGAR:

5 Q. If you just -- I'm pointing to this right here.  
Does that

6 look like a piece got broken off there?

7 A. Yes. It's entirely possible.

8 Q. And do you have any view or theory about how -- why  
this

9 whereas part here -- see, these parts are this brownish color,

10 more clear,  
the fresh part underneath the shard is the white --

11 almost white color?

12 A. I don't know.

13 Q. Did you attempt to see what would happen if you  
immersed

14 this thing in water to see if that would discolor the  
wood?

15 A. No.

16 Q. Now, in addition to conducting your ion mobility

other -- 17 spectrometer tests in the Nichols house, did you do  
take 18 you also took some soil samples. Correct? Did you  
samples of dirt scrapings?  
20 A. No, I did not take any soil samples that I recall.  
that you 21 Q. You took no dirt scrapings or anything like that  
can remember?  
23 A. From the residence?  
24 Q. Yes, from the residence.  
25 A. Not that I recall.

11577

Steven Burmeister - Cross

at Geary 1 Q. Okay. And did you participate in any searches out  
2 Lake?  
3 A. No.  
tested 4 Q. Now, you told us that among the high explosives you  
5 for were PETN and HMX. Correct?  
6 A. Not all items were tested for HMX.  
those 7 Q. All right. And what was the purpose of testing for  
8 items? Because they're high-explosive residues?  
9 A. They're high explosives, yes.

10 Q. And if a person handles blasting caps and uses  
them, is it

11 those your experience that -- that that person would get

12 residues on them?

13 A. Handling a blasting cap?

14 Q. Yeah. Handling blasting caps.

15 A. There are some blasting caps that are contained  
within

16 get the themselves, and I wouldn't expect someone to actually

17 residues on their hands.

18 Q. That kind of blasting cap. How about if a person  
assembles

19 expect something with det cord and blasting caps? Would you

20 from that? them to have high-explosive residues on their person

21 A. It's possible.

22 Correct? Q. And in fact, you conduct those kind of tests.

23 A. Yes.

24 clothing; Q. In fact, you found such residues on Mr. McVeigh's

25 correct?

this

2 Q. Sir, I'm going to ask you -- I'm going to show you

3 log. This is from -- no, I'm not.

4 Almost done, sir.

of your

5 Now, you testified -- Did you, in the course

6 duties, have occasion to brief Ms. Linda Edwina Jones

7 concerning an opinion that she is to render in the

case?

she was

8 A. I didn't brief her on any particular opinion that

9 going to render.

Nothing

10 Q. Have you met with her to discuss these matters?

rely on

11 wrong with it. I mean as an expert, you're entitled to

12 the views of others; correct?

13 A. Yes.

witness

14 Q. And that is, you differ from an ordinary fact

15 because you're permitted to do that; right?

16 A. Yes.

people

17 Q. And you're permitted to rely on things that other

18 told you; correct?

19 A. Yes.

who are

20 Q. And you may share your opinions with other experts

21 also going to come and testify; right?

22 A. Yes.

23 Q. And there is nothing wrong with that, is there,  
sir?

24 A. It's my understanding there is no problem with it.

25 Q. That's the way the rules are. That's the way it's  
supposed

11579

Steven Burmeister - Cross

1 to be.

2 Okay. Now, did you meet with Ms. Jones?

3 A. I met with her regarding a particular specimen.

4 Q. Okay. What specimen did you meet with her about?

5 A. I relayed the findings on the particular specimen  
Q507.

6 Q. Did you share with her your laboratory notes?

7 A. Yes.

8 Q. Did you send those? Did you tell her that the  
crystals had

9 been embedded?

10 A. I may have -- may have discussed that with her. I  
don't

11 know the exact conversation I had with her.

12 Q. You don't remember whether you told her they were  
embedded,

13 or not. Is that right?

14 A. I don't recall the exact conversation that I had  
with her

15 regarding that.

16 Q. Okay. How many times did you meet with her?

17 A. I recall one meeting that I had with her regarding  
specimen

18 Q507.

19 Q. When was that?

20 A. It would have been earlier this year, prior to a  
previous

21 trial.

Honor? 22 MR. TIGAR: May I have just a moment, your

23 THE COURT: Yes.

24 MR. TIGAR: One more area.

25 BY MR. TIGAR:

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Steven Burmeister - Cross

1 Q. When you first arrived at the Nichols home, you  
said that

2 you found pieces of things you later identified as  
ammonium

3 nitrate; correct?

4 A. Yes.

5 Q. Those were in those little vials? Is that right?

6 A. That was on the exterior of the house. There were

7 additional samples on the interior.

8 Q. I understand. In the interior you found some in a

9 little -- in plastic containers; correct?

10 A. That was one location. There was another location.

11 Q. Where was the other location? In the bucket?

12 A. No. There was a -- as you entered into the side of  
the

was a 13 house, there was a piece of paper up on a shelf. It

residues on 14 rolled-up piece of newspaper, and there were powder

15 the interior of the newspaper.

16 Q. Consistent with that having been used as a paper  
funnel to

17 grind the ammonium nitrate. Correct?

18 A. That's possible.

19 Q. Consistent. I'm not saying "identified as," but  
consistent

20 with that; right?

21 A. Right.

22 Q. So those are the areas. You found some in a white  
bucket,

23 you found some prills, and you found it on the paper?

24 A. And outside.

25 Q. And outside. That's the prills I'm referring to.  
The

11581

Steven Burmeister - Cross

1 prills were in that little vial. Right? Now, did you  
see any

2 on the lawn?

3 A. I don't recall seeing any on the lawn.

4 Q. Where did you find those prills?

5 A. They were on the steps of the porch and on the  
porch area

6 of the front exterior of the house.

7 Q. Okay. And you tested those and found they were  
ammonium

8 nitrate; correct?

9 A. Yes.

10 Q. Now, had you, before you went there, discussed with  
the FBI

11 what Mr. Nichols had said about him spreading ammonium  
nitrate

12 on his front yard?

13 A. No.

14 Q. So the finding of the prills was not something that  
you had

15 anticipated based on your briefing; is that correct?

16 A. Yes.

17 Q. Now, when you -- by the way, when you tested -- did  
these

18 tests -- you said there came a time when you used --  
you

19 compared ammonium nitrate against a known sample;  
correct?

20 That is, you compared what you thought -- what you got  
off Q507

21 with a known sample; right?

22 A. That would have been part of the examination

process.

23 Q. Which part of the examination process was that?

24 A. It would have started back up when I was doing the  
ion

25 chromatography. There would have been solutions  
prepared using

11582

Steven Burmeister - Cross

1 known ammonium nitrate.

2 Q. And at what -- let's put this back up here,  
Government's

3 1744, for demonstrative purposes, if I may, and zoom  
out. You

4 said that you started using it when you started doing  
ion

5 chromatography. Correct? Down here?

6 A. Yes.

7 Q. That test. Let's see if I can make it focus.

8 I can't. We'll go in a ways.

9 There. Ion chromatography. Need a little  
more.

10 So you had in your laboratory at that time,  
then, some

11 ammonium nitrate you had acquired from elsewhere. Is  
that

12 right?

13 A. Yes.

14 Q. And how did you know it was ammonium nitrate? From

the

15 package?

that  
16 A. It had been labeled as such and previous testing on

17 particular item.

for  
18 Q. And that's what you used to establish your baseline

19 your tests; correct?

standard.  
20 A. It's not so much a baseline. It's used as a

to look  
21 Q. Now, when you -- you said you removed some crystals

were on the  
22 at. Correct? How many crystals do you think there

23 surface of this 664?

24 A. Crystals of ammonium nitrate?

25 Q. Yes.

11583

Steven Burmeister - Cross

1 A. I'm not sure.

talking  
2 Q. Well, do you have an estimate? I mean, are we

3 hundreds, dozens, what?

4 A. I really can't give -- there were quite a few  
crystals on

5 there. Giving an exact number -- I couldn't give you  
an exact

6 number.

there

7 Q. Can you tell me about how much weight of crystals

8 would be? Did you attempt to estimate that?

9 A. No.

were

10 Q. Now, is it your conclusion, sir, that the crystals

force

11 blasted onto this surface of Government's Exhibit 664?

on that

12 A. There was -- it's my opinion that some sort of

13 applied the crystals -- some of the crystals that are

14 surface.

material

15 Q. Okay. Now, is there any other piece of witness

Building,

16 from inside the Murrah Building, outside the Murrah

blast site

17 in the parking lot, anywhere within a radius of that

18 in which crystals of ammonium nitrate were found?

19 A. No.

any

20 Q. Is there any other thing from that area in which

21 ammonium nitrate in any form was found?

22 A. No.

luncheon

23 MR. TIGAR: Your Honor, if we could take the

quickly.

24 recess now, I could look at my notes and be done very

25 I just want to make sure I didn't miss anything, but --

1 THE COURT: All right.

2 MR. TIGAR: If I may, your Honor. Thank you.

3 THE COURT: Yes.

4 MR. TIGAR: I'm almost done, Agent Burmeister  
and your

5 Honor.

6 THE COURT: You may step down, Agent  
Burmeister.

7                    We will take our noon recess at this time,  
members of

8 the jury, for the usual 90-minute period with the usual

9 cautions and instructions to avoid discussion of any of  
the

10 witnesses or any of the evidence or any of the conduct  
of the

11 Judge during this time, staying away from the contents  
of the

12 case till the case is given to you for decision. And  
keep open

13 minds and stay away from anything outside the evidence.

14 You're excused now, 1:30.

15 (Jury out at 11:59 a.m.)

16 THE COURT: All right. 1:30.

17 (Recess at 12:00 p.m.)

18 \* \* \* \*

19

20  
21  
22  
23  
24  
25

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	3	WITNESSES
	4	Steven Burmeister
11453	5	Direct Examination Continued by Ms. Wilkinson
11461	6	Voir Dire Examination by Mr. Tigar
11462	7	Direct Examination Continued by Ms. Wilkinson
11479	8	Cross-examination by Mr. Tigar
11505	9	Voir Dire Examination by Ms. Wilkinson
11507	10	Cross-examination Continued by Mr. Tigar
	11	PLAINTIFF'S EXHIBITS
	12	Exhibit      Offered    Received    Refused    Reserved

Withdrawn

13 1744 11461 11462

14 2119 11569 11569

15 DEFENDANT'S EXHIBITS

16 Exhibit Offered Received Refused Reserved  
Withdrawn

17 E132, page 1 11503

18 E132, pp. 1-4 11505

19 E132 11507

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1 REPORTERS' CERTIFICATE

2 We certify that the foregoing is a correct  
transcript from

Dated 3 the record of proceedings in the above-entitled matter.

4 at Denver, Colorado, this 1st day of December, 1997.

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Paul Zuckerman

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Kara Spitler

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