

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF COLUMBIA

# STENOGRAPHIC TRANSCRIPT

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FRIENDS FOR ALL CHILDREN, INC.,  
etc., et al,

Plaintiffs,

-vs-

:CIVIL ACTION NO. 76-0544

LOCKHEED AIRCRAFT CORPORATION,

Defendant and Third-  
Party Plaintiff,

-vs-

UNITED STATES OF AMERICA,

Third-Party Defendant,

----- X

Arlington, Virginia

Wednesday, September 23, 1981

DEPOSITION OF: DR. ANDREW F. HORNE

**Mattingly Reporting, Inc.**  
COURT REPORTERS  
4339 Farm House Lane  
Fairfax, Va. 22032

**COPY**

JG/er

IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF COLUMBIA

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FRIENDS FOR ALL CHILDREN, INC.,  
etc., et al,

Plaintiffs,

-vs-

CIVIL ACTION NO. 76-0344

LOCKHEED AIRCRAFT CORPORATION,

Defendant and Third-  
Party Plaintiff,

-vs-

UNITED STATES OF AMERICA,

Third-Party Defendant,

----- x

Arlington, Virginia

Wednesday, September 23, 1981

Deposition of ANDREW F. HORNE, a witness for  
Defendant and Third-Party Defendant herein, called for  
examination by counsel for the Plaintiffs in the above-  
entitled action, pursuant to notice, the witness being duly  
sworn by JODY GOETTLICH, a Notary Public in and for the  
Commonwealth of Virginia at Large, at the offices of Lewis,  
Wilson, Lewis and Jones, 2054 N. 14th Street, P.O. Box 327,  
Arlington, Virginia, commencing at 1:04 o'clock p.m., the

1   ----- X  
2   CARLY MICHELLE KURTH, et cetera,   :  
3                   Plaintiff,       :  
4            - vs -                   :Old Civil Action No.  
5   LOCKHEED AIRCRAFT CORPORATION,   : 76-0544-44  
6                   Defendant and     :New Civil Action No.  
7            Third-Party Plaintiff,   : 80-3223  
8            - vs -                   :  
9   THE UNITED STATES OF AMERICA,   :  
10                   Third-Party Defendant.   :  
11   ----- X  
12   LORIE CARNIE, et cetera,       :  
13                   Plaintiff,       :  
14            - vs -                   :Old Civil Action No.  
15   LOCKHEED AIRCRAFT CORPORATION,   : 76-0544-41  
16                   Defendant and     :New Civil Action No.  
17            Third-Party Plaintiff,   : 80-3222  
18            - vs -                   :  
19   THE UNITED STATES OF AMERICA,   :  
20                   Third-Party Defendant.   :  
21   ----- X  
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JOSEPH FRANCIS CHIONE, et cetera,

**Plaintiff,**

-v8-

LOCKHEED AIRCRAFT CORPORATION,

**Defendant and  
Third-Party Plaintiff.**

-vg-

**THE UNITED STATES OF AMERICA,**

**Third-Party Defendant.**

LY DEBOLT, et cetera,

**Plaintiff,**

-Y8-

**LOCKHEED AIRCRAFT CORPORATION.**

Defendant and  
Third-Party Plaintiff,

-v8-

**THE UNITED STATES OF AMERICA,**

**Third-Party Defendant.**

**Third-Party Defendant.**

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Civil Action No.  
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5 JEFFREY TIM LINDBERG, et cetera, :  
6 :  
7 Plaintiff, :  
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9 -vs- : Civil Action No.  
10 : 76-0544-74  
11 LOCKHEED AIRCRAFT CORPORATION, :  
12 :  
13 Defendant and :  
14 Third-Party Plaintiff, :  
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16 -vs- :  
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18 THE UNITED STATES OF AMERICA, :  
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20 Third-Party Defendant. :  
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22 ----- x  
23 :  
24 LUKE MEAD, et cetera, :  
25 :  
26 Plaintiff, :  
27 :  
28 -vs- : Civil Action No.  
29 : 76-0544-60  
30 LOCKHEED AIRCRAFT CORPORATION, :  
31 :  
32 Defendant and :  
33 Third-Party Plaintiff, :  
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35 -vs- :  
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37 THE UNITED STATES OF AMERICA, :  
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39 Third-Party Defendant. :  
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3 RACHEL MEAD, et cetera,

4 Plaintiff,

5 -vs-

6 LOCKHEED AIRCRAFT CORPORATION,

7 Defendant and

8 Third-Party Plaintiff,

9 -vs-

10 THE UNITED STATES OF AMERICA,

11 Third-Party Defendant.

12  
13 BENJAMIN LUOM MURRY, et cetera,

14 Plaintiff,

15 -vs-

16 LOCKHEED AIRCRAFT CORPORATION,

17 Defendant and

18 Third-Party Plaintiff,

19 -vs-

20 THE UNITED STATES OF AMERICA,

21 Third-Party Defendant.  
22

Civil Action No.  
76-0544-59

Civil Action No.  
76-0544-71

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ROGER WILHELM NUSEBAUM, et cetera,

Plaintiff,

-vs-

: Civil Action No.

: 76-0544-69

LOCKHEED AIRCRAFT CORPORATION,

Defendant and

Third-Party Plaintiff,

-vs-

THE UNITED STATES OF AMERICA,

Third-Party Defendant.

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MARK TAN ROTHHAAR, et cetera,

Plaintiff,

-vs-

: Civil Action No.

: 76-0544-63

LOCKHEED AIRCRAFT CORPORATION,

Defendant and

Third-Party Plaintiff,

-vs-

THE UNITED STATES OF AMERICA,

Third-Party Defendant.

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3 TAI LARS STADHEIM, et cetera,

4 Plaintiff,

5 -vs-

6 LOCKHEED AIRCRAFT CORPORATION,

7 Defendant and  
8 Third-Party Plaintiff,

9 -vs-

10 THE UNITED STATES OF AMERICA,

11 Third-Party Defendant.  
12

13 STEPHANIE WILKS, et cetera,

14 Plaintiff,

15 -vs-

16 LOCKHEED AIRCRAFT CORPORATION,

17 Defendant and  
18 Third-Party Plaintiff,

19 -vs-

20 THE UNITED STATES OF AMERICA,

21 Third-Party Defendant.  
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: Civil Action No.

: 76-0544-33

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: Civil Action No.

: 76-0544-52

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proceedings being taken down by stenotype by JODY GOETTLICH  
and transcribed under her direction.

APPEARANCES:

On behalf of the Plaintiffs:

OREN R. LEWIS, JR., ESQUIRE  
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On behalf of Defendant and Third-Party Plaintiff:

CARROLL E. DUBUC, ESQUIRE  
JOHN J. CONNORS, ESQUIRE  
Haight, Gardner, Poor and Havens  
1310 H Street, N.W.  
Washington, D.C. 20006

On behalf of the United States of America,  
Third-Party Defendant:

JAMES P. PIPER  
United States Department of Justice  
P.O. Box 6183  
Washington, D.C. 20044

C O N T E N T S

1			
2		Examination by Counsel	
3	<u>Deposition of</u>	<u>For Plaintiffs</u>	<u>For Defendant</u>
4			<u>and Third-Party</u>
5			<u>Plaintiff</u>
	Andrew F. Horne	6	

NOTE

Upon reading the following deposition and before subscribing thereto, the deponent, ANDREW F. HORNE, deposed on 9/23/81, indicated the following corrections:

Page      Line      Reads:  
105        5        him

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Andrew F. Horne  
DEPONENT

NOTE

Upon reading the following deposition and before subscribing thereto, the deponent, ANDREW F. HORNE deposed on 9/23/81, indicated the following corrections:

Page Line Reads:  
4 22 Perry

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Andrew F. Horne  
DEPONENT

NOTE

Upon reading the following deposition and before subscribing thereto, the deponent, ANDREW F. HORNE, deposed on 9/23/81, indicated the following corrections:

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10 16 Perry

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Berry

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22 14 Barry

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Berry

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42 19 head

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Page Line Reads:  
56 6 dyspnea

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59 12 20,000

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? Maybe 10,000 ?

Andrew F. Horne  
DEPONENT

NOTE

Upon reading the following deposition and before subscribing thereto, the deponent, ANDREW F. HORNE, deposed on 4/23/81, indicated the following corrections:

Page Line Reads:  
62 16 None

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any

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85 5 dyspnea

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85 9 dyspnea

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93 22 50,000

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18,000

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103 8 Aeronautical Medical

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Aeromedical  
Andrew F. Horne  
DEPONENT

P R O C E E D I N G S

Whereupon,

ANDREW F. HORNE,

a witness for Defendant and Third Party Defendant, called for examination by counsel for the Plaintiffs, having been first duly sworn by the Court Reporter, was examined and testified as follows:

MR. DUBUC: All right, after consultation with Mr. Piper, Dr. Horne is listed as a witness for Defendant and Third Party Defendant, Lockheed and the United States, and he was described as an expert in the aerospace field which he is.

The scope of his testimony will be in areas referred to in our pretrial briefs except Dr. Horne is not being offered and will not testify in trial with respect to the issues relating to G forces and force of landing or traumatic aspects of landing since that will be covered by another witness, and we are doing this in an effort to expedite the witnesses and keep the testimony in areas of specific relevance as we have already listed other witnesses who will testify to G forces and traumatic incidence of landing, namely Dr. Turnbow, Dr. Gaume, Dr. Perry, and in his absence, if Dr. Perry doesn't testify, Dr. Davis and John Edwards who is going



1 to testify as to consultation.

2 So that certain area is going to covered by other  
3 people. Dr. Horne is being offered as an expert for the  
4 limited purpose of the hypoxia aspects, the FAA records and  
5 studies, and briefly on the decompression aspects, and as an  
6 expert witness, since he is being offered for those purposes  
7 under the rules, that is what we would think would be the  
8 rules of his deposition.

9 MR. LEWIS: Are you amending your pretrial briefs?

10 MR. DUBUC: To that extent, yes.

11 MR. LEWIS: And everything that is not mentioned  
12 is --

13 MR. DUBUC: Everything other than the G forces  
14 and the traumatic aspects.

15 MR. LEWIS: What you just said?

16 MR. DUBUC: You've got the pretrial brief there.  
17 Just look at it and I'll tell you exactly what is being  
18 eliminated.

19 MR. LEWIS: Off the record.

20 (A short discussion was had off the record.)

21 MR. DUBUC: Back on the record then. Dr. Horne  
22 is going to testify, and our pretrial brief will be amended  
23 for the purposes of the scope of his testimony as an expert.

1 It's going to be offered at trial to include substance and  
2 basis for studies by the FAA, the validity of those studies  
3 have been previously challenged by one or more witnesses; he  
4 will testify as to his opinion on the insignificant effect  
5 of decompression at the times and altitudes of the aircraft  
6 in this case, and insignificant effect of any of the  
7 conditions of hypoxia for the time period involved in the  
8 descent. In this case, as to any effect on children who are  
9 the subject of the lawsuit, and the improbability of any  
10 damage to them as a result of decompression or hypoxia.

11 He will not testify and is not being offered, therefore  
12 the rules I will ask that the deposition be limited to those  
13 subjects since he is not being offered on the probable  
14 absence of impact or deceleration forces in connection with  
15 the emergency landing or injuries as a result thereof since  
16 other witnesses who have already been named on the record  
17 are testifying to that, and this is in an effort to keep the  
18 testimony time down and to streamline the case here.

19 MR. LEWIS: I'm not accepting the limit -- any  
20 limitations on my -- on the questions that I might ask the  
21 witness.

22 EXAMINATION BY COUNSEL FOR PLAINTIFF

23 BY MR. LEWIS:

Q Would you state your full name, please, sir?

A Andrew F. Horne, H-o-r-n-e.

Q What is your home address, Mr. Horne?

A Home address is [REDACTED],

Oakton, O-a-k-t-o-n, Virginia, [REDACTED]

Q And your office address is 800 Independence Avenue?

A That's correct.

Q And what is your occupation or profession, sir?

A I'm a physician.

Q And what is your position with the United States?

A I'm currently employed as a medical officer in the office of Aviation and Medicine over at the Federal Aviation Administration.

Q I'm not very familiar, sir, with the office of Aviation Medicine. I don't know how the hierarchy goes and precisely what it does do. Would you tell me what its function is in government and --

A Well, the office of Aviation Medicine is basically the medical department for the FAA.

Q All right.

A It's headed by the Federal air surgeon.

Q And what is his name?

1 A Dr. Reigard, R-e-i-g-a-r-d, Homer L.

2 Q And do you work for Dr. Reigard?

3 A Yes, I do.

4 Q And are you -- what is your official title?

5 A I'm a program scientist for accident investigation.

6 Q And who's your immediate supervisor?

7 A Evan **Pickerall**. He's the acting chief

8 of the medical and behavioral sciences division at the office  
9 of Aviation Medicine.

10 Q All right, sir. Now, what is your -- would you  
11 describe your background and training and experience?

12 MR. DUBUC: I'd like to suggest, if we can, that  
13 we've already given you his CV. That would cover it, and  
14 that is his background as far as I know.

15 MR. LEWIS: Well --

16 MR. DUBUC: For time purposes. I mean that's --

17 MR. LEWIS: Well, I might. Let me see. If I'm  
18 willing to agree if he says that this is his CV, I don't  
19 of necessity ask him about everything on here, but there are some  
20 things that I do want to ask him about.

21 This is Exhibit D 1278, and is this your curriculum  
22 vitae, sir?

23 MR. DUBUC: We got a copy. We'll give it to him.

1 There it is, sir. You've got one there. Why don't you  
2 hand that back.

3 BY MR. LEWIS:

4 Q Is that your --

5 A Yes, sir.

6 Q Thank you very much, sir.

7 What documents have you reviewed, sir, in connection  
8 with this case?

9 A I've reviewed numerous references. I reviewed  
10 statements of expert witnesses or their summaries of their  
11 opinions and so forth, and I reviewed some testimony in the  
12 case -- in previous -- in the previous case, whatever it is.

13 Q Do you have with you the things that you reviewed?

14 A No, I do not.

15 MR. DUBUC: We've got --

16 THE WITNESS: With the exception of an FAA  
17 physiological training manual. I brought that.

18 MR. DUBUC: Well, Mr. Connors can tell you what  
19 he's reviewed, so -- all of which you have copies of.

20 MR. LEWIS: I understand that, Mr. Dubuc. I have  
21 copies of a lot of things that I'm absolutely positive this  
22 gentleman has not reviewed.

23 MR. DUBUC: Yeah, but I don't want us to get into

1 the position of him not having transported here three bags  
2 worth of materials which are prior testimony, the exhibits,  
3 opinions, documents that you already have that have been  
4 marked, that's all; and we're going to tell you what those  
5 are.

6 MR. LEWIS: I'm willing to take the time and get  
7 them out of our files.

8 MR. DUBUC: Okay.

9 MR. LEWIS: That's what I have to do although it  
10 was my understanding that the -- the witnesses were going to  
11 bring the things that they've reviewed.

12 MR. DUBUC: We've got them.

13 MR. LEWIS: So-- but you want to read into the  
14 record what he's reviewed, Mr. Connors?

15 MR. CONNORS: Dr. Horne was sent the reports of  
16 Dr. Harry Gibbons, Dr. Charles Perry, Drs. Jared, J-a-r-e-d,  
17 Dunn, and Jefferson Davis, Dr. James Dunn, Dr. James Turnbow,  
18 and the report of John Edwards.

19 MR. LEWIS: Is there --

20 MR. DUBUC: Wait a minute.

21 MR. LEWIS: Could I look at the -- I don't have  
22 the list. Do you mind if I look at whatever you're reading  
23 from?

1 MR. DUBUC: He's reading from his notes, lawyer's  
2 notes.

3 MR. LEWIS: Anything else?

4 MR. CONNORS: He was also sent this sworn  
5 statement of Harriet Neill, the results of the chamber study  
6 of Remeakins (phonetic), chamber runs and the flight profile  
7 of the C5A, the flight profile taken from the MADAR tapes  
8 on the time versus altitude. He was provided with curriculum  
9 vitae of the other experts involved in these cases. He was  
10 provided John Edwards' most recent calculations on the G  
11 forces involved in the accident. He was provided with the  
12 trial testimony from the Schneider trial of William Timm,  
13 John Edwards, Major Traynor, Captain Harp; from the Marchetti  
14 trial, the testimony of Major Traynor, John Edwards, Captain  
15 Harp; preliminary injunction hearing transcript of Dr. Busby;  
16 deposition of John Edwards with exhibits; wreckage diagram  
17 identified as D-9; dimension drawings of the troop  
18 compartment, the cargo compartment and the cockpit and  
19 relief crew compartment of the C5A. He was provided the  
20 internal departmental communication from Huie to Perry of  
21 April 28 of 1975, Exhibit D-1; Test Number 5, attachment  
22 letter to IDC, Huie to Perry given to Perry April 19, 1975  
23 on the cargo decompression; Busby calculations from the

Schneider trial, and again, a second copy of the MADAR time versus altitude data, 1978. He is provided the U.S. Air Force KAR Narrative Summary Report on the accident of 4, April, 1975, Exhibit D-3. The letter of James Piper, Esquire of June 1, 1978, to Mr. Richard Jones of your office enclosing the MADAR data on the accident; letter of Oren Lewis to Itzhak Brooke of May 18, 1978 reportedly setting forth the various considerations of hypoxia involved in the accident; letter from Itzhak Brooke to Oren Lewis dated May 25, 1978, responding to the May 18 letter referred to above; the letter of Itzhak Brooke to Mary Ann Schulein (phonetic) dated January 19 of 1979; the letter of Mary Ann Schulein to Itzhak Brooke dated January 24, 1979; letter of Harry Gibbons to Mr. Dubuc dated February 22, 1980, and the transcript of the trial testimony in Schneider from the following: Christy Lievermann, Lt. Aune, A-u-n-e, Lt. Tate, Dr. Stark, Lt. Neill, Dr. Gibbons, Dr. Busby, Mr. Parker, and Professor Harper. He was provided an index of aerospace articles which were available for his review. He was provided a cross section of C5A; the affidavit of Patricia Quinn dated June 23, 1980; the letter sent by FFAC in 1975 to the adopted parents identified as Exhibit DD-2, and the various witnesses were identified as to who they testified for and who various



1 attorneys were.

2 MR. DUBUC: Let's go off the record for a minute.

3 (Discussion off the record.)

4 BY MR. LEWIS: (Resuming)

5 Q Now, you've heard counsel recite a long history  
6 of documents that were sent. Did you read all of those  
7 documents?

8 A I can't say that I've read all the documents.

9 Q All right, would you tell me the ones that you  
10 read carefully?

11 A The documents I've read carefully?

12 Q Yes, that you were furnished by the Lockheed  
13 Aircraft Corporation.

14 A I read the statements by the experts carefully.

15 Q Do you know who -- which ones?

16 A Sir?

17 Q Would you name them?

18 A I don't know if I can name them all.

19 Q Well, I'd like you to do as good as you can.

20 A I read Dr. Gaume's, Dr. Turnbow's, Dr. Perry's,  
21 Dr. Dunn's and Dr. Davis'. I've read from Gibbons and that's  
22 probably the list of statements.

23 Q All right. Can you tell me --

1 MR. DUBUC: Now just a minute.

2 MR. LEWIS: Now, I'd appreciate it if you wouldn't  
3 refresh the witness' recollection.

4 MR. DUBUC: No, I want to identify what you just  
5 said by an exhibit number. Just so the record's clear.

6 MR. LEWIS: Pardon? .

7 MR. DUBUC: Can we do that? You want to identify  
8 what he's seen?

9 MR. LEWIS: Well, I'm going to do that, but just  
10 allow me -- since you're trying to shorten it, I'm happy to  
11 do that, but I'd like to -- we have to go pretty soon.

12 BY MR. LEWIS:

13 Q Any other documents that you reviewed carefully?

14 A I've reviewed some of the references provided  
15 carefully, and I can't tell you which ones they were, the  
16 scientific references that were provided.

17 Q You mean these are scientific articles and things  
18 like that?

19 A That's correct.

20 Q Anything else?

21 A I reviewed some of the testimony carefully.

22 Q Which parts?

23 A I've reviewed Dr. Busby's carefully. I've reviewed

1 the pilot testimony, and I've reviewed some of the -- I can't  
2 tell you which ones, some of the flight nurses testimony. I  
3 really don't know, sir. I received this testimony a couple  
4 of months ago and read most of it then. I don't recall which  
5 ones I've read. I've skimmed the greatest portion of it.  
6 I'll say that I haven't read it all carefully, the testimony.

7 Q Can you tell me any other testimony that you have  
8 read carefully?

9 A I believe I read the testimony of the pediatrician  
10 on board, who I think was Dr. Stark, carefully. I can't  
11 recall the others specifically.

12 Q All right. Can you tell me any other material  
13 from the list that counsel read that you read carefully in  
14 addition to that you've mentioned?

15 A No, sir, I don't recall the list that well to  
16 pick up on other things.

17 Q Well, it's not the list that I'm so much  
18 interested in as the things that you read and that you based  
19 your opinions on, you see? That's -- what I'm leading up to,  
20 sir, is I want to know -- I'm trying to get now the basis  
21 data that you started from.

22 A Um-hum.

23 Q So that I can -- when I ask you your opinion, I

1 can better understand it.

2 A I understand.

3 Q So that's why I need as much clarity as you can  
4 give me, the material that you read, and used as a base, so  
5 -- for your opinions.

6 I'm not a scientist, but that's --

7 A Well, some opinions, of course, would go back for  
8 20 years experience in aviation medicine and a residency.

9 Q I fully understand that.

10 A In aerospace medicine and so forth.

11 Q Well, when you're giving an opinion in a specific  
12 case --

13 MR. PIPER: Can you let him finish?

14 MR. LEWIS: I'm not arguing that the physician  
15 does not have the right to use his cumulative experience  
16 and that sort of thing.

17 MR. DUBUC: I'm not either. I just want him to  
18 finish his answer. That's all.

19 THE WITNESS: I just want to say that many of  
20 these references that I have reviewed recently, I have read  
21 very carefully years ago. I spent -- that's my curriculum --  
22 CV, so I don't need to tell you how long I've spent, but I  
23 spent -- basically my professional lifetime in aerospace

1 medicine. I have to draw from my experience in that field  
2 for certain opinions.

3 MR. LEWIS: I'm not quarrelling with that, sir.  
4 I'm just trying to find -- you, for example, couldn't draw on  
5 your experience with respect to what a particular witness  
6 said if you didn't read his testimony. That's all I'm  
7 saying. I just want to know the facts that make this  
8 particular case that you reviewed, and you've told us; is  
9 that right?

10 A As far as I know, yes, sir.

11 MR. LEWIS: All right. Now, it's time to go.  
12 I think we have to run to go to Court, and we'll be back as  
13 soon as we can.

14 (Whereupon, at 1:20 o'clock p.m., the deposition was recessed  
15 to be reconvened.)

AFTERNOON SESSION

BY MR. LEWIS:

Q Now, sir, what factual evidence did you rely on in your -- in forming your opinion in this instance?

A The factual evidence?

Q You told us, I think we have been over what you have reviewed.

A Yes, sir.

Q And if there is any -- you told us some things that you skimmed and you told us the things that you reviewed carefully.

A Correct.

MR. DUBUC: He has apparently checked all that for you, if you want him to tell you what that is.

MR. LEWIS: If he has got something different, fine.

MR. DUBUC: I don't know if it is any different. We did that to try to save time.

BY MR. LEWIS:

Q Fine. Now, what I am interested in now, sir, is you're telling me, if you will, what factual conclusions or facts you got from that data source that you relied on in arriving at whatever your opinion is?

2  
1 A My opinion about what, sir?

2 Q Well, have you -- well, let me say I had under-  
3 stood from --

4 MR. DUBUC: I think it is a question, he's  
5 wondering what opinion he hasn't given you. There are  
6 several opinions, maybe he doesn't understand what you want.

7 BY MR. LEWIS:

8 Q Let's do it this way, what originally were you  
9 asked to give an opinion on, Dr. Horne?

10 A What I think originally I was asked to give an  
11 opinion regarding was the FAA publication, Physiological  
12 Training.

13 Q I am sorry, Physiological what?

14 A Training. This was an exhibit, an earlier  
15 edition was an exhibit which Dr. Busby apparently testified  
16 that was in error and there was going to be a revision so I  
17 was asked to look at both the earlier revision and then the  
18 1980 revision which was the revision that Dr. Busby referred  
19 to. I was asked to render an opinion or be prepared to  
20 anyway regarding the FAA publication and the validity of the  
21 information therein.

22 I was also -- I am not sure, I was asked to form  
23 an opinion regarding any damage sustained by infants during

1 the decompression. I certainly have in reviewing references  
2 and hearing the discussions of the experts and so forth and  
3 probably other opinions that I formed too, but I don't know  
4 which ones you want.

5 Q I just want to know what do you understand you  
6 were supposed to do?

7 A Well, I was told I was supposed to largely  
8 testify in the area of the FAA publications.

9 Q Well, did you ever advise Lockheed that you had  
10 formed an opinion on impact or deceleration trauma in  
11 connection with any of these children?

12 A I believe, I don't believe I have advised  
13 Lockheed that.

14 Q Well, in addition to the items that you mentioned,  
15 were you asked to form an opinion or to discuss in your  
16 testimony any other area of technical --

17 A None specifically, no, sir.

18 Q When were you first contacted in connection with  
19 this case, sir?

20 A I am really not sure if I was first contacted by  
21 Mr. Piper as a Justice Department attorney and that was  
22 through my office head or Assistant Federal Air Service.

23 Q Who is that?



1           A       John Jordan, who is a physician, and Mr. Piper  
2 contacted him regarding FAA participation in the government  
3 side of the case.

4           Q       And when was that, approximately?

5           A       I would say either June or July, in the Summer.

6           Q       This year?

7           A       Yes, sir.

8           Q       1981?

9           A       Yes, sir, 1981.

10           MR. DUBUC: Mr. Piper as you know, but for the  
11 record, he is not here, he said go ahead without him.

12           MR. LEWIS: I see he is not here.

13           MR. DUBUC: He asked us to make whatever objec-  
14 tions and so forth for the Government.

15           MR. LEWIS: Thank you.

16           BY MR. LEWIS:

17           Q       And so, did you come into the matter sometime  
18 in the Summer of 1981?

19           A       That is correct.

20                   Well, excuse me, sir, I would say either early  
21 Summer or late Spring, I am not sure.

22           Q       I am not going to quibble on a month with you,  
23 sir. I am trying to get a general time frame. We have been

1 litigating this matter for some years now and I want to get  
2 where you fit in the progression of facts.

3 After you came in, who have you discussed the  
4 case with? I am not asking you to tell me what was said now,  
5 I am asking you the names of the people that you have ever  
6 discussed anything in connection with what we call the C5-A  
7 case.

8 A Well, I discussed the case with Mr. Piper, the  
9 two gentlemen here today as well as --

10 Q These are attorneys for Lockheed?

11 A That is correct. And then the Aerospace  
12 medical experts.

13 Q Who?

14 A Well, Dr. Barry, Dr. Gaume (phonetic), Dr. Dunn,  
15 Mr. Edwards, Dr. Turnbow, there was a psychiatrist there.

16 Q Dr. Winder?

17 A I don't recall his name, sir. I remember the  
18 ones in my area of expertise, but not in the psychiatric  
19 area.

20 Q Anybody else?

21 A Dr. Gibbons, to my best recollection, this is  
22 all. There may well have been another.

23 Q Now when did you -- were all of these people

1 assembled at the same time?

2 A Yes, sir.

3 Q When was that?

4 A Again I can't give you a date.

5 Q Just to the best of your recollection.

6 A Probably in August. If I remember, it was on a  
7 Saturday.

8 Q August of '81, sir?

9 A Yes, sir.

10 Q Where did the meeting occur?

11 A It took place at the, I believe it was called  
12 the University Club.

13 Q In Washington?

14 A Washington, D. C., either on 16th or 18th Street.

15 Q I know where the University Club is, and what was  
16 the format of that session?

17 A Basically to --

18 Q Somebody was there, any kind of a written agenda?

19 A I remember no written agenda at all.

20 Q Who was the Chairman or who acted as Chairman?

21 A Well I don't really think you can say there was  
22 a Chairman.

23 Q Did anybody lead the discussion?

1           A       I don't know whether you could say anyone led  
2 the discussion or not. Basically when a bunch of people in  
3 the same area get together, they tend to talk about things.  
4 I think that Dr. Gibbons led off the discussion about  
5 briefing the group on the accident or there was also an Air  
6 Force pilot there, I don't recall his name, who talked a  
7 little bit about the C5-A and so forth. He had not been in  
8 the accident though, but he was a C5-A pilot. I don't recall  
9 his name. But largely we went into this discussion probably  
10 either by Dr. Gibbons leading or Mr. Edwards' lead. I don't  
11 recall who talked first.

12           Q       So it was either Gibbons or Edwards and the  
13 other talked second, is that right?

14           A       I really don't know, sir. A lot of people  
15 talked, you know, at the same time and so forth. I can't  
16 really say. There was no agenda where someone would talk  
17 first and somebody else would talk second.

18           Q       You say there was a briefing on the facts of the  
19 accident by somebody and you think that was Gibbons?

20           A       Certainly remember Gibbons briefed the people on  
21 the descent curve as far as the decompression sequence.

22           Q       Now did Mr. Edwards say anything about the  
23 accident?

1           A       Mr. Edwards talked about the decelerating forces  
2 involved, as I recall, more or less presented the actual  
3 impact sequence.

4           Q       Was that relatively early in the meeting?

5           A       Yes, it was early in the meeting.

6           Q       How long did the meeting last?

7           A       As I recall, the meeting began in the morning,  
8 not early in the morning, and maybe it was 9:30, somewhere  
9 in that vicinity, and it was over prior to dinner that night.

10          Q       So it was approximately a full day?

11          A       Well, I wouldn't call it a full day, but you  
12 might.

13          Q       I am sorry, when --

14          A       It began at 9:30 and it was over by at least  
15 5:00 o'clock. That is not a full day for me.

16          Q       It is to most physicians and I just thought --

17          A       All right, sir, then that, it was a full day to  
18 most physicians, but not to me.

19          Q       You usually are hard working, but in any event,  
20 it was from 9:30 to approximately 5:00?

21          A       Yes, sir, with time out for lunch.

22          Q       Time out for lunch. Were any documents passed  
23 around or exhibited at that time?

1           A       Yes, sir. Many of the exhibits I have seen, I  
2 saw then, such as descent curves and, not photographs,  
3 artist concepts and/or proposed artist conceptions of the  
4 accident sequence and so forth, the wreckage diagram.

5           Q       Photographs?

6           A       I recall, yes, sir, I recall some photographs  
7 that were passed around.

8           Q       And any motion pictures?

9           A       No motion pictures.

10          Q       Television pictures?

11          A       No television pictures. These were probably 8  
12 by 10 size, the standard size.

13          Q       Now were there any pediatricians there or  
14 neurologists?

15          A       Yes, I recall a pediatric neurologist, I don't  
16 recall her name. She was a lady physician and was either  
17 Pakistani or Indian, but I don't know which.

18          Q       Was her name Davis?

19          A       Davis, I don't think so, sir. It may have been,  
20 I don't recall that name.

21          Q       Did she indicate that she had examined any of  
22 the children?

23          A       I don't recall whether she had examined any of

1 the children or not.

2 Q Any other pediatric or neurological specialists?

3 A Well, there were several people who were  
4 specializing in pediatrics psychiatry. I mean that is not  
5 a pediatrician. Are you talking about one who is Board  
6 certified or a specialist in pediatrics as well as other  
7 specialities?

8 A What I am trying, as good as I can, to get is  
9 the guest list and I am naming categories to help you jog  
10 your memory as to who the guests were.

11 A You're going to have a hard time jogging my  
12 memory on the couple of psychiatrists and psychologists.  
13 I don't retain that sort of thing very well.

14 Q It helps me to know that there were some, and  
15 I know to ask others perhaps or counsel may be kind enough  
16 to tell me. So in any event, it was your understanding that  
17 there were some psychiatrists and you mentioned one and you  
18 don't know whether Dr. Winder was there or not?

19 A That is correct.

20 Q But there was, it is your impression that there  
21 was more than one psychiatrist there?

22 A Well, I know there was one psychiatrist. He  
23 told me he was a psychiatrist.

1 Q Did he examine the children?

2 A I think he had, yes, sir.

3 He became interested in the accident side of  
4 the situation and this is what we discussed, largely.

5 Q And how many psychologists did you understand  
6 were there?

7 A I would say three or four.

8 Q And you would say their -- your impression was  
9 there were several psychiatrists?

10 A No, sir. There were several either psychiatrists  
11 or clinical psychologists, I don't try to differentiate.

12 Q Can you give me any clue as to what their names  
13 were?

14 A No, sir, I am sorry.

15 Q Were there any pediatricians?

16 MR. DUBUC: You already asked them. Go ahead.

17 THE WITNESS: I recall the one that I know was  
18 a pediatrician, he was a pediatric neurologist.

19 BY MR. LEWIS:

20 Q The Pakistani?

21 A That is, she was a lady.

22 Q Fine. Now were there any other pediatric kind  
23 of people there in addition to this particular lady?



1           A       I don't recall any specifically, any others,  
2 there may well have been.

3           Q       I understand. Were there any --  
4                   Can you tell me, were there any persons who  
5 examined any of the children, to your knowledge?

6           MR. DUBUC: You already asked him that and he  
7 told you.

8                   I don't mind him answering again.

9           THE WITNESS: Yes, sir, they had, there were  
10 people who had examined the children.

11           BY MR. LEWIS:

12           Q       How many people had examined the children?

13           A       I think either the psychiatrist or the  
14 psychologist there, with the possible exception of the  
15 pediatric neurologist who I don't know about her, they had  
16 examined children.

17           Q       How many attorneys were present?

18           A       I would say, I am not certain, but I would say  
19 five, maybe.

20           Q       And you have already mentioned the two gentle-  
21 men that are here and Mr. Piper?

22           A       That is correct.

23           Q       And you know who the other two were?

1           A       Well, there was a lady lawyer and a gentleman  
2 lawyer, I remember them, I don't recall their names. At  
3 least one was with the Justice Department.

4           Q       Were there any other Lockheed Aircraft Corpora-  
5 tion employees in addition to Mr. Edwards, to your knowledge?

6           A       Not that I am aware of.

7           Q       Now is that the group that you or have you named  
8 the group now?

9           A       Basically.

10          Q       Either by name or category. Anybody else that  
11 you can think of either by name or what they did?

12          A       There was a lady who sat next to the Air Force  
13 Major or whatever his rank happened to be who I don't  
14 remember what she said her specialty was. She was not a  
15 professional. She was not a physician and she maybe was a  
16 photographer or something. I don't know. She was there.  
17 I don't have any idea what her name was.

18          Q       Now who spoke in addition to and did people  
19 stand up and address the group?

20          A       Well, not in a formal manner. Most of it was  
21 very informal and people spoke from their chairs around  
22 the table.

23          Q       I understand there were other people there. If

1 John Doe or Mary Smith or other people who were there, they  
2 would listen?

3 A That is correct.

4 Q So there were then presentations by individuals?

5 A Yes.

6 Q When they were speaking from a lectern or an  
7 audience?

8 A That is correct.

9 Q Was there a lectern?

10 A I don't recall a lectern. There may have been.

11 Q A microphone?

12 A I don't recall a microphone.

13 Q How were the chairs arranged as you would, if  
14 you were giving a talk to somebody? In other words, in an  
15 orderly row or rows?

16 A Chairs were around a table.

17 Q Around, so there was a table, some people, this  
18 was like a large conference table, is that correct?

19 A Like a horseshoe.

20 Q A horseshoe conference arrangement, is that  
21 correct?

22 A Yes, if that is what you would like to call it.  
23 The tables were arranged in a U-shape, and people were

1 seated around.

2 Q Outside of the U?

3 A On the outside of the U.

4 Q Nobody was inside the U?

5 A I don't recall. There may have been somebody  
6 on the inside of the U.

7 Q So then was there anyone who undertook to  
8 suggest and order or give permission to different people  
9 to speak so that, in other words, someone that was going to  
10 moderate?

11 A I can't really recall anyone who functioned as  
12 a moderator. There may well have been one, but I don't  
13 recall a moderator as such.

14 Q Do you know Dr. Stevens?

15 A No, sir, I don't know Dr. Stevens.

16 Q He is a neurologist, you don't know whether --

17 MR. DUBUC: He says he doesn't know him. He  
18 just said that.

19 THE WITNESS: I don't recall a Dr. Stevens  
20 being present. As I said, I retain the people who were in  
21 my area of expertise.

22 BY MR. LEWIS:

23 Q I can understand that.

1 Now, to the extent that you can, would you tell  
2 me what Dr. Gibbons said?

3 A Dr. Gibbons basically, as I remember, went  
4 through the information from the Madar and talked about the  
5 descent from an altitude and the times involved and the  
6 altitude attained in certain times. He also put some  
7 figures on a sheet.

8 Q Sort of in effect like a blackboard type?

9 A Well it would have been just as easy as a  
10 blackboard.

11 Q A paper presentation?

12 A A paper presentation.

13 MR. DUBUC: Allow him to finish.

14 THE WITNESS: A paper presentation with a felt  
15 tip and you tear them off when you get through with them.  
16 He put up some figures on figuring avilar, the partial  
17 pressure oxygen, and the avilae, particular altitudes and  
18 so forth. And I don't recall any other things other than  
19 that.

20 BY MR. LEWIS:

21 Q Did you discuss impact?

22 A Impact?

23 Q G forces?

1           A       Certainly it was discussed. I don't recall  
2 whether Dr. Gibbons discussed it or not.

3           Q       Did he discuss G forces?

4           A       Did he?

5           Q       Yes.

6           A       I said I don't recall whether he specifically  
7 addressed G forces. I recall the decompression sequence.  
8 I think he probably -- not in his, if you will, his felt tip  
9 and paper presentation. I don't believe he discussed G  
10 forces.

11          Q       But in any part of his briefing?

12          A       Not in his briefing. I think G forces were  
13 discussed in a very informal way later in the sequence of  
14 discussions, if you will. I am sure he probably talked  
15 about G forces.

16          Q       What did he say, did he discuss the extent of  
17 G forces and this would be both as to the --

18          A       I think Mr. Edwards basically presented the  
19 G forces and the calculations concerning over how he  
20 arrived at the G forces calculated. His was specifically  
21 to talk about the G forces involved in the deceleration.

22          Q       What did he say? The G forces were in the  
23 deceleration?

1           A       Well, as I recall, it was said that they did  
2 not, in the troop compartment, which I presume we're  
3 addressing where the majority of the survivors were, he  
4 said the G forces never exceeded 1.6 as I recall.

5           Q       Did he discuss from what plane the 1.6 G forces  
6 were?

7           A       From what plane?

8           Q       Yes.

9           A       It would be in the direction of the fore and  
10 aft as far as --

11          Q       In the fore and aft?

12          A       That is correct.

13          Q       How about up and down, did he discuss that?

14          A       As I recall, the vertical, he felt the vertical  
15 G forces were nil. I don't recall what he said they were.

16          Q       Nominal, is that right?

17          A       Well, I am not sure I know what you mean by  
18 nominal.

19          Q       You said nil, nil means nothing literally.

20          A       Not significant.

21          Q       Perhaps it's a little more than nil.

22          A       I don't recall that.

23          Q       Nothing significant.

1 A That is correct.

2 Q So he said that fore and aft G forces did not  
3 exceed 1.6 Gs, is that correct?

4 A That is what I recall.

5 Q Did he address the side-to-side G forces?

6 A As I recall, he didn't feel they were signifi-  
7 cant either since the troop compartment moved in one  
8 direction, the whole time.

9 Q How did he explain the dispersal of the  
10 wreckage?

11 A The dispersal of the wreckage?

12 Q Yes.

13 A What part of the wreckage?

14 Q I am talking about all of it, sir. I don't  
15 know whether that is, you know, a very precise way to say  
16 it.

17 MR. DUBUC: I object.

18 MR. LEWIS: I am just trying to make myself  
19 understood.

20 THE WITNESS: He explained that it probably  
21 sheared one portion of the gear on the first touchdown  
22 across the river and wiped out the nose gear and the other  
23 gears as they went through the levy on the final side of the



1 river. Most of the cargo compartment was ground away as it  
2 slid through whatever sort of terrain it was which was  
3 apparently very soft rice paddy type terrain, down to the  
4 troop compartment.

5 However, the cockpit, the wings apparently  
6 separated and flew by themselves, if you will, at least went  
7 forward of the rest of the crash area and leaving the troop  
8 compartment and the forward, the cockpit and the bunk area  
9 separate entities, and he talked about where the cockpit  
10 section ended up and where the troop compartment ended up  
11 and the wings ended up.

12 The rest of the debris, including the engine  
13 and so forth, he pointed out on a wreckage diagram.

14 Q Did he, when did he suggest that the front  
15 of the airplane, the pilot's compartment, separated from the  
16 hull?

17 A I am not sure he suggested that. If he did, it  
18 was my feeling that it probably separated when the wing  
19 separated. But I am not sure Mr. Edwards said that.

20 Q Did he suggest when the empennage separated?

21 A He probably did, I don't recall.

22 Q What did he suggest that the troop compartment  
23 separated from, the cargo compartment?

1           A       I am not sure that he suggested that it com-  
2 pletely separated. I think he said that portions under the  
3 troop compartment wore away.

4           Q       Did he say that they ended up at the same place?

5           MR. DUBUC: That what ended up at the same place?

6           BY MR. LEWIS:

7           Q       The troop compartment and what was left of the  
8 cargo compartment, that it ended up at the same place?

9           A       I don't recall him making that statement?  
10 I assume --

11          Q       That would be consistent with what he said, is  
12 that right?

13          MR. DUBUC: He just said he didn't recall.

14          THE WITNESS: I don't recall him saying what  
15 portion of the aircraft ended up with the troop compartment.

16          BY MR. LEWIS:

17          Q       It's my understanding, sir, what you just told  
18 us was that the troop compartment was on top of the cargo  
19 compartment that they proceeded together, the cargo compart-  
20 ment ground away.

21          A       That is correct.

22          Q       That is what you told me, I thought.

23          A       That is what I told you.

1           Q       Then, and if that portion of the wreckage  
2 continued less what of course was leaving as the lower  
3 portion ground away, did he suggest by implication or  
4 otherwise that what was left of the cargo compartment and  
5 the troop compartment ended up in the same spoit? Is that  
6 what you understood happened?

7           MR. DUBUC: He did not say that, I will object  
8 to the form of the question. State whatever you recall.

9           THE WITNESS: I would say certainly part of it,  
10 the part it was attached to wasn't a module, the part it was  
11 attached to ended up there. I don't recall Mr. Edwards  
12 specifically -- I don't recall him talking about shedding  
13 parts of the fuselage as they went along as you would in  
14 most accidents or impact sequences. But I don't recall him  
15 making any particular -- being emphatic about what part  
16 ended up with the troop compartment.

17           BY MR. LEWIS:

18           Q       Did he discuss whether or not there were any  
19 dikes?

20           A       Dikes?

21           Q       In the paddies, or in the area where the --

22           A       A dike?

23           Q       Yes.

1           A       Right, as I said, I think that is where he felt  
2 the airplane lost its nose gear and part of the main gear  
3 as it went through the dike or slightly through the dike  
4 with only the gears contacting as was evident by the ditches  
5 cut in by the gear.

6           Q       And the rest of the terrain was without any  
7 obstruction, is that what he said?

8           A       Only low-lying shrubs.

9           Q       All right. But he didn't discuss any mounds of  
10 earth or cross dikes after the original one?

11          A       No dikes, no, sir.

12          Q       Or any barriers of dirt that would separate a  
13 rice paddy or anything like that?

14          A       No wiers other than the dikes.

15          Q       Than the original dike?

16          A       The original dike, yes, sir.

17          Q       Did he show you or the group any photographs of  
18 it showing details of the terrain over which this troop  
19 compartment and cargo compartment were supposed to have slid?

20          A       I don't recall that Mr. Edwards showed any  
21 photographs. As I said before, there were some photographs  
22 passed around informally. I don't recall who initiated that.  
23 He had some artist conceptions of the impact sequence.

1 Q Did he explain how he arrived at 1.6 Gs? That  
2 was a maximum, you say that was the largest single G force  
3 that existed at any time in the sequence, is that correct?

4 A That was the maximum he felt existed at the  
5 particular time, that is correct. And I will have to say  
6 he explained how he arrived at it. I can't tell you how he  
7 arrived at it. That is an engineering phenomena.

8 Q Is there anything -- is there a condition which  
9 would be a negative G, is that right?

10 A Yes, sir.

11 Q And a positive G?

12 A That is right.

13 Q And now was the 1.6 the maximum swing between  
14 negative and positive?

15 A No, that was the maximum Gs that he said that  
16 his calculations indicated could have existed.

17 Q If you went from a negative G to a positive  
18 G, you would have to calculate the difference, that is to  
19 get the G force?

20 A Yes, sir. If you did go to negative G. Now  
21 if you want to talk about Axis and so forth, that I need to  
22 look at a diagram so that I know what we're talking about.

23 Q I understand. If we start talking about negative

1 Gs and positive Gs. I understand, I am not an expert, I am  
2 trying to understand whether the 1.6 maximum Gs that he said  
3 existed at any time was from a zero point or the difference  
4 between, you know, the minus to a positive?

5 A In that particular axis, it would be from a  
6 zero point, all right. If you talk about vertical Gs, you  
7 would have to have the one you're already at right now.

8 Q Now who else discussed Gs?

9 A Dr. Turnbow discussed Gs.

10 Q What did he say?

11 A Well he basically -- he didn't discuss it as a  
12 presentation, but he discussed it in acknowledging Mr.  
13 Edwards' calculations and so forth. It was more or less a  
14 discussion between them that the rest of us were privileged  
15 to.

16 Q Anybody else discuss Gs or the impact?

17 A Not in that semi-formal manner, as I said we all  
18 discussed Gs and impact in a very informal way. We didn't  
19 even have to hold our head up to talk. It was sort of a  
20 spontaneous discussion.

21 Q Now were there any other facts that were--  
22 that were presented to the group?

23 MR. DUBUC: On what, Gs?

1 BY MR. LEWIS:

2 Q On any subject?

3 MR. DUBUC: No, if you want to get into some  
4 areas, you just spent 20 minutes on something that he is  
5 not going to testify about.

6 MR. LEWIS: You understand we have something  
7 we call discovery, I may be new at this business but I do  
8 the best I can. I have only been doing it for 25 years and  
9 I am still learning.

10 MR. DUBUC: Do you mean on decompression or  
11 hypoxia, is that what you're talking about?

12 BY MR. LEWIS:

13 Q Let me be very clear. What areas were discussed  
14 where facts were given? Now you have already told us  
15 Mr. Edwards discussed the impact and Gs and where the  
16 dispersal of the wreckage and things of that variety.

17 MR. DUBUC: And he said the decompression was  
18 talked about by Dr. Gibbons.

19 BY MR. LEWIS:

20 Q Dr. Gibbons discussed some calculations on the  
21 board and things of that variety.

22 MR. DUBUC: In addition to all of those things?

23 BY MR. LEWIS:

1 Q In addition to those things, what other things  
2 where facts were presumably presented for the consideration  
3 of those persons present?

4 A Well I have some difficulty saying what were  
5 facts and what were opinions and analysis and so forth.

6 Q I understand there is a fuzzy line there, but  
7 basically.

8 MR. DUBUC: He is asking to the extent you can,  
9 try to tell him what are the facts other than what you have  
10 already told him.

11 BY MR. LEWIS:

12 Q Let me say this, sir. My understanding is that  
13 an expert of whatever variety in a discussion, in reaching  
14 an impression or opinion or whatever starts with his own  
15 background but then on top of that he requires the operative  
16 facts that are necessary in order to reach conclusions and  
17 I am trying to find out what operative facts were put on  
18 the table, if you were, as a premise for the discussions.  
19 Do you understand what I am saying?

20 A Yes, sir. I think most of our discussions were  
21 around the facts that I have already mentioned. It was  
22 basically the results of the accident investigation which  
23 resulted in the decompression profile, the descent profile,



1 and the impact sequence.

2 Q Did anyone bring up the fact that --

3 MR. DUBUC : Did you finish?

4 THE WITNESS: I was going to say how the  
5 passengers were restrained in the troop compartment, the  
6 fact that the troop compartment didn't sustain any encroach-  
7 ment on its living environment which is a thing we look at  
8 in accident investigations. There were many facts that were  
9 discussed, the accident investigation itself brought out.  
10 I think most of those were discussed.

11 BY MR. LEWIS:

12 Q Did anyone bring up the subject that any of the  
13 children had turned blue?

14 A Yes, that was discussed. I think it was in  
15 that discussion that either an LPN or some sort of para-  
16 medical civilian that was on the aircraft and I recall her  
17 name was Liberman or Lievermann, it was mentioned that she saw  
18 an infant that appeared blue. She may have been cyanotic,  
19 I don't recall.

20 Q Did anybody -- was the question of whether or  
21 not the children were unconscious brought up?

22 A Yes, sir, that was brought up.

23 Q Have you concluded one way or the other whether

1 they were unconscious or not?

2 A I don't know that you can say I concluded it,  
3 I certainly have an opinion that none of them were  
4 unconscious secondary to -- with the possible exception  
5 of -- at what point are you talking about, unconscious  
6 anytime?

7 Q Following the explosive decompression and prior  
8 to impact.

9 A It would be my opinion that none were uncon-  
10 scious secondary to the hypoxia that was suffered.

11 Q A combination of hypoxia and decompression?

12 A Hypoxia was a result of the decompression, I  
13 could see no injuries being sustained by the decompression  
14 itself.

15 Q I am trying to put -- I don't know whether  
16 they have any cyanogistic effect or not.

17 A Not at that particular altitude.

18 Q Do you have any -- did anybody -- strike that.

19 Do you have any knowledge of the effects of  
20 decompression or hypoxia or -- strike that.

21 Do you have any studies on decompression and  
22 hypoxia in combination as they were here on one-year old  
23 babies? Decompression and hypoxia?

1 MR. DUBUC: Is that a question that assumes all  
2 these babies are one-year old?

3 MR. LEWIS: Obviously they weren't, all I am saying  
4 is do you have any knowledge of the effects of those  
5 phenomena on one-year old babies?

6 THE WITNESS: Decompression in hypoxia?

7 BY MR. LEWIS:

8 Q Yes.

9 A No, I have no knowledge of any controlled studies  
10 run that way.

11 Q Have babies one-year old traveled on commercial  
12 airliners, do they not?

13 A Yes, sir.

14 Q And no special precautions are taken for them,  
15 are there? In other words, they get on the airplane with the  
16 mother under some circumstances and they get to fly?

17 A That is correct.

18 Q Has the FAA ever put a group of babies under any  
19 age group under five we will say, in decompression chambers?

20 MR. DUBUC: Ever?

21 MR. LEWIS: 24,000 feet?

22 MR. DUBUC: During his time.

23 BY MR. LEWIS:

1 Q To your knowledge?

2 A No, I would say not to my knowledge, sir.

3 Q In your opinion, why not?

4 A It would certainly be an interesting research  
5 project. However, I doubt if any people would relinquish  
6 their babies. You usually don't put anyone in a pressure  
7 chamber unless they're of age so that they can get permis-  
8 sion and undergo a physical examination and so forth. There  
9 have been a lot of studies done with using new born and  
10 infant animals with decompression and hypoxia. I think  
11 there is a fair amount of this in the literature.

12 Q I am speaking of -- animals don't always behave  
13 precisely as human beings.

14 A That is certainly true, these were mammal studies,  
15 not just animals.

16 Q I am vaguely familiar with those. I am just  
17 asking you, do you think there is 100% parallel?

18 A I can't say that there is a 100% parallel.

19 Q But what decompression studies have been done with  
20 children under 10?

21 MR. DUBUC: By whom, the FAA?

22 THE WITNESS: I know of none that have been done  
23 on children under 10. I certainly can't speak -- I haven't

1 done a literature review on the subject.

2 BY MR. LEWIS:

3 Q You don't know of any?

4 A I don't know of any.

5 Q What pediatric training do you have, sir?

6 A I spent a year in pediatrics prior to entering the  
7 service at Duke University.

8 Q In what capacity?

9 A I was an intern, straight internship in pediatrics,  
10 12 months.

11 Q You didn't take a residence there?

12 A Not in pediatrics, I went in the service after my  
13 internship.

14 Q So while you were in your internship, and just to  
15 make sure I am still on the ball, you went to medical school  
16 and after you graduated from medical school, you had your  
17 internship, is that correct?

18 A That is correct and my intership was straight  
19 pediatrics. It wasn't rotating or surgery or medicine. It  
20 was pediatrics.

21 Q And then what pediatric training have you had since  
22 that time?

23 A I have had no pediatric training. I have had a

1 great deal of experience in pediatric care since that time,  
2 since I sort of inherited that everywhere I went since I  
3 had the year of pediatrics which is more experience than  
4 most physicians get other than pediatricians.

5 Q And this was sort of a family kind of a practice  
6 where you were a public health officer and they asked you  
7 to see their children and their wives and themselves?

8 A Not exactly. I spent, you want me to go into the  
9 curriculum vitae. I spent the first 18 months of my time  
10 in the public health service at an indian health hospital  
11 during which time I specifically took care of -- took care  
12 of the pediatric service as well as the obstetrics and  
13 gynocology service. The other two guys particularly didn't  
14 want to do that. After that 18 months I went with the --  
15 still as a public health service officer, I served with the  
16 U. S. Coast Guard for 20 years at aviation units.

17 Q And saw?

18 A I saw, as part of my duties, dependents which  
19 included children.

20 Q And adults?

21 A And adults.

22 Q You didn't restrict your practice to children?

23 A No, it's very difficult for a flight surgeon to

1 restrict their practice to children.

2 Q I thought so, I wanted to make sure we were on the  
3 same line.

4 Do you consider yourself an expert in the affects  
5 of airplane crashes under the circumstances. I am including  
6 all of the phenomenon that are included, the hypoxia,  
7 decompression, the impact and the psychological trauma on  
8 children, small children, infants?

9 A I would not consider myself an expert in psycholo-  
10 gical trauma in small infants, secondary to an aircraft  
11 accident because I never investigated an aircraft accident  
12 that had surviving children in it. So I have never had that  
13 opportunity to observe them. I am Board certified in  
14 Aero Space Medicine and I have done a great deal of accident  
15 investigations during my 25 years in the Aero Space Medicine.  
16 Probably not 25, 22 at least. I don't know what --

17 Q Are you an expert in the affects of trauma on  
18 children?

19 A What kind of trauma are you talking about, the  
20 kind children get in airplane accidents? Would you define  
21 expert, this is my first run, if I am considered an expert,  
22 it's my first run as an expert. Would you tell me what you  
23 mean by an expert?

1 MR. DUBUC: In trauma, because I think he refers  
2 to trauma as anything, hypoxia, decompression, G forces,  
3 psychological, I think you linked them all in.

4 MR. LEWIS: I am only taking that from what I  
5 understand our brother physicians do.

6 THE WITNESS: I think I can address physical  
7 trauma, secondary to, well, physical injury, if you will,  
8 secondary to trauma.

9 BY MR. LEWIS:

10 Q Have you considered this case a combination of  
11 trauma, hypoxia and decompression as they may combine to  
12 affect the children arriving at any opinion?

13 A How that would affect a child?

14 Q Yes.

15 A Yes, sir.

16 Q Now what opinions did you give, have you written  
17 a report?

18 A I wasn't asked to write a report.

19 Q What opinion did you give Lockheed attorneys with  
20 respect to hypoxia and decompression?

21 A I don't think they solicited an opinion from me  
22 either.

23 Q Well, they haven't?



1 A No, I don't think.

2 Q Would you give any opinion to Mr. Piper or the  
3 Government on hypoxia and decompression in these children?

4 A In informal discussions I am sure I have given  
5 an opinion and we, I think some opinions were arrived at at  
6 the meeting of the so-called experts that we have already  
7 discussed and these were discussed rather openly.

8 Q I understand that. What I am anxious to do, sir,  
9 is to separate your opinions from the others.

10 MR. DUBUC: You're trying to get his opinions?

11 BY MR. LEWIS:

12 Q Your individual view.

13 A Would you like to know how I feel?

14 Q From these other people.

15 MR. DUBUC: You want to know how he feels, his  
16 opinion?

17 MR. LEWIS: I will do my absolute best to ask the  
18 questions.

19 MR. DUBUC: He asked you do you want to know how  
20 he feels?

21 MR. LEWIS: Mr. Dubuc, you don't get to ask me  
22 questions, the witness nor you and you know better, the  
23 witness doesn't.

1 THE WITNESS: I don't know, I am sorry.

2 BY MR. LEWIS:

3 Q Feel free to address questions and I will edit it  
4 if I think appropriate.

5 So I am interested, sir, in you voicing your  
6 opinions, if you will, for this purpose from opinions  
7 expressed by others. I will have an opportunity to ask the  
8 other people what they think but if I get a composite view  
9 from you it's very difficult for me to ask you how you  
10 arrived at the opinion expressed by somebody else.

11 A All right, sir. I understand.

12 Q I am anxious to get your personal position to the  
13 extent that I can as opposed to what you came to know from  
14 other people.

15 What opinion did you express to Lockheed attorneys  
16 with respect to hypoxia and decompression or the Government  
17 attorneys, whatever, as it affects this case?

18 A I don't understand.

19 MR. DUBUC: He is confused, you're asking him  
20 now for a conversation with the attorneys. Why don't you  
21 ask him if you want to know what his opinion is, that is  
22 what you want to know, isn't it?

23 BY MR. LEWIS:

1 Q What I am trying to find out is this, you undertook  
2 to limit his testimony and I am --

3 MR. DUBUC: I realize that.

4 MR. LEWIS: And I am not insisting that we do that,  
5 but if we're going to do that, I don't know how to frame  
6 it any other way, Carroll.

7 MR. DUBUC: He also has been told.

8 MR. LEWIS: I am not asking what you asked him or  
9 anything like that. I think I have a right to ask him his  
10 opinion.

11 MR. DUBUC: The only thing I am saying, he has been  
12 told and I think you have already recognized him saying you  
13 don't want him to say what the attorneys said to you and  
14 what he said to the attorneys. In fact, so he is not going  
15 to tell you what he told us or what we told him.

16 MR. LEWIS: I don't want that.

17 MR. DUBUC: But he does have an opinion and with  
18 that clarification, what you're asking for is his individual  
19 opinion in whatever areas you want to. I think that is the  
20 problem he has with that question asked. You asked him what  
21 he told us and we have told him we're going to object to  
22 the conversations back and forth. So that is why he is being  
23 careful. You want his opinion on whatever, just ask him what

1 his opinion is.

2 BY MR. LEWIS:

3 Q What is your opinion?

4 A Well, we will try to take it in the areas that you  
5 mentioned. As far as the decompression at 23,400 feet, you  
6 would not expect to see any of the results of dyspnea or  
7 decompression sickness because of the altitude. There were  
8 apparently no physical -- you might in that situation,  
9 expect a perforated ear that these children were all examined  
10 and I know of no evidence to show that there were any  
11 physical injuries secondary to decompression so it's my  
12 opinion that they sustained no injuries, secondary to  
13 decompression. From the hypoxia standpoint also at the  
14 altitude where the decompression occurred even though the  
15 decompression was rapid in less than a second, the descent  
16 was begun almost immediately and they were at 16,000 feet  
17 within three minutes and I would certainly not expect any  
18 unconsciousness from anybody, much less the infants at that  
19 altitude without oxygen with that sort of descent rate. So  
20 in my opinion, based on my experience and training and so  
21 forth, I would say that there would be no cerebral damage  
22 secondary to deprivation of oxygen.

23 Q And you reached the decompression conclusion because

1 you felt that there isn't any evidence that they acted other  
2 than normally when it occurred, is that what you're saying?

3 A I understand that, many of them acted normally  
4 and some didn't, I don't know.

5 Q I understand.

6 A I understand what you're saying.

7 Q I am trying to get the basis. You mentioned there  
8 wasn't and physical evidence of injury at that time and you  
9 said nobody had any perforated ears?

10 A I don't know of any.

11 Q Would that make a difference?

12 A It would certainly not make a difference if they  
13 had a perforated ear. Children perforate their ears all of  
14 the time and they heal very rapidly so that might be one  
15 injury you would expect or suspect secondary to decompression.  
16 You asked me if I felt there was any injury secondary to  
17 decompression and in my opinion I would say no and largely  
18 because of the altitude at which the decompression occurred.

19 Q And the altitude was 24,000 what?

20 A 23,400 as I recall.

21 Q How long was the airplane at that altitude?

22 A After the decompression?

23 Q Yes.

1           A     I don't have the curve in front of me, a very  
2 short time.

3           Q     What does your impression say?

4           A     What is my impression?

5           Q     Yes, I appreciate it if you wouldn't give it to  
6 him. I am asking him his opinion.

7           A     Shortly less than a minute.

8           Q     How long -- where was the airplane after a minute,  
9 at what altitude?

10          A     I recall that it reached 16,000 at three minutes  
11 and the reason was because that was below 18,000 which is  
12 the altitude at which you expect a loss of consciousness  
13 even maybe after 30 minutes. So I only looked at the curve  
14 with the idea of how rapidly they got into what I considered  
15 a safe area.

16          Q     How long, where was the -- what was the altitude  
17 of the airplane at two minutes as opposed to decompression?

18          A     As I recall, it was about 20,000 feet. I don't  
19 recall specifically.

20          Q     What altitude was the airplane at three minutes,  
21 you said that was 16?

22          A     I think I recall that it was at 16.

23          Q     What was the altitude of the airplane at four

1 minutes?

2 A I don't recall, sir.

3 MR. DUBUC: There is evidence of that if you  
4 want it.

5 MR. LEWIS: I truly know that, I think I have a  
6 right to inquire.

7 MR. DUBUC: Sure.

8 MR. LEWIS: What he remembers about the situation.

9 MR. DUBUC: Sure, okay.

10 BY MR. LEWIS:

11 Q How long was it before the airplane was down to  
12 20,000 feet?

13 A I don't have a time specifically.

14 Q You have any idea?

15 A I think it was in the vicinity of about five  
16 minutes but there may have been 12,000 in five minutes, I  
17 don't recall. I didn't realize I needed to learn the curve,  
18 so I didn't. I learned as much as I thought I needed to  
19 render an opinion or discuss hypoxia.

20 Q What is an explosive decompression?

21 A An explosive decompression is a word in accident  
22 investigation, we have tried not to use, but it basically,  
23 if you want to use it, it's a decompression in less than a

1 second, I guess.

2 Q How fast was this decompression?

3 A I think it was in the troop compartment I believe  
4 the calculations indicated it was like six tenths of a  
5 second. I could be wrong, I don't recall.

6 Q Can you tell me why the troop compartment would  
7 be different from the cargo compartment for example?

8 A Yes, sir. Because there wasn't much difference  
9 but you would expect the pressure differential, the change  
10 in accordance with the opening to the ambient atmosphere.

11 Q What was the --

12 A The cargo compartment decompressed because of the  
13 loss of the cargo door and the troop compartment decompressed  
14 because of the ventilation around the side of the thing  
15 and the grill area that was put in there for that purpose.

16 Q There was a grill that was put in to equalize  
17 pressure?

18 A Right, that is correct.

19 Q How fast was the decompression in the cargo compart-  
20 ment?

21 A I don't recall. I would assume, since they were  
22 very close, probably four tenths or five tenths of a second.  
23 I think the difference was insignificant insofar as whatever



1 injury you may think was sustained and so forth.

2 Q Well, the speed of the decompression is an  
3 important thing to know, it's an important factor?

4 A It's very important because then you know how  
5 rapidly your cabin altitude, if you will, changed to the  
6 altitude of the -- well, the real altitude or ambient  
7 altitude.

8 Q The altitude outside the airplane.

9 A Correct.

10 Q You know what the temperature was at that altitude?

11 A I have no idea, sir. I know that some of the  
12 testimony, I recall in either discussions or testimony that  
13 there was little notice of any real cold factor. I think  
14 they said it was a little chillier than it was. I also think,  
15 I recall that the heaters in the aircraft kept working,  
16 that would of course, make some difference, I don't know.

17 Q Do you know --

18 A Whether they did or not?

19 Q How much of a difference the heaters would make?

20 A No, I certainly wouldn't know unless I knew some-  
21 thing about the rate of exchange of air.

22 Q Was that a factor that you took into consideration?

23 A No, absolutely I see no reason to consider

1 temperature at all.

2 Q Tell me, what have you assumed was the appearance  
3 of the children following the decompression?

4 A I don't understand what you mean by the appearance.

5 Q Have you assumed that they were fully conscious  
6 following the decompression?

7 A Yes, sir.

8 Q And that would be an important element in your  
9 analysis of the facts, wouldn't it, whether they were or  
10 not?

11 A If I am rendering opinion about the effects of  
12 hypoxia, it certainly would.

13 Q Did you read any testimony indicating that any  
14 was unconscious as a result of the explosive decompression  
15 and hypoxia.

16 A I don't recall none whatsoever.

17 Q Have you considered the testimony of Ly DeBolt,  
18 did you ever read that?

19 A I don't recall, sir, whether I did or not. I don't  
20 remember them by names.

21 Q A young woman who was capable of speaking as these  
22 little babies were not, do you remember whether or not she  
23 was unconscious?

1 A No, I do not.

2 Q Do you know whether any of the airmen who were  
3 without oxygen were unconscious?

4 A It's my understanding from discussions and the  
5 information I have is that no one lost consciousness.

6 Q Would that make a difference if there was a  
7 reliable report that adults who could report that reported  
8 that they became unconscious?

9 MR. DUBUC: During what time frame?

10 MR. LEWIS: Prior to the impact.

11 MR. DUBUC: Prior to impact.

12 MR. LEWIS: Prior to impact.

13 THE WITNESS: Are you talking while they're still  
14 at altitude?

15 BY MR. LEWIS:

16 Q Yes.

17 A If they became unconscious immediately after the  
18 decompression?

19 Q Yes.

20 A It would be interesting to --

21 Q Those would be facts that you would want to know?

22 A Yes, sir.

23 Q That you would expect to be provided before you

1 would render an opinion? In other words, that is important  
2 information.

3 A You can render an opinion based on the facts that  
4 we have already talked about, the decompression, the  
5 altitude at which decompression occurred, and the rate of  
6 descent of the aircraft.

7 Q What actually happens would be important, wouldn't  
8 it?

9 A Yes.

10 Q In other words, I assume that you don't just  
11 operate from theory that you did consider physically what  
12 happens, isn't that right?

13 A Yes. You would have to consider all of the  
14 parameters involved, not just the fact that someone was  
15 unconscious and there was a decompression.

16 Q All right. If there was an airman on the aircraft  
17 in the troop compartment who was a medical technician and  
18 who passed out, became unconscious following the explosive  
19 decompression because he couldn't breathe.

20 MR. DUBUC: You mean the troop compartment?

21 BY MR. LEWIS:

22 Q I am sorry, in the cargo compartment.

23 MR. DUBUC: You're asking him to assume that?

1 MR. LEWIS: Yes, assume that.

2 MR. DUBUC: Whether or not there was.

3 MR. LEWIS: Yes.

4 THE WITNESS: First of all, I would like to know  
5 why he became unconscious, I would be very surprised if he  
6 became unconscious because of hypoxia. I could see him  
7 becoming unconscious, as you choose to call it, the explosive  
8 decompression.

9 BY MR. LEWIS:

10 Q You think that might make him unconscious?

11 A If he was hit by an object that was rapidly  
12 departing the aircraft, anyone could have been rendered  
13 unconscious if they were hit in the head with a suitcase or  
14 a medical bag or almost anything. There are reasons for  
15 unconsciousness in this sort of sequence other than hypoxia.

16 Q Excellent. Now, tell me what happens if the  
17 movement of the air in an explosive decompression of this  
18 sort, such that it would move objects like suitcases  
19 through the air and that sort of thing.

20 A It depends on how close you are to the opening.  
21 There are people, as you well know, that have been pulled  
22 through a window or an opening in an aircraft. The most  
23 recent one was a couple of --

1 Q I am just talking about this case.

2 MR. DUBUC: Let him finish.

3 MR. LEWIS: I will be happy to have his opinion  
4 of somebody being sucked through a window, that is an awful  
5 business, I understand that, but that is not what we have  
6 here.

7 MR. DUBUC: That is true.

8 THE WITNESS: I have no evidence that there were  
9 any suitcases flying through the air.

10 BY MR. LEWIS:

11 Q I understand, but you brought -- you pointed that  
12 out and I wanted to know and under these circumstances,  
13 considering the size of the opening, it was a very big  
14 opening, wasn't it?

15 A In the cargo compartment?

16 Q Yes, sir.

17 A A very big opening.

18 Q Are you saying objects flew through the air?

19 A I am not saying that.

20 Q You think they would?

21 A Not on an Air Force aircraft because in my  
22 experience in flying in military aircraft, they're usually  
23 all cargo and articles and so forth are very securely tied

1 down.

2 Q All right. But my question is did you read the  
3 report, part of the accident investigation that said -- it  
4 suggested that one of the airmen in the cargo compartment  
5 passed out for lack of oxygen?

6 A Obviously I haven't, this is the first I have  
7 heard about it.

8 MR. DUBUC: I will note for the record that I  
9 think that the question was the accident report and there  
10 is no such report in the accident investigation record.

11 MR. LEWIS: If you want to be absolutely precise,  
12 I believe there is an affidavit of a sergeant.

13 MR. DUBUC: You're talking about wives?

14 MR. LEWIS: Yes, wives.

15 MR. DUBUC: Just so we don't confuse the witness,  
16 there is also a statement from the accident investigator  
17 that his testimony was considered unreliable if we're going  
18 to talk about collateral things. So that was not in the  
19 accident report, it was in the collateral report.

20 MR. LEWIS: Forgive me, I am not trying to make  
21 a distinction between the official report that the Air  
22 Force uses and the collateral report. When I say accident  
23 report, and thank you, Mr. Dubuc, for making that clear,

1 I am speaking of all of the reports that grew out of the  
2 accident. Did you read the collateral report?

3 THE WITNESS: No, sir.

4 BY MR. LEWIS:

5 Q Did you read the reports of any of the -- any of  
6 the affidavits of any of the persons on the airplane from  
7 the collateral report?

8 A I don't know what the collateral report is.

9 Q Did you read anything in affidavit form?

10 A I have read --

11 MR. DUBUC: Are you suggesting the statements are  
12 in the affidavit form?

13 MR. LEWIS: Let's see, let me ask, did you read  
14 anything in affidavit form?

15 THE WITNESS: I don't recall right now. As I said  
16 many of the things I read were three months ago and I haven't  
17 reread it each time and I don't recall reading an affidavit  
18 where the guy said he lost consciousness.

19 BY MR. LEWIS:

20 Q Did you read any of the nurses' reports, testimony,  
21 or reports or anything else that suggests in any way the  
22 children were unconscious?

23 A No.



1 Q That would be important if such existed in  
2 considering what your opinion would be, would it not?

3 A I think it would if there was factual information  
4 that a child was unconscious, if we want to talk about facts.

5 Q All right. Did you read the testimony of Ly  
6 DeBolt?

7 A Not that I recall.

8 MR. DUBUC: Is it all right to take a break at  
9 this point?

10 (Whereupon, a short recess was taken.)

11 MR. LEWIS: Back on the record.

12 BY MR. LEWIS:

13 Q I would like you to tell me to the best of your  
14 ability what the condition of the children were following  
15 the decompression until the impact that you know, that you  
16 recall from the data that has been provided you?

17 A You're talking about the condition as far as  
18 consciousness is concerned?

19 Q Or anything that would indicate that -- in other  
20 words, appearance or any observations regarding -- I under-  
21 stand that in dealing with children of this age, that it's  
22 something like a veterinary, he's your patient, he can't  
23 tell you what hurts or what the problem is, you have to

1 observe.

2 A Correct.

3 Q Now since the bulk of these children were very  
4 small, more or less one year of age, we can't have them  
5 tell us what happened to them in the period from the  
6 decompression to the impact so we have to rely on what we  
7 can see and observe from the people that had an opportunity  
8 to see and observe. I am interested in what your under-  
9 standing of their condition by report, if you will, what  
10 you considered their condition was from observations during  
11 any material time up just prior to the point of impact. I  
12 don't want to get into that.

13 A From the information I have, from discussions and  
14 what I have read, basically they observed no physical  
15 abnormalities with the infants, with the exception of the  
16 lady that we mentioned before who alleged that she saw a  
17 child who was with a bluish tint. I say alleged because I  
18 understand she was not a professional. I may be wrong about  
19 that and I think it's very difficult, I wouldn't say the  
20 child wasn't cyanotic, but I think it's very difficult to  
21 detect cyanosis in an oriental, particularly, other than a  
22 very caucasian type setting. That is a very difficult thing  
23 to do. So I would say that with the exception of that

1 allegation, that as far as I know, there were no other  
2 observations of abnormalities as far as physical signs.

3 Q In other words, from their appearance and the way  
4 they behave, they look in all respects normal excepting the  
5 one you mentioned, the one Christie Lievermann reported on?

6 A Yes, sir.

7 Q In arriving at an accurate understanding of what  
8 happened, if anything, to these children, accurate under-  
9 standing of how they appeared and how they behaved is very  
10 important, is it not?

1           A       I think that whether they -- anyone could  
2 report that they lost consciousness; that might be important.  
3 But just as important as that particular thing is how long  
4 did they lose consciousness? It's well known that you can  
5 lose consciousness for some period of time, particularly  
6 in this situation, and not have any problem whatsoever.

7           Q       I am just trying to understand what the factual  
8 premise is you started from; the factual premises you  
9 started from was accepting the child that Christie Leivermann  
10 reported on, it's your understanding the baby has acted  
11 normally in all respects and has appeared normal?

12          A       That is correct.

13          Q       What did you learn about the child that was  
14 reported to be blue, cyanotic, by Christie Leivermann?

15          A       I think that I recall that she administered  
16 oxygen to the child.

17          Q       Anything else?

18          A       No. That is all I recall, sir.

19          Q       All right.

20                 If in fact the child was blue, cyanotic, would  
21 that be a significant fact?

22          A       No.

23          Q       It wouldn't?

1           A       No, sir. There are a lot of adults and infants  
2 that are observed to be cyanotic at sea level. It's a  
3 well known entity for clinical medicine. There are many  
4 reasons, whether it's respiratory or cardiovascular, the  
5 child could well have been blue before they took off. I  
6 don't know.

7           Q       I understand that.

8           A       So I would not say it was a great significance.  
9 You can also note cyanosis at altitudes that we're talking  
10 about after a period of time, not in the time that I think  
11 we're talking about, now, with no loss of consciousness or  
12 anything else. This is one of the things we teach pilots,  
13 general aviation pilots that will fly to altitudes -- that  
14 is different from decompression. One of the things they  
15 should watch for is the cyanosis and the like and so forth.

16                   So I don't see it being significant as far  
17 as saying that someone sustained cerebral damage secondary  
18 to hypoxia.

19           Q       So it wouldn't be -- you don't feel it's a  
20 fact that would be significant. I withdraw that. I under-  
21 stand your point.

22                   What was the condition of the children prior  
23 to getting on the airplane, immediately prior to taking off?

1 A Their condition?

2 Q Yes.

3 A I assume they were all examined and certified  
4 fit for evacuation. As far as their health, I would assume  
5 that. I have no idea. I know there were -- it depends  
6 on what you mean by healthy. I would assume they had been  
7 examined by medical people and certainly they decided they  
8 were healthy enough to travel. I think there were probably  
9 some with various chronic problems.

10 I remember some mention about braces and that  
11 sort of thing.

12 Q Right. But do you know whether the children  
13 were examined to see whether they had any signs of infection  
14 or contagious diseases and that sort of thing?

15 A No, sir. I would assume they had been examined.

16 Q So in your opinion, you are then considering  
17 the fact that in reaching the conclusions that you have  
18 that we started with a planeload of children without  
19 respiratory conditions and otherwise healthy.

20 A Yes, sir, I would assume that.

21 Q I'm not talking about whether one had a brace  
22 or a cast.

23 A I am not aware of the people who examined the

1 children. That would be very important to know for the  
2 sort of question you're asking me.

3 Q Have you considered the question of the health  
4 of the children? Does that make any difference in your  
5 capacity to tolerate altitudes?

6 A The health of the children?

7 Q Yes.

8 A I wouldn't consider it a problem in the duration  
9 of this particular sequence.

10 Q Do you know what Christie Leivermann's experience  
11 was?

12 A Experience? Professional experience?

13 Q Yes.

14 A I vaguely recall that she -- I don't -- well, I  
15 don't believe she was an R.N. and I think there was some  
16 mention about her being an L.P.N., something in that area,  
17 but I don't recall.

18 Q Do you know how much experience she had with  
19 Vietnamese children?

20 A No, I do not.

21 Q Do you know how much experience she had with  
22 that particular child?

23 MR. DUBUC: Which one?

1 MR. LEWIS: The one that turned blue.

2 THE WITNESS: I don't know.

3 MR. DUBUC: Do we know which one that was? I  
4 would like to know for the record.

5 MR. LEWIS: I am still not answering questions  
6 for Mr. Dubuc. I am asking if he knows.

7 MR. DUBUC: If you can name the children, maybe  
8 it's in the record.

9 BY MR. LEWIS:

10 Q Have you seen the records of any child?

11 A No, I have not.

12 Q Then he couldn't have seen the records of that  
13 child.

14 I am happy to satisfy you in any way.

15 In your capacity to understand whether a patient  
16 is cyanotic, it would be important to know the experience  
17 of the observer, would it not, in Orientals, for example?

18 A Well, I think that a professionally experienced  
19 person would be more credible than -- in saying someone  
20 is cyanotic -- someone, an unprofessional person. A  
21 professional being, in this case, a medical type.

22 Q For example, if Christie Leivermann had some  
23 extensive experience in dealing with Oriental children on



1 a daily basis, she would be better able to understand  
2 cyanosis in such a patient than someone who was not  
3 experienced with Oriental patients.

4 MR. DUBUC: On the ground?

5 THE WITNESS: Only if she was experienced in  
6 detecting cyanosis.

7 BY MR. LEWIS:

8 Q If she was experienced in detecting cyanosis.

9 MR. DUBUC: Do I understand you're referring  
10 to on the ground?

11 MR. LEWIS: It doesn't make any difference  
12 where you are. Cyanosis -- I gather cyanosis is cyanosis.  
13 You could be anyplace, according to this gentleman.

14 MR. DUBUC: I gather, according to some of your  
15 suggestions, that some people in airplanes don't recollect  
16 totally and so on. That is why I say on the ground. You're  
17 not putting in your experience factor anything other than --

18 MR. LEWIS: Surely you don't want to argue  
19 this. If you do, I will be glad to.

20 MR. DUBUC: I am not arguing it with you. I  
21 just want to be sure we're getting the parameters of your  
22 question.

23 MR. LEWIS: You have ample opportunity to ask

1 this gentleman all of the questions you want.

2 MR. DUBUC: I know.

3 BY MR. LEWIS:

4 Q I am trying to suggest to you, sir, and I am  
5 not trying to be tricky or difficult in any way, and  
6 Christie Leivermann -- and you did read her deposition,  
7 didn't you?

8 A No, sir.

9 Q Christie Leivermann has extensive experience  
10 with these children, this group of children on the airplane.  
11 She came from the FFAC facilities that had them for some  
12 period of time. She was experienced with Oriental children  
13 and I believe some of the flight nurses, for example, did  
14 not have any pediatric experience comparable to hers with  
15 Oriental children or otherwise.

16 A I would believe that flight nurses probably  
17 would have had more experience detecting cyanosis than  
18 anybody, than a non-flight nurse, if you will.

19 Q Do you know the qualifications of these par-  
20 ticular women?

21 A The flight nurses?

22 Q Yes.

23 A To be a flight nurse, you have to be a registered

1 nurse and have to have training in aerospace medicine,  
2 basically. They have all been in decompression chambers  
3 so they have considerable experience in aviation medicine.

4 Q Are they ever put through an explosive  
5 decompression at 24,000 feet, to your knowledge?

6 A An explosive decompression?

7 Q Less than a second.

8 A I would say not. It's very difficult to have  
9 that capability to decompress a chamber in that period of  
10 time. You can, but I doubt that they were put through an  
11 explosive decompression at 23,400 feet.

12 Q Have you been through an explosive decompression  
13 at that altitude or in a chamber or otherwise?

14 A I think I have been through --

15 Q An explosive decompression. Have you been  
16 through --

17 A Would you --

18 Q -- it in less than a second?

19 A Less than a second?

20 Q Less than a second.

21 A I don't recall. I have spent or made a good  
22 many chamber runs. I have been through decompressions at  
23 higher altitudes than that. They were rapid decompressions.

1 I do not recall the time period to decompress.

2 Q In any training procedures that the FFA  
3 recommend in any manual that you have ever seen for airline  
4 personnel, military personnel, explosive decompression of  
5 less than a second -- we will say a half a second -- at the  
6 altitude that this explosive decompression occurred?

7 A Is this -- Your question again, sir?

8 Q Do you know of any training procedure in the  
9 military or in civilian for air personnel of every variety,  
10 pilots, engineers, you-name-it, flight nurses, stewardesses,  
11 what-have-you, of where they are routinely subjected to  
12 explosive decompression of a half a second or less and at  
13 the same altitude that this airplane was?

14 A I am not aware of any training profiles of --  
15 such as you mentioned.

16 Q To what extent -- I want you to assume as you  
17 have that these children were healthy prior to getting on  
18 the airplane. In other words, they did not have any  
19 perforated ears.

20 A First of all, I wouldn't consider -- well, when  
21 we were talking about health awhile ago, I thought we were  
22 talking about a little more greater health problem than a  
23 perforated ear.

1           Q       I want you to assume that all of the children  
2 were examined for such things as ear problems prior to being  
3 put on the airplane.

4           A       I would also assume that if I examine a child  
5 who was about to be evacuated from Saigon at this particular  
6 time and the child had a perforated ear, I would not, you  
7 know, ground that child for that reasons. I would have no  
8 medical reason to do so if the child had a perforated ear.

9           Q       Well, you see, you have assumed a lot of things  
10 that don't necessarily happen to be true.

11           MR. DUBUC: Like what?

12           MR. LEWIS: Well, just the most recent  
13 assumptions.

14           MR. DUBUC: That the children were not healthy?

15           MR. LEWIS: No, they were healthy. He says he  
16 wouldn't ground a child, I gather he is saying he wouldn't  
17 ground a child that is leaving Vietnam, deny him the  
18 opportunity to leave, which is the implication of what he  
19 says, just because he has a perforated ear.

20           THE WITNESS: That was an assumption. That  
21 was a statement --

22           MR. DUBUC: Wait a minute. You told him he  
23 assumed a lot of things that were not true.

1 MR. LEWIS: That is an example of that. That  
2 is not the case. You see, Doctor, they had to -- or did  
3 anybody tell you how the children were selected to go in  
4 the airplane?

5 THE WITNESS: No, sir.

6 BY MR. LEWIS:

7 Q So you don't know whether there was a larger  
8 group that could not be accommodated and they had to take  
9 the small healthiest group within certain parameters?

10 A No, sir.

11 Q They had to discriminate between those that  
12 would stay and go among a larger group that they would all  
13 have liked to go. You don't know that?

14 A No, sir.

15 Q You don't know the people doing the examinations  
16 were told to pick the healthiest?

17 A No, I did not know that.

18 Q And that they did in fact undertake to try to  
19 find and to scrub, or whatever the word would be, any  
20 children that looked like they would have any kind of a  
21 problem taking such a long airplane trip.

22 A When I was --

23 MR. DUBUC: Excuse me just a second. Are you

1 representing on the record that all of the 150 children  
2 in the troop compartment had a physical examination within  
3 a day or two of getting on the airplane?

4 MR. LEWIS: I am not representing anything.

5 MR. DUBUC: You just told him about his  
6 assumption. I don't think that is a fact.

7 MR. LEWIS: I am telling you that the people  
8 that examined the children undertook to take the healthiest  
9 children that they had.

10 MR. DUBUC: That presumes an examination on a  
11 day of the flight or two or three days before.

12 THE WITNESS: I think that is excellent, sir.  
13 That is exactly the way I would do it. I made the statement  
14 that I would not keep a child from going only because of  
15 a perforated ear because I don't think that would be any  
16 problem whatsoever during the flight.

17 BY MR. LEWIS:

18 Q I understand.

19 A All right, sir.

20 Q But assuming for the sake of argument that the  
21 children were examined within a reasonable time prior to  
22 the flight and they were found not to have ear problems,  
23 among other things, or respiratory problems, would you expect

1 to find a large number of perforated ears when they were  
2 examined when they got off the airplane, within a day or  
3 two?

4 A I don't think I would in a large number. I  
5 don't, really.

6 I have seen very few perforated ears with  
7 decompression. It takes sort of a concentrated effort to  
8 do that.

9 Q But then if there were a large number of  
10 perforated ears after the crash, that might be a significant  
11 fact if that were so?

12 A Not a significant fact as far as any sort of  
13 injury secondary to hypoxia.

14 Q Or decompression?

15 A You might say it was an injury secondary to  
16 decompression, not an injury that would be expected to cause  
17 any problem.

18 Q Well, tell me, sir, how do you know that the  
19 combination of the explosive decompression and the hypoxia  
20 to children of one year of age, we will say, is not harmful?

21 You don't have any test, do you?

22 A I said once before, I don't recall any research  
23 that has been done in this area using children.



1 Q It's all theoretical and derived from your  
2 understanding as to what happens to adults; is that true?

3 A Yes, but there is some understanding about  
4 infants that probably makes them more resistant to cerebral  
5 damage from hypoxia than adults and dyspnea. Dyspnea, as  
6 I am sure you know, is, at this altitude would only be  
7 expected in obesity and is not frequently seen then. So  
8 you would not -- a child should be more resistant to  
9 dyspnea than an adult.

10 Q Were these fat or skinny children?

11 A I have no idea.

12 Q Does it make any difference?

13 A Not at this altitude.

14 Q What would be the factors which would be positive  
15 factors considering a group of small children and what would  
16 be a group of negative factors, age factors?

17 MR. DUBUC: As to what?

18 BY MR. LEWIS:

19 Q In an explosive decompression under the circum-  
20 stances, at this altitude.

21 MR. DUBUC: Do you understand his question?

22 BY MR. LEWIS:

23 Q I will state it again. What I am trying to get

1 is this. I gather you say there are some factors of being  
2 one year of age which are a benefit under an explosive  
3 decompression at this altitude; is that right?

4 A Yes, sir.

5 Q And are there any things that would be a  
6 negative at this altitude?

7 A They probably wouldn't be able to attach their  
8 own oxygen mask when it presented itself. That is one  
9 problem. That is the only one I can think of. I can't  
10 think of a medical problem.

11 Q How about the fact that they would not under-  
12 stand what was going on around them? Would that be a  
13 phenomenon? Would that make a difference?

14 A A difference to what?

15 Q In the way they would react to the situation  
16 physiologically.

17 A It wouldn't make any difference physiologically  
18 if they understood what was going on around them or not.

19 Q For example, if one is in an airplane and one  
20 is told to chew gum or swallow, for example, to equalize  
21 pressure, you can do that if you understand what you're  
22 being told to do. If you're of an age where you don't  
23 understand language that well, you cannot make that voluntary

1 accommodation. Isn't that true?

2 A The chew gum or swallow relates to equalizing  
3 the air in the middle air as you descend, not as you  
4 ascend, which was the case in a rapid decompression

5 Q So it wouldn't make any difference?

6 A I don't think it would make any difference  
7 whether the infant chewed gum or not, sir.

8 Q I am talking about swallowing, reflexed. There  
9 is no voluntary reflex that would make any difference?

10 A No voluntary reflex.

11 Q I am talking about ones that you would perform  
12 as opposed to ones which occur automatically.

13 A I can't think of any offhand, sir.

14 Q Now, what predisposition does a one-year-old  
15 have to be doing well under these circumstances? You have  
16 talked about --

17 A Well, an infant -- as a matter of fact, the  
18 respiratory rate of an infant is a little faster than that  
19 of an adult; with a faster respiratory rate, they have less  
20 of their alveolar compartment occupied by CO<sub>2</sub>, partial  
21 pressure of CO<sub>2</sub>, which would give more room for oxygen.  
22 That is one benefit an infant has.

23 Q Anything else.

1           A       I think that the normal physiological response  
2 to hypoxia is one which is to dilate the cerebral blood  
3 vessels and certainly in infants with respect to the cerebral  
4 blood vessels you would expect to dilate faster and better  
5 than yours and mine, if you will.

6           Q       Anything else?

7           A       Nothing else comes to mind.

8           Q       I am not suggesting there is any. I am just  
9 asking you.

10          A       I think that I will back up, if it's okay.  
11 The infant usually has a little better cardiac output than  
12 an adult because -- this would also be a plus, but I can  
13 go into detail on that but I think that would be a  
14 physiological fact.

15          Q       Anything else?

16          A       No, not that I can think of.

17          Q       Tell me what differences, if any, you have  
18 to Dr. Busby.

19          A       Any differences that I have to Dr. Busby?

20          Q       Yes. You're reported to be going to testify  
21 about Dr. Busby and I was curious --

22          A       No.

23          Q       You were going to say -- ?

1           A       The impression that I mentioned as far as  
2 Dr. Busby in my testimony was that I would address the  
3 area of the inaccuracies that he alleged existed in the  
4 physiological training manuals published by the FAA.

5           Q       Other than that, you're not prepared to  
6 discuss any other aspects of Dr. Busby's testimony?

7           A       Yes, sir. I would disagree with him in several  
8 aspects.

9           Q       Which ones?

10          A       He feels that there would be cerebral damage  
11 secondary to hypoxia due to this decompression and the  
12 hypoxic episode that followed, and I do not agree with that.

13          Q       What is the next thing?

14          A       Well, as I recall, he also felt that there  
15 could have been some damage sustained secondary to the  
16 impact forces, and I don't agree with that.

17          Q       I am happy to go into impact.

18               MR. DUBUC: You asked him what he disagreed  
19 with and he is telling you. That is your question.

20               MR. LEWIS: Pardon me. I understand if you want  
21 to play games, we can play games all night. I have got  
22 about 800 pictures; I am going to ask this man about every  
23 single one of them if we're going into the impact. I don't

1 want you to say I opened the door and what-have-you. I  
2 am prepared to ask this man a lot of questions --

3 MR. DUBUC: You just ask him specifically  
4 what he disagreed with about Dr. Busby and he told you.

5 MR. LEWIS: I understand that.

6 MR. DUBUC: I didn't say I was offering him on  
7 that subject. He is answering your question.

8 MR. LEWIS: Do you intend to offer him on the  
9 subject?

10 MR. DUBUC: I told you at the beginning, no.

11 MR. LEWIS: All right, then. I just don't  
12 want you to say because I asked him about Busby and he  
13 mentioned impact that I waived any opportunity because if  
14 we do, the rules are changed and I am going to go into  
15 that.

16 MR. DUBUC: I know the rules, Mr. Lewis.

17 MR. LEWIS: Then we're agreed he is not here  
18 on impact.

19 MR. DUBUC: There are lots of people's testimony  
20 about that.

21 MR. LEWIS: This would be a most interesting  
22 trial.

1 BY MR. LEWIS:

2 Q What else?

3 A That is all that I recall. I do recall -- well,  
4 I don't recall the specifics. I recall a sheet that had  
5 some of Dr. Busby's calculations or they were labeled  
6 this way. I think in calculating the partial pressure  
7 of oxygen in the alveoli instead of using the 34 millimeters  
8 of mercury that is usually accepted for infants, in that  
9 vicinity, 34 to 38, I don't recall exactly what it is; I  
10 think it is 34, as compared to an adult of 40, he for  
11 some reason -- I recall the reason now. He used 44 instead  
12 of 34 and said it was because the infants were sleeping,  
13 and I don't believe you could really -- I know of no  
14 information that would give that validity.

15 I haven't researched it. I have seen no article  
16 that says that an infant sleeping has a higher CO<sub>2</sub> pressure  
17 than an adult. Dr. Busby used this in his calculations.

18 Q Do you know whether the partial pressure is  
19 different from an adult or infants sleeping as opposed to  
20 awake?

21 A No, sir, I don't. It would be involved with  
22 the respiratory rate.

23 Q You don't know whether that is true or not?

1           A       I don't think you can -- what I am disagreeing  
2 with is that you can say sleeping infants have a partial  
3 pressure of 44 millimeters of mercury in the alveoli.  
4 There are too many factors involved; and this is all I  
5 recall in the testimony.

6           Q       Anything else that you're disagreeing with?  
7 I am talking -- I am interested in the points that Busby  
8 was making, the details. Is there any other?

9           A       I don't recall anything, sir.

10          Q       And the calculations that you were speaking of  
11 were relating to this partial pressure; is that correct?

12          A       Yes, sir. The alveoli or partial pressure of  
13 oxygen in the alveoli at sea level compared to 23,400 feet.  
14 I do -- I address the physiological training manual. When  
15 you first asked me about Dr. Busby, you didn't give me an  
16 opportunity -- I would disagree with the fact that he said  
17 that the figures in there were erroneous and I don't see  
18 where air is involved, and so I would have to disagree  
19 with that statement.

20          Q       But what do you disagree with?

21          A       What do I disagree with?

22          Q       What statements, particularly?

23          A       The statements in the physiological training



1 manual was in error and would be corrected when it was  
2 revised.

3 Q Which part?

4 MR. DUEUC: Can he finish?

5 THE WITNESS: The part on time of useful  
6 consciousness or, as some prefer to call it, the effective  
7 performance time.

8 BY MR. LEWIS:

9 Q Which element of the time of useful conscious-  
10 ness?

11 A Dr. Busby never said what was in error, as I  
12 recall his testimony, sir.

13 Q Are you saying that the time of useful con-  
14 sciousness is identical now in the current publication?

15 A No, I am not. It was changed but it doesn't  
16 reflect an error because before it said at 18,000 feet or  
17 I think I recall that at the time of useful consciousness  
18 was 30 minutes or greater, and then the revision it came  
19 out at 20,000 feet and that the time of useful consciousness  
20 was greater. And I won't disagree with that, either, but  
21 you can't -- you can also say the time of useful conscious-  
22 ness at 50,000 feet is 30 minutes or later, being later in  
23 that case.

1 Q Is there a time of useful consciousness for  
2 infants?

3 A No, sir, but I think there are some, probably,  
4 and I am not prepared to talk about it. There are certainly  
5 some times of safe unconsciousness for infants based on  
6 various reasons for a child to be unconscious.

7 Q After the explosive decompression.

8 A No, not after explosive decompression.

9 Q Those are both -- is the word "vector"? Is  
10 that a word you people use?

11 A Vector?

12 Q Yes. I am not a medical person or scientist,  
13 so I don't know.

14 A I think vector is probably a more common  
15 engineering term than a medical one.

16 Q I'm just trying to get the phenomena down by  
17 whatever nomenclature you know.

18 Then explosive decompression would be one  
19 vector; wouldn't that be correct?

20 A No; I wouldn't use "vector" that way, sir. I  
21 use vector in describing directions on an EKG, for instance.

22 Q Now, are there any other areas in which you  
23 agree with the -- disagree with the factual conclusions of

1 Busby other than what you have mentioned?

2 A As far as I know, sir, those were basically  
3 the only -- well, no. As far as I know, they're the only  
4 ones I disagree with. I don't recall any that I agreed  
5 with. I mean that -- well, I don't remember a whole lot  
6 that he presented. Maybe if you would tell me the factual  
7 or the factors he presented, I can tell you whether I  
8 agree with them.

9 Q The Lockheed Aircraft Corporation furnished us  
10 with a digest of your testimony and it suggested that you  
11 were going to discuss Dr. Busby. I just want to make sure  
12 that I have the areas that they plan to cover.

13 A We never agreed to discuss Dr. Busby.

14 MR. DUBUC: Wait a minute. That is an inaccurate  
15 representation of what that brief says, Mr. Lewis. Why  
16 don't you read to him what it says and he will be sure  
17 what you're asking him about Dr. Busby.

18 MR. LEWIS: It says that Dr. Horn is a  
19 recognized expert in the field of aerospace medicine and  
20 is currently an official with the FAA and will testify as  
21 an expert to the substance and basis for studies published  
22 by the FAA, the validity of which was challenged by  
23 plaintiffs' witness Busby during prior trials in the

1 insignificant effects of rapid decompression and altitude  
2 of the aircraft, in this case, and the insignificant effect,  
3 if any, of any conditions of hypoxia for the time period  
4 involved in the descent due to the change in the oxygen  
5 content on an infant or small child.

6 MR. DUBUC: That is right.

7 THE WITNESS: Yes, sir.

8 BY MR. LEWIS:

9 Q Now, this witness already told me that he  
10 doesn't have any studies on infants or small children.

11 MR. DUBUC: His testimony speaks for itself.  
12 He asked you a fair question. If you want him to address  
13 specifics of Dr. Busby, we would be happy to do that. He  
14 may do that. He may do that, so you should be on notice.

15 MR. LEWIS: I am on notice of what you give me.  
16 If it is not in the list, I am not going to do it.

17 MR. DUBUC: We are now giving you notice.

18 MR. LEWIS: I am not taking any notice that you  
19 are giving me now.

20 MR. DUBUC: You have opened this up. You have  
21 asked him in a very long line of questioning what --

22 MR. LEWIS: I will see you tomorrow.

23 MR. DUBUC: We're not going to continue tomorrow.

1 MR. LEWIS: Yes, we are.

2 MR. DUBUC: He asked you a fair question and  
3 you opened that up. If you're going to see him tomorrow,  
4 the deposition is over.

5 MR. LEWIS: It's 5:15.

6 MR. DUBUC: He is willing to stay until we're  
7 done. And you have opened up an area which is not encom-  
8 passed in there as to what he disagreed with with Dr. Busby  
9 and he has given you several -- and he asked you a fair  
10 question as to which additional ones you want him to  
11 address.

12 You are on notice that having opened that up,  
13 we will offer his testimony on other areas in which he  
14 disagreed with Dr. Busby and he is here to tell you about  
15 them if you want to ask him.

16 MR. LEWIS: Mr. Dubuc --

17 MR. DUBUC: He is willing to stay until we're  
18 done.

19 THE WITNESS: Yes.

20 MR. DUBUC: Be sure that that is on the record,

21 Mr. Reporter.

22 577 MR. LEWIS: Mr. Dubuc, you've been playing  
23 games all --

1 MR. DUBUC: These are not games.

2 MR. LEWIS: Please let me finish and then you  
3 can say anything you want. We resumed after the Court  
4 proceeding, and I told you we would undertake to try to  
5 finish, with no guarantee that we would finish today.

6 MR. DUBUC: All right. We are still here.  
7 It's only 5:15 and he cancelled his car ride at 5:00 and  
8 we said we would continue at least -- we're not going to  
9 continue just fifteen minutes now, I hope.

10 MR. LEWIS: He didn't cancel his car ride at  
11 5:00; he did it at 4:30.

12 MR. DUBUC: That's all right.

13 MR. LEWIS: I know you didn't mean to just  
14 state that for the record.

15 THE WITNESS: I think he probably meant to say  
16 that my car ride was at 5:00.

17 MR. DUBUC: That's right.

18 MR. LEWIS: Dr. Horn, forgive me. Mr. Dubuc  
19 can speak for himself. He represents Lockheed Aircraft  
20 Corporation and he doesn't need any help in justifying  
21 his statements.

22 THE WITNESS: Please accept my apologies.

23 MR. LEWIS: You see, the difficulty is it just

1 seems like you're trying to make excuses for the defendants  
2 in the case and I know you don't mean to do that but that  
3 is the impression when you try to help Mr. Dubuc in the  
4 situation.

5 MR. DUBUC: I accepted his help on the fact of  
6 cancelling his car ride.

7 MR. LEWIS: The fact is that he called at 4:30.

8 MR. DUBUC: That is right.

9 MR. LEWIS: And I told him if he wanted to make  
10 the car ride, that would be satisfactory to me; and if he  
11 wanted to work later, that was fine, too. I did not promise  
12 that we would finish today. That is clearly what the record  
13 says.

14 MR. DUBUC: That is fine.

15 MR. LEWIS: Are you disagreeing that is what we  
16 said?

17 MR. DUBUC: We did also say we would try to  
18 finish today.

19 MR. LEWIS: I understand that. You just raised  
20 the point, Mr. Dubuc; you have engaged or are seeking to  
21 enlarge the scope of his testimony.

22 MR. DUBUC: No, sir. No, sir. You enlarged  
23 the scope of his testimony in examining him on all these

1 things with Dr. Busby. You asked him what he disagreed  
2 with.

3 MR. LEWIS: And now you say you want to do  
4 that and he may very well want to criticize Dr. Busby.

5 MR. DUBUC: Let me state on the record our  
6 position, and that is if there are other areas that you  
7 want him to address where he disagreed with Dr. Busby,  
8 since he already said that there are such areas and he  
9 asked you the question, if you want to ask him about any  
10 specific ones he has not already testified about, he would  
11 be glad to tell you whether he agrees or disagrees. That  
12 subject was opened by you and you asked him several  
13 questions whether he disagreed with Busby as to impact  
14 damage on the children. We already said he will not testify  
15 about that at the beginning and agreed to avoid that.

16 You have asked him as to whether there were  
17 calculations and he told you there were calculations and  
18 you have asked him about the general damage to children  
19 from decompression hypoxia and he told you that; and you  
20 asked him are there any other areas and he said if you  
21 want to refer to some -- he can't recall all of them, but  
22 he would be glad to testify about them.

23 I am saying he is available to do that if you



1 want to do it.

2 THE WITNESS: I would like to make a statement  
3 for the record.

4 BY MR. LEWIS:

5 Q Surely.

6 A First of all, I am not intending to be critical  
7 of Dr. Busby. Dr. Busby is a personal friend of mine and  
8 an ally in our rather limited field of expertise, and so  
9 I am not critical of Dr. Busby. I had questioned and dis-  
10 agreed on your solicitation of some of his testimony.

11 I do not consider that being critical of  
12 Dr. Busby in any way.

13 Q Let me ask this: You do know, then, Dr. Busby?

14 A Yes, sir.

15 Q And is he professionally well trained?

16 A I am sure he is. I am not aware of his training.  
17 I think he was trained in Canada. I do not know where he  
18 did his aerospace medical residency so I assume he is  
19 professionally well trained. I do not know where he was  
20 trained, but he is from Canada.

21 Q Have you ever seen anything that he has written  
22 or heard his expressed opinions in the area of aerospace  
23 medicine?

1 A Yes, sir.

2 Q From the way he expresses himself, he appears  
3 to be competent and well trained, does he not?

4 MR. DUBUC: I object to the question.

5 MR. LEWIS: He is just objecting for the record.

6 MR. DUBUC: Go ahead and answer.

7 THE WITNESS: Yes, I think he is competent.

8 BY MR. LEWIS:

9 Q Thank you.

10 In fact, he is well known in the field, is he  
11 not?

12 A Well, yes, sir, I would say he is well known.  
13 People become well known by publishing articles and doing  
14 that sort of thing. Some people become well known more so  
15 than other people because they have that opportunity to be  
16 involved in academic medicine, if you will, and so forth.

17 Q I didn't see any articles on your curriculum  
18 vitae. Have you written any?

19 A Published articles?

20 Q Yes, sir.

21 A No, sir, none that have been published in any  
22 scientific journals.

23 Q Sometimes we have gotten them in other forms.

1 A Right.

2 Q And I just wanted to know.

3 A My professional career in aviation medicine,  
4 I haven't really had the opportunity to write articles  
5 because that usually is associated with doing research,  
6 and I have not been involved in doing research.

7 Dr. Busby was fortunate enough at one time to  
8 be at the Civil Aeronautical Medical Institute and that was  
9 his job to do: write articles.

10 Q And do research?

11 A Correct. Or certainly be involved in the  
12 research. I don't know how much he actually did himself.

13 Q He did supervise people doing research, in any  
14 event?

15 A That is correct. As did Dr. Gibbons.

16 Q What is Dr. Gibbons doing? What did you under-  
17 stand Dr. Gibbons --

18 A Dr. Gibbons works for the health department  
19 in either the county or city health department in Salt Lake  
20 City.

21 Q How much of his time does he devote --

22 A I have no idea, sir.

23 Q -- to non-health department activities?

1 A I have no idea.

2 Q Do you understand it's a significant part or  
3 is most of his medical time spent in the health department  
4 as a part of his activities?

5 A I have no idea, sir. Probably about the same  
6 as Dr. Busby would spend on his job as, I think, at the  
7 Cleveland Clinic as compared to his consulting.

8 Q What percentage is that?

9 A I have no idea. I assume or think it's a full-  
10 time job. I would assume that Dr. Gibbons' is also a full-  
11 time job. I don't know how much you can say he spends in  
12 the consulting business.

13 Q How long have you known Dr. Gibbons?

14 A Dr. Gibbons? Probably I met Dr. Gibbons eight  
15 years ago.

16 Q Is he a friend of yours?

17 A I call him Harry; we shake hands when we meet  
18 and say hi and so forth. I have never been stationed with  
19 him in the military, never been associated with him directly  
20 professionally. My meeting was when he worked for the FAA,  
21 I was in the military and during my residency we went  
22 around and visited various aerospace agencies.

23 Since that time, I have seen him usually annually

1 at the aerospace medical association meeting, and that is  
2 the same that would be true with Dr. Busby.

3 Q So your acquaintance with him is on roughly the  
4 same level as Busby?

5 A Roughly. I work at NTSB. I was detailed to him  
6 from the military for a short time while Dr. Busby was still  
7 the deputy federal air surgeon with the FAA. That was my  
8 first personal contact with Dr. Busby. So my personal  
9 contact with Dr. Busby has probably been a closer thing  
10 than with Dr. Gibbons. Neither have been very close.

11 Q How many hypoxic injuries have you investigated  
12 while you were with the government?

13 A Personally investigated?

14 Q Yes.

15 A None.

16 Q How many -- I am including the National Trans-  
17 portation Safety Board. I just want to make sure I am  
18 all-inclusive.

19 A Again, none. Unfortunately, a good many hypoxic  
20 accidents that occur in general aviation are never determined  
21 to be, or alleged hypoxic accidents, are never determined  
22 to be such because there is no way to look at someone's  
23 remains and determine that he was hypoxic.

1 Q Did you ever investigate a hypoxic or an alleged  
2 hypoxic injury in the military?

3 A Personally?

4 Q Yes.

5 A Been involved as a member of the Board?

6 Q Yes.

7 A No, sir.

8 Q What decompression, alleged decompression,  
9 injuries have you investigated personally either in the  
10 military or in civilian life?

11 A None.

12 Q What fatal accidents have you personally  
13 investigated while with the National Transportation Safety  
14 Board?

15 A Fatal accidents?

16 Q Yes.

17 A I was a member of the investigation team at  
18 San Diego when PSA had the accident. There were several  
19 fatalities there. I was involved in the investigation of  
20 the American Airlines DC-10 in Chicago. Those are the --  
21 I have been involved in numerous fatal accidents, not  
22 personally going to the scene but giving medical consulta-  
23 tion to field investigators, which is basically what I did

1 in the general aviation field.

2 I have investigated fatal accidents at Hyannis --

3 Q Do either one of those involve hypoxia --

4 A No, sir.

5 Q -- or decompression?

6 A No, sir.

7 Q Go on. Continue.

8 A We were talking about -- those are probably  
9 the only three that I was personally involved with as far  
10 as going to the scene, being involved in the determination  
11 of the crash injuries and the mechanism of such and so forth.

12 Q Have you ever prepared reports for the National  
13 Transportation Safety Board or any other governmental agency  
14 involving injuries which were contended to have occurred  
15 as a product of either hypoxia or decompression or a  
16 combination of those two factors?

17 A Actual injuries?

18 Q Yes. Claimed injuries.

19 A No, sir.

20 Q Have you ever investigated for any governmental  
21 agency in which you prepared a report on injuries which  
22 were claimed to have occurred as a result of hypoxia or  
23 decompression?

1 A No, sir.

2 Q Have you ever investigated an injury, a claimed  
3 injury, as a product of the bends? In other words, under  
4 water.

5 A You're talking about an ocean investigation?

6 Q Or wrote a report on it.

7 A No, sir.

8 Q Either on scene or take the facts and wrote a  
9 report?

10 A Never taken the facts and written a report.

11 Q Now, the bends can occur under some circumstances  
12 in the atmosphere, can it not?

13 A Absolutely.

14 Q And have you ever investigated or reported on  
15 any -- in writing -- on any accident in which the phenomena  
16 which is called the bends --

17 A No, sir.

18 Q -- was contended to have occurred?

19 A No, sir.

20 Q What are your current duties with the FAA?

21 A Well, my title, as I mentioned earlier, I am  
22 the program scientist for accident investigations, which  
23 means I have the program for the medical aspects of the



1 accident investigations in the FAA.

2 Q I heard you but I am not positive that I under-  
3 stand just what that entails.

4 A Well, I do other things than accidents. It's  
5 usually generally related to the aviation safety aspects,  
6 aviation safety aspects related to medical problems.

7 Q Well, when you say you are involved with the  
8 program, I just don't understand what that means.

9 A Well, we have a lot of people doing medical  
10 investigations and accidents in the FAA. I think that my,  
11 if you will, duties require me to go to major air accidents  
12 and other accidents that the investigator in charge, who  
13 is investigating the accident, requests my presence.

14 I also am closely involved with the pathologist  
15 that works at the FAA and is involved in accident investiga-  
16 tions and research and so forth. We have what we call  
17 special project groups that we try to -- because of our  
18 limited resources, medical resources in the FAA, we try to  
19 select, particularly in general aviation, accidents that  
20 we can learn something from, particularly accidents where  
21 the living space of the cabin is such that it was survive-  
22 able and not just holes in the ground and that sort of  
23 thing.

1 So I am involved in that.

2 Q Are you involved in any studies in connection  
3 with infant or small child hypoxia or decompression?

4 A No, sir. I know of no studies such as that.

5 Q You're not starting any? There's no program  
6 to do that in the FAA?

7 A No, sir. We feel there is no need to do that  
8 in the FAA.

9 Q What altitudes are flight crews required to use  
10 oxygen?

11 A By what regulations?

12 Q By any regulations.

13 MR. DUBUC: Military, civilian?

14 BY MR. LEWIS:

15 Q Let's take the civilian.

16 A Part 91 requires -- and I may be off 500 feet  
17 or so, but from 12,000 feet to and including 14,000,  
18 if you're there for 30 minutes the pilot of the aircraft  
19 is required to use oxygen. This is an unpressurized  
20 airplane, of course.

21 And Part 135 and Part 121, unpressurized  
22 aircraft, they're required to use oxygen from 10,000 feet  
23 up, including 12,000 feet, if you're going to be at 12,000

1        feet for 30 minutes.

2            Q        Do the military regulations differ?

3            A        Yes, sir.

4            Q        In what way?

5            A        Military regulations, as far as cabin altitude  
6 is concerned, still require oxygen be used above 5,000 feet  
7 at night and above 10,000 feet at other times.

8            Q        So if you ascend over 10,000 feet during the  
9 day in military aircraft as a crewman, you are supposed to  
10 don an oxygen mask?

11          A        That's correct.

12          Q        That is when you pass that altitude; is that not  
13 correct? I mean as you ascend, for example.

14          A        Yes, sir. When you go above 10,000 feet, you're  
15 required to use oxygen. A good many military aircraft, if  
16 they get to 10,000 feet, the guys -- and the cabin altitude  
17 is at 10,000 feet, he is probably on oxygen from the ground  
18 up.

19          Q        Do you know what the cabin altitude was in this  
20 airplane?

21          A        I think I recall that it was 5,000 feet or in  
22 that vicinity, between five and six; at the time of the  
23 decompression, sir?

1 Q Yes.

2 A Okay.

3 MR. LEWIS: Mr. Dubuc, have you furnished us  
4 with the calculations of Mr. Edwards?

5 MR. DUBUC: Yes.

6 MR. LEWIS: We have all of the calculations?

7 MR. DUBUC: Yes.

8 MR. LEWIS: In other words, we're not going to  
9 have a surprise tomorrow?

10 MR. DUBUC: No, sir. Only if you haven't read  
11 them.

12 MR. LEWIS: Just as the home of the average G.

13 MR. DUBUC: You also have Dr. Gaume's calculations.  
14 That is for Friday.

15 MR. LEWIS: I am talking about tomorrow. This  
16 gentleman mentioned that Mr. Edwards had done some calculations  
17 on the board and that sort of thing and I wanted to  
18 make sure what you gave us is what you have.

19 MR. DUBUC: That area of G-forces but you say  
20 you don't want to go into that with him.

21 MR. LEWIS: I did learn about Mr. Edwards'  
22 discussion of G-forces and I want to make sure that the  
23 data you have given us includes the data that he gave at

1 the conference.

2 MR. DUBUC: You have even more than that.

3 MR. LEWIS: Excellent. He is as unbiased a  
4 witness as I have ever seen.

5 MR. DUBUC: Absolutely scientific.

6 MR. LEWIS: No doubt about it.

7 And I would note, of course, that is facetious  
8 on my part.

9 Now let us resolve the question of what this  
10 witness is going to -- if this witness is intended to be  
11 somebody that is going to come in and attack Dr. Busby, I  
12 am going to want to ask a lot of the questions on that.

13 MR. DUBUC: He will testify as to what you have  
14 asked him so far.

15 MR. LEWIS: With respect to Busby?

16 MR. DUBUC: Whatever you asked him about Busby,  
17 he will testify to.

18 MR. LEWIS: Is his testimony going to go beyond  
19 that?

20 MR. DUBUC: Let me ask him.

21 (Counsel confers with the witness off the  
22 record)

23 MR. DUBUC: What he already testified to today.

1 MR. LEWIS: That is all of the questions I have  
2 at this time.

3 Just a minute. I have a couple more things.

4 BY MR. LEWIS:

5 Q How many photographs were at the meeting that  
6 you were at with all these witnesses?

7 A Actual photographs of the crash site?

8 Q Yes.

9 A I don't know how many, but not a lot. If I had  
10 to estimate, maybe a dozen; and I really don't know, sir.  
11 There weren't a lot.

12 Q Is that the only occasion that you have ever  
13 seen photographs involving the crash?

14 A No, sir. I have seen some black and white photos.

15 Q On another occasion?

16 A That is correct.

17 Q When was that?

18 A Yesterday afternoon.

19 Q What photographs did you see yesterday afternoon?

20 A A large collection of --

21 MR. LEWIS: Do you mind telling me?

22 MR. DUBUC: He looked at whatever they are,  
23 Mr. Walker's photographs, which we had just seen.

1 BY MR. LEWIS:

2 Q The pictures that were very recently produced?

3 A They called and told me they just got pictures  
4 in and they would like me to look at them.

5 Q What I am trying to do is locate the photographs  
6 that you're speaking of. Are the ones I have seen very  
7 recently and I gather you have seen these?

8 MR. DUBUC: And we have seen them very recently.  
9 As long as we are all saying when we saw them.

10 MR. LEWIS: I know that we were told in the  
11 Interrogatories that they did not exist.

12 MR. DUBUC: That is correct. Those are not our  
13 photographs.

14 MR. LEWIS: Read the Interrogatory carefully.  
15 It doesn't limit yourself to your photographs.

16 MR. DUBUC: I recall and record and the Inter-  
17 rogatories and it says answer to what you have knowledge of.

18 MR. LEWIS: That is all you can do.

19 MR. DUBUC: That is right.

20 MR. LEWIS: But you aren't making a distinction  
21 between yourself and theirs. You don't conceded that you  
22 knew about those photographs?

23 MR. DUBUC: The 800?

1 MR. LEWIS: Yes.

2 MR. DUBUC: Absolutely; I did not know.

3 MR. LEWIS: That is all of the questions I  
4 have.

5 (Whereupon, at 5:45 p.m., the taking of the  
6 deposition was concluded)



1 I have read the foregoing 116 pages,  
2 which contain a correct transcript of the answers  
3 given by me to the questions recorded therein.  
4

5  
6 \_\_\_\_\_  
7 Signature of Witness  
8

9 - - -

10 SUBSCRIBED AND SWORN To before me this \_\_\_\_\_ day of  
11 \_\_\_\_\_, 1981.  
12

13  
14  
15 \_\_\_\_\_  
16 Notary Public

17 My commission expires:  
18 \_\_\_\_\_

## CERTIFICATE OF NOTARY PUBLIC

COMMONWEALTH OF VIRGINIA )

COUNTY OF ARLINGTON )

I, JODY GOETTLICH, the officer before whom the first portion of the foregoing deposition was taken, do hereby certify that Andrew F. Horne, whose testimony appears in the foregoing deposition, was duly sworn by me, a Notary Public in and for the Commonwealth of Virginia at Large; that the testimony of said witness was recorded by me by stenotype and thereafter reduced to typewritten form under my direction; that said deposition is a true record of the testimony given by said witness; that I am neither counsel for, related to, nor employed by any of the parties to the action in which this deposition was taken; and, further, that I am not a relative of or employee of any attorney or counsel employed by the parties hereto, nor financially or otherwise interest in the outcome of the action.

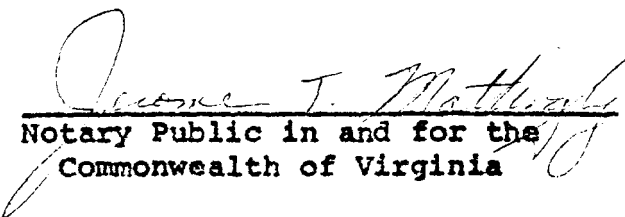
Jody Goettlich  
Notary Public in and for the  
Commonwealth of Virginia

My Commission Expires: February 18, 1985

## CERTIFICATE OF NOTARY PUBLIC

COMMONWEALTH OF VIRGINIA )  
 )  
COUNTY OF ARLINGTON )

I, JEROME T. MATTINGLY, the officer before whom the second portion of the foregoing deposition was taken, do hereby certify that Andrew F. Horne, whose testimony appears in the foregoing deposition, was duly sworn by me, a Notary Public in and for the Commonwealth of Virginia at Large; that the testimony of said witness was recorded by me by stenotype and thereafter reduced to typewritten form under my direction; that said deposition is a true record of the testimony given by said witness; that I am neither counsel for, related to, nor employed by any of the parties to the action in which this deposition was taken; and, further, that I am not a relative of or employee of any attorney or counsel employed by the parties hereto, nor financially or otherwise interested in the outcome of the action.

  
Notary Public in and for the  
Commonwealth of Virginia

My commission expires:  
November 9, 1984.