

IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF COLUMBIA

MELISSA HOPE MARCHETTI, also known as
NGO THA HOA THUONG, a minor who sues
by and through her next friends and
adoptive parents, DENNIS A. and
PAMELA MARCHETTI, [REDACTED],
Derby, Connecticut 06418, phone:
(203) 735-7933; and by and through
her guardian ad litem, CHARLES R.
WORK and PEABODY, RIVLIN, LAMBERT &
MEYERS, Twelfth Floor, Connecticut
Building, 1150 Connecticut Avenue,
N.W., Washington, D. C. 20036; phone:
(202) 457-1016

Civil Action No.
76-0544-3

Plaintiff

V.

LOCKHEED AIRCRAFT CORPORATION

Defendant and
Third-Party Plaintiff,

V.

THE UNITED STATES OF AMERICA

Third-Party Defendant

Deposition of:

WILLIAM TIMM

Tuesday, October 20, 1981

Washington, D. C.

GASDOR REPORTING COMPANY
General Stenotype Reporting
499 South Capitol Street, SW, Suite 408
Washington, D. C. 20003
(202) 484-0016

Deposition of WILLIAM TIMM, pursuant to notice, was taken before Albert J. Gasdor, a Notary Public in and for the District of Columbia, commencing at 10:40 o'clock, a.m., Tuesday, October 20, 1981, in the law offices of Haight, Gardner, Poor & Havens, Suite 1000, 1819 H Street, N. W., Washington, D. C.

APPEARANCES:

On behalf of the Plaintiff:

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On behalf of Defendant Lockheed:

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Suite 1000
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Washington, D. C.
Phone: (202) 775-1300

I N D E X

Tuesday, October 20, 1981

Washington, D. C.

DEPONENT:

DIRECT EXAMINATION

WILLIAM TIMM

5

E X H I B I T S

NUMBER

FOR ID.

A & B	Notice and letter to take Deposition	5
Timm 1	Answer to Interrogatories and background to publi- cations	7
Timm 2	Timm file	29
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1 Whereupon,

2 WILLIAM TIMM

3 was called as a witness and, having been duly sworn by the
4 Notary Public, was examined and testified as follows:

5 MR. DUBUC: We have marked Exhibits A and B,
6 the Notice and the letter that goes with the Notice.

7 (Said documents marked Exhibits
8 A and B for identification.)

9 DIRECT EXAMINATION

10 BY MR. DUBUC:

11 Q Would you state your full name for the record,
12 please.

13 A William Timm,  New
14 York, 10504.

15 Q Mr. Timm, are you consulting at the present time
16 in connection with this case with the Lewis firm?

17 A Yes, I am.

18 Q Your deposition was taken as to certain subjects
19 previously, was it not?

20 A That is correct.

21 Q On two occasions?

22 A I believe so, yes.

1 Q At that deposition I think you told us you did not
2 have a curriculum vitae but I think your background was cover-
3 ed in answer to an interrogatory. Do you recall that?

4 A I believe so. That has been a long time ago. I
5 am not one hundred per cent sure anymore.

6 Q I shiw you what has been marked Exhibit UU-1 for
7 identification, August 9, 1979, which purports to be an
8 answer to Interrogatory No. 80.

9 I wonder if you could take a look at that and tell me
10 if that summarizes the areas of your background and your
11 licenses, and so on.

12 Have you had a chance to look at that, Mr. Timm?

13 A I am going over the whole thing. I am not finished
14 with it.

15 MR. DUBUC: Does Mr. Timm have a current CV?

16 MR. MCMANUS: He does not have one with him.

17 THE DEPONENT: This is as complete as can be. I
18 have what I call my consulting services brochure, which is much
19 more brief than that. It does not contain anywhere near that
20 information.

21 BY MR. DUBUC:

22 Q Do you have a copy of that with you?

1 A No, not with me.

2 MR. DUBUC: The Notice calls for all documents.

3 MR. MCMANUS: Mr. Timm was deposed before. He has
4 never produced a CV.

5 He says he does not have one. He sais it is not
6 as complete as the information you have.

7 MR. DUBUC: In the meantime, I would like this
8 Exhibit UU-1 marked Timm Exhibit 1.

9 While he is doing that, Mr. Timm, we will mark
10 this as Timm-1. In addition to Timm-1, I want to add to it:
11 There was also a UU-3 marked at your deposition on the same
12 previous date, August 9, 1979, and there was a list of publi-
13 cations that you had published which you identified as a
14 complete list. I want that marked as part of Timm Exhibit 1,
15 his Answer to Interrogatories and background to publications.

16 (Said documents marked Timm Exhibit

17 No. 1 for identification.)

18 BY MR. DUBUC:

19 Q I ask you, have there been any since then?

20 MR. MCMANUS: While Mr. Timm is looking at that, I
21 had a chance to look at the Notice and I don't see a request
22 for a CV, or I was not made aware that counsel made a request.

2 Now that they have made that request, we will send
3 them a copy of Mr. Timm's consulting brochure.

4 THE DEPONENT: There are additions.

5 BY MR. DUBUC:

6 Q Can you tell us what they are?

7 A They are mostly dealing with thermal insulation
8 and there are three others which I don't have with me.

9 Q Just read the titles into the record.

10 A I will try as best as I can remember.

11 There is one published in the Thermal Insulation
12 Journal October 1979, entitled "Formaldehyde Health Hazards
13 and Odors Within Residences."

14 Q Within residences?

15 A Yes.

16 Q That is referring to homes?

17 A Yes.

18 There is another one also in the Journal of Thermal
19 Insulation, Volume 3, April 1980, entitled "Cause and Effect
20 of Shrinkage of Urea-Based Foams."

21 There is also another one in the Journal of Thermal
22 Insulation, Volume 4, October 1980, entitled "Test For

1 Formaldehyde Off-Gassing Rates from Insulation and Other
2 Building Materials."

3 There are three papers that are published in the Pro-
4 ceedings of the Third International Conference on Thermal
5 Insulation, dated 1981, the title of the papers are "Estimates
6 of Formaldehyde Concentrations in Living Space from Urea
7 Formaldehyde, Foam Insulation."

8 Another paper entitled "The Effect of the Adverse Press
9 on the Insulation Industry," and a third is "A Survey of
10 Formaldehyde Off-Gassing from Urea Formaldehyde and Urea-
11 Based Foam Insulations."

12 Those titles are approximately accurate.

13 Q You don't have an updated list of those articles?

14 A Not with me.

15 Q Do you have one at home somewhere?

16 A I just would make the list. I don't keep a ready
17 list of it.

18 Q On August 9, 1979 in your deposition you told us
19 about several cases where you were a consultant and testified.

20 Other than the testimony you gave in the Schneider-
21 Marchetti trial in connection with the Saigon accident, have
22 you consulted since August 9 and/or testified in connection

1 with any litigated cases?

2 A Yes, I have. I am trying to remember the ones,
3 though.

4 Q How about during the last year, other than this
5 case?

6 A I have, but I don't remember the cases right off-
7 hand.

8 Q Were you testifying last week?

9 A No, I was not.

10 Q Have you testified during the past three months?

11 A No, I have not.

12 Q During the last six months?

13 A I might have had one case the last six months.

14 Q Do you remember what that was about?

15 A I think that was an injury for a structural
16 collapse.

17 Q A building?

18 A Correct.

19 Q What kind of building?

20 A This was a wooden frame building, truss construction,
21 which collapsed during construction.

22 Q Where was that?

1 A That was in Putnam County Court.

2 Q Do you remember the name of the plaintiff?

3 A Not right offhand, I don't.

4 Q Do you remember the name of the defendant?

5 A Offhand, I don't, no.

6 Q Who were you consulting for?

7 A I did that one for the plaintiff.

8 Q Do you remember the name of the lawyer you worked
9 with?

10 A Right offhand, I don't even remember his name. I
11 only worked with him on that one case.

12 Q Did you testify in court?

13 A Yes, I did.

14 Q Do you remember approximately what month?

15 A It was, I believe, the early part of this year. It
16 was cold. It might have been February or March.

17 Q Do you remember the name of the lawyer for the
18 defendant who cross examined you?

19 A I don't remember the names of anyone in that case.
20 I would have to look in the files for it.

21 Q Were you asked to give an opinion in that case?

22 A Yes, I was.

1 Q What was that opinion?

2 A The opinion was improper erection procedure caused
3 the failure.

4 Q But you don't remember the name of the parties?

5 A I don't remember the case. It was a very small
6 case and only took a short period of time.

7 Q Since the last trial of the Schneider, Marchetti
8 group, other than this case of the building construction --

9 A I have another one I remember now. This was a
10 case I did for the defendant and it was involving an explosion
11 that caused a fire and a person was severely burned.

12 Q Where was that?

13 A That was in State Supreme Court in Manhattan.

14 Q New York Supreme Court?

15 A New York Supreme Court. The attorney I worked
16 for was a Mr. John O'Connor.

17 Q Is he with a firm?

18 A Yes. It is a partnership but I don't remember
19 the partner's name.

20 Q When was that?

21 A That one was, I think about April of this year.
22 It was about that time.

1 Q Do you remember the name of the plaintiff?

2 A No, I don't remember his name.

3 Q How about the defendant?

4 A Was Clark Graverly, the people who make commercial
5 cleaning equipment?

6 Q What was the opinion you gave in that case?

7 A That was a case where they were claiming the
8 source of ignition was their dry-wet vacuum cleaner. After
9 examining equipment and so forth, I concluded that the
10 vacuum was not the source of ignition.

11 Q Did you testify in court?

12 A Yes, I did.

13 Q Did you have a deposition taken before?

14 A No, I did not.

15 Q Do you remember how that case came out?

16 A Yes, it awarded the defendant's verdict.

17 Q How did the other case come out?

18 A From what I understand, the plaintiff won the case
19 but the settlement for his injuries was quite low.

20 Q Do you mean the amount awarded?

21 A The amount awarded was quite low.

22 Q Were there any other cases in which you have

1 testified since that last deposition in 1979?

2 A We are going back over two years. There are cases.
3 I would have to look at my invoice files. There is nothing
4 that really sticks out.

5 Q Would it be more than two?

6 A I would have to guess. I don't know. I don't know
7 how many there are. They are not that frequent or such a
8 number that they stick in my mind.

9 Q Other than this consulting work, do you do any other
10 work which produces income?

11 A Yes, I do.

12 Q What is that since the last deposition?

13 A We are in the midst of renovating the Hoboken
14 Treatment Plant, which has been taking a major portion of
15 my time.

16 Q Is that on a consulting basis or salary?

17 A That is on a consulting basis.

18 Q That has been taking the major portion of your time?

19 A I would say from December until now.

20 Q December 1980?

21 A Yes.

22 Q How about before December 1980, other than this

1 consulting work?

2 A We have been doing design work of numerous things.
3 I have done structural design for curtain walls. I did one
4 for a Patterson Glass. I did another one for Coordinated
5 Metals.

6 Q These are designed walls?

7 A Patterson Glass are making a mock-up model for
8 the Museum of Modern Art where it is like a glass greenhouse.
9 I had to design the glass and framing for this mock-up which
10 will then be tested in special equipment where they will
11 apply pressure differentials and apply water and so forth to
12 see whether it leaks and everything else.

13 On Coordinated Metals, this was a curtain wall for a
14 building in lower Manhattan and I did that design.

15 Q Any airplane cases other than this one?

16 A I think there is a testimony of an airplane case
17 of failure of a a Vassy System.

18 Q Is that since September of 1979?

19 A Yes.

20 Q Have you given testimony already in that case?

21 A Yes, I have given testimony.

22 Q Where was that given?

1 A That was done down here in Virginia.

2 Q Where?

3 A The Courthouse in Alexandria.

4 Q Federal Court?

5 A Yes, I believe so.

6 Q Do you remember the name of the case?

7 A Not right offhand. It was something against
8 Krouse Hinds. They are the people who make electrical equip-
9 ment and also make the Vassy System. The plaintiff was
10 Obershane.

11 Q Were there any other defendants?

12 A There were, but I don't remember them all.

13 Q Did you work with Mr. Lewis on that case?

14 A Yes, I did.

15 Q Do you remember the outcome of that case?

16 A I think it was a defendant's verdict.

17 Q You testified for the plaintiff?

18 A That is correct.

19 Q You don't remember exactly when that was, do you?

20 A Again, I think it was the beginning of the year.
21 I don't remember the exact date. I think it was January.

22 Q What was the opinion that you gave in that case?

1 A It was about the design and the failure of the Vassy
2 System. There were electrical failures because of improper
3 protection for lightning protection.

4 Q Any other cases, any other airplane cases?

5 A Well, if you mean did I work on cases, I am just
6 giving you the cases I testified to. There are a number of
7 them on which I was not called to testify.

8 There was an explosion of propane cylinders out in Long
9 Island. We did a lot of work and investigation but I was
10 never called to testify. That was in the spring of this year.

11 Q Do you remember the name of that case?

12 A I think the defendant was Conservative Gas Corpor-
13 ation. I don't remember the plaintiff's name. He was a
14 volunteer fireman.

15 And the other one was named Washington. I don't remember
16 his first name. He was the owner of a truck that exploded.

17 Q Any other airplane cases, other than Obershane?

18 A That is all.

19 Q I think you testified at the Marchetti trial that
20 in this case you had accumulated approximately 500 hours of
21 time as of that trial, which was May and early June of 1980.

22 Have you spent additional time on this case since then?

1 A Yes, I have.

2 Q Do you have any idea how many hours?

3 A Again, it would be a guess.

4 Q Your best estimate.

5 A I guess about 50 hours.

6 Q So you now have about 550 hours?

7 A Yes.

8 Q Are you still being compensated at \$45 an hour?

9 A That is right.

10 Q And \$300 per day when you testify in court?

11 A That is correct.

12 Q Is that the same for depositions?

13 A That is correct.

14 Q So you are getting \$300 today?

15 A Yes.

16 Q For any portion of a day?

17 A For any portion of a day.

18 Q You have only put in 50 hours since then?

19 A That is a guess. I don't really know. It has
20 been spread out over such a long period of time. It has been
21 a few hours, a few hours. It has not been a concentrated
22 thing other than a day here and there. It has not been

1 something like a week's time or something that you can really
2 measure very simply.

3 Q What portion of your income would you say is
4 attributable to litigated cases?

5 A I would say it is a minor fraction of our income.
6 I would say it was somewhere around 20 per cent. It is not
7 a major portion.

8 Q Since the Marchetti testimony last May and June of
9 1980, have you reviewed anything in addition to what you re-
10 viewed up to that time in connection with this case?

11 A Yes, I did.

12 Q Can you tell us what that was?

13 A First of all, I was down in San Antonio and saw the
14 aircraft parts.

15 Q What parts did you see?

16 A I saw the aft ramp and then I saw numerous parts
17 in boxes which were very difficult to identify. Nobody
18 identified them for us.

19 Q Were you able to identify any at any time?

20 A I could tell approximately where they came from
21 the aircraft. Without drawings, I could not pinpoint this
22 was Part A, B, or C.

1 Q What part of the airplane did the parts in the
2 boxes come from?

3 A There were a lot of locking mechanisms. We were
4 interested in those at one time. There were also parts of
5 the airframe.

6 Q When you say "locking mechanisms at one time," you
7 are not interested in that now?

8 A At one time there was a question of whether a fail-
9 ure occurred in the locking mechanism. I understand Lockheed
10 is conceding locks did fail, so that is not now a point of
11 litigation.

12 Q Without accepting your characterization, what you
13 are saying --

14 Are you going to give an opinion as to the locking
15 mechanism?

16 A Whatever I am asked to give an opinion on.

17 Q Have you been asked to give that?

18 A I have not been asked to.

19 Q You have not been asked about giving an opinion
20 on the locking mechanism?

21 A Not at this time.

22 Q How about the aft ramp?

1 A Again, that would be the same situation. I would
2 examine the aft ramp as one of the failing modes.

3 Q But that is not part of the opinion you have been
4 asked to give?

5 A As far as I know.

6 Q Other than the locking mechanisms and the aft
7 ramp, what, if any, additional parts did you observe in the
8 boxes?

9 A There were a lot of structural member parts.

10 Q Which parts?

11 A There were various struts but I couldn't tell
12 exactly where they came from.

13 There was also a part which held the winch.

14 Q Which winch?

15 A I believe it was the forward winch.

16 Q Forward winch where?

17 A To pull the cargo into the cargo compartment.

18 There is a winch that is in the floor of the cargo compart-
19 ment.

20 Q For the foreward door?

21 A No, not for the foreward door. It was a winch
22 mechanism.

1 Q I thought you said a foreward winch?

2 A It is a foreward winch in the foreward part of the
3 cargo compartment.

4 Q Do you know what station?

5 A No. I don't have the drawings and I did not have
6 the drawings with me at the time we examined the parts.

7 Q Are you aware Mr. Lewis' firm has a set of drawings
8 of this aircraft?

9 A I did not have them with me.

10 Q Have you looked at them?

11 A I looked at them at one time.

12 Q Did you look at them before you went to San Antonio?

13 A I did not have an opportunity to.

14 Q But they were available to you through the Lewis
15 firm?

16 A There are a lot of things available to me, if I
17 can spend days and weeks going through them.

18 Q Would that have been useful to you to look at the
19 drawings before you went?

20 A Not at the time we were allowed to look at the
21 parts. We were only given several hours and to do the job
22 the way we would have liked to have done, we would have

1 liked to spread all of the parts on the floor, had the draw-
2 ings there and it would have taken maybe several weeks.

3 Q In whose custody were the parts?

4 A The Air Force's custody.

5 Q Are you able to tell us any other parts that were
6 there in San Antonio under inspection other than the winch
7 and structural member parts?

8 A There were a number, number of parts. I can't go
9 back to listing them all.

10 Q Did you take any notes?

11 A Yes, I did.

12 Q Do you have them with you?

13 A I may have.

14 Q Let the record reflect Mr. Timm has on the table a
15 file that is approximately two inches thick and he is going
16 through it at the present time, I gather looking for notes
17 from his San Antonio visit.

18 Are these notes of your San Antonio trip?

19 A These are notes taken off a tape recorder. I
20 dictated part of them on the tape recorder and this is what
21 was transcribed.

22 Q I would like to have those marked for identification.

1 We will have these Xeroxed while we are going on.

2 You have on the table in front of us two folders of
3 notes. Are those your notes on this case?

4 A Parts of them, yes.

5 Q Do you mean there are more notes than you have
6 here?

7 A There is a big, big cardboard box in my office
8 that contains the depositions that I have read and other
9 materials, but these files were what I figured were the
10 pertinent materials that would be required for today. They
11 are not in the best order. I have to search the miscellan-
12 eous papers, but most of them are handwritten notes and not
13 anything that was formalized.

14 MR. MCMANUS: I would like to take a look at these
15 notes.

16 MR. DUBUC: Maybe while you are looking through
17 that, Mr. McManus, I can go ahead with some questions. If
18 there is anything you are not going to have produced, I want
19 to have it produced anyway.

20 THE DEPONENT: There is some stuff that does not
21 pertain to this case, also.

1 BY MR. DUBUC:

2 Q If that is so, we will identify it but not mark it

3 A This is a letter that somebody did some work on
4 this case. This is just the envelope. If he wants it,
5 he can have it. I don't have the letter.

6 Q You say somebody who did some work on this?

7 A Yes.

8 Q Who was that?

9 A John Sekelsky did some art work for the Lewis
10 firm and I instructed him on the art work.

11 Q How do you spell Sekelsky?

12 A S-e-k-e-l-s-k-y.

13 Q Where is he located?

14 A He lives in Croton on Hudson. It is 316 Grant
15 Street, Croton on the Hudson, New York, 10520.

16 Q You said you had a recorder with you at San
17 Antonio and recorded some notes?

18 A A tape recorder.

19 Q You dictated observations?

20 A I dictated observations on the tape recorder.

21 Q Did you take any pictures at San Antonio?

22 A No, I did not.

1 Q Was Mr. Cromack with you in San Antonio?

2 A Yes, he was.

3 Q Did he take any pictures?

4 A Yes, he did.

5 Q Did you look at those pictures?

6 A I have seen those, yes.

7 Q Where did you look at them?

8 A He sent me copies of them but I do not have the
9 photographs now.

10 Q Where are the photographs that he sent you?

11 A Right offhand, I don't know. I think they might
12 be back with him.

13 Q How many photographs did he take?

14 A Right offhand, I can't tell. There were quite a
15 number. There were about 50.

16 Q Fifty?

17 A About 50.

18 Q These were of the parts?

19 A And of the interior of the C5A aircraft.

20 Q This was the interior of another aircraft?

21 A Another C5A that we inspected. Our inspection was
22 two phases.

1 Q Did you take any pictures of the other C5A air-
2 craft?

3 A I did not take any pictures in San Antonio.

4 MR. DUBUC: Have Mr. Cromack's pictures been
5 produced, Mr. McManus?

6 MR. MCMANUS: I don't know if they have been asked
7 for.

8 MR. DUBUC: I think we have had quite a session
9 on all pictures.

10 MR. MCMANUS: Why don't we try to find out at some
11 break, so we can be accurate.

12 MR. DUBUC: I take it your position is if they
13 have not been asked for specifically by identification, you
14 have no obligation to produce them.

15 MR. MCMANUS: I am not saying that, although that
16 might be the case. I don't know that they have been asked
17 for, I don't know that they have been produced. I just
18 don't know. Rather than you and I guessing, I suggest we
19 take the time to find out that information at an appropriate
20 break.

21 BY MR. DUBUC:

22 Q You say you looked at those pictures, Mr. Timm.

1 When did you look at those pictures the last time, the
2 ones taken by Mr. Cromack?

3 A I think that was about a year ago.

4 Q Have you not seen them since?

5 A I think right after the inspection, which was
6 around June of 1980. I looked at them and I have not seen
7 them since.

8 Q June 1980 was the date of the inspection?

9 A Sometime after that date I saw the pictures.

10 Q Have you performed any tests of any kind on any of
11 the parts?

12 A No, I have not. We could not take the parts away
13 from the air base.

14 Q Have you conferred with Mr. Cromack since June of
15 1980 relative to this case?

16 A I just wrote him a letter and that is all.

17 Q You wrote him a letter when?

18 A Somewhere after that date.

19 Q Do you have that in your file?

20 A I think so.

21 MR. DUBUC: While he is looking at that, can we
22 mark this Timm Exhibit 2.

1 (Said document marked Timm Exhibit
2 No. 2 for identification.)

3 MR. MCMANUS: Do you want to see this?

4 MR . DUBUC: I want him to describe whatever is
5 in the file.

6 Let's take this now and we will go through the rest
7 of it.

8 I will ask that that be marked Timm Exhibit 3,
9 the letter to Mr. Cromack.

10 (Said document marked Timm Exhibit
11 No. 3 for identification.)

12 BY MR. DUBUC:

13 Q Will you describe for us what is in that file, Mr.
14 Timm?

15 A It is a whole series of notes taken, papers --

16 Q Maybe we can mark them as you go through and he
17 can tell us whether he has any problem with anything. He
18 is going to describe it whether it is produced or not.

19 A I think some of it is privileged communication
20 between me and the attorneys and I don't think that is
21 relevant.

22 Q Someone else would have to make a decision on that.

1 MR. MCMANUS: That is why I am going through it.

2 MR. DUBUC: Let the record reflect Mr. McManus
3 is going through it the second time.

4 MR. MCMANUS: For the first time. There are two
5 files.

6 MR. DUBUC: Is there anything in here you have a
7 problem with, Mr. McManus?

8 MR. MCMANUS: No.

9 MR. DUBUC: We will mark that as Timm Exhibit 4.

10 (Said document marked Timm Exhibit
11 No. 4 for identification.)

12 MR. MCMANUS: So there is no confusion, there are
13 some things I took out of the file which Mr. Timm advised me
14 do not have anything to do with this case. One is a letter
15 from another engineer having to do with a patent matter with
16 an attachment concerning patents.

17 THE DEPONENT: This is a notice from the Association
18 of Consulting Chemists and Chemical Engineers which is an
19 article they sent on malpractice insurance for their members.

20 MR. MCMANUS: Another item is apparently a notice
21 from a company concerning the change of their offices from
22 one location to another.

1 A third is a letter from another engineering company
2 relating to pH factor, which are not related to this case
3 and a brochure from that company concerning a machine called
4 analytical measurements and universal pH doser.

5 There is another brochure from Analytical Metal, Inc.
6 on cordless recorders.

7 Then there appears to be a little flier, official
8 publication of Virginia State Board of Professional Archi-
9 tects, Engineers and Land Surveyors called the De-Clar-Ative.

10 BY MR. DUBUC:

11 Q Other than that, there is nothing in the folder which
12 will be marked Timm Exhibit 4, and we will ask Mr. Timm to
13 describe what is in there. Just tell us the items and if
14 we can, we will mark those Timm Exhibits 4-A and so on.

15 The first one will be 4-A.

16 (Said document marked Timm Exhibit
17 No. 4-A for identification.)

18 THE DEPONENT: This is a copy of the Section C
19 A.A. This is an envelope from John Sekelsky which was in
20 the folder.

21 This is an envelope from the Lewis firm which was
22 in the folder.

1 These are notes that were taken on September 28 on
2 photographs that I reviewed at the Lewis offices. There are
3 four pages of notes.

4 BY MR. DUBUC:

5 Q When did you review those photographs?

6 A 28 September of this year.

7 Q How many photographs did you review?

8 A I will have to count them.

9 There are 72 photographs listed here. There are others
10 that I did not classify or list numbers, but there were a
11 lot more.

12 Q Was this a book of photographs?

13 A No, no, these were loose photographs in various
14 piles with rubber bands around them.

15 Q Black and white -- something like these?

16 A Yes.

17 Q Was the figure, approximately 800 photographs,
18 mentioned?

19 A It probably was. I started to categorize them and
20 identify them on this list here, but I never got anywhere
21 near finished with them.

22 Q Where did you look at those photographs?

1 A That was at the Lewis' offices.

2 Q In September of 1981?

3 A 1981.

4 Q How long a period of time did you look at those
5 photographs?

6 A I was there for the day.

7 Q Just one day?

8 A One day.

9 Q Was that the extent of your trip, one day?

10 A That was one day there.

11 Q Have you been there since September 28?

12 A Yes, I have.

13 Q When was that?

14 A I was down here last Friday and Saturday.

15 Q That would be October 17 and 18?

16 A That is correct. I was here yesterday.

17 Q October 19?

18 A Right.

19 Q You were there Friday and Saturday, the 16th and
20 17th?

21 A Then Monday.

22 Q The 19th.

1 A Right.

2 Q Did you look at photographs those days, also?

3 A Photographs and movies.

4 Q Did you look at any movies on September 28?

5 A Yes, I did.

6 Q Was this a moving picture of the scene?

7 A Yes, a fly-over of the scene. There were two
8 movies.

9 Q You looked at both of them on September 28?

10 A I looked at one of them on September 28. I looked
11 at the second one this past Friday-Saturday.

12 Q October 16 and 17.

13 Did you engage in trial or deposition testimony between
14 September 28 and October 16 in other cases?

15 A Yes. I forgot that case. There was a case in
16 Boston.

17 Q What was that about?

18 A That is about lifting the ban on urea formaldehyde
19 foam in the State of Massachusetts.

20 Q What state was that in?

21 A That is -- the courtroom I testified in was in
22 Peabody, Massachusetts, but the case initially started in

1 another court and was transferred there because the junk was
2 moved to that courtroom.

3 Q What was the name of that case?

4 A That is D.P. Chemical Company versus Fischett, I
5 guess, in the State of Massachusetts.

6 Q How do you spell Fischett?

7 A I don't really remember the name. He is the Com-
8 missioner of Health up there.

9 Q Who did you testify for?

10 A I testified for the plaintiffs, C.P. Chemical.

11 Q Do you remember the name of the attorney you worked
12 with?

13 A Yes, it was Michael Marcus.

14 Q From the Lewis firm?

15 A That is correct.

16 Q Do you remember the name of the attorney who
17 cross examined you?

18 A It is an attorney, the Assistant Attorney General.
19 The fellow who actually did the cross examination, I don't
20 remember the name. I am trying to remember the main attorney
21 in the case.

22 Q What was that case about?

1 A It is about the ban of this foam insulation for
2 commerce in the State of Massachusetts. It is alleged
3 that it is a health hazard, and I have written numerous
4 articles on the subject. I am intimately familiar with the
5 material.

6 Q You testified that it was a health hazard?

7 A No, it was not.

8 Q You said it was moved from another court?

9 A Right. There is a court in Boston near the
10 Commons, about a block away from the Commons, but I was
11 never into that courthouse, and the day I had to testify
12 it was moved up to Peabody. That was the first time we were
13 up in that courtroom.

14 Q Circuit Court in Boston?

15 A It is a state court, whatever they call it in
16 Boston. I am not familiar with their terms.

17 Q Go ahead with what you were doing.

18 A This is a diagram I made of the flight, of the G-
19 forces, and was used to make an exhibit.

20 Q What exhibit was that?

21 A That was one of them in the first trial.

22 Then, this is the first altitude data that was furnished

1 us by Mr. Piper.

2 Then I have no data furnished by Lockheed.

3 Then I have the data that was taken off the MADAR tapes.

4 This is a summary of the time and so forth which I had
5 to furnish the doctors. These are just rough notes.

6 Q There is a newspaper article that I took out of a
7 local paper about this case.

8 There is a copy of calculations, I believe by Mr. Edwards.

9 There is a crash scene map.

10 There is another crash scene map with some notes. They
11 might be Mr. Edwards'.

12 There is another one of the axes for the various G-
13 forces that I believe came from Mr. Edwards.

14 Then I have some notes, I think, on Captain Traynor's
15 testimony.

16 This looks like various tabs of some of the exhibits,
17 which is two pages.

18 I have part of an Air Force regulation on collateral
19 reports.

20 I have the article, "C5A Close-up, The Incredible Hulk
21 that Flies." It was taken out of flying April 1980.

22 Then, I have various notes of more or less like an

1 outline of this case here.

2 Q Did you use those notes to testify before?

3 A Well, this was initially what I started giving
4 the attorneys. It has some pertinent notes.

5 Q These are your notes?

6 A They are my notes in my handwriting.

7 Also, just miscellaneous notes on the case.

8 Again, more notes on testimony.

9 Q Notes on testimony you read?

10 A Yes. It is all miscellaneous.

11 These look like lists of exhibits, or something or other.

12 Here is a list of depositions I was supposed to check
13 for smoke and fire.

14 Q Did you do that?

15 A Yes, I did.

16 Q Then here is a list of the handwritten notes I
17 have taken out of Jaynes on the C5A before I had a copy of
18 the other one.

19 These are notes of various individuals and their deposi-
20 tions. Again, it is in my handwriting.

21 These are notes furnishing me the background of some of
22 the experts from Lockheed, what their job was and their

1 educational background.

2 Q Who furnished you that information?

3 A I believe this was furnished by someone in the Lewis
4 firm. I am not 100 per cent sure.

5 Q Did you ever check any of those backgrounds,
6 yourself?

7 A I checked what I could from the depositions.
8 Again, more notes.

9 Q Your notes?

10 A No, this is somebody else. This is, again, what
11 the educational background was and so forth and their posi-
12 tions.

13 Then there is a complete list that I made of the various
14 depositions. These are all the depositions I read, and so
15 forth, and notes on them.

16 Then, here are some notes on some calculations I made.

17 Q When did you make those calculations?

18 A There is no date on them but they were made just
19 about the time of the trial.

20 Q This was for the Schneider or Marchetti case?

21 A It was one of those trials.

22 Q Have you made any calculations since that time?

1 A Not really, no.

2 Q No new calculations?

3 A No new calculations.

4 Q If you have described everything in that folder,
5 we will mark that folder which you just described as Timm
6 Exhibit 4 and we will go ahead and have it copied.

7 MR. DUBUC: You have another file which we would
8 like to mark as Timm Exhibit No. 5. Mr. McManus is still
9 going through it.

10 (Said documents marked Timm Exhibit
11 No. 5 for identification.)

12 BY MR. DUBUC:

13 Q Mr. Timm, can you describe for us what is in Timm
14 Exhibit No. 5.

15 MR. DUBUC: Off the record.

16 (Discussion off the record.)

17 MR. DUBUC: Back on the record.

18 BY MR. DUBUC:

19 Q Mr. Timm, can you describe for us what is in that
20 file other than your ticket?

21 A This is an air ticket for the flight on the 28th
22 of September.

1 Q Where did you stay when you came on September 28th?

2 A I believe I was there just for the day. I took an
3 early flight in the morning and took an evening flight back.

4 Q Where did you stay last week?

5 A Last week I stayed at the Marriott.

6 Q In Arlington?

7 A Key Bridge Marriott.

8 Q That is the one with the View Restaurant on top?

9 A Yes.

10 Q Did you pay for that room?

11 A Yes, I did.

12 Q How much was the room?

13 A I think I still have the bills with me.

14 The bill came up to \$92.65.

15 Q Does that include the room?

16 A The room and tax.

17 Q That was for Friday night?

18 A That was October 16 and 17.

19 Q What else is in that file?

20 A There is, again, notes, a date of May 11 on it.

21 Q 1980?

22 A Yes.

1 Q Your notes?

2 A Yes.

3 Q What else is in there?

4 A Some of this stuff has things on the back. I
5 don't know if it is pertinent or not. This looks like
6 some mathematical figuring at that time.

7 Q Are those your figures?

8 A It is my handwriting.

9 These are some further notes. It looks like notes on
10 Mr. Edwards' testimony.

11 This is a part of some calculations starting from
12 Hudson Engineering Manual.

13 These are calculations of kinetic energy.

14 Here are some notes of pressures and oxygen contents
15 in the way of giving examples of ratio of oxygen to nitrogen.

16 Q Do you know where that is from?

17 A It is what I developed.

18 Q It is not from any source?

19 A No, it is not from any source.

20 These are some notes of distances traveled by the
21 various components.

22 These are some mathematical calculations of distances

1 and times of various items that travel at a certain speed.

2 Q When you say "certain items," are those items of the
3 aircraft?

4 A Yes, parts like wing, flight deck, tail, troop
5 compartment, cargo compartment.

6 Q Did you calculate the weight of the troop compart-
7 ment?

8 A No, this was just a simple mathematical calcula-
9 tion of acceleration of time, and the time it took for those
10 pieces to travel.

11 Q You did not put weight into the calculation?

12 A I didn't know the weight of the various components.
13 This is a legal document of interrogatories.

14 Q Are those interrogatories with your CV on them?

15 A I am trying to see what it is.

16 No, it is not.

17 Q Maybe you can give us a date. That would help.

18 A Can you tell me where the date would be?

19 Q On the last page.

20 A It looks like February -- that can't be.

21 MR. MCMANUS: These are interrogatories forwarded
22 to Carroll E. Dubuc and James P. Piper in June, interrogatories

1 from Lewis, Wilson, Lewis and Jones in the Reynolds case,
2 interrogatories directed to Mr. Piper, signed by John
3 Fricker.

4 BY MR. DUBUC:

5 Q What else?

6 A Again, another legal paper, again answers to
7 interrogatories.

8 Q In the Reynolds case?

9 A The Reynolds case.

10 Q The date of those?

11 A 27 June 1980.

12 Q What else is in that file?

13 A This is from Mark A. Dumbroff.

14 I don't know how I can identify this. This is some-
15 thing from the Air Force. It looks like it is 1/9/75,
16 Subject: Maintenance, One-Time Inspection C5A Seat Installa-
17 tion. This message in four parts, Part 1 following partial
18 quote of Accident Investigation Board.

19 Q It is a Telex?

20 A Yes.

21 This is a phone number that doesn't refer to anything.

22 This is a bill which goes in that file.

1 These are people that were members of the Accident Board.

2 This is a draft that I made and never finished of the
3 C5A accident crash. It is only in draft form and was never
4 completed.

5 Q Did you type that?

6 A I did not type it. My secretary typed it. I
7 drafted it. It contains 11 pages -- actually 12, because I
8 believe page 7 has an additional number and letter page, an
9 insert.

10 This is a copy of the Medical Workshop, February 16,
11 1980.

12 Q Medical Workshop where?

13 A This is at the Hyatt, Rosslyn.

14 I believe you attended that workshop.

15 Q February 16, 1980?

16 A That is correct.

17 This is a list of ten illustrations and a description
18 of the illustrations and some references to certain drawings.

19 These two are extra copies of the same.

20 There is another agenda to the same workshop.

21 I have a letter from the Children's Hospital National
22 Medical Center to Oren Lewis.

1 Q Is that Doctor Brook's letter?

2 A Yes.

3 Q What is the date of that?

4 A The letter is dated May 25, 1978.

5 Then I have a figure of the locking mechanism, a figure
6 out of the manual of the aft ramp and a duplicate of the
7 same.

8 This looks like the beginning of the illustrations
9 that I showed, which is another more than an extra copy.

10 This is a piece of the accident report, Report No. 046.

11 I have a copy of the Apex Study Group questions and
12 answers dated 2 May, 1975.

13 Copy of Special Order A29 dated 4 April 1975, Colonel
14 Bernard A. Maxstein, 026-0303 F.R., XII Air Force/JA, Travis
15 Air Force Base, detailed to investigate the 4 April crash.
16 It is his orders.

17 There is a copy of a Newark Times article about the crash
18 dated Friday, June 13, 1975.

19 C5 Category III Joint Task Force, Special Report 3-1571,
20 investigation of pressure door incident, and this is C5
21 serial number 68228, 22 February 1971, McChord Air Force
22 Base, Washington.

1 There is a C5 Category III Joint Task Force, Special
2 Report, 3/25/71, evaluation of the C5 air floating system
3 maintenance, dated 31 March 1971.

4 Here is a list, I guess, of the door failures from the
5 Air Force. It is Report 70-6 on the C5A.

6 This is a letter from Lockheed Georgia Company dated
7 15 July 1975, Contract F41608-75-D-A014, Request No. 0006,
8 Task IV, C5A Apex Study Group, failure motor analysis of
9 ramps, visors and aft pressure doors submitted of interim
10 report data, Item DI-S-3601A, San Antonio, Kelly Air Force
11 Base.

12 This is an exhibit UU-9, Military Standards, System
13 Safety Program for Systems Associated, Subsystems and Equip-
14 ment and Requirements Therefor.

15 This is something given at the last deposition, UU-8.

16 Q If you have legal documents, we have copies of
17 those, so just identify them by what they are and date. That
18 is all we need. If they are answers to interrogatories, just
19 caption will do it.

20 A I guess this is Defendant's Exhibit UU-2.

21 Request for Summary Analysis of Metallurgical Analysis,
22 Serial No. 62-218, your letter 19 June 1975, Headquarters,

1 XXII Air Force/JA, Travis Air Force Base, California, Metal-
2 lurgical Report and Parts.

3 This one looks like, again, a repeat of the same spec.

4 Q Mil-standard?

5 A This is a list of materials I gave you in the
6 last deposition, UU-6 and UU-7.

7 This is another thing dated August 13, 1979 listing
8 exhibits. It goes up to 32.

9 Q Are those your notes?

10 A They are all my notes.

11 This looks like one of the drawings, Exhibit No. 112.

12 Q If it was an exhibit number, we will know what
13 it is.

14 A This is pretty illegible to try to copy it.

15 Q As long as you have it opened up, do you know
16 what it is?

17 A It looks like -- it's Figure 1, hydraulic flow
18 lines and systems.

19 Q That is good enough. We have that marked. We
20 can find out what it is.

21 A I have another legal document here but I have a
22 page that seems to be from the end of another one.

1 Q What is the legal document entitled?

2 A It is V.V.1. I don't know what that came detached
3 from.

4 MR. MCMANUS: It is just a certificate of service.

5 THE DEPONENT: This is a handwritten letter that
6 was typed later on. You can tell me about it. It was to
7 your firm.

8 BY MR. DUBUC:

9 Q Written by you to the Lewis firm?

10 A Yes.

11 Then I have notes listing here cause of accident, some
12 items.

13 Q It looks like there is an exhibit number at the
14 bottom.

15 A Yes, it is UU-3. I think it is the cause of the
16 accident.

17 Q On yellow sheets?

18 A On yellow sheets.

19 MR. MCMANUS: So there is no confusion, this could
20 be VV-3, what Mr. Timm said is UU-3.

21 MR. DUBUC: It is UU-3.

1 BY MR. DUBUC:

2 Q Is there anything attached to that which is not
3 part of it?

4 A There is some written in which is probably not a
5 part of it. It is a list of articles which had other things
6 added to it.

7 Then here is a list of testimony which, again is -- I
8 think has some additions and so forth.

9 Q That is testimony you reviewed?

10 A No, testimony I had given in various cases.

11 Here is an engineering lab report dated 14 February
12 1979, Model C5A, ramp latch, fatigue test investigation of
13 failed yoke. This one has a Plaintiff's Exhibit 106 on it
14 at the bottom.

15 The letter from Lockheed dated 15 July 1975. I think
16 this is a duplicate of the interim report, Exhibit 72 at the
17 bottom.

18 This is a whole series of notes of what I have taken of
19 the Manual and the sections which I testified to at the last
20 deposition.

21 These are some notes on exhibits.

22 Here are some exhibits and so forth that I was checking

1 for various things.

2 Q These are white pages?

3 A These are white pages.

4 These are just various notes, I guess, on the exhibits
5 and the failures. That is all I can identify them as.

6 These look like they are referring to sections of the
7 Manual and exhibit numbers and, again, some old various notes.

8 These are scrap notes telling me to look at various
9 sections of the Manual. Some of it does not apply to this
10 case, but others do.

11 Here are some notes on some of the depositions I have
12 read.

13 This looks like a list of Plaintiff's and Defendant's
14 exhibits that I have gone through.

15 These are some notes about the crash and illustrations.
16 It is referring to various attachments, and so forth.

17 This is something about the Safety System Engineering
18 Plan, notes on that.

19 Here are some more notes on the locking system and the
20 failure sequences.

21 Here are some notes on other lock failure instances.

22 This one here is very, very incomplete notes. I don't

1 even know what it is. It is something about sending cases I
2 have testified to to the Lewis firm and the second note is
3 about tie rod length changes.

4 Here is a copy of a Washington Star article on the crash.

5 This is another newspaper article but I don't know where
6 it is from.

7 Q Several newspaper articles? We can just label them
8 "Newspaper Articles."

9 A This is one that was in our local paper, the Reporter
10 Local Dispatch, January 1980 about cargo door opening and
11 dropping 25 pounds of explosives in upstate New York.

12 Here is an article here on a DC-10.

13 Here is a bill from John Sekelsky sending a copy to
14 me that he sent to Charles R. Work, Peabody, Rivlin, Lambert,
15 & Myers for his art work.

16 Here is a copy of the Code of Ethics of the Association
17 of Consulting Chemists and Chemical Engineers. I think I
18 have given you that before.

19 These are copies of pages from the Alcoa Structural
20 Handbook.

21 This is a copy of your letter of May 18, 1980 to Mr.
22 Lewis, which was delivered by hand transmitting some data

1 that you obtained from Lockheed. Some of it is Mr. Edwards'
2 calculations on acceleration and has in here the crash map,
3 and then, attached to it, looks like my calculations of the
4 G-forces and some data of the MADAR data from the Air Force,
5 essentially all clipped together.

6 I believe this is a duplicate letter of the same.

7 An envelope for Peabody, Rivlin, Lambert and Myers.

8 A note from Margaret Booth.

9 Q Where is Margaret Booth located?

10 A I think she was with the Lewis, Wilson, Lewis &
11 Jones firm at one time.

12 There is a June 27, 1980 letter from Ellen Minsk, which
13 is transferring the interrogatories which were served on
14 Lockheed together with the answer and Air Force Message
15 231936Z.

16 Letter from Marsha Hoover returning my mock number
17 function and altitude tables.

18 Another letter from Ellen Minsk transferring a Telex to
19 me, a Tab B and other documents.

20 This looks like more notes on the Manual.

21 Here again, is a whole list of review of exhibits.

22 I think this is a repeat of the same, but I am not sure.

1 It is my draft notes of the crash. I believe that is a copy
2 but it is still the rough notes with all of the pencil
3 corrections.

4 There is a letter here from the Wilson firm from Michael
5 Cohen, more or less alerting me to the cases coming up. It
6 is dated August 28, 1980. Excuse me. It is a year old. Did
7 I say August 27, 1980? It is the 27th, not the 28th.

8 Q Is that it?

9 A That is it.

10 Q Are there some additional items in there which
11 have been removed?

12 While we are doing this, I would like to have this
13 copied.

14 Do I understand there are some items of Timm Exhibit 5,
15 the folder we have just been through, which were in the
16 folder but have not been produced?

17 MR. MCMANUS: That is correct. They are privileged
18 communications between Mr. Timm and counsel.

19 MR. DUBUC: Can you describe what they are?

20 MR. MCMANUS: A letter from Mr. Timm dated June 2,
21 1980, an envelope; a letter from Mr. Timm dated August 25,
22

1 1979.

2 MR. DUBUC: Timm to you?

3 MR. MCMANUS: Yes. To make it easier, I will just
4 say whether it is from us or to us.

5 June 2 was from Mr. Timm.

6 August 25, 1979 from Mr. Timm.

7 July 16, 1979 from Mr. Timm.

8 August 6, 1979 from Mr. Timm.

9 Another copy of the July 16, 1979 letter from
10 Mr. Timm.

11 This is something you have, a court reporter trans-
12 mittal. I don't think it is relevant at all.

13 June 26, 1979 from Mr. Timm.

14 June 3, 1980 from Mr. Timm.

15 June 2, 1980 from Mr. Timm.

16 The second letter of June 2, 1980 from Mr. Timm.

17 May 6, 1980 from Mr. Timm.

18 March 4, 1980 from Mr. Timm.

19 March 3, 1980 from Mr. Timm.

20 Another copy of the March 4 and March 3 from Mr.
21 Timm.

22 May 6, 1980 from Mr. Timm. I guess that is part

1 of the May 6 letter from Mr. Timm, two pages.

2 March 27, 1980, four pages.

3 March 4, 1980.

4 March 3, 1980. I believe those are copies of
5 previous letters.

6 October 30, 1979 from Mr. Timm.

7 Another page of the October 30, 1979 from Mr. Timm.

8 October 31, 1979 from Mr. Timm.

9 Another October 30, 1979 from Mr. Timm.

10 Another October 30, 1979 from Mr. Timm.

11 September 10, 1979 from Mr. Timm.

12 Three additional pages, September 10, 1979, from
13 Mr. Timm.

14 August 28, 1979 from Mr. Timm.

15 That is part of the same, the second page of that.

16 June 13, 1980 to Mr. Timm.

17 September 15, 1980 to Mr. Timm.

18 MR. DUBUC: To Mr. Timm?

19 MR. MCMANUS: Yes, September 13, 1980.

20 MR. DUBUC: September 15, 1980 to Mr. Timm.

21 MR. MCMANUS: To Mr. Timm; correct.

22 Here is another copy of the invoice from Sekelsky

1 that had previously been shown to you.

2 A letter of September 29, 1981 from Mr. Timm
3 with an attachment.

4 Two additional pages, September 29, 1981, from
5 Mr. Timm.

6 Four additional pages dated September 29, 1981 from
7 Mr. Timm.

8 Letter dated September 2, 1981 to Mr. Timm from
9 John Fricker.

10 August 19, 1981 from Mr. Timm.

11 A second August 19, 1981 letter from Mr. Timm.

12 Three pages, December 23, 1980 from Mr. Timm.

13 December 28, 1980 from Mr. Timm.

14 December 26, 1980 from Mr. Timm.

15 Two additional pages, December 23, 1980 from Mr.
16 Timm.

17 Two pages, November 13, 1979 from Mr. Timm.

18 MR. DUBUC: You are indicating those are privileged
19 communications?

20 MR. MCMANUS: Yes.

21 BY MR. DUBUC:

22 Q As to those items he has just gone through, Mr.

1 Timm, do they contain bills from you to the Lewis firm?

2 A Yes, they do.

3 Q I have asked you about the number of hours and
4 you said you only had an estimate, but with those bills you
5 could give more than an estimate.

6 A No, I couldn't give much more than an estimate
7 because the bills are not current. I don't have the current
8 hours.

9 Q What period of time is not current, as far as your
10 bills?

11 A I think the last several months.

12 Q The last several months have not been billed.

13 But, nevertheless, those items Mr. McManus just went
14 through and claimed a privilege on would contain amounts you
15 have billed the Lewis firm?

16 A Expenses, hours.

17 Q I don't want to delve into privileged matter,
18 but I believe we are entitled to know amounts and I would
19 like to ask you to review those and tell us the total amount
20 that you have billed up to whatever the last bill's date
21 was so you can have it ready for testifying at trial.

22 I would also ask for the total amount he has billed for

1 fees and expenses and then I would like to know what the
2 current hours and fees would be based on those hours.

3 MR. MCMANUS: Can you do that?

4 THE DEPONENT: It would take an hour or so.

5 MR. DUBUC: I just want you to be on notice that
6 I will ask you that at trial.

7 I would like total fees to date filled into the deposi-
8 tion, broken down by fees billed and unbilled, and total
9 expenses broken down by date billed and not billed.

10 BY MR. DUBUC:

11 Q Do you have any other notes, Mr. Timm?

12 A I have things that I have given, like Defendant's
13 Exhibit D-1303, which is a report by Doctor Turnbow.

14 Q You have reviewed Doctor Turnbow's report?

15 A Yes, I have.

16 Q My first question was other notes.

17 A This is all I have, these files. You have my
18 notes. Then I just have other documents that I have reviewed.

19 Q Would you tell us what those are.

20 A I have Defendant's Exhibit D-1298 and D-1216. That
21 is from John Edwards.

22 I have Defendant's Exhibit D-1302 with all of its

1 attachments.

2 Q Doctor Gowen's report?

3 A Yes.

4 Q You have read that, have you?

5 A Yes, I have.

6 I think this is also John Edwards. This must be two
7 copies of the same thing.

8 Q Any other reports?

9 A That was just recently.

10 Q When was that?

11 A I would guess within the last couple of weeks. I
12 just received the copies.

13 Q Did you review Doctor Dunn's report and Doctor
14 Davis' report, Exhibit D-1304?

15 Let the record reflect Mr. Timm is reviewing the docu-
16 ments.

17 A There is a Jalonsky report. I am just trying to
18 be sure we have them all on record.

19 Q Doctor Davis' report is dated September 4, 1981 on
20 the letterhead of Hyperbaric Medicine. I think you would
21 recognize that as something different. Have you seen that?

22 A I don't believe so.

1 Q Anything else by way of reports you have reviewed
2 of Defendant's experts since the last trial?

3 A That is as far as I know right now.

4 Q You don't recall any others?

5 A I don't recall any others.

6 Q Did you attend a seminar in San Francisco entitled
7 Second International Conference on Thermal Insulation, a
8 presentation by Mr. Cunningham of Lockheed?

9 A Yes, I did.

10 Q Did you take any notes of that?

11 A Yes, I did.

12 Q Did you produce those notes here today?

13 A No, I did not.

14 Q Where are those notes?

15 A In my office.

16 Q Are those notes that you will rely upon or the
17 information contained therein with respect to any opinion
18 rendered in this case?

19 A The only thing in those notes was a Lockheed stand-
20 ard on G-forces, what was horizontal and vertical G-forces.
21 Everything else in that presentation was a different subject.
22 It was a hydrogen-fueled aircraft that Lockheed was developing.

1 Q The standard of G-forces was for that aircraft?

2 A No, it was a Lockheed standard of G-force design
3 for any aircraft.

4 Q Was that standard G-forces for all parts of the
5 airplane or any particular portion?

6 A The presentation said it was Lockheed's standard
7 for G-forces. It did not explicitly say on what part of
8 the aircraft. I assumed it was for the whole aircraft.

9 Q That is what you wrote down?

10 A That is right.

11 Q We don't have those notes here?

12 A No, we don't.

13 Q Are you sure it was for the entire aircraft?

14 A I am sure it was for the entire aircraft. That
15 is what I got from the conference.

16 MR. DUBUC: I would like to ask for the production
17 of those notes, if he is going to rely upon those.

18 BY MR. DUBUC:

19 Q Do you have any other notes pertaining to Lockheed?

20 A Those are notes I kept at a conference that I
21 keep with conference notes. It is almost practically inde-
22 pendent. It is just one little piece of information.

1 Q The only reason I am wondering about it is I have
2 a letter from Mr. Fricker dated September 8, 1980 specif-
3 ically referring to that conference and stating a reference
4 to the conference and the G-forces, and I suppose whatever
5 notes you have will be relied upon by you in the next trial.

6 MR. MCMANUS: We will produce that portion of the
7 notes that relate to the G-forces.

8 THE DEPONENT: I will produce the page.

9 MR. DUBUC: But it is not available today.

10 MR. MCMANUS: He keeps it in an independent file
11 and he made a decision it was an independent file.

12 THE DEPONENT: It will take a search. I hope I
13 still have them.

14 BY MR. DUBUC:

15 Q When can we get those?

16 A As soon as I can find them. I will be going back
17 late this evening.

18 MR. MCMANUS: Will you call me tomorrow and let me
19 know the status of your search?

20 THE DEPONENT: I will see if I can find them.

21 MR. MCMANUS: I will report to you and endeavor to
22 get them to you as soon as possible.

1 MR. DUBUC: If they are not available two days
2 before the trial, we will move to preclude testimony by
3 Mr. Timm with reference to G-forces of the C5A if he is
4 going to rely on those notes.

5 MR. MCMANUS: I understand your position but I
6 don't agree with you.

7 BY MR. DUBUC:

8 Q In your letter of June 26, 1980 to Mr. Cromack,
9 there is a reference to some bolts on the seats. It is
10 marked Exhibit 3. It is right on the table there. It is
11 marked Timm Exhibit 3.

12 There is a reference in there to some computations,
13 apparently by Mr. Cromack. Have you received any computations
14 from Mr. Cromack?

15 A No, I have not.

16 Q Have you conferred with him since June of 1980?

17 A I have not spoken with him since I sent him this
18 letter.

19 Q Have you spoken to Mr. Schneider, Jerry Schneider,
20 in connection with G-forces and this accident?

21 A No, I have not.

22 Q Have you spoken with Doctor Mason?

1 A No, I have not.

2 Q Have you received any reports or computations from
3 either Mr. Schneider or Doctor Mason?

4 A No, I have not.

5 Q Have you received any from Doctor Cromack?

6 A No, I have not.

7 Q Have you conferred with Doctor Liu as to this case?

8 A No, I have not.

9 Q Have you received any correspondence or reports
10 from Doctor Liu?

11 A So far as I know, no, I have not.

12 Q Copies of reports?

13 A I have not received anything.

14 Q Have you consulted any manuals or books that you
15 would consider authoritative with respect to the effects on
16 human beings of decompression and being positioned in an
17 airplane at high altitude?

18 A I have read some articles that I have seen on it.
19 I think some of the articles were in these attached reports.

20 Q I saw some articles in there. Were there any
21 articles other than those attached to Defendant's experts'
22 reports?

1 A No, I have not.

2 Q Also attached are some graphs and charts with re-
3 spect to aerospace medicine.

4 A I have seen and read those attached reports.

5 Q Have you read any part of the book entitled Aero-
6 space Medicine?

7 A No, I have not, other than that excerpt.

8 Q How about the statistical manual "Bio-Astronautics"?
9 Have you read anything from there?

10 A No, I have not.

11 Q Can you tell us what volumes or manuals in the
12 field you have read with respect to effects on human beings
13 at high altitude?

14 A I have not read anything.

15 Q How about the effects on human beings in air-
16 craft of deceleration? Have you read any manuals or authori-
17 tative books on that subject?

18 A No, I have not.

19 Q Have you conferred with Doctor Busby since the
20 last trial?

21 A No, I have not.

22 Q Have you received any computations or reports from

1 Doctor Busby?

2 A No, I have not.

3 Q You said you did receive some pictures or looked
4 at some pictures; is that correct?

5 A I got pictures from Cromack.

6 Q In connection with the preparation of your testi-
7 mony, have you made any analysis of the location of various
8 belts or children in the troop compartment?

9 A No, I have not.

10 Q Do you know where any of them were located?

11 A No, I do not.

12 Q Do you know what witnesses were located in the
13 cockpit?

14 MR. MCMANUS: Witnesses?

15 MR. DUBUC: Witnesses in this case.

16 THE DEPONENT: I assume the pilot and co-pilot.

17 MR. MCMANUS: By witnesses, do you mean people who
18 have already testified?

19 MR. DUBUC: People have testified or scheduled to
20 testify.

21 THE DEPONENT: I read some of their depositions. I
22 don't remember who was in the cockpit. There was probably a

1 flight engineer and a dozen other people.

2 BY MR. DUBUC:

3 Q Do you know where the adult passengers were
4 located?

5 A I know some of them were in the troop compartment.
6 I have spoken with them.

7 Q Who are they?

8 A I have spoken to Christie Lieverman. I think some
9 of the nurses and some of the Nuns. I am awfully bad at
10 remembering names.

11 MR.MCMANUS: Don't try to guess.

12 THE DEPONENT: There was a Sister who was a nurse
13 who was a witness in this case.

14 BY MR. DUBUC:

15 Q She was in the troop compartment?

16 A In the troop compartment, as far as I know.

17 Q Does the name Sister McDonald ring any bell?

18 A It could, but I just don't remember the name.

19 Q Anybody else that you can remember that you talked
20 to who was in the troop compartment?

21 A There were several Nuns that are nurses who were
22 in the troop compartment. I spoke to them. I don't remember

1 their names.

2 Q Where did you speak to them?

3 A When they were down here to testify in the last
4 trial.

5 Q Was that at Mr. Lewis' office?

6 A It was there, when we were out to dinner and so
7 forth. I met them at the hotel to eat breakfast.

8 Q The only one you can remember the name of is Ms.
9 Lieverman?

10 A Yes.

11 Q How many Nuns were there that you might have
12 spoken to?

13 A I think there were two, maybe more.

14 Q Is it your recollection they were both in the
15 troop compartment?

16 A That is correct.

17 Q Other than those witnesses, in the course of your
18 analysis did you determine who, if anyone else, of the wit-
19 nesses who previously testified was in the troop compartment?

20 A There was a group of Air Force nurses in the troop
21 compartment.

22 Q Do you remember which ones those were?

1 A I think it is Arlene Tate. I would have to look
2 at the list of depositions. It has been quite a while since
3 I reviewed them but there was a whole group whose depositions
4 I read who were in the troop compartment.

5 Q Anyone else besides Arlene Tate?

6 A I think somebody named Wirtz.

7 Q Anybody else?

8 A If you want me, I can look through the list. I
9 don't remember the names because it has been two years.

10 Q You have not reviewed that list recently?

11 A I have not reviewed it recently.

12 Q With respect to the seats, did you look at seats
13 of an aircraft other than the accident aircraft when you
14 were in San Antonio?

15 A Yes, we did.

16 Q Can you tell me what your recollection is or your
17 knowledge as to how the seats were stressed with respect to
18 G-forces.

19 MR. MCMANUS: At what time?

20 MR. DUBUC: Well, as of now, so far as he knows.

21 BY MR. DUBUC:

22 Q What are the seats stressed for in the C5A troop

1 compartment?

2 A I don't understand your question.

3 Q Do you know what the seats in the troop compartment
4 are built to withstand as far as G-forces?

5 A I believe there is something like a 9-G fastening
6 connection and the seat is designed for 16 G's.

7 Q Where does that information come from?

8 A It comes from some report that I have read but I
9 don't remember which one.

10 Q You don't have any immediate recollection?

11 A I think maybe it was something like Mr. Edwards'
12 report or something like that.

13 Q What information do you have, if any, as to whether
14 any of these seats actually broke or failed?

15 A I have been trying to locate a picture that I have
16 seen a long time ago that looked like the seats were upside
17 down. I have not been able to find that picture, but I am
18 looking for it. It is still one of them I have seen for a
19 short bit and it has been in the first group of photographs.
20 It was not in the last group of photographs.

21 Q Is it a fact that the Collateral Report has a
22 portion of it which refers to seats not having been completely

1 fastened on the rail on the floor?

2 MR. MCMANUS: I object to the form of that question.

3 BY MR. DUBUC:

4 Q Do you recall that?

5 A I don't recall that. Can you show that to me
6 in the Collateral Report?

7 Q Did you read the Collateral Report?

8 A Yes, I did.

9 Q Did you read the accident report?

10 A Yes, I did.

11 Q You don't recall?

12 A It has been two years. There is a lot that I
13 don't recall.

14 Q Have you done any computations, Mr. Timm, as to
15 forces required to dislodge seats from the seat rails on
16 the floor in the troop compartment?

17 A First of all, there are no seat rails in the troop
18 compartment. They are fastened by a metal or cast piece by
19 forced screws that go right through the floor. There are no
20 rails.

21 Q How many screws?

22 A There are four screws.

1 Q What is the strength of those screws?

2 A I assume they are a number 10 screw. I would have
3 to look it up.

4 Q As a number 10 screw in the construction and
5 format in which they are screwed through the seat flanges to
6 the floor, what are the strength of the screws in either
7 pounds or G-forces?

8 A I would have to look it up. I didn't do the
9 computation.

10 Q Do you know any computation that has been made to
11 that effect?

12 A Not that I have, but it could be done quickly.

13 Q Would it be relevant to the forces operating on
14 the seat if, in fact, one was turned over?

15 A Yes, it would.

16 Q Are you aware of any design criteria for aircraft
17 in general with respect to design failure of wings where
18 fuel is contained in the event of an accident?

19 A Design failure of wings?

20 Q Yes.

21 A Each one has a different criteria, each aircraft,
22 where the wing is placed and everything else.

1 Q In your opinion, would it be good practice to
2 have wings designed to stay on an aircraft in the event of
3 an emergency landing with fuel in the wings?

4 A Fuel is a source of fire. It is not a good
5 criteria.

6 Q In your opinion, would it be a good design cri-
7 teria to have some kind of design so that wings would separate
8 from fuselage where passengers are carried in the event of
9 a crash landing?

10 A There is a two-fold problem on that. If you make
11 something that can break at a crash landing, you also weaken
12 the structure that can also break in flight, so you are
13 between the devil and the deep blue sea. You have to make
14 it if the wings are on the aircraft that the fuel tanks do
15 not rupture. That is a much safer design.

16 Q I am not sure I got the answer to the question,
17 but would it be a fair question that you agree if you can
18 accomplish it, it would be a good idea to have wings separate
19 from the aircraft --

20 MR. MCMANUS: I object to the form of the question.

21 BY MR. DUBUC:

22 Q -- separate in the event of an air crash?

1 A I believe you are trying to do two things in
2 opposite directions. I do not believe you can do it.

3 Q Whether or not you can do it, would it be your
4 opinion if you could -- it would be a good idea?

5 A If it was practical, yes.

6 Q Have you seen Defendant's Exhibit D-1216?

7 A Yes, I have.

8 Q And you have seen pictures of the accident scene,
9 have you not, among these you have examined recently?

10 A Yes, I have.

11 Q In fact, there were also some aerial view pictures
12 of the accident scene at the last trial?

13 A That is correct.

14 Q In fact, you testified in general as to forces
15 necessary to separate certain components of the aircraft
16 as a result of this emergency landing; is that correct?

17 A I testified that it would require a tremendous
18 force to separate it. I don't believe I gave an absolute
19 value to it.

20 Q One of the things you said separated was the
21 empannage.

22 A That is correct.

1 Q Can you tell us on Exhibit D-1216 where the empan-
2 nage separated?

3 A It separated and sheared right down across here
4 (indicating).

5 Q Can you draw a line there and put your initials
6 on it, and maybe the word "separation."

7 (Witness complied with request.)

8 BY MR. DUBUC:

9 Q Can you show us on Exhibit D-1216 -- I believe
10 you testified the wings also separated. Can you tell us
11 where they separated?

12 A Right here (indicating) as far as I can tell.

13 Q You have drawn two lines parallel with the fuselage
14 lines. Would you mark those with your initials and the
15 word "separation."

16 (Witness complied with request.)

17 BY MR. DUBUC:

18 Q Maybe you can draw some arrows.

19 Do you know whether there is anything in the airplane
20 called a wing box?

21 A I believe there is but I would have to refer to a
22 drawing. It is in the reports. It is referred to in the

1 reports but I don't remember it at this time.

2 Q Do you remember approximately where the wing box is
3 located?

4 A I would have to look at the drawings. It has been
5 too long.

6 A At least, in your opinion, the wings separated from
7 the C5A in this accident along the parallel lines you have
8 drawn in Exhibit D-1216; is that correct?

9 A That is correct.

10 Q Did the cockpit crew area separate from the air-
11 craft?

12 A Yes, it did.

13 Q Can you show us on Exhibit D-1216 where that
14 occurred? Draw a line and put your initials.

15 (Witness complied with request.)

16 BY MR. DUBUC:

17 Q Did the troop compartment separate from the aircraft?

18 A Yes, it did.

19 Q Could you draw a line and show where that occurred,
20 the aft troop compartment?

21 A It is somewhere right in there (indicating).

22 Q Those are the four main components that separated,

1 are they not?

2 A Yes, they are.

3 Q Did you make any determination in connection with
4 your review of documents in preparing to render your opinion
5 as to at what point in time relevant to the second touch-
6 down or impact that these components separated?

7 A From the movies we have a very good idea when that
8 occurred.

9 Q When, in your opinion, would that be?

10 A That would be after the plane traveled over the
11 river, broke the dyke and gouged into the ground and became
12 airborne again for the second time, or after what we call
13 the second impact, and I believe it disintegrated in the air.

14 Q You have seen Exhibit D-9, have you not, sir?

15 A Yes, I have.

16 Q Before we leave this other one, can we mark
17 D-1216 as also Timm No. 6.

18 (Said document marked Timm Exhibit
19 No. 6 for identification.)

20 BY MR. DUBUC:

21 Q Referring to Exhibit D-9 previously marked --
22 you have seen that before, have you not?

1 A Yes, I have.

2 Q Can you show us on there, on Exhibit D-9, where, at
3 what point in the area that is marked "debris area" the
4 empennage separated?

5 A It would be in this area here (indicating).

6 Q Can you draw an arrow to that.

7 A I will draw a circle.

8 Q That is separation of the empennage?

9 A I would say separation of all of the parts of the
10 aircraft, in that area.

11 Q Am I correct I heard you mention there was a third
12 impact?

13 A No. I said what we called as a second impact.

14 Q Where did that second impact occur?

15 A We are calling this the second impact as shown on
16 this diagram (indicating).

17 Q Are you indicating the point next to the dyke on
18 Exhibit 9?

19 A It was right after the dyke. There is a deep
20 gouge in the ground. This is what would be known as a second
21 impact area.

22 Q Can you put a circle around the area you are calling

1 the second impact area?

2 A Called the second impact.

3 Q Draw a line and say "second impact."

4 (Witness complied with request.)

5 BY MR. DUBUC:

6 Q And your initials.

7 Was there some distance between that second impact
8 area and the area marked for separation of the components?

9 A Yes, there is.

10 Q What was that?

11 A I would have to measure it. It is maybe somewhere
12 in the neighborhood of 200 yards or something like that.

13 Q Is that your best estimate?

14 A It is pretty hard to estimate on something like
15 this here.

16 Q How long would it take the airplane to go 200 yards
17 at its weight and speed at the time of the second impact?

18 A Somewhere around a second-and-a-half, something
19 like that.

20 Q Would you mark on there approximately 250 yards,
21 if that is your estimate.

22 (Witness complied with request.)

1 BY MR. DUBUC:

2 Q Was the aircraft on the ground making the gouges
3 you described during that 250 yards?

4 A Not all the time.

5 Q How much of the time?

6 A It was on the ground this first part of what we
7 call the second impact area. When you review the film you
8 see there are deep gouges right after the dyke and the
9 gouges disappear. There is no water or anything showing or
10 any indentation in the ground, indicating that the aircraft
11 was no longer on the ground but airborne.

12 Q Where did the aircraft come back to the ground
13 according to your theory?

14 A According to theory, it came back in pieces after
15 it was airborne.

16 Q Would that be---

17 A Various pieces. This piece landed around here
18 and slid.

19 Q Are you referring to the troop compartment?

20 A The troop compartment.

21 Q Can you show us where the troop compartment landed,
22 according to your opinion?

1 A About 200 feet from its final resting place.

2 Q Would you draw a line there and say "troop com-
3 partment landing," and put your initials on it.

4 (Witness complied with request.)

5 Q How about the cockpit? Where did that come to
6 rest?

7 A The cockpit came in here.

8 Q Did the cockpit stay on the ground from the point
9 where you have marked separation to the point where it
10 came to rest?

11 A No; it was airborne again part of the time.

12 Q Where did it come back to the ground, under your
13 theory?

14 A We would have to see the movies again to get
15 an accurate point, but it was somewhere up in here several
16 hundred feet where it skids on the ground again, leaving
17 the water visible in the photographs, and then it comes
18 to rest at that one point.

19 Q Can you draw a line there for "cockpit landing."

20 (Witness complied with request.)

21 Q Under your calculations or your opinion, would
22 the forces operative on the cockpit at the time of that

1 landing you have just marked be the same, greater than
2 or less than those of the troop compartment at the point
3 you marked for the troop compartment?

4 A It really depends on the mass of each. I be-
5 lieve the cockpit assembly was much lighter so the forces
6 on the cockpit would be less.

7 Q What is the weight of the cockpit?

8 A I don't know. I am just judging by the part
9 I saw in the photograph.

10 Q Would you know the weight of the troop compartment?

11 A No, I do not.

12 MR. McMANUS: I presume counsel is referring
13 to the pieces that were left after the crash.

14 MR. DUBUC: Yes.

15 BY MR. DUBUC:

16 Q Mass or weight would be an important consider-
17 ation, would it not?

18 A Mass is equal to force or acceleration or decel-
19 eration.

20 Q What was the weight of the aircraft on landing?

21 A I believe it had a takeoff weight of 700,000
22 pounds.

1 Q That was the takeoff weight?

2 A That is listed in the book by Jaynes. We do
3 not have what the loading weight was, or I don't anyway,
4 at the time of this accident.

5 Q You have not looked at the weight and balance
6 form in the accident report?

7 A I can't recall. I have seen the report, but
8 I don't remember the weight right now.

9 Q It would make a difference as to how much weight
10 relevant to the 700,000 pounds.

11 A It makes a difference but not a difference in,
12 say, the ratio of the numbers.

13 Q But it would make a difference in the mass vel-
14 ocity formula?

15 A Yes.

16 Q You don't know what that would be?

17 A I don't know the landing weight.

18 Q Landing weight would not be the same as takeoff
19 weight?

20 A No, the fuel consumption would have to be sub-
21 tracted.

22 Q Do you know how much fuel was consumed?

1 A No, I do not.

2 Q I believe in the prior trial, you gave an opinion
3 of kinetic energy and, to a certain extent, it was based
4 on the mass?

5 A Yes.

6 Q Do you remember what numbers you used?

7 A I would have to look at the calculation. I don't
8 believe I have it with me, but that was based on an assumed
9 weight with a reduction.

10 Q It was not 700,000 pounds?

11 A No, it wasn't.

12 Q If you talk about kinetic energy, do we talk
13 about kinetic energy of the whole or the kinetic energy
14 of the parts when we are trying to determine forces opera-
15 tive on a given component?

16 A First, because it was the whole, you talk of
17 the kinetic energy of the whole. Then, after they separate,
18 you talk of the kinetic energy of the parts.

19 Q You are familiar with the term G-forces?

20 A That is right.

21 Q In your opinion, would G-forces operating, for
22 example, on the empennage of this C5A on landing be the

1 same as G-forces operating at the same time on the cockpit?

2 A What part in flight?

3 Q At the time of the second impact?

4 A It depends on how it separated.

5 Q In your opinion, how did it separate?

6 A There was a shearing or a breaking of the aircraft.

7 It could be at a seam or a joint where the fuselage is

8 joined together so that the plane did not shear as such.

9 There was an actual separate part of it and the connection

10 of the two sheared, breaking the second piece apart, or

11 it could be like the bottom of the troop compartment and

12 actually shear off the airframe along with the ribs.

13 Q Are you talking about the bottom of the troop
14 compartment?

15 A Yes.

16 Q Where did that shear? Are you talking about
17 a shearing along the horizontal line that is marked on
18 Timm Exhibit No. 6?

19 A Yes.

20 Q Was that a shearing, in your opinion, at a manu-
21 facturing joint or a shearing of the ribs?

22 A No, that is a shearing of the airframe and ribs.

1 Q How many ribs are in that area, if you know?

2 A I have it somewhere in my notes on the center
3 spacing of the ribs, and I have the measurement of the
4 ribs which have a depth of about 6 inches, a flange of
5 half an inch, and I believe it is about a quarter of an
6 inch thick. It would take quite a bit of force to break
7 those numbers.

8 Q If the ribs were sheared?

9 A Yes.

10 Q Would it take the same amount of force to sep-
11 arate the troop compartment?

12 A It would depend upon the fastening of the joints.

13 Q Do you know what the fastening of the joints was?

14 A No, I do not.

15 Q How about up where you have the cockpit separating?
16 Would the forces have been the same there as they were
17 with respect to the separation of the troop compartment
18 at the point where they both separated, as you have indi-
19 cated on Exhibit D-9?

20 A There would be different forces involved because
21 there are different points where it sheared.

22 Q I notice that you have the line drawn from the

1 top of the fuselage all the way to the bottom of the fuselage
2 for the shear point of the cockpit; is that correct?

3 A That is correct.

4 Q With respect to the troop compartment, you have
5 the shearing somewhere in the middle of the fuselage; is
6 that correct?

7 A That is correct.

8 Q You would say it would take more force to do
9 that to the troop compartment than the cockpit?

10 A That is correct.

11 Q How many ribs are at that cockpit joint?

12 A I would have to look at my notes to give you
13 an answer. I think the troop compartment we are talking
14 about is 40-some-odd-inches long. I don't remember the
15 center-to-center spacing of the ribs, but they are fairly
16 frequent so there would be at least 20 or more ribs that
17 would have to be sheared.

18 Q In addition, as you have it marked on Exhibit 6,
19 your Deposition Exhibit D-1616, it also sheared through
20 the cargo compartment floor?

21 How would it shear through the cargo compartment floor?
22 We are talking horizontally.

1 Q I am talking about the cockpit as you drew it.

2 A Yes.

3 Q You saw the cargo portion of the ramp, did you
4 not?

5 A I saw the ramp in San Antonio.

6 Q Do you know if the ramp is constructed of the
7 same sort of material as the cargo compartment floor?

8 A It is not.

9 Q What is the difference?

10 A The ramp is a different item that has to be
11 structurally different than the cargo compartment floor,
12 because the cargo compartment floor has the ribs that would
13 go all the way around; and the ramp, structurally, has
14 to be able to support a weight when it is acting as a simple
15 beam. So, the strength and the design of the ramp have
16 to be a lot different than the cargo compartment floor.

17 Q Does the ramp, in your opinion, have to be stronger
18 or less strong than the cargo compartment?

19 A It has to be stronger.

20 Q How about the forward ramp?

21 A That also has to be stronger.

22 Q Stronger than the cargo compartment?

1 A Right.

2 MR. DUBUC: May I have this marked Timm Exhibit
3 No. 7.

4 [Said document marked Timm Exhibit
5 No. 7 for identification.]

6 BY MR. DUBUC:

7 Q Based on the questions I have just asked you,
8 do I understand that you could not believe the C5A in this
9 accident hit the dike before the second impact?

10 A It hit the dike.

11 Q What part of it hit the dike?

12 A It could be the landing gear or wing tip. I
13 would have to look at the movie again. There is a big
14 area of dike that is wiped out on one side.

15 Q Is there one mark under that?

16 A No; I believe there is more than one.

17 Q How many did you see?

18 A I would have to look at the movie again to see.

19 Q You have seen it?

20 A Yes, but I would like to verify it.

21 Q Did any part of the aircraft strike the ground
22 before reaching the dike prior to the second impact?

1 A No, it did not.

2 Now, are we talking about after flying over the
3 river? It hit the land on the first impact area on the
4 east side of the river.

5 Q I am talking about any part of the plane hitting
6 the ground on the west side of the river.

7 A No.

8 Q In your opinion, it did not?

9 A No.

10 Q Did you make any calculations based on the opinion
11 you have given us today that the aircraft broke up in the
12 air as to how far through the air, in your opinion, the
13 cockpit went between the second impact and where you have
14 indicated here "cockpit landing"?

15 A I did not come up with a calculation of the dis-
16 tances at this time. I am still working on that.

17 Q But you are going to have those?

18 A I will.

19 Q Will you have any computation with respect to
20 the speed of the cockpit between the point of break-up
21 and the point you have indicated of the cockpit landing?

22 A We are trying to determine the speed of the

1 aircraft. The speed can always end up being an assumption
2 because there is no data or MADAR information to determine
3 what the speed was in that area.

4 Q How about with respect to the troop compartment?

5 A Same answer.

6 Q You are working on it?

7 A That is right.

8 Q What, if any, opinion do you have as to the peak
9 G-forces on the cockpit flight deck?

10 MR. McMANUS: At what time?

11 BY MR. DUBUC:

12 Q A the time of the second impact.

13 A The time of second impact is not the peak G-forces.

14 Q Let's change it. What, if any, opinion do you
15 have as to the G-forces on the cockpit at the time of impact?

16 A That is the same question.

17 Q I did not ask for peak. I just asked for vertical
18 G-forces.

19 A Now you changed the G-forces to vertical.

20 Q What, if any, opinion do you have as to the G-forces
21 on the cockpit flight compartment of this aircraft at the
22 time of the second impact?

1 A Which direction?

2 Q All three.

3 A You have all different G-forces working on them.
4 We have not come up with an absolute number yet. We are
5 trying to get some feel for the rate of decent of the second
6 impact and also an estimate of the reduction of the air
7 speed from 270 knots that was reported prior to the first
8 impact to the second impact. We are trying to come up
9 with a reasonable reduction in air speed to come up with
10 a reasonable G-force, and we do not have those numbers yet.

11 Q So, you don't have that answer yet?

12 A Not yet.

13 Q With respect to the troop compartment, what,
14 if any, opinion do you have of the G-forces operating on
15 the troop compartment, X, Y and Z axes?

16 A We don't have the answer yet. We are trying
17 to come up with it.

18 Q What, if any, opinion do you have as to the G-
19 forces operative on the cockpit at the time you indicated
20 here "cockpit and landing" in Exhibit 7, X, Y and Z axes?

21 Q You have a G-force in a Y direction which caused
22 this unit to veer off to the left of the line-of-flight. So,

1 the Y G-force on the cockpit was greater than the Y G-force
2 of the troop compartment which is going closer to a straight
3 line of flight.

4 The absolute magnitude of those G-forces we do not
5 have an estimate of yet, but we know that they are greater.
6 There was less deacceleration force on the flight deck
7 because the flight deck followed further. If you assume
8 the same energy at the time of separation, it did not de-
9 accelerate as fast as the troop compartment. So, we know
10 that those forces were less. The actual magnitude of it --
11 we have to get those numbers yet.

12 Q How about the Z axis?

13 A The vertical axis. That is dependent upon the
14 terrain and the movement up and down so that is something
15 which would be very, very hard to determine.

16 Q You have not determined that yet?

17 A No.

18 Q In answer to one of my questions a couple of
19 minutes ago, you indicated that in your opinion the peak
20 G-forces did not occur at the time of the second impact.

21 When did they occur, in your opinion?

22 A It depends on the individual part.

1 Q Let's take the cockpit flight deck.

2 A The highest G-forces probably occurred while
3 the flight deck was sliding to its rest.

4 Q How about with respect to the troop compartment?

5 A Same thing.

6 Q When you say the highest G-forces, you are re-
7 ferring to the X axis, are you not?

8 A That is right.

9 Q How about the Y G-forces? Where would those
10 peak G's have occurred with respect to the cockpit?

11 A There id a higher G-force in the Y direction
12 zone by the path of not going in a straight line. There
13 had to be a force forcing it in the other direction, so
14 it did not travel straight. The force moved it over.

15 Q Where would that have occurred?

16 A The force could have resulted in a Y component
17 force at the tme of separation, or it could have occurred
18 depending on how it hit the ground.

19 Q You don't know which one?

20 A We can't tell.

21 Q How about with respect to the peak Y G-force
22 occurring with the troop compartment?

1 A That curved path on this diagram I do not think
2 corresponds to the movies.

3 Q What is the difference?

4 A I believe the path of the troop compartment is
5 straight-line.

6 Q Is it in a straight line?

7 A That is right.

8 Q Would it be fair that that would indicate rela-
9 tively low Y axis?

10 A Low component G-force.

11 Q How about the vertical G-forces? Where would
12 the peaks have occurred with respect to the cockpit?

13 A I think the major Y G-force is going to result
14 from the bumpy rideas that unit is sliding over the ground.
15 It is just like riding on a bumpy road and getting bounced
16 to pieces. If you go on a bumpy road 60 or 90 miles an
17 hour, over a pothole road, you insides know about those
18 potholes.

19 Q What do you base that on?

20 A I base that on experience of what you are going
21 to feel riding over rough terrain.

22 Q You have not examined the terrain?

1 A All I have examined was the photographs of the
2 terrain.

3 Q What do you conclude from the make-up of the
4 terrain?

5 A From the information I have received---

6 Q I am referring to the second impact area.

7 A From the information I received, the terrain
8 in the rice paddies in South Vietnam -- there is a very
9 hard crust. It is like a rock, and this hard crust is
10 very, very difficult to break. This is what gives you
11 the rough ride. It is like riding on a bunch of boulders.

12 Q Where did you get that information?

13 A This occurred from a consultation with a geologist.

14 Q What was his name?

15 A I just spoke to him yesterday. I didn't write
16 his name down. I would have to give you that later.

17 Q How did you get his name or get in touch with
18 him?

19 A A phone call.

20 Q From you to him?

21 A No, I was referred to him. He is also an expert
22 who has reviewed this data.

1 Q You were referred to him by whom?

2 A Dr. Cohen.

3 Q He is an expert who has reviewed this data?

4 A That is right.

5 Q Are you going to rely upon his conversations
6 and the data he has given you in rendering your opinion?

7 A Yes.

8 Q What did he tell you?

9 A He told me the general structure of the soil
10 in South Vietnam and how these rice paddies are operated,
11 how the mineral deposits collect at certain levels and
12 make an area like very hard, like a hard pan that we experi-
13 ence here, and how the water in the rice paddies comes
14 up. It is just like a very high-level ground water table
15 we have in this country. As soon as you penetrate the
16 top later and break it, the water pops through. Otherwise,
17 it is below the surface, and it is a relatively dry, hard
18 ground.

19 Q Was yesterday the first time you spoke with him?

20 A That is right.

21 MR. DUBUC: Do you have his name, Mr. McManus?

22 MR. McMANUS: No, I don't.

1 MR. DUBUC: Could his name be determined by a
2 call to the Lewis office for Dr. Cohen?

3 THE DEPONENT: Dr. Cohen is out of town.

4 BY MR. DUBUC:

5 Q Would Dr. Cohen be the only one who knows his name?

6 A I believe so.

7 Q Have you seen any written reports or documentary
8 studies from this geologist?

9 A No, just my conversation with him.

10 MR. DUBUC: Do you know if you have any of those
11 kinds of reports or documents, Mr. McManus?

12 MR. McMANUS: I don't have any.

13 MR. DUBUC: This is information, you realize,
14 as of yesterday. I would like to take a 5-minute break
15 and ask you to call to see if we can identify this geologist.

16 MR. McMANUS: I don't know that this geologist
17 is intended to be a witness.

18 MR. DUBUC: He just testified he is going to
19 rely upon what he was told by this geologist, so it is
20 going to form part of his opinion. I think we are entitled
21 to know who he is. Can we do that?

22 MR. McMANUS: What is it that you want?

1 MR. DUBUC: For one thing, I want to get his name.

2 Can we take a couple of minutes to do that?

3 MR. McMANUS: I can do that now.

4 [Brief recess.]

5 MR. McMANUS: We don't have it. We are trying
6 to get it.

7 MR. DUBUC: I press my request for the name and
8 background of the geologist.

9 BY MR. DUBUC:

10 Q Did he tell you anything else, Mr. Timm?

11 A Basically the rice paddy structure, the soil
12 structure, the water layering, and when the ground is broken
13 that the water fills into that ground; otherwise, it is
14 dry -- just the general basic geology of a rice paddy,
15 I guess.

16 Q Has this geologist been to the accident scene
17 and observed the rice paddies in the area of the second
18 impact?

19 A I don't believe he has been to that particular
20 scene. He is an expert on Southeast Asia.

21 Q Is he connected with any organization, if you
22 recall?

1 A I don't recall his full credentials. If I can't
2 remember his name, I can't remember the rest of it. It
3 was a very short telephone conversation.

4 Q How long did it last?

5 A Five or ten minutes.

6 Q This was yesterday?

7 A Yes.

8 Q October 19?

9 A Right.

10 Q Have you any meetings scheduled with him to dis-
11 cuss this any further?

12 A I may have in the future but, right now, there
13 is nothing formally scheduled.

14 Q Other than this geologist and Dr. Cromack,
15 Schneider, Mason and Leiu and Busby, have you talked to
16 any othr consulting experts since the last trial?

17 A No, I haven't.

18 MR. McMANUS: Just so it is clear, I don't believe
19 he said since the last trial he has consulted with any
20 of these people you named.

21 MR. DUBUC: You assume he has already told us
22 he has not except for the correspondence with Dr. Cromack.

1 THE DEPONENT: That is right.

2 BY MR. DUBUC:

3 Q At the last trial, Mr. Timm, I believe you gave
4 information as to the circumstances within the troop compart-
5 ment at the time of decompression relevant to millimeters
6 of mercury. Do you remember that?

7 A You will have to refresh my memory further.

8 Q In your opinion, at what altitude did the decom-
9 pression occur?

10 A Something like 23,000 feet, or something like
11 that, plus or minus, 23,200 or something of that order
12 of magnitude.

13 Q In your opinion, what would be the ambient air
14 pressure times millimeters of mercury at that altitude?

15 A I will have to look at my notes on that.

16 Q Are you referring to part of Timm Exhibit 4?

17 A Whatever it is.

18 It is something like 300 and 3 millimeters of
19 mercury.

20 Q In your last testimony, I believe you made some
21 comparison as to the amount of oxygen in the air at that
22 mercury pressure; is that correct?

1 A Well, you can calculate the oxygen in the air.
2 That mercury pressure would be something like partial
3 pressure of 63 millimeters of mercury, partial pressure
4 of oxygen.

5 Q In the air?

6 A At that atmosphere.

7 Q In your last testimony, I believe you made a
8 comparison to certain components of air including oxygen,
9 nitrogen, and so on. Do you recall that?

10 A Continue. I don't completely recall.

11 Q I think you made a reference to some ping pong
12 balls of different colors. Do you remember that?

13 A Yes, and that is somewhere in the notes here,
14 too, which I developed.

15 I now have it here.

16 Q A certain part of the air is made up of oxygen
17 and you used ping pong balls as an example.

18 A Yes.

19 Q And there is what else?

20 A There is argon, nitrogen, all the rare gasses.

21 Q Then I think you made an analogy between some
22 kind of bubbling effect of those ping pong balls compared to

1 carbon dioxide in a soda bottle. Do you remember that?

2 A I don't recall exactly what it was.

3 Can you tell me the page? I will review it for
4 you.

5 Q Page 60, the testimony of May 12, 1980 in the
6 Marchetti case.

7 MR. McMANUS: We don't appear to have a page
8 60. If you can show him what you are referrring to---

9 MR. DUBUC: The testimony in the Marchetti case,
10 May 12, 1980, page 60 of the direct testimony.

11 "QUESTION: All right, sir. Can you tell me,
12 sir, in using as an illustration a bottle of soda water,
13 does a bottle of soda water operate with gas under pressure?
14 Can you describe that?

15 "ANSWER: That is another effect---"

16 Then an objection.

17 "ANSWER: And we use a soda water bottle because
18 that is similar to something that we will understand. The
19 way they make soda water, they put carbon dioxide into
20 pressure into the soda water bottle and it dissolves in
21 the soda.

22 "If they take that soda water bottle and they

1 happen to open it rapidly, the soda fizzes out. That is
2 nothing more than the gases in that soda water bottle coming
3 back in the atmosphere as a gas. The same thing happens
4 to gases dissolved in any liquids under any pressure. They
5 dissolve to a certain extent. When the pressure is released,
6 the pressures go back to the gaseous state and are released.
7 It happens in any water around and, in fact, the reduction
8 pressure would cause an evaporation of some water because
9 it would tend to evaporate at a lower pressure."

10 A I remember that.

11 Q Is it your opinion the human body would operate
12 in the same manner as the soda water in a soda bottle?

13 A This is a universal law known as Henry's law
14 and all fluids operate the same -- human bodies.

15 Q What compensating factors, in your opinion, does
16 the human body have for that kind of evaporation?

17 A It probably does not go all the way down to the
18 same pressure, the same reduction in pressure.

19 Q What components or factors in the human body
20 might change it, do you know?

21 A I am not a medical expert.

22 Q And you are not a physiological expert?

1 A I am only testifying to physical effects of dis-
2 solved gases in liquids.

3 Q Would you agree there might be some factors and
4 components in the human body which would make it operate
5 differently from the stock example of the soda water bottle?

6 MR. McMANUS: I object to the form of that question

7 THE DEPONENT: That is a very difficult question
8 to answer because it covers such a broad area. There are
9 certain places in the human body where it will be different,
10 and there are other places where it will be the same. It
11 is something that cannot be answered.

12 BY MR. DUBUC:

13 Q You said it would happen in the fluids in the
14 human body?

15 A That is what I said.

16 Q And you believe it would be the same as in the
17 soda water bottle?

18 A But in different areas to different degrees.

19 Q How about the lungs?

20 A The lungs are directly connected so definitely.

21 Q How about the blood vessels of the arms and legs?

22 A That would be different.

1 Q How about the blood vessels to the brain?

2 A That could be different but, in principle, the
3 reduction pressure will cause off-gasing, and the only
4 thing we are differing in is the amount of off-gasing,
5 because the pressure of the atmosphere outside the body
6 is not necessarily the reduction in pressure in the brain
7 cavity.

8 Q But you would agree there might be some physio-
9 logical factor of which you may not be aware in detail?

10 A I said that is a medical question, and I am not
11 a physician.

12 Q With respect to partial pressure at 23,400 feet
13 which you mentioned, I think you said, from your notes,
14 the partial pressure of oxygen at that altitude in the
15 ambient air would be 300 to 3 millimeters of mercury.

16 A No. The partial pressure would be approximately
17 63 millimeters of mercury.

18 Q Sixty-three.

19 Where would that come from?

20 A Because the total pressure of the atmosphere
21 is about 303 millimeters and you take 21 percent of it
22 and that is 63.

1 Q Would that be the partial pressure of oxygen
2 in the lungs of a human being at that altitude?

3 A No, the pressure differs because you have compon-
4 ents of carbon dioxide and the carbon dioxide being consumed
5 reduces the pressure further.

6 Q What would it be?

7 A Somewhere in the neighborhood of about 23 milli-
8 meters of mercury from what I can see in these notes. It
9 could be down as low as 14 depending on the residual of
10 carbon dioxide in the lungs.

11 Q In your opinion, what would be the partial pres-
12 sure of oxygen in the lungs necessary to sustain conscious-
13 ness of a human being?

14 A That is a medical question. I don't know that,
15 and I am not prepared to give an answer on that.

16 Q How long was this airplane at 23,000 feet?

17 MR. McMANUS: Total time before and after decom-
18 pression?

19 MR. DUBUC: After the decompression.

20 THE DEPONENT: Which data am I supposed to use?
21 There are three sets of data.

22

1 BY MR. DUBUC:

2 Q Whichever one you are basing your opinion on.

3 A There is a sheet missing from the papers I have
4 given you. I cannot find the MADAR data that I am looking
5 for.

6 Q Let the record reflect he has apparently found
7 it in his notes.

8 A The question was how long it was up at 23,000 feet?

9 Q How long was it up at 23,400 feet following decom-
10 pression?

11 A Decompression was supposed to be lower. It rose
12 to a maximum height of 23,423.796 feet. That was the maximum
13 altitude.

14 Q How long did the airplane stay at that altitude?

15 A That is the maximum reached. The next reading
16 is 17 seconds later, and the plane descended at 23,313 feet.

17 Q How much time elapsed, in your opinion, based
18 on the information you have between the time of decompression
19 and the time the aircraft reached 18,000 feet?

20 A Two minutes and 40 seconds.

21 Q How much time elapsed, in your opinion, between
22 the time of decompression and that time elapsed before the

1 aircraft reached 16,000 feet?

2 A Four minutes and 39 seconds.

3 Q In your opinion, how much time elapsed between de-
4 compression and the time the aircraft reached 12,000 feet?

5 A Six minute, 48 seconds.

6 Q How much time, in your opinion, between the time
7 of decompression and the time the aircraft reached 10,000
8 feet?

9 A At what time? It says 10,000 feet several times.

10 Q The first time.

11 A Eight minutes and 11 seconds.

12 Q With respect to the people in the troop compart-
13 ment, what information, if any, do you have as to whether
14 any of them were injured following the second impact?

15 A I don't have the injury reports on the individuals
16 in the troop compartment.

17 Q What information, in your opinion, do you have
18 with respect to the injuries of the people in the troop
19 compartment prior to the first impact?

20 A I have no injuries of the individuals by name
21 in the troop compartment. I know only from the testimony
22 and depositions of other people describing how they were hurt

1 I think there is one person who had their chest crushed in
2 the process of the crash. that is the extent of what I
3 have read in the depositions. I do not have the medical
4 reports of the individual children.

5 Q Was that before the first impact?

6 A The chest crushing?

7 Q Yes.

8 A I don't believe anyone knows.

9 Q You don't know if it was before or after?

10 A We don't know when it was.

11 Q Are there any other injuries that you know of
12 in the troop compartment?

13 A I think one of the flight nurses was injured.
14 It was in her deposition.

15 Q Do you know how she was injured? Do you recall
16 the kind of injury?

17 A Right offhand, I can't. I read it two years ago.

18 Q Do you recall any other injuries in the troop com-
19 partment?

20 A I know there were reports of babies that were
21 burned. There is a report in there of ten percent of the
22 babies burned.

1 Q Were those babies in the troop compartment?

2 A That is correct.

3 Q Where did you see that report?

4 A I believe that was in the testimony at the last
5 trial.

6 Q Do you recall whose it was?

7 A I don't remember offhand.

8 Q Other than the testimony at the last trial, do
9 you have any reports or information as to any babies in
10 the troop compartment that were burned?

11 A I say there is a report in there that says ten
12 percent of the babies suffered burns who were in the troop
13 compartment, and that was in one of the exhibits at the
14 trial.

15 Q You don't remember which exhibit?

16 A No.

17 Q If it was not an exhibit at the trial, would
18 that change your opinion as to whether anybody was burned
19 in the troop compartment?

20 A No, it wouldn't. I saw parts of the airframe.

21 Q In your opinion, was there some fire in the troop
22 compartment?

1 A There definitely was.

2 Q Where was it?

3 A It was all around the troop compartment.

4 Q Was there any inside the troop compartment?

5 A Some, yes.

6 Q What evidence, if any, do you base that opinion on?

7 A There is a photograph that shows the buggling
8 of the plastic on the compartments over the seats. That
9 is a sign of intense heat.

10 Q Anything else?

11 A There is also a photograph of the troop compartment
12 that shows the carbon that was burnt off of the airframe.

13 Q Was that inside or outside?

14 A It is external, but it is right below a hatch
15 door, so the fire could have gone inside through the hatch
16 door.

17 Q Anything else?

18 A Basically that and the general terrain and the
19 browning of the vegetation. One of the photographs shows
20 burnt vegetation right under the troop compartment.

21 Q Anything else?

22 A I guess that is about it. I can't remember them all.

1 There might be others.

2 Q Do you recall any testimony about fire in the
3 troop compartment?

4 A Yes, I do.

5 Q Whose was that?

6 A Christy Lieverman.

7 Q Do you recall what she said?

8 A I believe that is a matter of what was in the
9 testimony. I don't remember the exact wording. I could
10 look it up.

11 Q I am just trying to find out what you remember.

12 A We are trying to go over a year ago and I have
13 not reviewed anything since then.

14 Q Would it be a fair statement that as to the testi-
15 mony as to the troop compartment that you are relying upon
16 the testimony of Christy Lieverman?

17 A She is one of the witnesses who testified there
18 was fire and heat in the troop compartment and it shot
19 up the stairwell. It was not a continuous fire. It was
20 a fire that came up and left. This coincides with what
21 we see in the photographs that we just received recently
22 which verifies there was fire in and around the troop

1 compartment.

2 Q The testimony you recall is that fire came up
3 the stairwell?

4 A That is correct.

5 Q Is that the stairwell between the troop compart-
6 ment and the cargo compartment?

7 A Yes.

8 Q How big is that?

9 A There is an opening there. There is a grade
10 there. I don't recall the exact dimensions. There is
11 a grading that is over it. You have a floor. It can shoot
12 up the grading as well as the stairs. There is a large
13 grading. I would have to guess at the dimensions.

14 Q What burned in the troop compartment?

15 A Do you mean what component of the troop compartment?

16 Q Yes.

17 A There is nothing that burned in the troop compart-
18 ment. A fireball came in. It was the kerosene burning
19 outside that got in.

20 Q It is a fireball of kerosene from the outside that
21 got in?

22 A A fireball from the burning kerosene that entered

1 the troop compartment.

2 Q How did it enter it, through the stairwell?

3 A Through the openings as the plane was disintegrat-
4 ing.

5 Q You mentioned the stairwell.

6 A That was one of the aires it could shoot up
7 from the front stairwell or it could shoot up from any
8 of the bulkheads or from the doors that flew open.

9 Q Was there any kerosene in the troop compartment?

10 A No, there was not.

11 Q You mentioned the testimony of Christy Lieverman
12 as to fire shooting up the stairwell.

13 A Right.

14 Q There is no kerosene in the cargo compartment
15 below the stairwell; is that correct?

16 A If the aircraft has wings that ruptured and the
17 kerosene is on the ground and the aircraft is going over
18 that area and the cargo compartment is ground up, as the
19 theory has gone, there is an opening from the ground of
20 the burning kerosene directly to the troop compartment.

21 Q Any other opening in the troop compartment which,
22 in your opinion, a fire or fireball may have entered the

1 troop compartment.

2 A Basically, that is the major opening.

3 Q So that is the major source; is that correct?

4 A That is correct.

5 Q You say the fireball did not burn something in
6 the troop compartment. It went through the compartment?

7 A It was a momentary flash of heat and fire. It
8 was what they would call a flash fire. It was just like
9 you have in the circus acts, and so forth. They have a
10 ring of fire and somebody jumps through it. You have essen-
11 tially that type of situation.

12 Q Would you expect people in the vicinity of that
13 stairwell in the troop compartment to have been aurned?

14 A Yes, possibly. I have had experience like that
15 myself.

16 Q Do you know who was in the vicinity of the stairwell
17 to the troop compartment?

18 A No. As I told you before, I don't know the loca-
19 tion of anyone in the troop compartment.

20 Q Would that be an important factor in confirming
21 your opinion to find out if those in the vicinity of the
22 stairwell were in fact burned?

1 A The simple answer is if somebody suffers a burn
2 in an accident, there must be a fire for somebody to suffer
3 the burn. Otherwise, they would not be burned. That is
4 your irrevocable evidence.

5 Q Would you agree with me that if there were several
6 persons in the vicinity of the stairwell between the cargo
7 compartment and the troop compartment who were not burned
8 that you would have to look for another source of the fireball?

9 A That is not true.

10 Q You don't agree with that?

11 A I don't agree with that. It depends on the path
12 of the fireball and the covering and how they were turned
13 at the time, and everything else. The people who would
14 be burned would have bare skin. A person with sleeves
15 probably would not be burned.

16 Q You mentioned the stairwell and you mentioned
17 other openings. What, if any, other openings, in your
18 opinion, were the source of fire coming into the troop
19 compartment?

20 A There could be an opening in the bulkhead.

21 Q Which bulkhead?

22 A You have two bulkheads, the front and back. They

1 have a plate on them. If the plate came off, the fire
2 could come in through that opening.

3 Q Were the plates off?

4 A In one photograph I have seen the plate was off.

5 Q Which bulkhead, forward or aft?

6 A Show me the photographs and I will tell you.

7 Q You saw one photograph with the plate off?

8 A That is correct.

9 Q Other than that plate being off one of the bulk-
10 heads, were there any other openings in either the forward
11 or aft bulkhead?

12 A Any airframe that ruptured, a fire could come
13 through.

14 Q Did the troop compartment rupture?

15 A There is a break in the airframe.

16 Q Where?

17 A I believe in the upper lefthand portion of the
18 troop compartment. The skin and the airframe is off.

19 Q Can you show me on this Timm Exhibit 6 where
20 that would be?

21 MR. McMANUS: Do you want him to look through
22 the pictures?

1 THE DEPONENT: I would rather look through the
2 pictures. We can go through all of them.

3 MR. DUBUC: We don't have the time for that.

4 BY MR. DUBUC:

5 Q In your opinion, there is a rupture in the forward
6 part of the troop compartment?

7 A That is right. One of the photographs shows it.

8 Q How big is that rupture as far as you can remember?

9 A It is very hard to tell on a photograph the rela-
10 tive distance. They did not put a ruler so you can make
11 a comparison.

12 Q In your opinion, was there some portion of the
13 fire or fireball that came through that opening?

14 A It is possible to come through that opening,
15 yes.

16 Q Possible. I am wondering if that is your opinion.

17 A You are asking where the fireball came through.
18 I told you the fireball came through the openings.

19 Q The openings?

20 A Yes.

21 Q How many openings were there besides the one
22 you described in the forward upper righthand portion of the

1 bulkhead?

2 A I told you the hatch doors.

3 Q Were they open?

4 A At the time I saw the photographs, yes, they were.
5 If they flew open at the time of the fire, the fire came
6 through there. If they were not open, the fire did not
7 come through there.

8 Q If they stayed closed, then the fire did not
9 come through the hatch doors?

10 A That is right.

11 Q You mentioned a scientific meeting in February
12 of 1980, and there is an agenda in your notes. You attended
13 that meeting?

14 A That is correct.

15 Q Did you attend one on March 8 of 1980?

16 A I believe I have attended two or several of them.

17 Q Have there been any since March of 1980?

18 A Not that I know of.

19 Q Other than the times you reviewed the photographs
20 that you just testified to earlier today which were last
21 Friday and Saturday and yesterday, and I believe you said
22 September 28, have you met with any of the other experts for

1 the Lewis firm in connection with this case since the last
2 trial?

3 A No, I have not.

4 Q Here is a picture that looks to be a locking
5 mechanism. Is that of any relevance to the opinions you
6 are going to give in the next trial?

7 A That is a yolk.

8 Q Is that of any relevance to the opinion you will
9 discuss at the next trial?

10 A If we are going to discuss locks, yes. If we
11 are not going to discuss locks, no.

12 Q Here is a picture of the troop compartment. Does
13 that picture show any of the facts you mentioned regarding
14 openings or foliage?

15 A This is not a good picture to show that.

16 Q Here is a picture that has been marked L-1. Is
17 that a picture that has anything to do with what you have
18 been telling us about?

19 A Here is a bulkhead and here is a bulkhead opening.

20 Q In your opinion, is that forward or aft?

21 A That looks like the aft bulkhead.

22 Q So the opening would be in the aft part of the
troop compartment?

1 A That is correct.

2 Q Does that appear to you to be an opening that
3 was due to damage or an opening that is a designed opening?

4 A I can't tell. That opening should be closed
5 because that is separating the pressurized from the unpres-
6 surized part of the airplane. When it was opened, I do
7 not know.

8 Q Is that the opening you were referring to?

9 A That is one of the openings of the bulkhead, yes.

10 Q Do you recall any other pictures of openings
11 in the forward part of the bulkhead?

12 A I believe there is one, yes.

13 Q Before we leave that one, do you see any evidence
14 of fire around that opening?

15 A This picture is dark. It is pretty hard to say.
16 You can't tell if there are any carbon or burn marks. You
17 can't determine that from that photograph.

18 Q Do you see any that might be?

19 A I can't say. It is too dark.

20 Q Have you seen a better picture of this particular
21 scene?

22 A Let me get out my glass and I will go over it

1 carefully.

2 There are some dark spots that you can't determine
3 what they are.

4 Q Here is another one that looks like the same
5 area. That is a little lighter. Is that better?

6 A That is better.

7 Q That is the same area, isn't it?

8 A There is something wrong with these pictures.
9 It looks like one is printed backwards because the openings
10 are in different places, so there is something that is
11 not the same.

12 Q Are these the pictures you looked at and noticed
13 the opening? These are Air Force pictures that were produced
14 recently.

15 A They can make a tremendous difference in your
16 conclusions. This looks like it is either printed backwards
17 or a different photograph.

18 Q Do you see any evidence of fire around that opening?

19 A You have given me two different photographs.
20 You are representing they are the same place. I can't
21 determine that they are the same place, so I might be com-
22 paring apples with pears.

1 Q Whether or not they are the same place or a differ-
2 ent place, can you tell me if you see any evidence of fire
3 around an opening in either photograph?

4 A On photograph L-1, I see dark spots which could
5 be some carbon.

6 On photograph unnumbered, which has been repre-
7 sented to be the same as L-1 but is obviously different
8 because the opening in the bulkhead is on the different
9 side in the photograph, there is no further correspoding
10 dark spots in this photograph.

11 MR. DUBUC: We will mark that L-1A, the one just
12 referred to.

13 [Said photograph was marked

14 Exhibit L-1A for identification.]

15 [Photograph exhibit L-1B was

16 marked for identification.]

17 BY MR. DUBUC:

18 Q Would you look at L-1B and tell me if that is
19 a photograph you have seen recently?

20 A Yes.

21 Q Does that appear to be a lighter area or is it
22 different, in your opinion?

1 A It looks different. I see some mud. It might
2 be the front bulkhead.

3 Q Do you see any evidence of fire around that par-
4 ticular opening in L-1B?

5 A There are dark marks on the ribs which could
6 be caused by heat or fire. The photograph is not color-
7 corrected, so it is hard to determine what is there.

8 Q That would make a difference?

9 A That would make a definite difference.

10 Q There are some pictures here which appear to
11 be a cargo door, some are numbered and unnumbered but
12 basically cargo door or components. Have you seen those
13 pictures before?

14 A I don't think you would classify these as cargo
15 door but as aft ramp and some of the locking mechanisms.

16 Q Assuming we are not discussing causation, would
17 you be testifying with respect to the ramp or the locking
18 mechanism?

19 A If the locking mechanism is not to be discussed, no.
20 MR. McMANUS: That was a group of about 8 pictures.
21 MR. DUBUC: Yes, color pictures.

1 BY MR. DUBUC:

2 Q You mentioned some discoloration of foliage.

3 Were those colored pictures you saw or black and white?

4 A You cannot tell on black and white. You can
5 only tell in color pictures.

6 Q With these black and white pictures, you can't tell?

7 A It would be very difficult.

8 Q Were those pictures which you saw with discoloration
9 new to you or were those pictures you saw previously at
10 the prior trial?

11 A All new.

12 Q Are you referring to colored pictures, aerial
13 photos---

14 A And movies.

15 Q Or are you referring to the movie as far as the
16 discoloration of the foliage?

17 A All three.

18 Q I have some colored pictures which are the only
19 colored pictures I have. They may or may not be the pictures
20 you have seen. Would you take a look through these and
21 see if there are any you are relying upon as to the testi-
22 mony in your opinion that there may have been fire around the

1 troop compartment.

2 A This is not the troop compartment.

3 This is not the troop compartment but it does
4 definitely show fire.

5 Q This is L-3. Is that the wing area?

6 A I would like to have it identified further. It
7 looks like the wing, but it could be other parts. The
8 parts are too rubbled to determine what they are.

9 Q The wing was found some distance from the troop
10 compartment, was it not?

11 A That is correct -- none of those photographs.

12 Q How about these photographs here?

13 A Possibly this latter one. It is unmarked.

14 Q What evidence of fire do you see on there near
15 the troop compartment?

16 A You see browning all in the path in which it
17 traveled.

18 Q That suggests fire to you?

19 A It suggests that the foliage was killed either
20 by heat or kerosene.

21 Q Do you know what color the foliage is in that
22 particular field?

1 A All the rest of the foliage in that field from
2 the aerial photographs was green.

3 Q Is that a picture of the troop compartment?

4 A That is the path the troop compartment traveled,
5 yes. There are dark marks here.

6 Q Where is that?

7 A The foliage in this area is very dark.

8 Q How about the foliage back over near the empennage?
9 Is that also burnt? It is the same color, isn't it?

10 A We would have to get a better photograph showing
11 that.

12 Q There is foliage there. I am referring to the
13 brown foliage over by the empennage.

14 A I am saying here it looks like the path it traveled.

15 Q That is the troop compartment?

16 A That is right.

17 Q Would you focus on the empennage.

18 A I would need a closer picture to see that.

19 Q But there is brown foliage over there.

20 MR. McMANUS: He said he can't tell from that
21 picture.

1 BY MR. DUBUC:

2 Q In your opinion, was there fire around the empen-
3 nage?

4 A Yes.

5 Q How about the cockpit?

6 A No, that was forward of the wing tanks, so it
7 did not get the fireball.

8 Q But the empennage did?

9 A The empennage is behind it; yes.

10 Q And the troop compartment did?

11 A Yes.

12 Q And the wings?

13 A Yes, they burned.

14 Q Did the wings come off the airplane and fly some
15 distance?

16 A I would not call it flying. They separated from
17 the aircraft and catapulted forward.

18 Q How far forward did they go?

19 A I could look up the notes. I don't remember
20 the exact distance.

21 Q Did they slide or tumble?

22 A I believe they would have had to have tumbled

1 because it landed upside down. If it didn't tumble, it
2 would not land upside down.

3 Q Are there engines attached to the wings?

4 A There were engines on the wings, but we don't
5 know when they separated.

6 Q Did you make an analysis of where they separated?

7 A There is not enough data to make an analysis
8 of where they ended up.

9 Q Is there evidence of fire in this photograph,
10 D-1?

11 A Yes.

12 Q Where is that?

13 A You have two series here, and it shows burning
14 under that area.

15 Q What is the carbon you are referring to?

16 A The black on the airframe.

17 Q The black on the airframe?

18 A That is correct.

19 Q In your opinion, that is carbon?

20 A That is correct.

21 Q Do you see there any discoloration? I see some
22 green next to parts.

1 A Where do you see the green?

2 Q I see some green foliage in the upper left center.

3 A Go behind that and you will see burnt foliage.

4 You will have another photograph.

5 Q Do you see some burnt foliage?

6 A Not in that photograph. Look at the other one.

7 Q This is D-2. Is there any evidence of fire there?

8 A Again, it is showing this part here where the
9 carbon is burnt off the airframe.

10 Q The carbon is burnt off the airframe?

11 A Yes.

12 Q Is a portion of the airframe carbon?

13 A No. The carbon was deposited on the airframe
14 from the fireball.

15 Q Here is Exhibit 4-CC. Have you seen that before?

16 A Oh, yes. I recognize this photograph very well.
17 This was represented to be the cargo compartment, and it
18 is actually the flight deck.

19 Q Is there any brown foliage around there?

20 A There is here.

21 Q But there was no fire there?

22 A I don't know if there was or not.

1 Q You just testified in your opinion there wasn't
2 any.

3 A I don't know if there is fire on this part or
4 not because I don't know if a wing passed here. There
5 was no fire on this one. It was not subject to a fireball.
6 Something could have passed here or it could be kerosene.

7 Q In your opinion---

8 Let's look at the diagram to see if it is accurate.

9 We have here a wing section. We have here a
10 cockpit. I do not know how far away from the flight deck
11 that piece is, but if you are looking in the path of the
12 flight to the right, here is a wing section. If that wing
13 section spilled kerosene passing there, it could be a burn
14 spot on the ground.

15 Q If it didn't, that might be the color of the
16 ground; is that correct?

17 A No, I don't believe so. It could be spilled
18 kerosene that killed the grass.

19 Q But you have told us in your opinion the cockpit
20 had not burned.

21 A I said it was not subject to the fireball at
22 the time of separation.

1 Q Here is some brown grass on Exhibit 4-EE. Is
2 that evidence of fire, in your opinion?

3 A This is probably an area where you had spilled
4 kerosene. The grass has been killed. You would have to
5 represent when this photograph was taken and how many hours
6 after the crash to determine if the grass would change
7 in color with being killed by the hydrocarbon. You don't
8 give me enough information to make a judgment.

9 Q Here is an Exhibit 4-HH showing the cockpit again.
10 Here we have some brown grass on both sides. Is that evidence
11 of fire or spilled kerosene, in your opinion?

12 A There is something that killed the grass there.
13 That is what it shows.

14 Q In your opinion, was that fire?

15 A If you look at the fuselage here, you will notice
16 the fuselage is white, as the aircraft was. It is not
17 covered with a carbon coating like the troop compartment.
18 Therefore, it was not covered by carbon at the time of
19 the fireball and the separation of these components.

20 The ground discoloration can be from many dif-
21 ferent causes. You will have to tell me when this photo-
22 graph was taken, how many hours after the accident, before

1 you can determine if that was from heat or kerosene or
2 just people trampling the grass.

3 Q Here is another picture. This is Exhibit 4-II.
4 Is there some evidence of fire in that picture?

5 A Well, we see the troop compartment covered with
6 carbon again. We also see some discoloration, and we also
7 see the burnt off carbon which I referred to before.

8 Q Have you seen this picture 4-I before?

9 A Yes.

10 Q What part of the airplane is that, if you know?

11 A That is part of the troop compartment, and this
12 is showing the ruptured airframe; and right here is below
13 the area where there was a fire, and this looks like burnt
14 vegetation.

15 Q How do you know that is the troop compartment?

16 A If you look at the other two photographs, you
17 will see that they are sequenced.

18 Q Where is the ruptured airframe? This is on 4.

19 A This is a shear of the airframe. You can actually
20 see the sign in the other photograph. You can see the
21 hatch-way, so you can definitely identify that as the troop
22 compartment.

1 A It is below the floor of the troop compartment.

2 Q So, there would be no evidence of rupture of
3 the floor of the troop compartment?

4 A Not on that picture.

5 Q Do you know of any other photo showing a rupture
6 of the troop compartment?

7 A No.

8 Q Possibly the rear bulkhead and what you see in
9 the upper right-hand side?

10 A And the hatchways and the tear of the airframe.

11 Q The airframe in your opinion tore into the interior
12 of the troop compartment?

13 A There is a photograph. You can't tell how far
14 the tear is. Whether it penetrates through the troop com-
15 partment, there is a tear.

16 Q Where is that?

17 A I believe it is in the forward end of the troop
18 compartment.

19 Q Is it not that one, is it?

20 A No. There is another photograph that shows it
21 better.

22 MR. DUBUC: I would like to explore this geologist

1 business, but I realize we have run out of time.

2 I have no further questions.

3 [The deposition was concluded at 2: 20 p.m.]

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5
6

[Signature of Deponent]

CERTIFICATE OF NOTARY PUBLIC/REPORTER

UNITED STATES OF AMERICA)
) ss.
DISTRICT OF COLUMBIA)

I, ALBERT J. GASDOR, a Notary Public in and for the District of Columbia, the officer before whom the foregoing deposition was taken, do hereby certify that the witness whose testimony appears in the foregoing deposition was duly sworn by me; that the testimony of said witness is a true and accurate transcription of the stenographic notes taken by me and thereafter reduced to written form by me and/or under my direction and supervision.

I further certify that I am neither counsel for, related to, nor employed by any of the parties to this action in which this deposition was taken; and, further, that I am not a relative or employee of any attorney or counsel employed by the parties hereto, nor financially or otherwise interested in the outcome of this litigation.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my
notarial seal this 22nd day of October, 1981.



Albert J. Gasdor
Albert J. Gasdor

Notary Public in and for
the District of Columbia

My Commission expires:

July 31, 1985