

1 MR. LEWIS: They have been excised.

2 MR. DUBUC: Certain details ---

3 THE COURT: I don't know anything about your
4 agreements. You go ahead and try the case, and we will
5 try it over, I guess.

6 (IN OPEN COURT.)

7 THE COURT: Bring back the jury and call your
8 witness, Mr. Lewis.

9 MR. LEWIS: Mr. Carroll.

10 (Whereupon, the jury entered the courtroom.)

11 Whereupon,

12 JOHN J. CARROLL

13 called as a witness on behalf of the plaintiffs, being
14 first duly sworn, was examined and testified as follows:

15 THE COURT: You may inquire.

16 DIRECT EXAMINATION

17 BY MR. MC MANUS:

18 Q Could you state your name, please?

19 A John J. Carroll.

20 Q And your address, sir?

21 A [REDACTED].

22 Q And are you currently employed, sir?

23 A No, I'm retired from the government.

24 Q And what position or what profession did you
25 hold while you were with the government?

1 A Essentially an air safety investigator and various
2 position related to the investigation of aircraft accidents.

3 Q Was that with any particular department of the
4 government?

5 A I was with the Civil Aeronautics Board, the FAA,
6 the Office of Supersonic Transport Development, the National
7 Transportation Safety Board, and the Flight Safety Foundation.

8 Q And what was the primary function that you had
9 with each of those agencies, sir?

10 A It varied somewhat. Starting with the Civil
11 Aeronautics Board, my primary job was to serve as air
12 safety investigator, investigating both large civil transport
13 accidents and general aviation accidents and anything in
14 between; commuter air taxis, and in some cases, military
15 involvement.

16 And later with the Office of SST Development, I
17 was in the area that was concerned with the flight safety
18 and the operations of the intended United States supersonic
19 transport and took advantage of all the information being
20 learned from aircraft accident investigations to put it into
21 the design and operation of the SST to prevent accidents.

22 Then later with NTSB ---

23 Q What is the NTSB, sir, what do those initials
24 stand for?

25 A National Transportation Safety Board.

1 Q Is that also an arm of the government?

2 A Yes. Originally the function of aircraft accident
3 investigation held by the Civil Aeronautics Board was
4 transferred to the new Ntsb in 1967.

5 So the CAB no longer investigated aircraft
6 accidents, that was the function of the newly formed agency,
7 the National Transportation Safety Board.

8 Q And what were your functions and duties with the
9 National Transportation Safety Board?

10 A Again, basically aircraft accident investigation.
11 I was the head of the accident prevention unit at NTSB,
12 and then served in supervisory capacities up to assistant
13 director of the Bureau of Accident Investigation.

14 Q What was the function of the accident prevention
15 unit?

16 A To take advantage of all of the lessons being
17 learned in aircraft investigation, and feed this information
18 back to the aviation industry, to the air carriers and to the
19 private operators to see that the lessons learned were
20 being applied to improve aviation safety.

21 Q How long did you before your retirement operate
22 in your profession as an accident investigator?

23 A Since about 1957 up until I retired in 1979.

24 Q And during the course of that time, did you
25 personally investigate accidents?

1 A Yes, I did.

2 Q And could you give me an estimate of the number
3 of accidents that you investigated?

4 A It would be in the thousands if you include the
5 peripheral investigation and assisting investigations of
6 many of the accidents that I didn't go out to the scene on,
7 but there were probably, oh, somewhere on the order 250
8 that I personally went to partake in the accident investigation
9 at the scene and through the analysis portion of the report
10 writing.

11 Q What would be involved in the analysis portion
12 of an accident investigation?

13 A That would be a thorough review of all of the
14 investigative information found from, say, as much as a
15 week or so before the flight that was involved in the
16 accident started, involving the background investigation
17 of the crew, their recent activities, and then the physical
18 evidence from the accident site itself, which would include
19 usually numerous photographs, reports of the various
20 multi-disciplinary team activities throughout the investiga-
21 tion, wreckage distribution charges, samples of wreckage,
22 laboratory analysis of engines, teardown, structural
23 investigations, up to and including electron microscope
24 work on fatigue parts, and that sort of thing.

25 Q What were the various types of airplane accidents

1 that you investigated, and by that I mean size or type of
2 airplane involved in the accident?

3 A That would include everything from the smallest
4 light plane, a little single engine private aircraft, up
5 to the largest air carrier transport type aircraft.

6 Q Has your profession been limited in its scope to
7 the United States, or have you investigated accidents
8 elsewhere around the world?

9 A I have investigated accidents throughout the world
10 on behalf of the United States government as part of the
11 team assigned to assist.

12 For instance, a United States air carrier would
13 have an accident in Rome, Italy, and I would be assigned
14 to the team to go there and assist the Italian government
15 in the investigation.

16 Q Have you done any teaching or given any instruction
17 in the field of airplane accident investigation?

18 A Yes, I have.

19 Q Could you describe that for us?

20 A I was the initiator of the crash injury
21 investigators school for Cornell University.

22 Q Excuse me.

23 For what university?

24 A Cornell University.

25 I became the administrator of the crash injury

1 investigators school, and I taught field work, laboratory
2 work, and classroom instruction in accident investigation.

3 The students were essentially government personnel
4 from the CAB, military aircraft accident investigators,
5 flight surgeons, and industry participants in the accident
6 investigator programs.

7 And I was guest lecturer on numerous occasions
8 at the Institute of Safety and Systems Management at the
9 University of Southern California, and appointed faculty
10 advisor to the North Carolina State University in their
11 systems safety program.

12 Q And do you recall what were some of the topics
13 of your lectures at your various instructional posts?

14 A It all would have been on the subject of aircraft
15 accident investigation.

16 Q Do you have any publications in the field of
17 airplane accident investigation or aircraft safety?

18 A I do, 50 or 60, perhaps more.

19 Q And are those papers in journals or are they
20 books or of what nature?

21 A Papers, journals, instruction manuals.

22 The last one that I prepared was the one that
23 is currently being used by the National Transportation
24 Safety Board.

25 It's the manual of Aircraft Accident Investigations,

1 and it's a federal publication.

2 Q And you said that it was used by the National
3 Transportation Safety Board?

4 A And the FAA and all participants to civil aircraft
5 accident investigations.

6 Q What type of manual is it?

7 A It's a very heavy bound manual. It is probably
8 200 or more pages.

9 Q Is it an instructional manual, or what is the
10 purpose of it?

11 A It's a guidance and instruction manual for both
12 new air safety investigators and for those who perform in
13 accordance with the government procedures for aircraft
14 accident investigation.

15 THE COURT: Excuse me.

16 Can the jurors hear, No. 6, can you hear all right.

17 JUROR NO. 6: Yes.

18 THE COURT: Okay.

19 BY MR. MC MANUS:

20 Q Mr. Carroll, have you received any awards or
21 commendations during your career as an aircraft accident
22 investigator?

23 A Yes, I have.

24 Q Could you enumerate some of those for us?

25 A While I was with the Civil Aeronautics Board

1 I received three meritorious service awards for excellence
2 in aircraft accident investigation, and I have received
3 awards from the Airline Pilot's Association for the
4 advancement of aircraft accident investigation, and from
5 the Association of Flight Attendants for the same thing.

6 I can't think of any other specifically. There
7 have been a few.

8 Q Are you a member of any associations or any
9 boards that are involved with air safety or accident
10 investigation?

11 A Yes, I am. Would you like me to recite some of
12 those?

13 Q Yes, sir. Please. I'm sorry.

14 A The International Order of Accidentologists, I have
15 been active with the Aerospace Medical Association, I'm
16 an active members of the International Society of Air
17 Safety Investigators, I've been active with the Systems
18 Safety Society, I have been on the board of the National
19 Fire Protection Association -- there are quite a few others.

20 Q Are you a pilot, sir?

21 A Yes, I am.

22 Q For how long have you been a pilot?

23 A Let's see -- since about 1945, thereabouts.

24 Q And do you have a commercial or a private pilot's
25 license?

1 A Commercial multi-engine.

2 Q Mr. Carroll, I would like to show you Plaintiffs'
3 Exhibit 87.

4 (A pause.)

5 And I would like to ask you to identify these if
6 you can, sir.

7 A Yes. That is all the biographical data and curriculum
8 vitae information on me.

9 MR. MC MANUS: Thank you, sir.

10 At this time I would offer it into evidence.

11 THE COURT: No objection?

12 MR. DUBUC: No objection.

13 THE DEPUTY CLERK: Plaintiffs' Exhibit 87 received
14 in evidence.

15 (Plaintiffs' Exhibit No. 87
16 was received in evidence.)

17 MR. MC MANUS: Your Honor, at this time I would
18 tender Mr. Carroll as an expert in the field of airplane
19 accident investigation.

20 MR. DUBUC: May we approach the bench, Your Honor?

21 THE COURT: I beg your pardon?

22 MR. DUBUC: May we approach the bench?

23 THE COURT: Yes.

24 (AT THE BENCH.)

25 THE COURT: Yes?

1 MR. DUBUC: I will note my objection at this time.
2 I haven't heard anything so far that ties him as qualified
3 in this case on this accident, nor have I heard anything
4 about his educational background.

5 THE COURT: Has he been asked to be qualified?

6 MR. DUBUC: He just asked for it, and I note my
7 objection.

8 THE COURT: I would like for you to develop those
9 facts.

10 MR. MC MANUS: Of the specific accident?

11 THE COURT: Well, of his education.

12 Are you offering him as an expert on this accident?

13 MR. MC MANUS: Yes, sir.

14 THE COURT: I think it would help me to know what
15 he knows about this accident.

16 MR. MC MANUS: This specific accident, yes.

17 (IN OPEN COURT.)

18 BY MR. MC MANUS:

19 Q Mr. Carroll, could you please give us an outline
20 of your educational background, training and experience in
21 the field of accident investigation?

22 A Well, my basic experience is as an aircraft
23 aviator, pilot ---

24 THE COURT: The question was your education, Mr.
25 Carroll.

1 THE WITNESS: The education? I have had one year
2 of college at Drew University in Madison, New Jersey, and
3 went from there directly into Naval aviation, and that's
4 outside of the various courses and educational assistance
5 I have provided to various universities, and that is the
6 extent of my formal education.

7 BY MR. MC MANUS:

8 Q Are there experiences, were there courses that
9 you took connected with your government employment with
10 the NTSB or any of the other aviation related branches of
11 the government that have contributed to your -- not
12 necessarily formal -- but to your overall education concerning
13 accident investigation?

14 A Yes, over some 20 years or so I have had numerous
15 seminars and courses, the usual ones the government gives,
16 and some others around my participation in the flight safety
17 foundation seminar, and those sorts of things.

18 I've always tried to stay abreast and ahead of
19 the state of art if I could by my participation in these
20 activities.

21 Q When you were investigating accidents for the
22 NTSB and the other branches of the government, were you
23 actually a government employee investigating the accidents
24 for the government?

25 A Yes.

1 Q And did you have to be appointed to that position
2 or qualified for that position in any way, or those various
3 positions that you have enumerated?

4 A Yes. There are specific qualifications for each
5 position.

6 Q Do you recall generally what the qualifications
7 are for an aircraft accident investigator?

8 A There is an extensive list of criteria for a
9 beginning air safety investigator.

10 Essentially it's to be familiar with aviation,
11 having been a pilot, and from that point through the career
12 ladder most of the experience that you gain in those
13 positions applies then for your next qualification for
14 the next position on up.

15 Q At the time you began your career as an aircraft
16 accident investigator, were there any formal college
17 courses or offerings in aircraft accident investigation?

18 A In those days there was no specific science of
19 aircraft accident investigation. I'm talking about, oh,
20 the early 1950's.

21 The only courses that were available were not
22 degree course, but they were at the University of Southern
23 California.

24 And those are the courses that were developing
25 at that time, and those were the courses that I went to

1 lecture in to qualify eventually new air safety investigators.
2 I was kind of at the beginning of the profession.

3 Q Throughout your career and your profession, have
4 you been one of those people responsible for the development
5 of courses and curriculum in aircraft accident investigation?

6 A Yes. I developed those courses myself and worked
7 with others in the development of them.

8 Q And has that been in conjunction with your
9 appointments at Cornell University, the University of
10 Southern California, and North Carolina State University?

11 A Yes, and also the National Aircraft Accident
12 Investigation School, where I wrote part of the initial
13 curriculum for that course, and then taught it to government
14 investigators and to industry and military investigators,
15 who came to take the course at the NAAIS, the National
16 Aircraft Accident Investigation School in Oklahoma City.

17 Q And the National Transportation Safety Board
18 manual that you previously described, is that the manual
19 that current government aircraft investigators follow when
20 they investigate accidents for the United States?

21 A Yes.

22 That was published about a year and a half ago,
23 six months or so after I left the NTSB, and that is the
24 one I prepared.

25 Q Mr. Carroll, have you reviewed materials and

1 documents in conjunction with the crash of th C-5A that
2 occurred on April 4th, 1975 near Saigon, Vietnam?

3 A Yes, I have.

4 Q And what materials have you reviewed, sir?

5 A The Air Force collateral report of investigation,
6 the report by Dr. Morain, a report by Dr. Turner, a report
7 by Mr. Edwards, some material done by Dr. Turnbow, several
8 motion pictures and hundreds of photographs.

9 Q And are those the types of materials that would
10 enable you as a professional accident investigator to render
11 an opinion concerning this particular accident?

12 A Yes, they were.

13 Q Could you outline for me generally the types of
14 factual information surrounding this accident that you
15 have obtained from the materials and photographs and movies
16 that you have reviewed.

17 MR. PIPER: I would object to the point where he
18 is going to be specific. If I might inquire by voir dire,
19 getting into specifics.

20 THE COURT: Let's first determine whether he
21 is qualified.

22 Are you offering him as a qualified expert?

23 MR. MC MANUS: Yes, sir.

24 THE COURT: On what?

25 MR. MC MANUS: On aircraft accident investigation.

1 THE COURT: Is there objection?

2 MR. PIPER: I would like to inquire briefly.

3 THE COURT: Very well. Excuse the jury.

4 (Whereupon, the jury left the courtroom.)

5 VOIR DIRE EXAMINATION

6 BY MR. PIPER:

7 Q Mr. Carroll, you testified, I believe, in response
8 to a question by Mr. McManus early in his qualification of
9 you, first that you had investigated thousands of accidents,
10 and then if I recall, of those, about 250 you went out on.

11 Is that correct, sir, 250 of them?

12 A Somewhere in that order.

13 Q Fine, sir.

14 Now, could you just very briefly, and I don't
15 want to belabor this, tell me the methodology that you used
16 on these 250 accidents that you went out on.

17 I take it you actually visited the site. Is
18 that correct, sir?

19 A Either immediately or sometime after the accident.

20 Q And did you personally interview individuals
21 who were connected with the accident to the extent you
22 could, sir?

23 A Yes.

24 Q And of surviving pilots?

1 A Yes.

2 Q Surviving passengers?

3 A Yes.

4 Q In effect, you actually conducted the investigations
5 yourself. Is that correct, sir?

6 A Not as an investigator in charge, perhaps; at
7 times I was, at other times I was a group chairman where
8 we had groups covering power plants, witnesses, operations,
9 structures, flight recorder and what have you.

10 Q Were you assigned to different groups during
11 your tenure at the NTSB, sir?

12 A Most of the time I was -- as an aircraft accident
13 investigator, I was a chairman of the human factors group.

14 Q The human factors group. Okay.

15 And you weren't generally involved with power
16 plants or ---

17 A Always involved with all of the other groups.

18 Q But not as a group member or group chairman?

19 A Not necessarily of those other groups.

20 Q Were you ever group chairman of power plants?

21 A No.

22 Q Were you ever group chairman in any groups other
23 than human factors?

24 A Yes.

25 Q What groups?

1 A Witness, operations, special investigations,
2 foul play.

3 Q Any others?

4 A Not as group chairman.

5 Q Fine, sir.

6 Now, on these 250 accidents, I would like for you
7 to refer to what has been marked, I believe, as 87, your
8 curriculum vitae.

9 Do you have it in front of you?

10 A No.

11 MR. PIPER: Would you mind giving it to him, please.

12 And if you would, sir, turn to page what is
13 marked at the bottom as page 11 but appears to be the
14 second page of the document.

15 THE COURT: Gentlemen, I would appreciate it from
16 now on when you are using exhibits, if the person offering
17 them would furnish me with a copy of them so I can
18 follow the trial.

19 Go ahead.

20 MR. PIPER: Do we have an extra one?

21 We didn't offer it, but I think we can find one
22 for Your Honor.

23 THE COURT: Don't bother now. Don't stop now,
24 Mr. Piper, but let's get the rules in the game set.

25 MR. PIPER: I want to be brief in this.

1 THE COURT: This isn't a vital matter.

2 BY MR. PIPER:

3 Q Mr. Carroll, you have listed there publications
4 in the field of aviation and safety. Now, do any of these
5 particular publications -- I see many of them or some of
6 them had to do with various accidents -- do any of them
7 comprise accidents that you investigated for the NTSB?

8 A No. This list was only made up to and including
9 March of '62, and I went with the Civil Aeronautics Board
10 in August of 1961 -- I'm sorry -- August of 1961.

11 Q 1961?

12 A '61.

13 Q Did you investigate the DC-7 accident in Miami?

14 A Yes, I did.

15 Q In what capacity?

16 A That was the Braniff accident in 1958.

17 Q What was your purpose in investigating it, sir?
18 Who were you employed by?

19 A I was there for Aviation Crash Injury Research
20 of Cornell University, and Flight Safety Foundation, and
21 I participated as a group member on the human factors
22 group -- I'm sorry -- it was the -- it wasn't the human
23 factors group, it was the structures group.

24 Q Well, now, sir, in these 250 accidents that you
25 personally were involved in, either as group chairman or

1 a member of a group, that you actually went out on at one
2 time, did you contribute to the writing of the report on
3 those particular accidents?

4 A In many of those cases I would only assist in the
5 analysis later on. In some cases I would write the analysis
6 if the probable cause area was in my area of expertise,
7 and that would then become adopted by the Board as the
8 probable cause and the report material.

9 Q Did you have occasion to visit the site of this
10 accident, sir?

11 A Which accident?

12 Q The accident that you were hired for in this
13 particular case?

14 THE COURT: The site of the accident, Mr. Piper,
15 you don't have to develop that.

16 MR. PIPER: Okay.

17 BY MR. PIPER:

18 Q You know that, and you have not, have you, sir?

19 A Of this C-5 accident?

20 Q Yes.

21 A No, sir.

22 MR. PIPER: That's all I have.

23 Your Honor, my objection goes to the fact that
24 this gentleman, while he may have investigated accidents ---

25 THE COURT: Is your position that the only

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competent investigators are the ones who prepare the accident reports, Mr. Piper?

MR. PIPER: No, not those that only prepare the accident report, but those who actively participate in the accident investigation itself, and not someone who five or six years later reviews documents.

THE COURT: You are asking for trouble again. If you want to keep asking, go ahead.

Do you have any further questions?

MR. PIPER: No, Your Honor.

MR. DUBUC: Your Honor, I have an objection related to the same point.

The point of my objection is, first of all, with respect to what has been indicated that Mr. Carroll is going to do in this case, I object that the background we have heard, in the opinion of the defendant, does not qualify him to do what he is proffered to do, and that is, apparently, do the initial introduction of facts on this accident based on a review of what he has just told us is the sum and total of what he has reviewed.

That is the first of our objections.

I still don't know whether the plaintiffs are going to go beyond that, and if he is going to proffer any opinion other than as to whether this is a survivable accident, and then I have the same objection, and I add as

1 grounds to the objection, the fact that it would be
2 inconsistent with prior depositions of what was previously
3 proffered.

4 THE COURT: If it's inconsistent, the depositions,
5 you have your own recourse, Mr. Dubuc, other than objecting
6 to his qualifications.

7 Does that complete your statement?

8 MR. DUBUC: Perhaps Your Honor didn't understand
9 my point on the latter part.

10 It is the fact that a witness who is being,
11 attempted to be qualified on one subject has been proffered
12 and examined in preparation for trial on something else that
13 was the basis of the proffer by plaintiffs at that time,
14 that is the other objection.

15 I suspect, and I submit that the witness is being
16 used as a substitute for another one, but, unfortunately,
17 that's, I don't think consistent with either the pretrial
18 order or the Rules of Evidence.

19 THE COURT: Mr. McManus, you're offering this
20 witness for what purposes, what is he going to give an
21 opinion about?

22 MR. MC MANUS: The sequence of the accident events,
23 and the ---

24 THE COURT: Are you going to put the collateral ---

25 MR. MC MANUS: --- impact -- excuse me ---

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1 THE COURT: Excuse me.

2 MR. MC MANUS: --- of the accident and its
3 sequence on the various parts of the airplane.

4 THE COURT: How are you going to get these
5 documents that he is using for your hypothetical question
6 into evidence?

7 MR. MC MANUS: I am prepared to read a hypothetical
8 question, Your Honor.

9 THE COURT: Why don't you read it? Let us deal
10 with that right here at the voir dire, and I assume that
11 this is on testimony that you are proffering and which,
12 by virtue of the pretrial and previous experience, counsel
13 would know whether you are going to be able to prove it
14 or not.

15 MR. MC MANUS: Yes, sir.

16 THE COURT: Why don't you read the hypothetical.

17 MR. MC MANUS: Yes, sir.

18 I would like you to assume that this suit arose
19 as a result of a crash of a C-5A airplane on April 4th, 1975,
20 at Saigon, South Vietnam. The aircraft was manufactured
21 by Lockheed Aircraft Corporation and was owned and operated
22 by the United States Government.

23 The C-5A is the largest cargo transport aircraft
24 in the world. It has a cargo compartment of approximately
25 120 feet long and 13 feet high -- 13 feet 5 inches high, the

1 the wingspan is 223 feet, from nose to tail the entire
2 aircraft measures 238 feet.

3 The height of the aircraft from the top to the
4 tail is 65 feet.

5 Assume that, on the afternoon of April 4th, 1975,
6 Carly Kurth, along with approximately 145 other healthy
7 infants, was placed aboard the C-5A in what was called the
8 aft troop compartment. The aft troop compartment, which
9 was located on the upper level contained 75 passenger seats
10 with three seats on each side of the aisle.

11 There were, in addition to the infants and children,
12 adult volunteers aboard the aircraft, as well as aircraft
13 personnel.

14 Assume that a number of adults and children were
15 in the cargo compartment. Most of these children and
16 adults did not survive the crash, but I would like you to
17 assume that the aircraft departed from Tan Son Nhut Air
18 Base on April 4, 1975. Approximately 12 minutes after the
19 takeoff and at an altitude of 23,424 feet, a rapid or
20 explosive decompression occurred suddenly and without
21 warning.

22 The blowout created a huge observable opening
23 in the aircraft. At the time of the decompression, the
24 infants were without oxygen masks. The design of the
25 aircraft prevented the children from receiving oxygen at

1 that time.

2 Please assume that at the time of the rapid or
3 explosive decompression, the aircraft was traveling at a
4 speed of about 254 knots or 292 miles per hour. The
5 decompression occurred as a result of the aft cargo door
6 complex blowing out and separating from the aircraft.

7 Because of damage to the aircraft controls, the
8 pilots were seriously limited in their ability to control
9 the aircraft. The only way they could control the rate
10 of descent was with the throttle, and even this was limited.

11 This situation prolonged the hypoxia to Carly
12 Kurth. The pilots were unable to return to the Tan Son Nhut
13 Airport and crash landed several miles short of the runway.

14 I would like you to assume that the C-5A approached
15 the crashsite from the east side of the Saigon River. The
16 aircraft had an approach speed of 270 knots, more than
17 two and one-half times its normal landing speed.

18 The pilot of the C-5A had limited control prior
19 to the crash, and had no control during the crash landing.
20 The pilot lost control of the aircraft at approximately
21 3,000 feet. The plane violently impacted at an air speed
22 of 270 knots, or 310 miles per hour.

23 Assume that even though the C-5A was traveling
24 at a velocity of 270 knots, it came to a complete stop in
25 a shorter distance, 1,900 feet, than it does when it lands

1 at normal velocity, 2,003 feet at 110 knots, or 190 feet
2 per second. The C-5A had between 8 and 12 impacts on the
3 east side of the Saigon River. These impacts stretched
4 over 350 yards.

5 The aircraft then became airborne and the pilot
6 throttled the plane forward across the Saigon River, and
7 impacted on the west side of the river, and slid 175 yards.

8 Assume that after the slide of 175 yards, the
9 aircraft became airborne yet a second time on the west side
10 of the river, traveled over 150 yards in the air, crashed
11 again and broke up into five major pieces and countless
12 smaller ones.

13 The five major pieces included the aft troop
14 compartment, the flight deck, the empennage or tail assembly,
15 the wing section and a large section of the cargo floor.

16 As a result of this final impact, the tail assembly
17 was thrown 100 yards northwest, the flight deck was thrown
18 400 yards, 150 yards airborne and skidding another 250 yards.

19 The wing section detached, and through inertia
20 and lift forces were propelled 550 yards from the point of
21 last impact.

22 The aft troop compartment became detached from
23 the wings and tail and was propelled through inertia
24 and some lift for 175 yards.

25 It then dug into the ground and traveled another

1 110 to 220 feet on the ground and came to a sudden stop
2 when it impacted with a ground elevation.

3 I would like you to assume that as the troop
4 compartment skidded, and after it came to rest, smoke and
5 toxic fumes from the various adjacent burning portions of
6 the C-5A entered the troop compartment.

7 THE COURT: Can the reporter hear?

8 THE REPORTER: I did not understand the last
9 few words he said.

10 THE COURT: You are going a little fast, Mr.
11 McManus.

12 MR. MC MANUS: I'm sorry.

13 I would like you to assume that as the troop
14 compartment skidded and after it came to rest, the smoke
15 and toxic fumes from the various adjacent burning portions
16 of the C-5A entered the troop compartment, along with
17 smoke, fire and fumes in the troop compartment of the
18 C-5A.

19 I would like you to assume that engineers have
20 calculated by use of a structure-failure analysis the
21 G-loads within the aft troop compartment necessary to
22 fail the two load master seats, had to range at a minimum
23 between 60 to 80 horizontal G-Forces.

24 The velocity of the major sections of the aircraft
25 at the point of breakup was 200 knots or 338 feet per

1 second. The G-load calculations for the tail assembly at
2 the point of the final impact and separation are a minimum
3 G-load range between 11 to 15 G's.

4 The G-forces upon the flight deck based upon the
5 slide path distance ---

6 THE COURT: Based upon what?

7 MR. MC MANUS: The slide path distance and a
8 speed of 200 knots, was an average of 6.8 G's. The troop
9 compartment was subjected to the following G-forces:

10 The average vertical G-force range is estimated
11 to be between 10 to 30 G's, at the point of impact after
12 being airborne for 175 yards. The average horizontal
13 G-force range was estimated to be between 7 to 13 G's at
14 the point of impact after being airborne for 175 yards,
15 the estimated horizontal G-forces upon impact with the
16 hill ranged between 220 and 480 G's.

17 I would like you to assume that of the approximately
18 327 people on the plane, 144 died, including two in the
19 troop compartment. The members of the Air Force personnel
20 that were aboard the C-5A in the troop compartment, with
21 the exception, possible exception of Sgt. Hadley, were
22 injured.

23 Those are the facts involving the crash.

24 THE COURT: Do you have another hypothetical?
25 Having read those hypotheses, what opinion are you going

1 to ask?

2 MR. MC MANUS: I would be asking Mr. Carroll to
3 give his opinion in describing the action of the plane.

4 THE COURT: Asking his opinion as to what?
5 Have you formed an opinion with reasonable scientific
6 certainty as to what?

7 MR. MC MANUS: The sequence of the accident.

8 THE COURT: What do you mean by the sequence of
9 the accident?

10 MR. MC MANUS: Precisely what happened during the
11 course of this airplane from the time the rear door blew
12 off until the troop compartment and the other components
13 of the airplane came to a rest.

14 The reason that it is necessary for an expert
15 such as Mr. Carroll to explain how the accident occurred,
16 sir, is because there is a dispute between the parties
17 precisely as to how each and every portion of the airplane
18 came apart, and I think that is one of the primary disputes
19 in this lawsuit.

20 And Mr. Carroll will, based on his expertise
21 and the materials he has reviewed, explain to the jury
22 how in his opinion, in his expert opinion as an accident
23 investigator, the accident, in fact, did occur.

24 There were, apparently, as best as we can find
25 out, no people on the outside of the plane who observed the

1 plane hit the ground on the east side of the Saigon River,
2 and then the various events that occurred after that.

3 There is a dispute between the parties as to the
4 actual impact and affect of the initial touchdown on the
5 structure of the airplane, and then precisely how many
6 impacts there were on the west side of the Saigon River,
7 and all of those things are important to an understanding
8 of the G-force levels that were created by the sequence
9 of the accident.

10 THE COURT: When did the witness form this opinion?

11 MR. MC MANUS: He had the opinion that he is
12 going to express at the time he was deposed.

13 That's always been ---

14 THE COURT: Was he asked about it?

15 MR. MC MANUS: I don't recall that he was asked
16 about it.

17 THE COURT: Was it proffered that he wasn't going
18 to give an opinion on this?

19 MR. MC MANUS: No, sir, it was not.

20 THE COURT: Let me hear Mr. Dubuc's objection.

21 MR. DUBUC: Your Honor, Mr. Carroll's deposition
22 was taken October 28th, I believe, the first time.

23 THE COURT: How long was that after they had
24 the documents that the Air Force hadn't produced before that?

25 MR. DUBUC: Oh, about a month, I guess, after he

1 had seen it. It wasn't complete, and I think we had a
2 hearing on that and Your Honor said to finish it after he
3 had done it.

4 So it was taken again after he had finished,
5 apparently, his review on November 25th, 1981.

6 Page 22 of that deposition -- pages 86 and 87.

7 THE COURT: I don't have that deposition either.
8 That is the fault of my files.

9 MR. DUBUC: I can provide Your Honor with a copy
10 of this.

11 THE COURT: Thank you.

12 What page, Mr. Dubuc?

13 MR. DUBUC: 86 to 87, Your Honor.

14 The bottom on line 19 he was asked:

15 "Can you tell me, sir, first based upon what
16 Mr. Fricker told us and some of the limitations
17 that have been framed by objections today -- those
18 were made by plaintiff -- is your opinion limited
19 to the issue of whether or not this was a survivable
20 or non-survivable accident, or is it a little
21 broader?

22 "ANSWER: Essentially that is what it
23 includes.

24 "QUESTION: When you say 'essentially,'
25 is there any subdivision or subparts of this?

1 "ANSWER: Based on the basis of my
2 experience.

3 "QUESTION: I'm not asking you for that
4 basis yet. I'm asking the scope of your
5 opinion. Basically what you told us, survivable
6 or non-survivable, that is the scope?

7 "ANSWER: That is the scope.

8 "QUESTION: You have no opinion as to
9 reasonable scientific certainty of anything
10 else?

11 "ANSWER: That is all at this point.

12 "QUESTION: Are you doing any ongoing
13 or continuing studies or been asked to do
14 anything else?

15 "ANSWER: Not that I know of."

16 That was after the deposition, Your Honor, and there are
17 other references to preliminary, but that is the scope of
18 it. So my objection on that is already stated to this
19 witness testifying.

20 My second objection: based upon the hypothetical
21 I just heard, it seems to me, and I may be dense, but it
22 seems to me that the hypothetical missed the sequence that
23 this witness is going to be asked to give the opinion of
24 reasonable scientific certainty on.

25 So it's a bootstrap, one on the other. I frankly

1 still don't know what this witness is going to be used to
2 testify for but if it's the sequence of that hypothetical,
3 then I don't see any point in asking the hypothetical, and
4 I don't believe that based on what we have heard h is
5 qualified to establish that sequence de nova as the first
6 witness in this trial.

7 MR. MC MANUS: Your Honor, in the first place,
8 if I might respond, Your Honor, the government and Lockheed
9 were on the scene at the time of the accident and had an
10 opportunity to conduct an accident investigation.

11 Carly Kurth, nor her attorneys or guardian did not
12 have that same opportunity. To ask an expert witness whether
13 or not the accident is survivable or non-survivable logically
14 assumes that you have to lay the foundation that the
15 gentleman knows what occurred during the accident.

16 THE COURT: You're saying that the testimony you
17 will elicit is an explanation of his opinion as to whether
18 the accident was survivable.

19 MR. MC MANUS: That's correct, sir, and to do that
20 you have to go through the sequence of the accident in order

21 THE COURT: Do you have to go through the sequence
22 before you elicit the opinion, or can you elicit the
23 opinion and ask for an explanation?

24 MR. MC MANUS: I think you can do it either way,
25 Your Honor, and I had proposed to have him go through the

1 accident and then lead up to whether or not ---

2 THE COURT: Why don't you give me a little taste
3 of what you are going to be talking about?

4 Go ahead with your examination. Let's have a
5 little dry run.

6 MR. MC MANUS: Yes, Your Honor, I'm not clear
7 as to precisely -- would you like me to proffer to you what
8 we were going to do?

9 I was going to ask him ---

10 THE COURT: I would like you to ask -- have you
11 finished your answer to Mr. Dubuc?

12 MR. MC MANUS: Yes, sir. I think that they had
13 two tries at deposing the gentleman. They have asked him
14 all the questions about pictures and movies and accident
15 sequence, all of which, again, logically lead up, lead up
16 to the ultimate question.

17 THE COURT: Has he prepared any other material or
18 studied any material that he hadn't studied at the time he
19 was deposed?

20 MR. MC MANUS: I don't believe so. No, sir. I
21 believe they had all of the information at the time of
22 his deposition.

23 THE COURT: I will overrule the objection and
24 bring back the jury.

25 (Whereupon, the jury entered the courtroom.)

1 THE COURT: You may inquire, Mr. McManus.

2 MR. MC MANUS: Thank you, sir.

3 DIRECT EXAMINATION (Cont'd)

4 BY MR. MC MANUS:

5 Q Mr. Carroll, I believe that you have indicated to
6 me that you have read materials and you have made a study
7 of various factual material concerning the crash of the
8 C-5A? Is that correct, sir?

9 A Yes, I have.

10 Q Mr. Carroll, I would like to read a hypothetical
11 question to you, sir, that contains facts that will be
12 proven in the course of this case. Some of the factual
13 material, I believe you have reviewed and is contained in
14 the materials that you have reviewed in the course of
15 your investigation of this matter.

16 After I read they hypothetical question, I'm going
17 to ask you if you have an opinion about the accident, sir.

18 So I would like you to very carefully listen ---

19 THE COURT: What kind of an opinion, Mr. McManus?

20 MR. MC MANUS: The opinion as to whether or not
21 the accident ---

22 THE COURT: As to what degree?

23 BY MR. MC MANUS:

24 Q If you have an opinion, sir, with a reasonable
25 degree of scientific and professional certainty whether or

1 not the accident of the C-5A was a survivable or a non-
2 survivable accident, and I would like, if you have an opinion
3 to define those terms and I would like to ask the Court and
4 the jury's indulgence, it's a rather lengthy hypothetical.

5 Sir, I would like you to assume that this lawsuit
6 arose as a result of a crash of a C-5A airplane on April
7 4th, 1975 at Saigon, South Vietnam. The aircraft was
8 manufactured ---

9 THE COURT: Mr. McManus, speak slowly and carefully
10 so the jury can hear what you're saying.

11 MR. MC MANUS: Yes, sir.

12 The aircraft was manufactured by Lockheed Aircraft
13 Corporation and was owned and operated by the United States
14 Government. The C-5A is the largest cargo transport
15 aircraft in the world. It has a cargo compartment approxi-
16 mately 120 feet long and 13 feet 5 inches high.

17 The wingspan is 223 feet. From nose to tail the
18 entire aircraft measures 248 feet. The height of the
19 aircraft through the top of the tail is 65 feet.

20 Assume that on the afternoon of April 4th, 1975,
21 Carly Kurth, along with approximately 145 other infants,
22 was placed aboard the C-5A in what is called the aft troop
23 compartment. The aft troop compartment, which was located
24 on the upper level, contained 75 passenger seats with three
25 seats on each side of the aisle. There were, in addition to

1 the infants and children, adult volunteers aboard the
2 aircraft, as well as aircraft personnel.

3 Assume that a number of the adults and children
4 were in the cargo compartment. Most of these children and
5 adults did not survive the crash.

6 I would like you to assume, sir, that the aircraft
7 departed from Tan Son Nhut Air Base at approximately 4:03
8 p.m. local time. Approximately 12 minutes after takeoff at
9 an altitude of 23,424 feet, a rapid or explosive decompression
10 occurred suddenly and without warning.

11 The blowout created a huge observable opening in
12 the aircraft. At the time of the decompression the infants
13 were without oxygen masks.

14 Please assume that at the time of the rapid or
15 explosive decompression, the aircraft was traveling at a
16 speed of about 254 knots or 292 miles per hour.

17 The decompression occurred as a result of the
18 aft cargo door complex blowing out and separating from the
19 aircraft. Because of damage to the aircraft controls, the
20 pilots were seriously limited in their ability to control
21 the aircraft.

22 The only way they could control the rate of
23 descent was with the throttle, and even this was limited.
24 This situation prolonged the hypoxia to Carly Kurth. The
25 pilots were unable to return to the Tan Son Nhut Airport,

1 and crashlanded several miles short of the runway.

2 I would like you to assume, sir, that the C-5A
3 approached the crashsite from the east side of the Saigon
4 River. The aircraft had an approach speed of 270 knots,
5 more than two and one-half times its normal landing speed.

6 The pilot of the C-5A had limited control prior
7 to the crash, and had no control during the crash landing.
8 The pilot lost control of the aircraft entirely at
9 approximately 3,000 feet. The plane violently impacted at
10 an airspeed of 270 knots or 310 miles per hour.

11 I would like you to assume, sir, that even though
12 the C-5A was traveling at a velocity of 270 knots, it came
13 to a complete stop in a shorter distance, 1,900 feet, than
14 it does when it lands at normal velocity, 2,300 feet at
15 110 knots.

16 The C-5A had between 8 and 12 impacts on the east
17 side of the river. These impacts stretched over 350 yards.
18 The aircraft then became airborne and the pilot throttled
19 the plane forward. It crossed the Saigon River and impacted
20 on the west side of the river and slid 175 yards.

21 Assume, sir, that after the slide of 175 yards,
22 the aircraft became airborne yet a second time on the west
23 side of the river, traveled over 150 yards in the air,
24 crashed again and broke up into five major pieces and
25 countless smaller ones.

1 The five major pieces included the aft troop
2 compartment, the flight deck, empennage or tail assembly,
3 the wing section, and a large section of the cargo floor.
4 As a result of this final impact, the tail was thrown 100
5 yards northwest, the flight deck was thrown 400 yards,
6 150 yards airborne, and then skidding another 250 yards.

7 The wing section detached and through inertia
8 and lift forces was propelled 550 yards from the point of
9 last impact. The aft troop compartment became detached
10 from the wings and the tail and was propelled through inertia
11 and some lift for 175 yards.

12 It then dug into the ground and traveled another
13 110 to 220 feet on the ground and came to a sudden stop
14 when it impacted with a ground elevation.

15 I would like you to assume that as the troop
16 compartment skidded and after it came to rest, smoke and
17 toxic fumes from the various adjacent burning portions of
18 the C-5A entered the troop compartment, along with smoke,
19 fire and fumes in the troop compartment of the C-5A.

20 I would like you to assume that engineers have
21 calculated by use of a structure-failure analysis that the
22 G-loads within the aft troop compartment necessary to fail
23 the two load master seats had to range at minimum between
24 60 to 80 horizontal G-forces. The velocity of the major
25 sections of the aircraft at the point of breakup was 200

1 knots or 338 feet per second. The G-load calculations for
2 the tail assembly at the point of final impact and separation
3 are a minimum G-load range between 11 to 15 G's.

4 The G-forces upon the flight deck based upon the
5 slide path distance and a speed of 200 knots, was an average
6 of 6.8 G's.

7 The troop compartment was subject to the following
8 forces: A: The average vertical or up and down G-force
9 range is estimated to be between 10 to 30 G's at the point
10 of impact after being airborne for 175 yards.

11 B: The average horizontal G-force range is
12 estimated to be between 7 to 13 G's at the point of impact
13 after being airborne for 175 yards.

14 C: The estimated horizontal G-forces upon impact
15 with the hill ranged between 220 and 480 G's.

16 I would like you to assume that of the approximately
17 327 people on the plane, 145 died, including two people in
18 the troop compartment. The members of Air Force personnel
19 that were on board in the C-5A troop compartment with the
20 possible exception of Sgt. Hadley, were injured.

21 Based on that information, sir, I would like to
22 ask you if you have an opinion.

23 THE COURT: Just a moment.

24 Based on what information?

25 MR. MC MANUS: Based on the information in the

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1 hypothetical question.

2 THE COURT: Didn't you refer him to some other
3 information that he read?

4 MR. MC MANUS: Yes, sir.

5 BY MR. MC MANUS:

6 Q Could you again repeat for me, sir, the information
7 that you reviewed in your independent review of the facts
8 of this accident.

9 A Yes. I read the Air Force collateral report of
10 the investigation, which I believe was in three sections and
11 had many statements, many aspects of the investigation
12 related in that series of reports, a records distribution
13 chart, Dr. Morain's report, and Dr. Turner's report, which
14 had to do with the G-force, the accelerative force that
15 would be sustained by various parts of the wreckage and also
16 an analysis of the type of terrain into which the crash
17 occurred.

18 And Mr. Edwards' report, which was his analysis
19 of the sequence of events and the severity of the accident,
20 and Dr. Turnbow's, which was the same. And then the movies
21 which showed all the crash path and the crash scene
22 activities closely following the accident, within hours, and
23 some of the pictures perhaps within the next 24 hours, and
24 photographs that were taken very early after the accident,
25 and these included photographs taken on the ground and in

1 the air. Those were the basic materials that I had to work
2 with.

3 Q Mr. Carroll, were there statements of crew members
4 and passengers who were aboard the C-5A included in the
5 collateral report?

6 A Yes, there were.

7 Q And did you read those statements?

8 A Yes, I did.

9 Q Was there a description of the aircraft given in
10 the collateral report, and by that I mean the size, the
11 wingspan, things of that nature?

12 A Yes, that material was in that report.

13 Q Was there a description in the collateral report
14 of the purpose of this flight -- in other words, that it
15 was carrying orphan children to the United States?

16 A An evacuation flight, yes.

17 Q Was there in the collateral report a description
18 concerning the date of the accident, the time the flight
19 left, and the sequence of events that led up to and included
20 the rear door blowing off at the time of the explosive
21 decompression?

22 A That was all described in the Air Force report.

23 Q And do the photos and the movies that you have
24 reviewed and the reports of the gentlemen that you have
25 related to us, include figures concerning G-forces, distances

1 and terrain at the location of the crashsite?

2 A That's all included in those studies.

3 Q Do the movies and the photographs that you have
4 reviewed give a view of the pieces of the aircraft as they
5 remained at the crashsite following the crash?

6 A They do. They are enormously important in
7 determining how those pieces came apart and come to rest,
8 where they came to rest.

9 Q In reviewing those pictures and those movies,
10 are you able to determine in your opinion with a reasonable
11 degree of scientific certainty the sequence of events as
12 the aircraft ---

13 THE COURT: Just a moment.

14 I thought you were going to ask your conclusory
15 question?

16 MR. MC MANUS: I am, sir. I'm laying that as a
17 predicate.

18 THE COURT: Let's take a recess at this time,
19 ladies and gentlemen.

20 We will have a brief recess. Excuse the jury.

21 (Whereupon, the jury left the courtroom.)

22 THE COURT: Mr. McManus, I can barely contain
23 myself, but go ahead.

24 MR. MC MANUS: Your Honor, I was simply going to
25 ask if that allows him to determine the sequence, is that

1 part of his investigation, and then ask him the question:
2 Are you able to give, based on all of that information,
3 which includes, has to include a knowledge of the sequence
4 or an opinion of the sequence of the crash, are you able --
5 do you have an opinion whether or not this was a survivable
6 or non-survivable accident.

7 THE COURT: Mr. Dubuc, I suppose when he asks
8 that questions you will have an objection?

9 MR. DUBUC: Your Honor, I'm not quite sure where
10 we are going with this thing.

11 THE COURT: I'm not either.

12 MR. DUBUC: It is not the first hypothetical. He
13 said he was going to ask him an opinion whether this was a
14 survivable accident.

15 Your Honor suggested he might want to add a few
16 things to the hypothetical, which he did, and now I gather
17 we are on a different opinion question, and my objection
18 on the sequence of the accident is I'm afraid the jury is
19 going to tie his opinion to reasonable scientific certainty
20 if he is going to say it's the same sequence you just
21 described in the hypothetical.

22 I don't think that's proper.

23 THE COURT: Let's do it this way, Mr. McManus.

24 You asked in the deposition -- apparently there
25 was a frame in the deposition, and Mr. Dubuc professes to

1 anticipate the question of whether or not the accident,
2 whether he has an opinion to reasonable scientific certainty
3 as to whether the accident is survivable.

4 Ask him that question, and then ask him whatever
5 you want to ask about how he arrived at that conclusion,
6 including the sequence and all those things.

7 I'm going to take a recess now and return. And
8 before the question is answered, I am going to instruct the
9 jury that this hypothetical question and all its proffer
10 of data is being heard by them before it's proofed, and that
11 the admissibility of this answer -- and I suppose your
12 whole case, parens, brackets, depends on your ability now
13 to prove what you have set up as a hypothetical.

14 MR. MC MANUS: Your Honor, that is precisely why
15 I asked this witness in his review as an expert of those
16 materials ---

17 THE COURT: I'm just telling you what I'm going
18 to tell the jury, so that they understand that if you don't
19 prove all those things, his opinion has to go out the
20 window.

21 MR. MC MANUS: Yes, Your Honor, I understand
22 that, and we are attempting to prove some of those facts,
23 through this expert.

24 THE COURT: Now, wait a minute.

25 Let's get through the hypothetical question. Then

1 you are going to turn around, and he's no longer an expert
2 in the sense of giving an opinion -- what is he then? --
3 he's observed what? He is competent to testify about what?

4 MR. MC MANUS: Other than asking him about the
5 non-survivable accident, and going through how he arrives
6 at that conclusion, and showing him the movie and asking
7 him to explain the movie, his opinion via the movie and
8 some pictures through us ---

9 THE COURT: Why can't you just show -- how did
10 you prove the movie before, Mr. McManus?

11 MR. MC MANUS: We didn't have the movie before,
12 sir.

13 THE COURT: You didn't have this movie?

14 MR. MC MANUS: That's correct.

15 THE COURT: You had some other movie.

16 MR. MC MANUS: Your Honor, the only movies we
17 had before were the television films, the CBS and ABC
18 films.

19 THE COURT: This movie is an admission by the
20 Air Force?

21 MR. MC MANUS: That's correct, sir.

22 THE COURT: Can't you just show the movie to
23 the jury and to him and then have him make observations
24 about the movie after you have shown it?

25 MR. MC MANUS: Yes, sir, it can be done that way.

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1 THE COURT: I would prefer that.

2 (Whereupon, a brief recess was had.)

1 (AFTER RECESS.)

2 THE COURT: MR. MC MANUS, I AM JUST ASKING YOU
3 THIS FIRST.

4 IS THERE ANY WAY THAT YOU CAN PROVE THESE FACTS
5 THAT YOU ARE STICKING INTO THIS HYPOTHETICAL QUESTION BEFORE
6 YOU GET TO THIS HYPOTHETICAL QUESTION?

7 DO YOU HAVE WITNESSES AROUND WHO CAN PROVE THE
8 CASE BEFORE YOU HAVE SOMEBODY GIVE AN OPINION ON HOW IT
9 COMES OUT?

10 MR. MC MANUS: WELL, YES, SIR.

11 MOST OF THE BASIC FACTS ABOUT WHEN THE PLANE LEFT
12 AND THE DECOMPRESSION AND AT WHAT ALTITUDE -- THOSE THINGS
13 ARE ALREADY IN EVIDENCE.

14 THE COURT: ALL RIGHT.

15 NOW, WHAT ABOUT ALL OF THESE OTHER THINGS --

16 MR. MC MANUS: THE MEASUREMENTS AND THE G-FORCES?

17 THE COURT: (CONTINUING) -- THE G-FORCE TALK AND
18 ALL THAT?

19 MR. MC MANUS: YES, SIR. THOSE ARE DR. MORAIN
20 AND DR. TURNER.

21 THE COURT: AND WHEN ARE THEY TO TESTIFY?

22 MR. MC MANUS: I BELIEVE DR. MORAIN AND DR. TURNER
23 ARE SCHEDULED TO TESTIFY -- WERE ORIGINALLY SCHEDULED TO
24 TESTIFY TOMORROW, BECAUSE WE HAD ANTICIPATED AT LEAST THREE
25 WITNESSES TODAY.

1 IN THE ORDER OF THINGS, IT MIGHT BE TOMORROW AFTERNOON
2 OR THURSDAY MORNING BEFORE THOSE TWO WITNESSES TESTIFY,
3 YOUR HONOR.

4 THE COURT: WHAT IS THIS WITNESS GOING TO TELL
5 ABOUT THIS MOVIE, DR. CARROLL?

6 MR. MC MANUS: MR. CARROLL.

7 THE COURT: MR. CARROLL.

8 MR. MC MANUS: AFTER I HAVE ASKED HIM HIS OPINION
9 WHETHER OR NOT IT IS SURVIVABLE OR NON-SURVIVABLE, MR. CARROLL
10 WILL DEFINE THOSE TWO TERMS, AND I WILL ASK HIM THE BASIS
11 FOR HIS OPINION.

12 I WILL ASK HIM IF HE HAS SEEN A MOVIE AND IF THAT
13 WOULD ASSIST IN GIVING HIS OPINION.

14 THEN I WILL ASK HIM TO --

15 THE COURT: GIVING HIS OPINION? HE HAS JUST
16 GIVEN AN OPINION.

17 MR. MC MANUS: EXCUSE ME. WHETHER IT WOULD BE
18 A BASIS FOR EXPLAINING HIS OPINION, AND THEN ALSO THROUGH
19 THE USE OF SOME OF THE PHOTOGRAPHS THAT ARE ALREADY IN EVIDENCE.
20 THEY ARE ON BOTH PARTIES' LISTS.

21 THE COURT: WELL, CAN YOU DO THAT IN SOME KIND
22 OF LAWYERLIKE WAY, SUCH AS:

23 HAVE YOU SEEN A MOVIE IN CONNECTION WITH THE PREPARATION
24 OF YOUR OPINION?

25 MR. MC MANUS: I INTENDED TO DO THAT. HE HAS

1 ALREADY SAID THAT, YOUR HONOR: THAT HE HAS REVIEWED MOVIES.

2 THE COURT: ALL RIGHT.

3 I AM GOING TO LET YOU GO AHEAD. I DON'T KNOW
4 WHETHER THIS IS GOING TO KEEP OR NOT.

5 I AM GOING TO INSTRUCT THE JURY NOW THAT THEY
6 HAVE TO BE FROM MISSOURI ABOUT THIS.

7 MR. MC MANUS: YES, SIR. AND I AM CONFIDENT
8 THAT WE CAN --

9 THE COURT: AND WE CAN GO AHEAD, AND IF IT ALL
10 BLOWS UP, THAT IS TOUGH LUCK FOR THE PLAINTIFF.

11 MR. MC MANUS: THOSE ITEMS IN THE HYPOTHETICAL
12 AND THOSE ITEMS THAT HE HAS REVIEWED, HIMSELF, ARE ITEMS
13 THAT WILL BE PROVEN.

14 THE COURT: ALL RIGHT. . BRING BACK THE JURY.

15 (THE JURY WAS BROUGHT INTO THE COURTROOM, AND
16 THE FOLLOWING PROCEEDINGS WERE HAD WITHIN THE PRESENCE AND
17 HEARING OF THE JURY:)

18 THE COURT: ASK YOUR QUESTION AGAIN.

19 MR. MC MANUS: THE LAST QUESTION, YOUR HONOR?

20 THE COURT: YES.

21 MR. MC MANUS: THE LAST QUESTION, I BELIEVE, RELATED
22 TO WHETHER HE COULD EXPLAIN THE SEQUENCE, BUT I WILL ASK
23 THE SURVIVABLE QUESTION, IF YOUR HONOR WOULD LIKE ME TO
24 GO WITH THAT.

25 THE COURT: VERY WELL.

1 BY MR. MC MANUS:

2 Q. MR. CARROLL, BASED ON THE INFORMATION IN THE HYPO-
3 THETICAL AND THE INFORMATION THAT YOU HAVE REVIEWED AND
4 THE SOURCES YOU HAVE OUTLINED TO ME, DO YOU HAVE AN OPINION,
5 SIR, WITH A REASONABLE DEGREE OF SCIENTIFIC CERTAINTY, AS
6 TO WHETHER OR NOT THE CRASH OF THE C5-A THAT OCCURRED ON
7 APRIL 4, 1975, NEAR SAIGON, VIETNAM, WAS A SURVIVABLE OR
8 A NON-SURVIVABLE-TYPE ACCIDENT?

9 A. I DO.

10 MR. DUBUC: OBJECTION.

11 THE COURT: GO AHEAD. THE OBJECTION IS OVERRULED.

12 BY MR. MC MANUS:

13 Q. AND WHAT IS THAT OPINION, SIR?

14 A. IT IS MY OPINION THAT THE CRASH WAS A NON-SURVIVALBE
15 CRASH.

16 Q. COULD YOU DEFINE, SIR, WHAT IS A NON-SURVIVABLE
17 CRASH?

18 A. ALL RIGHT.

19 IN TERMS OF SURVIVABLE AND NON-SURVIVABLE CRASHES,
20 A SURVIVABLE CRASH IS ONE IN WHICH THE STRUCTURES THAT HOLD
21 THE HUMAN OCCUPANTS REMAIN REASONABLY INTACT; THAT THEY
22 DO NOT IMPINGE ON THE VITAL BODY AREAS OF THE OCCUPANTS
23 OF THE AIRCRAFT; AND THAT THE CRASH FORCES THAT ARE INVOLVED
24 DO NOT EXCEED THE LIMITS OF HUMAN TOLERANCE, OF THE HUMAN
25 BEING.

1 SO IF YOU HAVE AN ACCIDENT IN WHICH THE AIRCRAFT
2 OCCUPIABLE AREA REMAINS REASONABLY INTACT, AND THE FORCES
3 DO NOT EXCEED THE LIMITS OF HUMAN TOLERANCE, THAT WOULD
4 BE A SURVIVABLE CRASH.

5 A NON-SURVIVABLE CRASH WOULD BE, IN EFFECT, THE OPPOSITE
6 OF THAT. IT WOULD BE ONE IN WHICH EITHER THE STRUCTURES
7 DISINTEGRATED, OR IMPINGED, OR COLLAPSED IN ON VITAL BODY
8 AREAS OF THE OCCUPANTS, OR ONE IN WHICH THE CRASH FORCES
9 THAT WERE SUSTAINED EXCEEDED THE KNOWN LIMITS TO HUMAN
10 TOLERANCE.

11 THE COURT: LET ME INTERRUPT YOU THERE, MR. MC MANUS,
12 TO INSTRUCT THE JURY THIS. PAY CLOSE ATTENTION.

13 YOU HEARD THE HYPOTHETICAL QUESTION THAT WAS ASKED
14 TO THIS WITNESS, AND YOU HEARD THE ANSWER TO THE QUESTION.

15 YOU UNDERSTAND THAT WHAT WAS STATED BY THE LAWYER
16 IN THE HYPOTHETICAL QUESTION HAS NOT YET BEEN PROVED, AND
17 YOU MUST REVISIT THIS QUESTION AND ANSWER AGAIN WHEN ALL
18 THE EVIDENCE IS IN TO SATISFY YOURSELF WHETHER OR NOT THE
19 PLAINTIFFS HAVE PROVED WHAT THEY HAVE STATED AS THEIR
20 HYPOTHESIS.

21 GO AHEAD.

22 MR. MC MANUS: THANK YOU, SIR.

23 BY MR. MC MANUS:

24 Q. MR. CARROLL, DOES THE CLASSIFICATION OF AN ACCIDENT
25 AS BEING SURVIVABLE OR NON-SURVIVABLE DEPEND ON WHETHER

1 OR NOT THERE WERE --

2 THE COURT: ARE YOU ASKING A QUESTION?

3 MR. MC MANUS: YES, SIR.

4 THE COURT: IT SOUNDED LIKE YOU WERE MAKING A
5 STATEMENT.

6 BY MR. MC MANUS:

7 Q. DOES SUCH A CLASSIFICATION DEPEND ON WHETHER OR
8 NOT THERE WERE DEATHS OR ACTUAL SURVIVORS?

9 A. NO. THE --

10 THE COURT: THE ANSWER IS "NO." YOU HAVE ANSWERED
11 THE QUESTION.

12 BY MR. MC MANUS:

13 Q. COULD YOU EXPLAIN THAT FOR ME, SIR?

14 A. YES.

15 THE FACT THAT THERE MAY OR MAY NOT BE SURVIVORS IN
16 A CRASH HAS NOTHING TO DO WITH A DETERMINATION OF WHETHER
17 THE CRASH WAS A SURVIVABLE OR A NON-SURVIVABLE CRASH. YOU
18 CAN HAVE NO SURVIVORS AT ALL IN A CRASH THAT IS SURVIVABLE,
19 OR YOU CAN HAVE NO SURVIVORS AT ALL IN ONE THAT IS SURVIVABLE,
20 SIR. (SIC)

21 EITHER WAY, WHETHER THERE WERE SURVIVORS OR NOT, IT
22 DOES NOT AFFECT THE CLASSIFICATION OF THE ACCIDENT.

23 Q. SIR, HAVE YOU SEEN MOTION PICTURES, OR A MOTION
24 PICTURE, THAT WOULD ASSIST YOU IN EXPLAINING THE BASIS FOR
25 YOUR OPINION?

1 A. YES, I HAVE.

2 Q. ALL RIGHT.

3 MR. MC MANUS: YOUR HONOR, AT THIS TIME I WOULD
4 LIKE TO SHOW THE MOTION PICTURE.

5 THE COURT: DO YOU HAVE AN EXHIBIT NUMBER?

6 MR. MC MANUS: I WOULD LIKE TO SHOW IT TO MR.
7 CARROLL AND THE JURY.

8 THE COURT: DO YOU HAVE AN EXHIBIT NUMBER?

9 MR. MC MANUS: YES, SIR. IT IS PLAINTIFFS' EXHIBIT
10 2101.

11 THE COURT: YOU ARE OFFERING IT?

12 MR. MC MANUS: YES, SIR.

13 THE COURT: IS THERE OBJECTION?

14 MR. DUBUC: NO OBJECTION.

15 THE COURT: ALL RIGHT. PROCEED.

16 (PLAINTIFFS' EXHIBIT NO. 2101

17 RECEIVED IN EVIDENCE.)

18 MR. MC MANUS: IF WE COULD HAVE THE LIGHTS TURNED
19 OUT, SIR?

20 THE COURT: DO YOU WANT ME TO TURN THEM OUT?

21 MR. MC MANUS: NO, SIR. I WAS ASKING YOUR
22 PERMISSION.

23 THE COURT: YES.

24 (AT THIS POINT IN THE PROCEEDINGS PLAINTIFFS'
25 EXHIBIT 2101, A MOTION PICTURE, WAS SHOWN TO THE JURY, AFTER

1 WHICH THE FOLLOWING PROCEEDINGS WERE HAD WITHIN THE PRESENCE
2 AND HEARING OF THE JURY:)

3 MR. MC MANUS: YOUR HONOR, THAT IS THE CONCLUSION
4 OF THE MOVIE.

5 THE COURT: VERY WELL. DO YOU WANT THE LIGHTS
6 BACK ON?

7 MR. MC MANUS: IF WE COULD HAVE THE LIGHTS BACK
8 ON, YOUR HONOR, I WOULD APPRECIATE IT.

9 THE COURT: VERY WELL. YOU MAY INQUIRE.

10 MR. MC MANUS: THANK YOU, SIR.

11 MR. DUBUC: YOUR HONOR, MAY WE APPROACH THE BENCH?

12 THE COURT: YES.

13 (AT THE BENCH)

14 MR. DUBUC: YOUR HONOR, IN JUST LOOKING AT THAT
15 BRIEFLY, THAT FILM, APPARENTLY NOT ONLY HAS THERE BEEN EDITED
16 OUT A PORTION THAT WE AGREED WAS GOING TO BE TAKEN OUT,
17 BUT --

18 THE COURT: YOU HAVE TO BE KIDDING. THEY HAVE
19 EDITED THE FILM?

20 MR. DUBUC: APPARENTLY A GOOD PORTION OF THE END
21 OF THE FLIGHT PATH.

22 THE COURT: WELL --

23 MR. DUBUC: IF THAT IS ALL THEY WANT TO OFFER,
24 I JUST WANTED TO MAKE SURE.

25 THE COURT: THEY CAN OFFER WHAT THEY WANT TO OFFER,

1 IF THEY HAVE NOT PUT IN ANYTHING THEY AGREED TO TAKE OUT.

2 MR. DUBUC: NO, THAT IS CORRECT.

3 THE COURT: THANK YOU.

4 (OPEN COURT)

5 BY MR. MC MANUS:

6 Q. MR. CARROLL, HAVE YOU SEEN SOME STILL PHOTOGRAPHS
7 THAT WOULD ASSIST YOU IN EXPLAINING YOUR OPINION AS TO THE
8 NON-SURVIVABILITY OF THIS ACCIDENT?

9 A. YES, I HAVE.

10 MR. MC MANUS: YOUR HONOR, AT THIS TIME I WOULD
11 ASK THAT WE BE ALLOWED TO PUT UP SOME EASELS AND PRESENT
12 SOME PHOTOS.

13 THE COURT: YES. VERY WELL.

14 MR. MC MANUS: THANK YOU, SIR.

15 YOUR HONOR, IS IT PERMISSIBLE TO SET THEM UP HERE
16 AND HAVE MR. CARROLL ADDRESS THE JURY FROM HERE?

17 THE COURT: YES, AND MR. CARROLL CAN GO DOWN THERE,
18 IF HE WISHES.

19 MR. MC MANUS: YES, YOUR HONOR. I WOULD APPRECIATE
20 THAT.

21 THE COURT: HAVE HIM KEEP HIS VOICE UP SO THE
22 JURY AND THE REPORTER MAY HEAR HIM. YOU MAY PROCEED.

23 MR. MC MANUS: THANK YOU, SIR.

24 BY MR. MC MANUS:

25 Q. IF YOU COULD JUST STEP OVER THERE, I WILL HAND

1 YOU SOME PHOTOS. MR. CARROLL, IN EXPLAINING --

2 THE COURT: IF YOU ARE GOING TO HAVE A DOCUMENT
3 IN FRONT OF HIM, IT IS GOING TO HAVE TO BE IDENTIFIED.

4 MR. MC MANUS: YES, SIR. I AM GOING TO DO THAT.

5 BY MR. MC MANUS:

6 Q. IN EXPLAINING YOUR OPINION, SIR, WOULD IT FIRST
7 BE HELPFUL TO YOU TO SEE A PICTURE OF AN INTACT AIRCRAFT?

8 A. YES. I THINK THAT WOULD BE HELPFUL, TO DESCRIBE
9 THE PARTS OF IT DIRECTLY FROM THE PHOTOGRAPH.

10 Q. AND HAVE YOU SEEN SUCH A PHOTOGRAPH?

11 A. YES, I HAVE.

12 Q. OR SUCH AN EXHIBIT?

13 A. YES, I HAVE.

14 MR. MC MANUS: YOUR HONOR, I WOULD LIKE TO SHOW
15 THE WITNESS PLAINTIFFS' EXHIBIT NO. 17.

16 THE COURT: VERY WELL.

17 MR. MC MANUS: IT HAS BEEN PREVIOUSLY ADMITTED
18 INTO EVIDENCE.

19 THE COURT: ALL RIGHT.

20 BY MR. MC MANUS:

21 Q. MR. CARROLL, COULD YOU PLEASE DESCRIBE FOR ME,
22 SIR, WHAT THIS EXHIBIT DEPICTS?

23 A. THIS DEPICTS THE GENERAL OUTLINE OF THE C5-A
24 AIRCRAFT, WHICH IS REALLY AN ENORMOUS AIRPLANE.

25 THE COURT: MR. CARROLL, KEEP YOUR VOICE UP,

1 PLEASE. I AM WORRIED THAT THE REPORTER AND THE LAST JUROR
2 BE SURE TO HEAR YOU.

3 THE WITNESS: ALL RIGHT.

4 THE AIRCRAFT IS 247 FEET AND TEN INCHES IN LENGTH.

5 THE FUSELAGE IS 230 FEET, AND THE OVERALL LENGTH
6 IS 247 FEET.

7 THE WING SPAN IS 222 FEET.

8 THE AIRCRAFT IS DESIGNED FOR A MAXIMUM GROSS TAKE-
9 OFF WEIGHT OF 769,000 POUNDS. SO IT IS THE LARGEST TRANSPORT
10 AIRCRAFT IN THE WORLD.

11 IT IS ON TWO LEVELS. IT HAS A LARGE CARGO AREA,
12 CARGO COMPARTMENT, ON THE LOWER LEVEL.

13 THE UPPER LEVEL CONTAINS THE FLIGHT DECK UP HERE
14 IN THE NOSE AND THE FORWARD TROOP COMPARTMENT.

15 THE WING STRUCTURE IS IN BETWEEN THIS FORWARD
16 TROOP COMPARTMENT AND THE AFT TROOP COMPARTMENT. THIS IS
17 ALL ON THE UPPER LEVEL.

18 THE HEIGHT OF THE TAIL, FOR INSTANCE, IS ABOUT
19 SIX STORIES HIGH. IT IS ABOUT 65 FEET, OR SO.

20 THE LOWER COMPARTMENT IS THE MUCH TALLER ONE AND
21 MUCH LARGER, UNDERNEATH THE WING.

22 THE AFT RAMP AND CARGO LOADING DOOR FOR THAT CARGO
23 COMPARTMENT IS IN THIS AREA.

24 THE PRESSURE DOOR FOR THE ENTIRE CARGO COMPARTMENT,
25 AND, FOR THAT MATTER, FOR THE ENTIRE AIRCRAFT, IS AT THE
AFT END OF THE AFT RAMP.

1 BY MR. MC MANUS:

2 Q. IS THAT THE DOOR, SIR, THAT BLEW OFF AT THE TIME
3 OF THE EXPLOSIVE DECOMPRESSION?

4 A. THAT IS THE DOOR THAT LEFT AND CAUSED THE EXPLOSIVE
5 DECOMPRESSION.

6 Q. COULD YOU DESCRIBE WHAT OCCURS IN THE FLIGHT DECK?
7 WHAT PORTION OF THE AIRPLANE IS THAT?

8 A. THE FLIGHT CREW OPERATES THE AIRCRAFT FROM THE
9 FLIGHT DECK. THERE IS THE PILOT'S AND CO-PILOT'S SEAT,
10 OBSERVER, NAVIGATOR, AND OTHER CREW MEMBERS.

11 AND THE FORWARD TROOP COMPARTMENT IS TO ACCOMMODATE
12 EXTRA CREW MEMBERS, GENERALLY WHO ARE NOT PARTICULARLY FLYING
13 THE AIRCRAFT AT THE TIME, BUT EXTRA CREW MEMBERS TO TAKE
14 OVER FROM THE REGULAR FLIGHT CREW, AND VICE-VERSA, TO CHANGE
15 OFF.

16 Q. THANK YOU, SIR.

17 THE COURT: MR. MC MANUS, MAYBE ONE OF YOUR COLLEAGUES
18 COULD HELP YOU DO ALL THAT LIFTING WORK.

19 MR. MC MANUS: YES, SIR.

20 BY MR. MC MANUS:

21 Q. MR. CARROLL, I WOULD LIKE TO SHOW YOU PLAINTIFFS'
22 EXHIBIT 2-J, AND ASK YOU IF YOU CAN IDENTIFY THAT, SIR?

23 A. THAT IS A PHOTOGRAPH OF A C5-A AIR FORCE AIRCRAFT
24 SIMILAR TO, OR IDENTICAL TO, THE ONE THAT WAS IN THE CRASH.

25 Q. THANK YOU, SIR. NOW, HAVE YOU SELECTED SOME

1 PHOTOGRAPHS THAT WOULD ENABLE YOU TO EXPLAIN YOUR OPINION
2 CONCERNING THE SURVIVABILITY OR NON-SURVIVABILITY OF THE
3 ACCIDENT?

4 A. YES.

5 MR. MC MANUS: YOUR HONOR, AT THIS TIME WE WOULD
6 LIKE TO INTRODUCE PLAINTIFFS' EXHIBIT 1000-60.

7 THE COURT: YOU ARE INTRODUCING IT, OR IS IT IN
8 EVIDENCE?

9 MR. MC MANUS: I BELIEVE IT IS IN EVIDENCE.

10 THE COURT: VERY WELL.

11 BY MR. MC MANUS:

12 Q. WOULD YOU DESCRIBE THAT PICTURE, SIR?

13 A. ALL RIGHT.

14 WELL, AS THE MOVIES SHOWED THE CRASH PATH, THE PICTURES
15 THAT WERE IN THE MOVIES WERE TAKEN IN THE AREA FROM THE
16 EAST SIDE OF THIS SAIGON RIVER, ACROSS THE RIVER, AND ALONG
17 A CRASH PATH THAT EXTENDS FROM THE DIKE AREA HERE ALL THE
18 WAY DOWN TO THESE FAR REACHES OF THE PHOTOGRAPH.

19 THE AIRCRAFT OBVIOUSLY BROKE INTO ABOUT FIVE MAIN SECTIONS.

20 AFTER IT TOUCHED DOWN ON THE EAST SIDE OF THE RIVER,
21 WITH IMPACTS, IT WAS ABLE TO CROSS THE RIVER, OR BOUNCE
22 ACROSS THE RIVER, AND TOUCH DOWN ON THE WEST SIDE, WHERE
23 THE MAJOR IMPACT OF ALL OCCURRED.

24 THE WING WAS TORN OUT OF THE AIRPLANE.

25 THE TAIL SECTION WAS BROKEN OFF. THE TAIL SECTION

1 IS RIGHT HERE IN THE PHOTOGRAPH.

2 THE MAJOR IMPACT THAT CAUSED MOST OF THE DISINTEGRATION
3 OCCURRED IN THIS AREA.

4 WHEN THE WING TORE FREE FROM THE AIRPLANE, IT
5 PROCEEDED TO THE FURTHEST DISTANCE ALONG THE CRASH PATH.

6 THE COURT: NOW, MR. MC MANUS, SOMEBODY WITH A
7 WRITTEN RECORD IS NOT GOING TO BE ABLE TO KNOW WHAT THE
8 WITNESS MEANS BY "THE TAIL SECTION APPEARS HERE."

9 IS THERE ANY REASON WHY HE CAN'T TAKE SOMETHING
10 AND MARK THAT PHOTOGRAPH WITH A SYMBOL, WHEN HE IS TALKING?

11 MR. MC MANUS: YES, SIR.

12 THE WITNESS: I WILL MARK THE FAR LEFT SIDE OF
13 THIS PHOTOGRAPH "EAST," AND I WILL MARK THE RIVER. THIS
14 IS THE SAIGON RIVER.

15 THE POINT OF IMPACT ON THE WEST SIDE OF THE RIVER
16 IS IN THIS VICINITY.

17 THE COURT: SAY WHAT KIND OF MARK YOU ARE GOING
18 TO PUT THERE.

19 THE WITNESS: I AM GOING TO MARK THAT "A."

20 THE COURT: ALL RIGHT.

21 THE WITNESS: THE AREA IN WHICH THE --

22 MR. MC MANUS: EXCUSE ME. YOUR HONOR, WE HAVE
23 A DIAGRAM.

24 THE COURT: WELL, IF HE IS GOING TO -- I DON'T
25 CARE WHETHER YOU HAVE A DIAGRAM OR NOT. IF HE IS GOING

1 TO TALK ABOUT SOMETHING ON THAT PICTURE, AND SAY, "IT IS
2 HERE" --

3 MR. MC MANUS: YES, SIR, I UNDERSTAND THAT, YOUR
4 HONOR.

5 THE COURT: IF YOU WANT TO WITHDRAW THAT, THAT
6 WILL BE FINE.

7 MR. MC MANUS: NO, SIR.

8 WE WANT TO KEEP THE PICTURE. BUT PERHAPS IT
9 WILL ASSIST THE COURT AND THE JURY IF MR. CARROLL COULD
10 REFER BOTH TO THE DIAGRAM AND THE PICTURE AT THE SAME TIME.

11 THE COURT: WELL, CAN YOU GET THE PICTURE MARKED?
12 WHEN HE SAYS "HERE," I WANT HIM TO MARK WHERE "HERE" IS.

13 MR. MC MANUS: YES, SIR.

14 THE COURT: AND THEN YOU CAN GO ON AND DO ANYTHING
15 YOU WANT.

16 BUT EVERY TIME HE SAYS "HERE," PUT A MARK, SO
17 THAT IT IS IDENTIFIABLE TO THE READER OF A WRITTEN RECORD.

18 MR. MC MANUS: YES, SIR.

19 THE WITNESS: THE AREA WHERE THE UNDERSIDE OF
20 THE FUSELAGE IMPACTED AND DISINTEGRATED, I WILL MARK AS
21 "B."

22 BY MR. MC MANUS:

23 Q. NOW, MR. CARROLL, IF YOU COULD JUST NOW, FOR THE
24 PURPOSES OF THIS PICTURE, MARK THE WING AREA THAT YOU HAVE
25 INDICATED PREVIOUSLY?

1 A. YES, SIR.

2 THE COURT: JUST PUT WING THERE AND GO ON.

3 THE WITNESS: ALL RIGHT.

4 THE COURT: PUT "WING" WHERE YOU SAID "HERE."

5 THE WITNESS: I HAVE "WING" ON THE FAR RIGHT SIDE
6 OF THE PICTURE.

7 BY MR. MC MANUS:

8 Q. COULD YOU IDENTIFY --

9 THE COURT: YOU WILL DO BETTER, MR. MC MANUS,
10 IF YOU ASK HIM QUESTIONS --

11 MR. MC MANUS: YES.

12 THE COURT: (CONTINUING) -- INSTEAD OF JUST LETTING
13 HIM SOLILOQUIZE.

14 MR. MC MANUS: YES, YOUR HONOR. THAT IS WHAT
15 I PLAN TO DO.

16 BY MR. MC MANUS:

17 Q. AND COULD YOU MARK THE TAIL ASSEMBLY, MR. CARROLL?

18 A. THIS IS THE TAIL, OR EMPENNAGE, AS WE CALL IT.

19 Q. CAN YOU LOCATE THE TROOP COMPARTMENT ON THAT PHOTO-
20 GRAPH?

21 A. YES, I WILL MARK THAT "TROOP COMPARTMENT."

22 Q. ALL RIGHT.

23 AS WE LOOK AT THAT PICTURE, SIR, TO ORIENT OURSELVES,
24 IS THAT PICTURE TAKEN FROM A NORTHERLY DIRECTION; IN OTHER
25 WORDS, LOOKING FROM THE NORTH TO THE SOUTH?

1 A. THAT IS RIGHT.

2 Q. ALL RIGHT.

3 NOW, IF YOU COULD LOOK AT THE NEXT PICTURE, SIR, PLAINTIFFS'
4 EXHIBIT 1000-38, WOULD YOU PLEASE DESCRIBE WHAT THAT DEPICTS?

5 A. THIS PICTURE WAS TAKEN ON THE EAST SIDE OF THE
6 SAIGON RIVER.

7 Q. AND WHAT DOES THAT DEPICT, SIR?

8 A. IT DEPICTS GOUGE MARKS IN THE GROUND AND WRECKAGE
9 DEBRIS FROM THE UNDERSIDE OF THE AIRCRAFT, INCLUDING SOME
10 OF THE LANDING GEAR OF THE AIRPLANE, AND SEVERAL PALM TREES
11 THAT HAVE BEEN BROKEN OFF OR CLIPPED OFF, OBVIOUSLY, BY
12 SOMETHING ON THE RIGHT SIDE OF THE AIRPLANE, PROBABLY THE
13 RIGHT WING.

14 AND IT SHOWS A CONTINUATION OF WRECKAGE AND VARIOUS
15 IMPACT MARKS ALONG THE GROUND, UNTIL THE AIRCRAFT REBOUNDED
16 OUT OF THESE IMPACTS AND PROCEEDED ACROSS THE RIVER TO THE
17 AREA OF THE MAIN WRECKAGE DISTRIBUTION.

18 Q. MR. CARROLL, HAVE YOU SEEN A DIAGRAM WHICH WOULD
19 ASSIST YOU IN DEMONSTRATING THE VARIOUS AREAS DEPICTED ON
20 THE PHOTOGRAPH?

21 A. YES, I HAVE.

22 MR. MC MANUS: YOUR HONOR, I WOULD LIKE TO SHOW
23 TO THE WITNESS AND HAVE HIM USE PLAINTIFFS' EXHIBIT 248
24 AND ASK THAT HE BE ALLOWED TO REFER TO THAT.

25 MR. DUBUC: YOUR HONOR, I HAVE AN OBJECTION TO

1 THIS. THIS IS A DIAGRAM PREPARED BY ANOTHER EXPERT WHO
2 HAS NOT YET TESTIFIED.

3 OUR OBJECTION IS THAT I DON'T BELIEVE, WITHOUT
4 THAT FOUNDATION, THIS WITNESS CAN SAY WHETHER IT IS ACCURATE
5 OR NOT.

6 THE COURT: WELL, IT IS PROFFERED SUBJECT TO BEING
7 CONNECTED, AND IT IS RECEIVED SUBJECT TO BEING CONNECTED.

8 AND YOU LADIES AND GENTLEMEN ARE GOING TO GET
9 USED TO MY SAYING THAT.

10 YOU CAN'T PROVE EVERYTHING ALL AT ONCE. BUT
11 IF A PARTY SAYS HE IS GOING TO PROVE SOMETHING AND THEN
12 DOESN'T, YOU WILL HAVE SOME EXPLANATIONS OF THE CONSEQUENCES
13 OF THAT.

14 BY MR. MC MANUS:

15 Q. MR. CARROLL, THIS IS --

16 THE COURT: MY CONCERN IS: CAN THE JURY READ
17 THAT? DO YOU WANT THEM TO READ THE WRITING ON IT FROM THERE?

18 MR. MC MANUS: YES, SIR. WE CAN MOVE IT UP
19 CLOSER.

20 THE COURT: WHY DOESN'T ONE OF THE -- ALL RIGHT.
21 MR. DUBUC, YOU AND MR. CONNORS AND MR. PIPER CAN REARRANGE
22 YOURSELVES, IF YOU LIKE, AND I WILL MOVE OVER HERE MYSELF.

23 CAN YOU TILT IT JUST SO THAT THE JURY AND I CAN
24 SEE IT?

25 MR. MC MANUS: YES, YOUR HONOR.

1 THE COURT: THANK YOU. THAT IS FINE. YOU CAN
2 STAND AT THE END OF THE JURY BOX, GENTLEMEN.

3 MR. DUBUC: THANK YOU.

4 BY MR. MC MANUS:

5 Q. MR. CARROLL, IF YOU WILL STAND IN FRONT OF THE
6 LECTERN, SIR?

7 A. YES, SIR.

8 Q. MR. CARROLL, THIS IS PLAINTIFFS' EXHIBIT 5219,
9 AND I WOULD ASK THAT YOU EXPLAIN WHAT IS DEPICTED IN THAT
10 PHOTO.

11 THE COURT: ARE YOU ASKING HIM ABOUT THE DIAGRAM
12 NOW OR ABOUT THE PHOTOGRAPH?

13 MR. MC MANUS: THE DIAGRAM, SIR, IS HERE, SO
14 HE CAN USE IT AS A REFERENCE POINT, WHEN HE IS --

15 THE COURT: ALL RIGHT. VERY WELL. GO AHEAD.

16 BY MR. MC MANUS:

17 Q. EXPLAIN THE PICTURE.

18 A. WELL, THESE ARE THE INITIAL --

19 THE COURT: HAVE YOU IDENTIFIED THE EXHIBIT NUMBER
20 OF THAT PHOTOGRAPH?

21 MR. MC MANUS: YES, SIR, 5219.

22 THE COURT: VERY WELL.

23 THE WITNESS: THESE ARE THE INITIAL IMPACTS AND
24 GOUGE MARKS ON THE EAST SIDE OF THE SAIGON RIVER.

25 YOU CAN SEE THE SAIGON RIVER RUNNING THROUGH THE

1 UPPER PORTION OF THIS EXHIBIT.

2 ON THE WRECKAGE DIAGRAM CHART, IT WOULD BE TAKING
3 A PHOTOGRAPH FROM THE FAR EAST SIDE HERE, OR THE RIGHT SIDE,
4 ON THE WRECKAGE DIAGRAM, LOOKING TOWARD THE RIVER, WHICH
5 IS IN THE MIDDLE OF THE DIAGRAM; AND THEN BEYOND THAT, TO
6 THE MAJOR WRECKAGE SITE.

7 THE MAJOR WRECKAGE SITE IN THE EXHIBIT IS THIS
8 AREA WHERE THE SMOKE AND FIRE IS GOING.

9 BY MR. MC MANUS:

10 Q. MR. CARROLL, THE NEXT PICTURE IS PLAINTIFFS' EXHIBIT
11 1000-115. I WOULD ASK IF YOU CAN STATE WHAT THAT PORTRAYS,
12 SIR?

13 A. NOW, THIS PICTURE WOULD BE TAKEN WHILE CROSSING
14 THE SAIGON RIVER, APPROACHING THE DIKE, AND IT SHOWS THE
15 GOUGE MARKS THAT WERE LEFT ON THE GROUND WHERE THE AIRCRAFT
16 CONTACTED THE EARTH AFTER IT CROSSED OVER THE SAIGON RIVER,
17 AND FURTHER ALONG WHERE SOME PEOPLE CAN BE SEEN IN THE PHOTO-
18 GRAPH.

19 THAT AREA REPRESENTS WHERE THE MAJOR PART OF THE FUSELAGE
20 IMPACTED VERY, VERY HEAVILY, THE HEAVIEST IMPACT OF ALL,
21 AS IT SCRAPED ALONG THE GROUND AND DISINTEGRATED, WITH THE
22 WING TEARING OUT AND GOING TO THE FURTHEST DISTANCE IN THIS
23 PHOTOGRAPH; THE TROOP COMPARTMENT, THE UPPER TROOP COMPARTMENT,
24 TRAVELING A BIT OF THE LEFT OF THAT CRASH PATH; THE COCKPIT
25 AND THE FLIGHT-DECK AREA TRAVELING FURTHER TO THE LEFT;

1 AND THE EMPENNAGE, OR TAIL SECTION, BEING THROWN OFF TO
2 THE RIGHT.

3 THE COURT: NOW, MR. MC MANUS, I AM GOING TO ASK
4 YOU, NOT ON MY TIME AND NOT ON THE JURY'S TIME, BUT AT A
5 RECESS, WITH MR. DUBUC'S STIPULATION, TO MARK THE THINGS
6 THAT HE IDENTIFIED ON THAT PHOTOGRAPH.

7 MR. MC MANUS: YES, SIR.

8 THE COURT: VERY WELL. GO AHEAD.

9 MR. MC MANUS: THE NEXT PHOTOGRAPH IS PLAINTIFFS'
10 EXHIBIT 2417, MR. CARROLL.

11 THE WITNESS: YES, SIR.

12 BY MR. MC MANUS:

13 Q. NOW, IS THAT ANOTHER PICTURE OF THE SAIGON RIVER,
14 SIR?

15 A. THAT IS ANOTHER PICTURE TAKEN FROM OVER THE SAIGON
16 RIVER, OBVIOUSLY, LATER IN THE DAY, WITH REFLECTIONS OF
17 WATER THAT HAD FILLED IN THE GOUGES THAT WERE MADE ON THE
18 WEST BANK OF THE RIVER, AND WHILE THE AIRCRAFT WAS STILL
19 IN VARIOUS STAGES OF FIRE.

20 Q. THE NEXT PICTURE, SIR, IS PLAINTIFFS' EXHIBIT
21 1000-87. I ASK YOU:

22 IS THAT A CLOSER VIEW OF THE MAJOR PORTIONS OF THE
23 AIRCRAFT?

24 A. THAT IS AN AERIAL VIEW. THE SAIGON RIVER, WHICH
25 WAS IN THE WRECKAGE DIAGRAM, WOULD BE OFF TO THE LEFT

1 OF THIS PHOTOGRAPH.

2 SO THE CRASH PATH PROCEEDS FROM THE LEFT TO THE RIGHT,
3 SHOWING THE EMPENNAGE, THE TAIL SECTION, THE AFT TROOP COMPART-
4 MENT, THE FLIGHT-DECK WRECKAGE, THE WRECKAGE OF THE WING
5 AREA, AND THE DEBRIS FROM THE CARGO SECTION, THE UNDERSIDE
6 OF THE AIRCRAFT, ALL THE WAY UP THE LEFT HERE.

7 Q. SIR, THE NEXT PICTURE IS PLAINTIFFS' EXHIBIT 5258.

8 A. THIS IS ANOTHER PHOTOGRAPH IN COLOR TAKEN FROM
9 THE SAIGON RIVER, GOING WEST.

10 THAT SHOWS, AGAIN, THE GOUGE MARKS AT THE PRINCIPAL
11 IMPACT AREA FOR THE MAIN FUSELAGE; THE EMPENNAGE OR TAIL
12 SECTION TO THE RIGHT; THE AFT TROOP COMPARTMENT; AND THE
13 FLIGHT-DECK AREA.

14 THE AREA THAT IS SHOWN BURNING AND SMOKING OUT HERE
15 IS THE AREA WHICH CARRIED MOST OF THE FUEL IN THE WING SECTION,
16 SIR.

17 Q. PLAINTIFFS' EXHIBIT 5229.

18 A. THIS IS A CLOSER VIEW, AND ESSENTIALLY THE SAME
19 AS THE LAST PHOTOGRAPH. IT SHOWS THE MASSIVE DISTURANCE
20 TO THE GROUND IN THE AREA OF THE DISINTEGRATION OF THE CARGO
21 COMPARTMENT, THE EMPENNAGE, THE UPPER AFT TROOP COMPARTMENT,
22 THE FLIGHT DECK, AND, AGAIN, THE BURNING OF THE FUEL FROM
23 THE WING SECTION.

24 MR. MC MANUS: YOUR HONOR, I BELIEVE THAT THIS
25 MIGHT BE A DIFFICULT ANGLE FOR THE LAST JUROR TO SEE.

1 THE COURT: WHY DOESN'T THE LAST JUROR STEP BACK
2 A ROW INTO WHAT WOULD BE ALTERNATE NO. 5'S SEAT. CAN YOU
3 DO BETTER THERE, SIR?

4 JUROR NO. 6: YES, SIR.

5 THE COURT: THANK YOU.

6 BY MR. MC MANUS:

7 Q. PLAINTIFFS' EXHIBIT 5249?

8 A. THIS IS A COLOR PHOTOGRAPH THAT IS CLOSER IN TOWARD
9 THE AREA OF THE MAIN WING SECTION AREA THAT BURNED OUT.
10 AS SOME OF THE MOVIES SHOWED, THERE WERE SPOTS OF SMOKE
11 AND FIRE AROUND THIS BURNED AREA THROUGHOUT THE -- ALL THE
12 WAY FROM THE LEFT TO THE RIGHT CENTER OF THIS PICTURE, AND
13 THERE IS STILL FLAME AND SMOKE IN THE FUEL AREA, IN THE
14 FUEL AND WING SECTION.

15 Q. CAN YOU LOCATE THAT WING SECTION ON THE WRECKAGE
16 DIAGRAM?

17 A. THAT WOULD BE THE FURTHEST PIECE OF WRECKAGE ALONG
18 THE CRASH PATH, WITH THE CRASH PATH IN THIS CHART GOING
19 FROM THE RIGHT TO THE LEFT. THIS WOULD BE LOOKING EAST.
20 ON THIS EXHIBIT IT WOULD BE LOOKING EAST, AND LOOKING AT
21 THAT WING-SECTION BURNED AREA RIGHT THERE.

22 Q. AND IS THAT DESIGNATED "WING SECTION" ON THE WRECKAGE
23 DIAGRAM, SIR?

24 A. YES.

25 Q. PLAINTIFFS' EXHIBIT 5233.

1 A. THE CENTER PORTION OF THIS PICTURE APPEARS TO
2 HAVE MANY PIECES OF DEBRIS AND WRECKAGE IN IT. MOST OF
3 THE DEBRIS IN THIS AREA, WHERE MOST OF THE FATALITIES WERE
4 FOUND, IS AN AREA THAT SOME PHOTOGRAPHS LATER WILL SHOW
5 REPRESENTS THE CARGO-COMPARTMENT FLOOR.

6 SO THE MAJOR UNDER PORTION OF THE AIRCRAFT DISINTEGRATED
7 IN THIS AREA, AND THAT IS THE AREA FROM WHICH THE WING TORE
8 FREE AND WENT UP TO THE TOP CENTER OF THIS PICTURE.

9 THE TAIL BROKE TO THE RIGHT, AND THE UPPER CREW COMPARTMENT
10 BROKE --

11 Q. EXCUSE ME. IS THAT THE TROOP COMPARTMENT OR
12 THE CREW COMPARTMENT?

13 A. THAT IS THE TROOP COMPARTMENT. THE CREW COMPARTMENT
14 IS OFF TO THE -- FURTHER OFF TO THE LEFT.

15 Q. IS THE CREW COMPARTMENT ALSO KNOWN AS THE FLIGHT
16 DECK?

17 A. THE UPPER FLIGHT DECK.

18 Q. OKAY. PLAINTIFFS' EXHIBIT 5261.

19 A. THIS PICTURE GETS CLOSER TO THE AREA WHICH REPRESENTS
20 THE CARGO COMPARTMENT, THE UNDER PORTION OF THE AIRCRAFT.
21 AND YOU BEGIN TO SEE, BY GETTING CLOSER IN THESE PHOTOGRAPHS,
22 THAT IT HAS TOTALLY DISINTEGRATED INTO VERY SMALL PIECES,
23 AS COMPARED TO THE TAIL SECTION AND THE UPPER TROOP COMPARTMENT.

24 THIS PICTURE, BY THE WAY, IS TAKEN FROM THE WEST LOOKING
25 EAST.

1 SO WE HAVE GONE IN THIS PICTURE TO THE FAR LEFT OF
2 THE CHART, LOOKING BACK TOWARD THE RIGHT, LOOKING BACK ALONG
3 THE CRASH PATH.

4 SO THIS PICTURE OF THE BURNED-OUT WING AREA IS LOOKING
5 AT THIS WING-SECTION BURNED AREA FROM THE WEST, LOOKING
6 TO THE EAST.

7 Q. SO THE CENTRAL FIGURE IN THAT PICTURE IS THE BURNED
8 WING AREA; IS THAT CORRECT?

9 A. IT IS THE BURNED WING AREA.

10 Q. ALL RIGHT. PLAINTIFFS' EXHIBIT 5230.

11 A. THIS, AGAIN, IDENTIFIES THE GOUGE MARKS AND MAJOR
12 IMPACT AREA FOR THE UNDERSIDE OF THE FUSELAGE, WITH THE
13 TAIL SECTION GOING TO THE RIGHT, AND THE WING SECTION VIRTUALLY
14 STRAIGHT AHEAD, AND, AGAIN, THE UPPER TROOP COMPARTMENT
15 AND THE FLIGHT DECK.

16 Q. PLAINTIFFS' EXHIBIT 5231.

17 A. THIS PICTURE, AGAIN, IS TAKEN FROM THE EAST HEADING
18 WEST.

19 WHILE THERE ARE RESCUE AND MEDICAL HELICOPTERS SHOWN
20 THROUGHOUT THE PICTURE, THEY ARE NOT PART OF THE WRECKAGE
21 SCENE, ITSELF.

22 WHAT THIS BEGINS TO SHOW IS THAT THE UPPER TROOP COMPART-
23 MENT SHOWS TWO LINES IN THE GROUND LEADING TO THE POINT
24 AT WHICH IT RESTS.

25 AND THEY ARE ABOUT AS LONG AS THE UPPER TROOP COMPARTMENT,

1 ITSELF.

2 AND IN THE ABSENCE OF ANY OTHER GOUGE MARKS BETWEEN
3 THAT POINT AND THE MAIN WRECKAGE BREAK-UP AREA, IT IS POSSIBLE
4 TO ACCURATELY DETERMINE THAT THAT AFT TROOP COMPARTMENT
5 GOT THERE BY ITSELF, UNDER ITS OWN MOMENTUM, AS THE WING
6 OF THE AIRPLANE DISINTEGRATED.

7 AND THE SAME THING WITH THE FLIGHT DECK, THE FRONT
8 PORTION OF THE AIRCRAFT.

9 THE TAIL SECTION FLEW IMMEDIATELY FORWARD TO THE RIGHT
10 OF THE PRINCIPAL IMPACT AREA.

11 Q. PLAINTIFFS' EXHIBIT 5211.

12 A. IT WAS TAKEN ON THE GROUND.

13 THE COURT: COULD YOU STAND JUST A BIT TO THE
14 RIGHT? THANK YOU, SIR.

15 THE WITNESS: IT WAS TAKEN ON THE GROUND, ADJACENT
16 TO THE UPPER CREW COMPARTMENT, WHICH ON THE WRECKAGE DIAGRAM
17 IS INDICATED AS THE AFT TROOP COMPARTMENT, AND A SMALL HILL
18 WHERE THE TROOP COMPARTMENT IMPACTED.

19 THAT IS THIS AREA THROUGHOUT THE CENTER OF THIS
20 PHOTOGRAPH, AND THE BOTTOM OF THE PHOTOGRAPH, WITH THE FORWARD
21 PORTION OF THE AFT TROOP COMPARTMENT ON THE FAR RIGHT, AND
22 THE AFT END OF THE TROOP COMPARTMENT FURTHER AWAY FROM THE
23 RIGHT.

24 Q. PLAINTIFFS' EXHIBIT 5239.

25 A. THIS SIMPLY DEPICTS THE AREA AT WHICH THE UNDER

1 PORTION OF THE AIRCRAFT AND SOME OF THE MAIN LANDING GEAR
2 CAME TO REST AT THE IMPACT SCENE.

3 Q. PLAINTIFFS' EXHIBIT 5247. CAN YOU IDENTIFY, SIR,
4 THE STRUCTURE IN THE RIGHT-HAND PORTION OF THE MIDDLE OF
5 THE PICTURE?

6 A. THAT WOULD BE THE FORWARD PORTION OF THE AIRPLANE,
7 THE UPPER SECTION, THE FLIGHT DECK, AND PORTIONS OF THE
8 FORWARD END OF THE CARGO COMPARTMENT THAT ARE JUST BEHIND
9 THE BACK OF THE FLIGHT DECK.

10 ON THE LEFT SIDE IS THE AFT CREW COMPARTMENT, THE TROOP
11 COMPARTMENT.

12 IN THE CENTER IS THE TAIL SECTION, THE EMPENNAGE.

13 Q. IS THE FLIGHT DECK, THE FIGURE ON THE RIGHT SIDE
14 OF THE PICTURE, IS THAT RIGHT SIDE UP, SIR?

15 A. THAT IS INVERTED.

16 Q. SO IT IS UPSIDE DOWN?

17 A. IT IS ON ITS BACK. THE AFT TROOP COMPARTMENT
18 IS RIGHT SIDE UP.

19 Q. AND THAT IS THE TROOP COMPARTMENT; IS THAT CORRECT,
20 SIR?

21 A. THE TROOP COMPARTMENT.

22 Q. ALL RIGHT. PLAINTIFFS' EXHIBIT 5241.

23 A. JUST ABOUT THE CENTER LEFT OF THIS PICTURE IS
24 A LARGE PORTION OF THE CARGO COMPARTMENT FLOOR AND SOME
25 EXTERIOR AIRCRAFT SKIN.

1 ALL THE REST OF THE SURROUNDING STRUCTURES WERE DISINTE-
2 GRATED IN THIS AREA, AS THE OTHER SECTIONS -- THE PART OF
3 THE MAIN COLLECTION OF THE AIRCRAFT AT THAT POINT.

4 Q. PLAINTIFFS' EXHIBIT 1000-120.

5 A. THIS PHOTOGRAPH WAS TAKEN JUST PAST THE MAJOR
6 IMPACT AREA FOR THE CARGO SECTION, LOOKING WEST TOWARD THE
7 AFT TROOP COMPARTMENT: AND, BEYOND THAT, THE WING SECTION.

8 THIS PHOTOGRAPH SHOWS MORE CLEARLY THE SMALL HILL OR
9 THE HUMMOCK, THE INCREASED ELEVATION OF THE TERRAIN, AGAINST
10 WHICH THIS AFT TROOP COMPARTMENT CAME TO A FINAL REST.

11 Q. PLAINTIFFS' EXHIBIT 5215.

12 A. THIS PICTURE WAS TAKEN IN THE SAME DIRECTION,
13 WITH THE AFT TROOP COMPARTMENT SHOWN HERE, AGAIN, AGAINST
14 A SLIGHT RISE IN THE TERRAIN.

15 Q. AND, MR. CARROLL, I BELIEVE YOU TOLD US BEFORE
16 THAT AT SOME POINT THE VARIOUS PIECES OF THE AIRCRAFT BECAME
17 SEPARATED FROM EACH OTHER.

18 IS THIS PICTURE USEFUL IN POINTING OUT FACTS ABOUT
19 THAT?

20 MR. DUBUC: OBJECTION.

21 THE COURT: OVERRULED.

22 BY MR. MC MANUS:

23 Q. CAN YOU USE THIS PICTURE TO --

24 THE COURT: WHAT DID HE USE? DID HE USE THAT
25 DATA REFLECTED IN THAT PICTURE?

1 BY MR. MC MANUS:

2 Q. DID YOU USE THIS PICTURE, SIR, IN DETERMINING
3 THE SEQUENCE OF THE BREAK-UP OF THE VARIOUS PARTS?

4 A. YES, IT HELPS --

5 THE COURT: YOU HAVE ANSWERED THE QUESTION HE
6 ASKED YOU. YOU SAID "YES."

7 BY MR. MC MANUS:

8 Q. COULD YOU EXPLAIN THAT, SIR?

9 A. YES, SIR.

10 IT SHOWS THE AREA FROM WHICH THE MAIN REMAINING PORTIONS
11 OF THE AIRCRAFT CAME TO REST FROM -- AFTER LEAVING THIS
12 SPOT.

13 AND IT SHOWS THAT FROM THIS AREA THE TAIL SECTION WENT
14 TO THE RIGHT AND AHEAD; THE WING SECTION WENT STRAIGHT AHEAD;
15 THE AFT TROOP COMPARTMENT WENT TO THE LEFT.

16 THIS PHOTO DOESN'T SHOW IT CLEARLY. THE AFT -- THE
17 FLIGHT DECK IS OFF FURTHER TO THE LEFT.

18 Q. AND DID YOU DETERMINE WHETHER OR NOT THERE WAS
19 ANY PERIOD OF TIME WHEN THE TROOP COMPARTMENT WAS NOT IN
20 CONTACT WITH THE OTHER PARTS OF THE AIRPLANE, NOR WITH THE
21 GROUND?

22 MR. DUBUC: OBJECTION. I THINK THAT GOES BEYOND
23 WHAT HE SAID, AND THAT IS LEADING.

24 THE COURT: IT IS A LEADING QUESTION. THE OBJECTION
25 TO THE FORM OF THE QUESTION IS SUSTAINED.

1 BY MR. MC MANUS:

2 Q. DID THERE COME A TIME, SIR, WHEN THE VARIOUS PORTIONS
3 OF THE AIRPLANE BROKE APART?

4 MR. DUBUC: OBJECTION. HE JUST ASKED HIM THAT.

5 THE WITNESS: YES, SIR. THE VARIOUS MAJOR PORTIONS
6 SEPARATED IN THIS PRINCIPAL IMPACT AREA ON THE WEST SIDE
7 OF THE SAIGON RIVER.

8 AND FROM THAT AREA, THE TAIL SECTION AND THE AFT
9 TROOP COMPARTMENT AND THE FLIGHT DECK AND THE WING ALL
10 DEPARTED.

11 BY MR. MC MANUS:

12 Q. AND COULD YOU DESCRIBE HOW THAT OCCURRED?

13 A. WELL, THE INITIAL WEAKENING OF THE STRUCTURE HAD
14 TO OCCUR WITH THE INITIAL IMPACTS ON THE EAST SIDE OF THE
15 RIVER.

16 THERE WERE PARTS OF THE UNDERCARRIAGE, THE WHEELS,
17 THE UNDERSTRUCTURE THAT WERE TORN FREE FROM THE AIRPLANE
18 ON THIS -- ON THE EAST SIDE.

19 AN IMPACT STRONG ENOUGH TO TEAR OFF MASSIVE LANDING
20 GEAR LIKE THAT WOULD HAVE TO BE TRANSFERRED THROUGHOUT THE
21 ENTIRE AIRCRAFT STRUCTURE.

22 AND THERE IS NO WAY TO GUESS HOW MUCH STRUCTURAL DAMAGE
23 WOULD HAVE BEEN DONE AT THAT POINT, BUT IT WOULD BE REASONABLE
24 TO EXPECT THAT THERE WOULD BE SOME STRUCTURAL DAMAGE THROUGHOUT
25

1 THE VARIOUS OTHER PORTIONS OF THE AIRCRAFT AFTER THAT, PARTICULARLY
2 A WEAKENING OF THE TAIL SECTION.

3 AS THE AIRPLANE THEN IMPACTED ON THE WEST BANK, THE
4 TAIL SECTION DID SEPARATE AND GO TO THE RIGHT, WHICH GAVE
5 SOME OTHER INDICATION THAT, CHANCES ARE, THE AIRCRAFT WAS
6 IN A SLIGHT, LEFT-WING-DOWN ROLL AS THIS OCCURRED, WHICH
7 WOULD CAUSE A SLIGHT CARTWHEELING IN A COUNTERCLOCKWISE DIRECTION.

8 AND THAT, THEN, WOULD ACCOUNT FOR HAVING THROWN THE
9 CREW COMPARTMENT AND THE AFT TROOP COMPARTMENT SLIGHTLY
10 TO THE LEFT OF THIS CRASH PATH, WITH THE WING SECTION GOING
11 ESSENTIALLY STRAIGHT AHEAD, AND LEAVING THE TAIL OFF TO
12 THE RIGHT.

13 BUT I THINK, TO ANSWER YOUR QUESTION, THOSE OTHER PORTIONS
14 OF THE AIRCRAFT, THE TROOP COMPARTMENT AND THE CREW COMPARTMENT,
15 HAD TO SEPARATE AND DISINTEGRATE SIMULTANEOUSLY, ALMOST,
16 BACK IN THIS PRINCIPAL IMPACT AREA.

17 Q. WAS THE CREW COMPARTMENT, THE AFT TROOP COMPARTMENT,
18 IN CONTACT WITH THE GROUND AT THE TIME OF THE SEPARATION
19 FROM THE OTHER PARTS?

20 A. NO. IT NEVER CONTACTED THE GROUND UNTIL IT REACHED
21 A POINT SOME 1575 YARDS ALONG THE CRASH PATH, AS INDICATED
22 ON THIS WRECKAGE DIAGRAM.

23 Q. THE NEXT PHOTO, SIR, IS PLAINTIFFS' EXHIBIT 1000-80.

24 A. IT IS A CLOSE-UP OF THE AREA IN WHICH THE MAIN
25 CARGO-COMPARTMENT WRECKAGE WAS STREWN IN THE CRASH PATH.

1 Q. ARE THOSE PIECES OF METAL ON THE GROUND, SIR?

2 A. YES.

3 Q. AND WERE THOSE PIECES OF THE AIRPLANE?

4 A. THEY ARE.

5 Q. PLAINTIFFS' EXHIBIT 1000-41.

6 A. THIS PHOTOGRAPH SHOWS THE EMPENNAGE OR TAIL SECTION.
7 IT IS LOOKING TO THE WEST, AND IT SHOWS THE AFT TROOP COMPART-
8 MENT OVER ON THE LEFT SIDE OF THE PICTURE.

9 AND IT IS PROBABLY A GOOD PICTURE TO IDENTIFY THAT,
10 WHILE IN SOME OF THE PHOTOGRAPHS IT LOOKS LIKE A FLAT, OPEN,
11 GRASSY FIELD, OR RICE PADDY, WHEN YOU GET UP CLOSE, YOU
12 CAN SEE THE DEGREE OF DESTRUCTION AND DISINTEGRATION.

13 RELATIVELY HEAVY PARTS OF THE AIRCRAFT WERE BLOWN INTO
14 EXTREMELY SMALL FRAGMENTS.

15 THAT WOULD INDICATE THE INTENSITY OF THAT IMPACT AS
16 BEING EXTREMELY SEVERE, TO DISINTEGRATE THE AIRCRAFT INTO
17 SMALL PIECES LIKE THAT.

18 Q. PLAINTIFFS' EXHIBIT 5236.

19 A. THIS WOULD BE LOOKING GENERALLY TO THE SOUTHWEST
20 FROM THE AREA WHERE THE TAIL SECTION IS LOCATED.

21 IT SHOWS SOME SOOTING, POSSIBLY FROM A FIREBALL, AND
22 DISCOLORATION OF THE EARTH AROUND IT.

23 IT SHOWS THE AFT TROOP COMPARTMENT HAVING COME TO A
24 STOP AFTER LEAVING TWO TRACKS IN THE GROUND AGAINST A RISE
25 IN THE TERRAIN.

1 IN THE BACK OF THE PICTURE IS THE WING STRUCTURE THERE,
2 THE AREA THAT IS STILL BURNING.

3 Q. PLAINTIFFS' EXHIBIT 1000-48. CAN YOU IDENTIFY
4 THE STRUCTURES IN THAT PICTURE, SIR?

5 A. I CAN'T POSITIVELY IDENTIFY THAT STRUCTURE, BUT
6 IT IS IN THE AREA FROM THE CENTRAL-CARGO-COMPARTMENT WRECKAGE
7 AREA.

8 THAT WOULD BE -- IT COULD BE THE SIDEWALL STRUCTURE.
9 I WOULD HAVE TO GUESS AT WHAT THE STRUCTURE IS. THAT WAS
10 NEVER IDENTIFIED.

11 IN FACT, NONE OF THE STRUCTURES WERE EVER IDENTIFIED
12 ON ANY OF THE INFORMATION PROVIDED.

13 THE COURT: DID THE REPORTER HEAR THAT?

14 THE COURT REPORTER: YES, YOUR HONOR.

15 THE COURT: TRY TO KEEP YOUR VOICE UP, MR. WITNESS.

16 THE WITNESS: YES, YOUR HONOR.

17 BY MR. MC MANUS:

18 Q. BUT ARE THOSE STRUCTURES FROM THE C5-A CRASH?

19 A. YES.

20 MR. DUBUC: OBJECTION. I OBJECT, YOUR HONOR.
21 HE JUST SAID HE CAN'T IDENTIFY THEM.

22 THE COURT: I DON'T THINK HE MEANT HE COULD NOT
23 IDENTIFY IT AT ALL. WHAT IS YOUR ANSWER TO THAT QUESTION?

24 THE WITNESS: THESE ARE C5-A STRUCTURES, BUT I
25 CAN'T IDENTIFY WHICH.

1 THE COURT: ALL RIGHT. CAN YOU IDENTIFY THE
2 SCENE?

3 THE WITNESS: YES, SIR.

4 THE COURT: IS IT A SCENE COMPARABLE TO WHAT YOU
5 HAVE SEEN ON THE OTHER PHOTOGRAPHS?

6 THE WITNESS: IT IS THE SAME SCENE, SIR.

7 THE COURT: THE OBJECTION IS OVERRULED.

8 BY MR. MC MANUS:

9 Q. PLAINTIFFS' EXHIBIT 5244.

10 A. THIS IS A CLOSE-UP PICTURE. IN THE CENTER OF
11 IT IS THE FORWARD, UPPER PORTION OF THE AIRCRAFT, THE FLIGHT
12 DECK.

13 OFF TO THE LEFT, AND BEHIND THAT, IS THE AFT TROOP
14 COMPARTMENT, AND, AGAIN, THE STRUCTURE FROM THE TAIL, THE
15 EMPENNAGE.

16 THIS PHOTOGRAPH IS ONE OF THE FEW THAT ALSO IDENTIFIES
17 A FAIRLY LARGE PORTION OF THE UNDER COMPARTMENT OF THE AIRCRAFT.

18 THE COURT: A PORTION OF THE WHAT?

19 THE WITNESS: THE UNDER PORTION OF THE CARGO COMPART-
20 MENT OF THE AIRCRAFT.

21 THE COURT: ALL RIGHT.

22 BY MR. MC MANUS:

23 Q. PLAINTIFFS' EXHIBIT 5213, CAN YOU IDENTIFY THAT
24 STRUCTURE, SIR?

25 A. THAT IS ALSO THE FLIGHT DECK, WITH THE TOP BEING

1 ON THE FAR SIDE OF THIS PIECE OF WRECKAGE.

2 WHAT WE ARE LOOKING AT HERE WOULD BE IF YOU WALKED
3 INTO THE CARGO COMPARTMENT AND LOOKED UP OVERHEAD, THE ROOF
4 OR THE CEILING.

5 THAT WOULD BE WHAT WE WERE LOOKING AT, THIS WRECKAGE
6 BEING IN AN INVERTED POSITION.

7 MR. DUBUC: I AM SORRY, YOUR HONOR. I DID NOT
8 GET THE NUMBER OF THAT EXHIBIT.

9 MR. MC MANUS: I BELIEVE IT WAS 5213.

10 MR. DUBUC: THANK YOU.

11 BY MR. MC MANUS:

12 Q. MR. CARROLL, CAN YOU IDENTIFY 5213 IN RELATION
13 TO 5244?

14 A. YES, SIR.

15 5244 SHOWS THE PILOT COMPARTMENT. AND IF YOU WERE
16 ON THE OTHER SIDE OF THAT, LOOKING BACK, YOU WOULD BE LOOKING
17 AT THE FAR SIDE OF THIS PICTURE --

18 Q. SO 5213 PRESENTS A VIEW FROM THE OTHER SIDE OF
19 THAT PRESENTED IN 5244; IS THAT CORRECT?

20 A. YES. WELL, IT MIGHT LOOK INTACT. BUT IT IS
21 ONLY ON THIS SIDE. YOU CAN SEE THE WHOLE STRUCTURE FROM
22 THE CARGO COMPARTMENT UNDERNEATH HAS DISINTEGRATED.

23 Q. IS IT FAIR TO SAY THAT THEY BOTH REPRESENT THE
24 SAME STRUCTURES, BUT JUST FROM A DIFFERENT ANGLE?

25 A. THAT IS RIGHT.

1 Q. AND PLAINTIFFS' EXHIBIT 5248?

2 A. NOW --

3 Q. CAN YOU IDENTIFY THAT STRUCTURE, SIR?

4 A. NOW, THAT IS THE OVERHEAD OF THE CARGO COMPARTMENT
5 IN THE FORWARD END OF THE AIRCRAFT. THE FLIGHT DECK WOULD
6 BE ON THE OTHER SIDE OF THIS STRUCTURE.

7 Q. IS THAT COMPARABLE TO 5213, THE PREVIOUS PICTURE?

8 A. THAT IS RIGHT.

9 Q. PLAINTIFFS' EXHIBIT 1000-19, CAN YOU IDENTIFY
10 THAT STRUCTURE, SIR?

11 A. THIS IS THE WRECKAGE OF THE CENTER PORTION OF
12 THE WING STRUCTURE. IT TRAVELED THE FURTHEST DISTANCE IN
13 THE CRASH PATH.

14 Q. ALL RIGHT, SIR.

15 CAN YOU IDENTIFY THE STRUCTURE IN THE MIDDLE OF PLAINTIFFS'
16 EXHIBIT 5267?

17 A. THAT IS --

18 Q. THE STRUCTURE RIGHT HERE IN THE MIDDLE OF THE
19 PICTURE?

20 A. (CONTINUING) -- THE AFT TROOP COMPARTMENT, WHICH
21 IS SHOWN ON THE WRECKAGE DIAGRAM.

22 Q. PLAINTIFFS' EXHIBIT 1000-121, COULD YOU IDENTIFY
23 THE STRUCTURE IN THE MIDDLE OF THAT PHOTOGRAPH?

24 A. THAT IS THE AFT TROOP COMPARTMENT, AND, AGAIN,
25 IT SHOWS THE DISTANCE BY THE GOUGE MARKS AS TO HOW LONG

1 THIS PIECE OF THE STRUCTURE WAS IN CONTACT WITH THE EARTH,
2 AFTER IT HAD SEPARATED BACK AT THE MAJOR IMPACT POINT.

3 Q. PLAINTIFFS' EXHIBIT 3213?

4 A. THAT IS PROBABLY A BETTER ILLUSTRATION TO SHOW
5 THE RELATIVE DISTANCE THAT THIS TRAVELED ALONG THE GROUND
6 BEFORE IT CAME TO A STOP.

7 INCIDENTALLY, THE ONLY WAY THAT THIS STRUCTURE COULD
8 LEAVE THESE MARKS WOULD BE AS IF IT WERE PITCHED IN AN UP
9 ATTITUDE, WITH THE BACK END, THESE TWO POINTS, LEFT AND
10 RIGHT, AT THE BASE OF THAT AFT COMPARTMENT SCRAPING ALONG
11 THE GROUND, AND THEN THE FORWARD PORTION FALLING DOWN AND
12 STOPPING AGAINST THIS HILL IN FRONT OF IT.

13 Q. WHY IS THAT, SIR?

14 A. IT WOULD NOT HAVE BEEN POSSIBLE FOR THIS STRUCTURE
15 TO LEAVE THESE TWO SLASHMARKS, OR GOUGES, IF IT HAD BEEN
16 ON ITS BACK, OR ON ITS SIDE, OR FLAT, OR IN ANY OTHER ATTITUDE
17 THAN PITCHED UP AND DRAGGING AND ERODING THE STRUCTURE AWAY
18 FROM THE AFT OPENING, THE LOWER EDGES OF THAT AFT TROOP
19 COMPARTMENT.

20 Q. PLAINTIFFS' EXHIBIT 3136, WHICH HAS ALSO BEEN
21 MARKED AS 2435.

22 A. NOW, THIS IS TAKEN FROM THE WESTERLY DIRECTION,
23 LOOKING BACK EAST ALONG THE CRASH PATH, WITH THE FORWARD
24 EDGE OF THE AFT TROOP COMPARTMENT; AND, BEHIND IT IN THE
25 PICTURE, THE EMPENNAGE OR TAIL SECTION.

1 Q. CAN YOU IDENTIFY THE STRUCTURE IN PLAINTIFFS'
2 EXHIBIT 5205?

3 A. THIS WOULD BE THE LEFT SIDE OF THAT AFT TROOP
4 COMPARTMENT, WITH THE FORWARD PORTION BEING ON THE LEFT
5 SIDE OF THE PICTURE AND THE AFT PORTION BEING TO THE RIGHT.

6 Q. ALL RIGHT, SIR.

7 A. AGAIN, IT SHOWS THE VARIOUS DEGREES OF PROBABILITY
8 OF HAVING BEEN IN A FLASH FIRE.

9 THE COURT: WHICH WAS THE DIRECTION OF MOVEMENT?
10 WHICH WAY WOULD THE PLANE MOVE?

11 THE WITNESS: TRAVELING FROM THE RIGHT TO THE
12 LEFT.

13 THE COURT: RIGHT TO LEFT. THANK YOU. I DIDN'T
14 GET THAT LAST EXHIBIT NUMBER.

15 MR. MC MANUS: 5205, YOUR HONOR.

16 THE WITNESS: 5205.

17 THE COURT: THANK YOU.

18 BY MR. MC MANUS:

19 Q. CAN YOU IDENTIFY THE STRUCTURE IN PLAINTIFFS'
20 EXHIBIT 5209?

21 A. THIS IS THE SAME AFT TROOP COMPARTMENT. THIS
22 WOULD BE THE LEFT SIDE. THE DIRECTION OF IMPACT WOULD
23 BE FROM THE RIGHT TO THE LEFT, WITH THE FORWARD --

24 THE COURT: FROM THE RIGHT OF THE PICTURE TO THE
25 LEFT?

1 THE WITNESS: WELL, MORE FROM THE CENTER OF THE
2 PICTURE, COMING TO THE LOWER LEFT SIDE OF THE PICTURE.

3 THE COURT: VERY WELL. THANK YOU.

4 BY MR. MC MANUS:

5 Q. PLAINTIFFS' EXHIBIT 5204, SIR?

6 A. THAT, AGAIN, IS THE LEFT SIDE OF THE AFT TROOP
7 COMPARTMENT.

8 Q. AND PLAINTIFFS' EXHIBIT 5242?

9 A. THAT WOULD BE THE RIGHT SIDE OF THE AFT -- NO,
10 THAT IS LEFT. IT IS STILL THE LEFT SIDE, WITH THE FORWARD
11 PORTION OF THAT AFT TROOP COMPARTMENT IN THE CENTER OF THE
12 PICTURE, AND THE AFT OF THE TROOP COMPARTMENT BEING ON THE
13 LOWER RIGHT.

14 THIS PICTURE SHOWS A FAIR AMOUNT OF DISCOLORATION OF
15 THE TERRAIN AROUND IT, WITH THE POSSIBILITY OF A LIQUID-FUEL
16 OR BURNING-FUEL-MIST BALL OF FIRE ON THE GROUND.

17 MR. DUBUC: NOTE MY OBJECTION AND A MOTION TO STRIKE,
18 POSSIBLY. I DID NOT HEAR ANY REASONABLE CERTAINTY IN ANY
19 OF THAT.

20 MR. MC MANUS: I WILL ASK HIM TO CLARIFY THAT,
21 YOUR HONOR.

22 BY MR. MC MANUS:

23 Q. DO YOU HAVE AN OPINION, SIR, WITH A REASONABLE
24 DEGREE OF SCIENTIFIC CERTAINTY, AS TO WHETHER OR NOT THERE
25 WAS ANY IGNITION OR FIRE RELATED TO THE SEPARATION AND

1 BREAK-UP OF THE C5-A?

2 MR. DUBUC: OBJECTION. IT IS BEYOND THE SCOPE
3 OF THE PROFFERED TESTIMONY.

4 THE COURT: THE OBJECTION IS OVERRULED.

5 BY MR. MC MANUS:

6 Q. DO YOU HAVE AN OPINION, SIR?

7 A. YES. IN MANY OF THE ACCIDENTS --

8 THE COURT: THE OPINION IS "YES." NOW, GO AHEAD
9 AND ASK ANOTHER QUESTION.

10 BY MR. MC MANUS:

11 Q. WHAT IS YOUR OPINION, SIR?

12 A. MY OPINION IS THAT THERE WAS AT LEAST A FLASH
13 FIRE. IT IS OBVIOUS FROM THE PHOTOGRAPHS THERE WERE
14 LIQUID-FUEL FIRES, AND A FIREBALL IS LIKELY TO HAVE EXISTED
15 DURING THE DISINTEGRATION OF THE MAJOR PORTIONS OF THE AIRCRAFT
16 THAT WERE FLUNG OUT IN THE WRECKAGE PATH.

17 Q. AND USING THE WRECKAGE DIAGRAM, PLAINTIFFS' EXHIBIT
18 248, CAN YOU DESCRIBE WHERE THAT WOULD HAVE OCCURRED, MR.
19 CARROLL?

20 A. IT WOULD HAVE OCCURRED AS THE WING TORE AWAY FROM
21 THE REST OF THE STRUCTURES, AS THE CARGO COMPARTMENT IS
22 BEING GROUND UP AND DISINTEGRATED, AND THE FUEL WOULD HAVE
23 SPEWED OUT IN MIST AND LIQUID FORM FROM THE WING AREA, IN
24 THIS AREA THAT IS CALLED "POINT OF C5-A BREAK-UP."

25 Q. THANK YOU, SIR.

1 MR. MC MANUS: THOSE ARE ALL OF THE PICTURES,
2 YOUR HONOR.

3 THE COURT: VERY WELL.

4 WHY DON'T YOU LEAVE THEM OVER THERE, IN THE EVENT
5 THAT THEY ARE NEEDED LATER.

6 MR. MC MANUS: YES, SIR.

7 THE COURT: AND WE WILL ASK THE WITNESS TO RESUME
8 THE STAND.

9 BY MR. MC MANUS:

10 Q. NOW, MR. CARROLL, YOU HAVE SEEN THE MOVIE AND
11 DESCRIBED VARIOUS PICTURES.

12 COULD YOU PLEASE GIVE US A BRIEF SUMMARIZATION OF THE
13 EXPLANATION FOR YOUR OPINION THAT THIS WAS A NON-SURVIVABLE
14 CRASH?

15 A. WELL, IT IS -- TO MEET THE CRITERIA FOR A NON-
16 SURVIVABLE CRASH, THE STRUCTURES MUST EITHER BE DISINTEGRATED
17 OR CRUSHED INTO AREAS OF HUMAN OCCUPANCY, OR -- AND/OR THE
18 FORCES THAT WERE SUSTAINED WOULD HAVE TO EXCEED THE LIMITS
19 OF HUMAN TOLERANCE FOR IT TO BE A NON-SURVIVABLE ACCIDENT.

20 FROM ALL THE INFORMATION THAT I HAVE PUT TOGETHER ON
21 THIS, FROM THE PHOTOGRAPHS, THE KINEMATICS, THE SEQUENCE
22 OF THE BREAK-UP, THE IMPACT SEVERITY, THE EXTREME DESTRUCTION
23 OF THE CARGO COMPARTMENT AND DISINTEGRATION OF ALL COMPONENTS
24 OF THE AIRCRAFT, PLUS THE ESTIMATE OF CRASH FORCES THAT
25 WERE INVOLVED, THIS WOULD HAVE TO BE A NON-SURVIVABLE ACCIDENT

1 ON EITHER OR BOTH COUNTS.

2 Q. MR. CARROLL, WOULD YOU EVER CHARACTERIZE OR EQUATE
3 THE CONTACT OF THIS AIRPLANE WITH THE GROUND AS BEING A
4 NORMAL LANDING?

5 A. NO.

6 Q. COULD YOU CLASSIFY THE CONTACT OF THIS AIRPLANE
7 WITH THE GROUND IN TERMS OF SERIOUSNESS OF AN ACCIDENT?

8 A. FROM THE MANY ACCIDENTS I HAVE WORKED ON, THIS
9 ONE WOULD BE EXTREMELY SEVERE, OR SEVERE -- IN THE MOST SEVERE
10 CATEGORY.

11 Q. THANK YOU, SIR.

12 MR. MC MANUS: I HAVE NO FURTHER QUESTIONS, YOUR
13 HONOR.

14 THE COURT: CROSS-EXAMINATION.

15 MR. DUBUC: YES, YOUR HONOR.

16 CROSS-EXAMINATION

17 BY MR. DUBUC:

18 Q. GOOD AFTERNOON, MR. CARROLL.

19 A. GOOD AFTERNOON, SIR.

20 Q. SIR, YOU DID NOT VISIT THIS ACCIDENT SCENE, AS
21 YOU WOULD IN THE NORMAL COURSE OF THE INVESTIGATIONS YOU
22 HAVE CONDUCTED FOR THE GOVERNMENT AGENCIES YOU MENTIONED;
23 DID YOU, SIR?

24 A. I DIDN'T INVESTIGATE THE SCENE.

25 Q. YOU TOLD US YOU HAVE REVIEWED SOME REPORTS. I

1 BELIEVE THEY ARE MR. MORAIN'S REPORT, WHO IS ONE OF MR.

2 LEWIS' WITNESSES, AND MR. TURNER'S REPORT; IS THAT CORRECT?

3 A. I HAVE SEEN THOSE BOTH.

4 Q. AND YOU HAVE REVIEWED MR. EDWARDS' REPORT, WHO
5 IS ONE OF OUR WITNESSES; IS THAT CORRECT?

6 A. I LOOKED AT THAT EARLY, YES.

7 Q. ALL RIGHT.

8 AND I THINK YOU SAID YOU LOOKED AT SOME PICTURES, AND
9 YOU LOOKED AT THE MOVIE WE HAVE SEEN TODAY, AND YOU LOOKED
10 AT THE COLLATERAL REPORT, VOLUMES 1, 2, AND 3; IS THAT CORRECT,
11 SIR?

12 A. YES, SIR.

13 Q. NOW, WOULD YOU SAY THIS IS THE FIRST TYPE OF INVESTIGA
14 TION THAT YOU HAVE DONE OF THIS KIND, WHERE YOU HAVE DONE
15 IT ALL FROM PAPER AND PICTURES?

16 A. NO, SIR.

17 Q. DID YOU EVER DO ONE LIKE THAT WHEN YOU WERE WITH
18 THE FAA OR THE CAB?

19 A. YES, I DID.

20 Q. YOU DID, SIR?

21 A. YES.

22 Q. AND WHEN WAS THAT?

23 A. THAT WOULD HAVE BEEN BETWEEN 1961 AND 1965, WHEN
24 I ASSISTED IN THE ANALYSIS OF CASES IN WHICH I HAD NEVER
25 GONE TO THE SCENE.

1 Q. ALL RIGHT.

2 THAT WAS NOT THE USUAL METHOD YOU WOULD USE WHEN YOU
3 WERE IN THE CAB; WAS IT?

4 THE COURT: MR. DUBUC, I THINK YOU HAD BEST COME
5 TO THE BENCH.

6 MR. DUBUC: I BEG YOUR PARDON, YOUR HONOR?

7 THE COURT: COME TO THE BENCH.

8 (AT THE BENCH)

9 THE COURT: I ASSUME THAT MY RULING ON THE PRIVILEGED
10 STATUS OF THE ACCIDENT REPORT WAS OF BENEFIT TO LOCKHEED,
11 AS WELL AS THE AIR FORCE.

12 I JUST CAUTION YOU THAT I CAN VACATE ORDERS THAT
13 ARE ENTERED; AND, IF YOU MAKE A LOT OF THE FACT THAT THIS
14 FELLOW DOES NOT KNOW AS MUCH AS SOME OF THOSE WHO WERE THERE,
15 WHO HAVE HAD ACCESS TO THE ACCIDENT REPORT, AND PARTICIPATED
16 IN ITS PREPARATION, THE AIR FORCE IS GOING TO LOSE ITS PRIVILEGE,
17 AND YOU ARE GOING TO SUFFER.

18 MR. DUBUC: WELL, YOUR HONOR --

19 THE COURT: I HAVE JUST CAUTIONED YOU.

20 MR. DUBUC: I AM GOING TO BE ABLE TO OFFER TESTIMONY
21 WHICH HE HAS NOT SEEN. THERE ARE ALTERNATIVES.

22 THE COURT: THAT IS JUST A CAUTION. THAT IS
23 A CAUTION.

24 MR. DUBUC: ALL RIGHT, YOUR HONOR.

25 (OPEN COURT)

1 BY MR. DUBUC:

2 Q. SIR, ON THIS INVESTIGATION THAT YOU MENTIONED
3 YOU HAD DONE FROM PICTURES AND DOCUMENTS, DID YOU HAVE ANY
4 TESTIMONY OF PEOPLE AVAILABLE, OR ANYTHING OF THAT NATURE,
5 WHO HAD BEEN TO THE SCENE?

6 A. THERE IS NOT JUST THIS ONE CASE THAT I AM TALKING
7 ABOUT. THERE WERE MANY, MANY CASES WHERE I ASSISTED IN
8 THE ANALYSIS, WHERE THERE WERE THESE KINDS OF DATA AVAILABLE,
9 AND WE DID OUR ANALYSIS ON THE BASIS OF WHAT WE HAD: WITNESS
10 STATEMENTS, PHOTOGRAPHS, WRITTEN REPORTS, WHAT HAVE YOU.

11 Q. NOW, SIR, WERE YOU TOLD BY MR. LEWIS AND HIS FIRM
12 THAT THERE IS AVAILABLE, TO YOU OR ANY OTHER EXPERT, VOLUMES
13 OF SWORN DEPOSITION TESTIMONY FROM WITNESSES WHO WERE IN
14 THE COCKPIT AND IN THE TROOP COMPARTMENT; TESTIMONY, SWORN
15 TESTIMONY UNDER CROSS-EXAMINATION IN PREPARATION FOR THIS
16 CASE OF WITNESSES IN THE COCKPIT AND IN THE TROOP COMPARTMENT
17 WHO WERE SURVIVORS?

18 WERE YOU TOLD THAT, SIR?

19 A. I WASN'T TOLD THAT SPECIFICALLY.

20 Q. AND YOU HAVEN'T READ THAT; HAVE YOU, SIR?

21 A. NO, I HAVEN'T.

22 Q. ALL RIGHT.

23 A. THE ONLY THINGS I SAW WERE THOSE THAT I LISTED.

24 Q. ALL RIGHT.

25 MR. CARROLL, YOU SAID YOU HAD REVIEWED THE COLLATERAL

1 REPORT; IS THAT CORRECT, SIR?

2 A. YES.

3 Q. AND DID YOU RELY ON IT IN FORMING YOUR OPINIONS?

4 A. I DID. I DIDN'T AGREE WITH IT ALL, BUT I HAD
5 TO RELY ON IT.

6 Q. WELL, DID YOU AGREE WITH SOME OF IT?

7 A. YES.

8 Q. WITH WHAT DID YOU AGREE?

9 A. WELL, WITNESS STATEMENTS, OBVIOUSLY.

10 Q. YOU AGREED WITH ALL THE WITNESS STATEMENTS?

11 A. I DON'T SEE HOW YOU COULD AGREE WITH EVERYTHING,
12 SIR.

13 Q. DID YOU RELY ON THE WITNESS STATEMENTS FROM THE
14 COLLATERAL REPORT IN FORMULATING YOUR OPINION, SIR?

15 A. WELL, ONLY IN THOSE AREAS THAT CONFIRMED BY THEIR
16 STATEMENTS THAT THEY HAD EXPERIENCED FIRE AND SMOKE.

17 Q. ALL RIGHT.

18 WHICH WITNESS STATEMENTS SAID THAT, SIR?

19 A. I DON'T RECALL.

20 Q. YOU ARE SURE WE ARE TALKING ABOUT THE SAME STATEMENTS?

21 A. FROM THE COLLATERAL REPORT.

22 Q. YES. YOU DON'T KNOW WHICH ONES?

23 A. NO. THEY ARE IN THERE.

24 Q. ALL RIGHT, SIR.

25 WAS THERE ANYTHING ELSE IN THERE WITH WHICH YOU AGREED?

1 A. I CAN THINK BETTER IN TERMS OF WHAT I DISAGREE
2 WITH, AND THAT WOULD BE THE WRECKAGE CHART THAT WAS IN THAT
3 REPORT.

4 Q. YOU DISAGREE WITH THE COLLATERAL WRECKAGE CHART;
5 IS THAT CORRECT?

6 A. YES.

7 Q. DO YOU RELY UPON THE ONE THAT MR. MORAIN DID,
8 EXHIBIT 248 FROM THE PLAINTIFFS, THAT YOU HAVE JUST LOOKED
9 AT?

10 A. WHEN I COMPARE THAT WITH THE EVIDENCE IN THE PHOTO-
11 GRAPHS, YES, I DO.

12 Q. DO YOU RELY ON MR. MORAIN'S MEASUREMENTS AS DEPICTED O
13 THAT CHART?

14 A. YES, SIR.

15 Q. YOU ADOPT THOSE?

16 A. I DON'T SEE HOW I COULD ADOPT OR NOT ADOPT THOSE,
17 SIR.

18 Q. DO YOU KNOW HOW LONG THE TROOP COMPARTMENT IS,
19 SIR?

20 A. THAT WRECKAGE IS SOMEWHERE ON THE ORDER OF, I
21 WOULD GUESS, ABOUT 60 FEET.

22 Q. SIXTY FEET? IS THAT SOMETHING YOU HAVE LEARNED
23 RECENTLY?

24 A. NO.

25 Q. DID YOU TELL US IN A DEPOSITION IN NOVEMBER THAT

1 IT WAS 120 FEET?

2 A. YOU ARE ASKING ME TO GUESS AT IT NOW, AND I WOULD
3 HAVE TO GO BACK TO THE CHARTS AND MEASURE IT.

4 Q. I BEG YOUR PARDON?

5 A. I WOULD HAVE TO GO BACK TO THE CHARTS AND MEASURE
6 IT.

7 Q. YOU ARE NOT SURE HOW LONG IT IS?

8 A. NOT EXACTLY AT THIS POINT, NO, SIR.

9 Q. DOES IT MAKE ANY DIFFERENCE?

10 A. IN WHAT REGARD?

11 Q. DOES IT MAKE ANY DIFFERENCE TO YOUR OPINION?

12 A. WHAT LENGTH IT IS?

13 Q. YES, SIR.

14 A. ONLY IN GENERAL TERMS, THAT IT IS A LARGE PORTION
15 OF THE AIRCRAFT.

16 Q. DO YOU KNOW IF IT MAKES ANY DIFFERENCE TO MR.
17 MORAIN'S MEASUREMENTS UPON WHICH YOU RELY?

18 A. IT WOULD TO HIM, YES.

19 Q. BUT YOU DON'T KNOW WHAT DIFFERENCE IT WOULD MAKE;
20 IS THAT CORRECT?

21 A. IT WOULD MAKE A DIFFERENCE TO HIM BUT NOT --

22 Q. BUT NOT TO YOU?

23 A. (CONTINUING) -- NECESSARILY TO ME, IN MAKING A
24 DETERMINATION.

25 Q. ALL RIGHT. MR. TURNER, YOU MENTIONED THAT --

1 THE COURT: THIS IS MR. CARROLL.

2 MR. DUBUC: I AM SORRY. MR. CARROLL.

3 BY MR. DUBUC:

4 Q. YOU MENTIONED THAT THIS IS, IN YOUR OPINION --
5 AND I HAVE LISTENED TO WHAT YOU TOLD US TODAY -- A NON-
6 SURVIVABLE ACCIDENT?

7 A. YES, SIR.

8 Q. IN YOUR OPINION, WERE ALL COMPONENTS OF THIS AIRPLANE,
9 AND THE OCCUPANTS THEREIN, IN THE DIFFERENT COMPONENTS,
10 IN NON-SURVIVABLE SITUATIONS?

11 A. YES, IT WAS A NON-SURVIVABLE ACCIDENT.

12 Q. BUT YOU HAVE SAID THAT --

13 A. YOU CAN HAVE SURVIVORS IN A NON-SURVIVABLE ACCIDENT.

14 Q. I BEG YOUR PARDON?

15 A. YOU CAN HAVE SURVIVORS IN A NON-SURVIVABLE ACCIDENT,
16 AND YOU CAN HAVE FATALITIES IN A SURVIVABLE ACCIDENT.

17 Q. WELL, IN THIS CASE THERE WERE A LOT OF SURVIVORS;
18 WEREN'T THERE?

19 YOU READ THE COLLATERAL REPORT; DIDN'T YOU?

20 A. YES.

21 Q. HOW MANY SURVIVORS DID IT SAY THERE WERE AMONG
22 THE ORPHANS IN THE TROOP COMPARTMENT; DO YOU REMEMBER?

23 A. I THINK THERE WERE SLIGHTLY UNDER 150.

24 Q. THERE WAS ONLY ONE ORPHAN WHO DIED IN THE TROOP
25 COMPARTMENT; ISN'T THAT RIGHT?

1 A. I AM NOT SURE OF THAT.

2 Q. OKAY.

3 HOW MANY ADULTS WERE IN THE TROOP COMPARTMENT?

4 A. JUST A FEW, TWO OR THREE.

5 Q. TWO OR THREE?

6 A. YES.

7 Q. HOW MANY NURSES WERE THERE AMONG THE TWO OR THREE

8 ADULTS; DO YOU KNOW?

9 A. NO.

10 Q. DO YOU KNOW WHETHER SOME OF THE NURSES IN THE
11 TROOP COMPARTMENT -- WHETHER ANY OF THEM HAD SEATS, SEATS
12 WITH SEATBELTS?

13 A. I WOULDN'T HAVE LOOKED FOR THIS IN MY INVESTIGATION,
14 NO.

15 Q. THAT WOULD NOT MAKE ANY DIFFERENCE TO YOU?

16 A. NOT FOR MY PURPOSES, NO, SIR.

17 Q. WOULD IT MAKE ANY DIFFERENCE TO YOU IN THE G-FORCES
18 THAT YOU HAVE MENTIONED AND CONSIDERED IN FORMING YOUR OPINION
19 AS TO WHETHER SOMEBODY SEATED, LET'S SAY, IN THE TROOP COMPARTMENT
20 OR IN THE COCKPIT, WAS STRAPPED DOWN, OR NOT, AS TO WHETHER
21 OR NOT IT IS A SURVIVABLE ACCIDENT?

22 A. WHETHER THEY WERE STRAPPED DOWN OR NOT WOULD NOT
23 MAKE ANY DIFFERENCE --

24 Q. IT DOES NOT MAKE ANY DIFFERENCE?

25 A. (CONTINUING) -- AS TO WHETHER IT IS A SURVIVABLE

1 OR NON-SURVIVABLE ACCIDENT.

2 Q. AND IT DOESN'T MAKE ANY DIFFERENCE --

3 A. NO.

4 Q. (CONTINUING) -- IF THEY SURVIVE, ACCORDING TO
5 YOUR OPINION; IS THAT RIGHT?

6 A. RIGHT.

7 Q. HOW DO YOU EXPLAIN ALL OF THESE SURVIVORS, IF
8 THIS IS A NON-SURVIVABLE ACCIDENT?

9 A. I CAN ONLY LOOK AT IT AS I HAVE IN OTHER CASES
10 AND SAY IT IS AN ACT OF GOD.

11 Q. IS THAT YOUR OPINION?

12 A. I HAVE SEEN SURVIVORS -- WE HAD A MID-AIR COLLISION
13 OVER NEW YORK STATE WHERE EVERYBODY IN BOTH AIRPLANES WAS
14 KILLED EXCEPT THE ONE WHO WAS THROWN DOWN AND WAS ALIVE
15 IN A SNOW BANK. HE DIED LATER ON, BUT --

16 Q. I WANT TO ASK YOU --

17 A. (CONTINUING) -- THAT IS MORE A MIRACLE THAN ANYTHING
18 ELSE.

19 Q. WAS THAT ONE SURVIVOR IN THAT CASE IN THE SNOW
20 BANK?

21 A. YES, SIR.

22 Q. BUT THERE WERE ALMOST 150 CHILDREN WHO SURVIVED
23 THIS.

24 A. IT IS A VERY LARGE AIRPLANE, AND IT HAD A LOT
25 OF PEOPLE ON BOARD. I CAN'T EXPLAIN IT.

1 Q. ALL RIGHT.

2 DO YOU KNOW HOW MANY OF THE -- WITHDRAWN.

3 I WOULD LIKE TO ASK YOU SOME QUESTIONS ON THE EXHIBITS
4 THAT MR. MC MANUS JUST SHOWED YOU --

5 A. SURE.

6 Q. (CONTINUING) -- IF I CAN, SIR.

7 MR. DUBUC: EXCUSE ME JUST A MINUTE, YOUR HONOR.

8 BY MR. DUBUC:

9 Q. WELL, LET'S TAKE A LOOK AT -- WE WILL TAKE THEM
10 IN THE SAME ORDER.

11 MR. DUBUC: MAYBE MR. CONNORS AND MR. MC MANUS
12 CAN HELP US. I AM NOT SURE WHERE THEY PUT THOSE.

13 BY MR. DUBUC:

14 Q. LET'S TAKE THE ONE ON THE AIRPLANE WHICH WAS BROKEN
15 DOWN. I THINK IT IS PLAINTIFFS' EXHIBIT 17.

16 MR. CARROLL, YOU MENTIONED THIS WAS A LARGE AIRPLANE.
17 YOU MENTIONED THAT THE MAXIMUM GROSS TAKE-OFF WEIGHT WAS
18 769,000 POUNDS; IS THAT CORRECT?

19 A. THAT IS WHAT IT WAS DESIGNED FOR, YES, SIR.

20 Q. WHAT WAS THE WEIGHT ON THE DATE OF THE ACCIDENT;
21 DO YOU REMEMBER?

22 A. I DON'T REMEMBER, BUT IT IS IN THE RECORDS.

23 Q. IT DOESN'T MAKE ANY DIFFERENCE?

24 A. NO, SIR.

25 Q. IT DOESN'T MAKE ANY DIFFERENCE AS TO SURVIVABILITY?

1 A. NO, SIR.

2 Q. ALL RIGHT.

3 NOW, MR. MC MANUS HAD YOU DESCRIBE THIS, THE TROOP
4 COMPARTMENT, AND I THINK WE SAID THERE WERE APPROXIMATELY
5 145 CHILDREN IN THE TROOP COMPARTMENT; AMONG THEM, THE PLAINTIFF
6 IN THIS CASE, AS SAID BY MR. LEWIS IN HIS OPENING.

7 DID YOU KNOW THE PLAINTIFF IN THIS CASE WAS IN THE
8 TROOP COMPARTMENT?

9 A. NO, I DON'T KNOW ANY OF THEM BY NAME. NO.

10 Q. YOU DON'T KNOW THAT. OKAY.

11 DO YOU KNOW HOW FAR IT IS FROM THE TROOP COMPARTMENT
12 TO THE BOTTOM OF THE AIRPLANE, FROM THE FLOOR OF THE TROOP
13 COMPARTMENT TO THE BOTTOM OF THE AIRPLANE?

14 A. NO, I DON'T KNOW. BUT THAT IS IN THE DIAGRAMS
15 AND CAN BE SCALED OUT.

16 Q. THAT DOESN'T MAKE ANY DIFFERENCE?

17 A. REGARDING WHAT WOULDN'T IT MAKE ANY DIFFERENCE?

18 Q. THE BOTTOM OF THE AIRPLANE HIT THE GROUND AT SOME
19 POINT; DID IT NOT, SIR?

20 A. ON BOTH SIDES OF THE RIVER, YES.

21 Q. ALL RIGHT.

22 DID THE BOTTOM OF THE AIRPLANE OR THE WHEELS STRIKE
23 THE GROUND ON THE EAST SIDE OF THE RIVER, IN YOUR OPINION?

24 A. IN MY OPINION?

25 Q. YES.

1 A. BOTH.

2 Q. BOTH THE WHEELS AND THE BOTTOM?

3 A. AND OTHER STRUCTURES; POSSIBLY THE LEFT WING TIP,
4 POSSIBLY THE UNDERPODS OF THE NO. 1 AND NO. 2 ENGINES.

5 Q. AND, THEN, AGAIN, ON THE WEST SIDE; IS THAT CORRECT?

6 A. WELL, THE WHEELS THAT WERE LEFT ON THE EAST SIDE
7 WOULDN'T HAVE CONTACTED THE GROUND AGAIN OVER ON THE WEST.

8 Q. AND YOU MENTIONED, I THINK -- I THINK MR. MC MANUS
9 ASKED YOU IF THIS WERE A NORMAL LANDING. HE DIDN'T SAY
10 ON WHICH SIDE.

11 HOW WOULD YOU DESCRIBE THE LANDING ON THE EAST SIDE
12 OF THE RIVER, THE FIRST IMPACT?

13 A. AS A CRASH-LANDING.

14 Q. NOT A NORMAL LANDING?

15 A. NO, SIR.

16 Q. DO YOU KNOW WHAT THE DESCENT RATE PER MINUT WAS?

17 A. NO, I DON'T, BUT IT WAS SOMEWHERE OVER 300 MILES
18 AN HOUR, AND YOU DON'T LAND AT THAT SPEED.

19 Q. THE DESCENT RATE, SIR; NOT THE FORWARD SPEED.
20 WHAT WAS THE DESCENT RATE, THE RATE PER MINUTE?

21 A. I DON'T KNOW --

22 Q. ARE YOU FAMILIAR WITH "RATE PER MINUTE," SIR?

23 A. OH, YES.

24 Q. YOU ARE A PILOT; AREN'T YOU?

25 A. I AM VERY FAMILIAR WITH THAT.

1 Q. WHAT WAS THE DESCENT RATE, IF YOU KNOW, FROM THE
2 RECORDS YOU REVIEWED, ON THE EAST SIDE OF THE RIVER?

3 A. I DON'T THINK ANYONE KNOWS EXCEPT FOR THE DESCRIPTION
4 BY THE PILOT, HIMSELF, WHO SAID IT WAS AN EXTREMELY HIGH
5 SINK RATE THAT HE HAD TO ARREST.

6 Q. YOU DIDN'T READ THE CO-PILOT'S TESTIMONY AS OBSERVING
7 WHAT IT WAS; DID YOU?

8 A. I MAY HAVE. I DON'T RECALL THAT.

9 Q. NOW, SIR --

10 A. I CAN'T PUT ANY CREDIBILITY IN NUMBERS LIKE THAT
11 FROM A SURVIVING CREW MEMBER. THERE HAS TO REALLY BE SOME
12 OTHER VERIFYING INFORMATION.

13 Q. IN YOUR INVESTIGATIONS, YOU DON'T CONSIDER STATEMENTS
14 OF CREW MEMBERS, EITHER WRITTEN OR ORAL, WHATEVER IT IS,
15 IN THE INVESTIGATIONS THAT YOU USED TO DO?

16 A. I CONSIDER THEM AMONG THE OTHER INFORMATION THAT
17 IS AVAILABLE, FOR HOWEVER IT CAN BE VERIFIED.

18 Q. IT IS CERTAINLY EYEWITNESS OBSERVATION, FOR WHATEVER
19 CREDIBILITY IT HAS?

20 A. OH, YES.

21 Q. IS THAT CORRECT?

22 A. YES.

23 Q. YOU TOLD US YOU DIDN'T KNOW WHAT THE DISTANCE
24 WAS BETWEEN THE UPPER TROOP COMPARTMENT FLOOR AND THE GROUND;
25 IS THAT CORRECT?

1 A. I DON'T MEMORIZE THOSE KINDS OF FIGURES. I AM
2 SORRY.

3 Q. WELL, THE REASON I AM ASKING YOU IS THIS:

4 IN YOUR OPINION, IF THIS AIRPLANE WAS HITTING THE GROUND,
5 WOULDN'T THAT DISTANCE, AND THE AMOUNT OF STRUCTURE, BETWEEN
6 THE BOTTOM OF THE AIRPLANE AND THE TROOP COMPARTMENT HAVE
7 SOME RELEVANCE --

8 A. IT WOULD HAVE --

9 Q. (CONTINUING) -- TO THE ISSUE OF SURVIVABILITY?

10 A. NOT ON THE ISSUE OF SURVIVABILITY.

11 Q. WOULD IT HAVE ANY RELEVANCE TO THE ISSUE OF THE
12 AMOUNT OF FORCE THAT WAS BEING TRANSMITTED DIRECTLY FROM,
13 LET'S SAY, THE GROUND TO, SAY, OCCUPANTS OF THE TROOP COMPARTMENT
14 OR THE COCKPIT, WHICH IS FORWARD?

15 A. OH, YES. IF YOU HAVE A LARGE DISTANCE IN WHICH
16 TO ABSORB ENERGY, AND A LONG AMOUNT OF TIME TO ABSORB ENERGY,
17 THE ENERGY THAT IS INITIALLY TRANSMITTED DURING THAT INITIAL
18 IMPACT WILL BE REDUCED DIRECTLY BY THE AMOUNT OF THE DISTANCE
19 AND THE TIME IT TAKES THAT FORCE TO GET THERE.

20 Q. SO, FOR THE JURY'S UNDERSTANDING, WOULD IT BE
21 A FAIR STATEMENT -- WOULD YOU AGREE -- THAT THE FORCE APPLIED
22 AT THE BOTTOM OF THE AIRPLANE IN AN AIRCRAFT OF THIS SIZE
23 MIGHT NOT BE EXACTLY THE SAME IN ALL AREAS OF THE AIRCRAFT
24 BECAUSE OF THE DISTANCE AND STRUCTURE IN BETWEEN?

25 A. THERE WOULD BE ATTENUATION. THERE WOULD ALSO

1 BE TRANSMISSION OF CRASH FORCE.

2 Q. WHEN YOU SAY "ATTENUATION," DO YOU MEAN REDUCTION?

3 A. A REDUCTION OF THE CRASH FORCE.

4 Q. THANK YOU, SIR.

5 Q. NOW, SIR, DO YOU HAVE ANY IDEA OF THE DISTANCE
6 INVOLVED IN THE COCKPIT OR FLIGHT CREW COMPARTMENT, AS YOU
7 HAVE DESCRIBED IT, WHICH IS IN YELLOW; HOW LONG IT IS?

8 A. IT IS ALMOST EIGHT FEET TALL, AND --

9 Q. THE QUESTION WAS HOW LONG IT IS, SIR.

10 A. I WOULD HAVE TO REFER TO THE DIMENSIONS OF THE
11 AIRCRAFT FOR THAT.

12 Q. IT DOESN'T MAKE ANY DIFFERENCE?

13 A. NO. THE RELATIVE SIZE IS OBVIOUS.

14 Q. ALL RIGHT.

15 HOW MANY CREW MEMBERS WERE IN THAT FLIGHT-DECK/COCKPIT
16 AREA AT THE TIME OF THE ACCIDENT; DO YOU KNOW?

17 A. I DON'T KNOW.

18 Q. HOW MANY OF THEM SURVIVED?

19 A. I DON'T KNOW IF THERE WERE ANY IN THERE.

20 Q. HOW MANY SURVIVED WITHOUT INJURY; DO YOU KNOW?
21 DOESN'T IT SAY IN THE COLLATERAL REPORT?

22 A. I DON'T KNOW. OH, IT IS IN THERE.

23 Q. ISN'T IT A FACT THAT THEY -- WOULD THIS HELP YOUR
24 RECOLLECTION:

25 ISN'T IT A FACT THAT THEY ALL SURVIVED WITHOUT INJURY

1 EXCEPT TO THE ANKLES OF ONE OF THE PILOTS TRYING TO GET
2 OUT?

3 A. I READ THAT ONE CREW MEMBER SURVIVED WITH NO INJURY,
4 ALTHOUGH THERE WERE OTHER SURVIVORS.

5 Q. ONE SURVIVED WITHOUT INJURY?

6 A. I READ THAT SOMEWHERE, OR IT WAS --

7 Q. DID YOU READ THE CREW-MEMBER STATEMENTS?

8 A. AND I SAW PICTURES OF THEM.

9 Q. BUT YOU DIDN'T READ THEIR TESTIMONY, DEPOSITION
10 TESTIMONY, WHERE THEY SAID WHETHER THEY WERE INJURED OR
11 NOT?

12 MR. MC MANUS: YOUR HONOR, I WOULD OBJECT.

13 THE COURT: ASKED AND ANSWERED. THE OBJECTION
14 IS SUSTAINED.

15 MR. DUBUC: ALL RIGHT. LET ME HAVE THE NEXT
16 EXHIBIT, PLEASE. THAT IS IT, YES. THIS, I GUESS, WAS PLAINTIFF
17 EXHIBIT 1000-60.

18 BY MR. DUBUC:

19 Q. THAT IS THE SCENE, MR. CARROLL, THAT YOU BELIEVE
20 TO BE THE ACCIDENT SCENE; IS THAT CORRECT?

21 A. YES.

22 Q. AND "A" IS THE POINT OF INITIAL IMPACT WITH EITHER
23 THE DIKE --

24 THE COURT: MR. DUBUC, I THINK YOU ARE STANDING
25 IN THE WAY OF ONE OF THE JURORS.

1 BY MR. DUBUC:

2 Q. IS THAT CORRECT, SIR?

3 A. THAT WOULD BE THE AREA OF IMPACT ON THE WEST
4 SIDE OF THE RIVER; NOT THE INITIAL IMPACT. THE INITIAL
5 IMPACT WAS ON THE EAST SIDE OF THE RIVER.

6 Q. THAT IS WHAT I MEANT: ON THE WEST SIDE OF THE
7 RIVER?

8 A. YES.

9 Q. ARE YOU SURE ABOUT THAT? THE TRACKS START THERE?

10 A. IN THE VICINITY OF THAT MARKING IN THAT PICTURE.
11 IT IS NOT IN THE UPPER OR LOWER PORTION. IT IS IN THAT
12 GENERAL AREA.

13 Q. IT IS ONLY GENERAL?

14 A. YES, SIR.

15 Q. I SEE.

16 Q. IT IS NOT --

17 A. IT IS JUST DEPICTING THE DIRECTION OF THE CRASH
18 PATH THERE.

19 Q. OKAY.

20 AND WHAT IS THAT DISTANCE FROM THERE TO THE PLACE THE
21 TROOP COMPARTMENT CAME TO REST, ACCORDING TO YOUR --

22 A. I WOULD HAVE TO -- I WOULD HAVE TO LOOK AT THE
23 WRECKAGE CHART AGAIN, TO MEASURE THAT.

24 Q. THOSE ARE MR. MORAIN'S MEASUREMENTS; NOT YOURS;
25 IS THAT CORRECT?

1 A. YES.

2 Q. AND YOU ARE ADOPTING THOSE?

3 A. FOR THE MOST PART, THEY ARE THE SAME AS THE AIR
4 FORCE COLLATERAL WRECKAGE CHART.

5 Q. ALL RIGHT.

6 A. WE HAVE NO OTHER EVIDENCE TO SUGGEST THAT THE
7 MAIN PORTIONS OF THE WRECKAGE ARE NOT WHERE THEY WERE SHOWN
8 ON THAT CHART, AS THEY ARE ON MR. MORAIN'S CHART.

9 Q. I SEE.

10 WHAT WAS "B," AGAIN?

11 A. "B" WOULD BE THE AREA OF INITIAL -- OF THE MAJOR
12 BREAK-UP, THE MAJOR IMPACT AREA.

13 Q. AND THAT IS --

14 A. IT WOULD BE DOWN BELOW WHERE THAT IS MARKED "B"
15 THERE, BUT IT IS IN THAT GENERAL AREA OF THE PHOTOGRAPH,
16 SIR.

17 Q. ALL RIGHT.

18 NOW, IS THAT WHERE THE AIRPLANE, ACCORDING TO YOUR
19 DESCRIPTION, TOUCHED DOWN A SECOND TIME, OR WAS IT ON THE
20 GROUND BEFORE THAT?

21 A. IT WAS ON THE -- IT WAS -- IT TOUCHED THE GROUND
22 JUST TO THE WEST OF THE DIKE ON THE WEST SIDE OF THE RIVER,
23 AND IT REMAINED IN CONTACT FOR SOME DISTANCE, WITH SOME
24 REBOUND.

25 THEN, IN THAT VICINITY WHERE IT IS MARKED "B," THE

1 UNDERSTRUCTURE BEGAN TO DISINTEGRATE, WITH THE TAIL BREAKING
2 OFF AND THE WINGS TEARING OUT AND THE AFT TROOP COMPARTMENT
3 GOING FORWARD TO THE LEFT AND THE COCKPIT GOING FORWARD
4 TO THE LEFT.

5 Q. ALL RIGHT, SIR.

6 NOW, DURING THAT PERIOD WHEN IT WAS IN CONTACT WITH
7 THE GROUND, BEFORE IT DISINTEGRATED, WOULD THAT BE A PERIOD
8 OF TIME WHEN SOME OF THESE FORCES WERE ABSORBED BY THE WEARING
9 OF THE CARGO-COMPARTMENT FLOOR AND THE STRUCTURE BELOW THE
10 TROOP COMPARTMENT?

11 A. I DON'T THINK ANYBODY WOULD KNOW THAT.

12 Q. YOU WOULDN'T KNOW THAT?

13 A. NO.

14 Q. YOU DON'T HAVE ANY SPECIFIC BACKBROUND IN STRUCTURES;
15 IS THAT CORRECT?

16 A. I CERTAINLY DO, BUT WHETHER THE STRUCTURES WERE
17 BEING ERODED AWAY, OR WHETHER THEY WERE ATTENUATING OR ABSORBING
18 THE CRASH FORCE, I DON'T THINK ANYBODY COULD TELL, EVEN.

19 Q. YOU ARE A STRUCTURES EXPERT?

20 A. IN SOME ASPECTS, YES.

21 Q. DO YOU HAVE ANY ENGINEERING DEGREE OF ANY KIND,
22 SIR?

23 A. NO, SIR.

24 Q. IN FACT, DO YOU HAVE ANY COLLEGE DEGREE OF ANY
25 KIND?

1 A. NO, SIR.

2 Q. ALL RIGHT.

3 HAVE YOU EVER SERVED ON THE STRUCTURES COMMITTEE OF
4 ONE OF THE INVESTIGATION TEAMS?

5 A. YES, I HAVE.

6 Q. HAVE YOU EVER BEEN CHAIRMAN OF ONE OF THOSE COMMITTEES

7 A. NO, SIR.

8 Q. OF ANY STRUCTURES COMMITTEE?

9 A. NO, SIR.

10 Q. THAT IS REALLY NOT YOUR SPECIALTY; IS IT, MR.
11 CARROLL?

12 A. NO, SIR.

13 Q. YOUR SPECIALTY IS HUMAN FACTORS; IS THAT CORRECT?

14 A. I SPENT A NUMBER OF YEARS IN CRASH FORCE DYNAMICS,
15 TOO, AND I KNOW THAT STRUCTURES CAN EITHER ERODE, ATTENUATING
16 ENERGY; OR THEY CAN ABSORB THE SHOCK ENERGY.

17 THEY CAN TEAR STRUCTURES AWAY WITHOUT TRANSMITTING
18 ANY FORCE TO THE REST OF THE STRUCTURE, OR THEY CAN TEAR
19 AWAY, TRANSMITTING PEAK FORCES TO THE REST OF THE STRUCTURE.

20 Q. CAN YOU STATE, SIR, BASED ON YOUR OWN KNOWLEDGE,
21 WHAT FORCES, DYNAMIC FORCES, IN AMOUNTS, WERE TRANSMITTED
22 FROM THE BOTTOM OF THE CARGO COMPARTMENT TO, LET'S SAY,
23 THE COCKPIT, THE FLIGHT CREW AREA, DURING THIS SLIDE?

24 A. NO, SIR. I DON'T THINK I AM QUALIFIED TO DO
25 THAT.

1 Q. YOU COULD NOT DO THAT AS TO THE TROOP COMPARTMENT,
2 EITHER; COULD YOU?

3 A. ON THE TROOP COMPARTMENT?

4 Q. YES.

5 A. NO.

6 Q. ALL RIGHT.

7 MR. DUBUC: I THINK THE NEXT EXHIBIT THAT WE LOOKED
8 AT WAS 1038.

9 BY MR. DUBUC:

10 Q. THIS IS ON THE EAST SIDE OF THE RIVER, SIR?

11 A. YES, SIR.

12 Q. YOU MENTIONED SOME PALM TREES. ARE THE PALM TREES
13 ON THE RIGHT-HAND SIDE THERE?

14 A. RIGHT CENTER.

15 Q. IS IT YOUR SUGGESTION THAT THE AIRPLANE CLIPPED
16 THE TOP OFF SOME OF THOSE PALM TREES?

17 A. YES, SIR.

18 Q. HOW MANY OF THOSE PALM TREES DID THE AIRPLANE
19 CLIP OFF; DO YOU KNOW?

20 A. I DON'T KNOW. I SEE FOUR OR FIVE, POSSIBLY.
21 I THINK IT IS FOUR THERE.

22 Q. AND DO YOU KNOW WHAT THIS MARK IS HERE, SIR?

23 A. NO; ONLY THAT IT IS IN THE VICINITY OF THE INITIAL
24 GOUGING ON THE EAST SIDE OF THE RIVER.

25 Q. WOULD THAT BE IN THE AREA OF THE LANDING GEAR,

1 OR WOULD IT BE SOMETHING ELSE, IN YOUR OPINION?

2 A. I HAVE NO OPINION ON THAT, SIR.

3 Q. ALL RIGHT.

4 HOW LONG DOES THE WING EXTEND FROM ONE SIDE OF THE
5 FUSELAGE TO THE WING TIP, ON EITHER SIDE OF THE FUSELAGE
6 OF THIS AIRPLANE; DO YOU KNOW?

7 A. IT WOULD BE HALF OF 230 FEET.

8 Q. WOULD IT BE HALF OF 230 FEET, OR WOULD YOU HAVE
9 TO -- I AM TALKING ABOUT THE EXTENSION FROM THE FUSELAGE.
10 HALF OF 230 FEET WOULD BE THE CENTER LINE OF THE AIRPLANE;
11 WOULD IT NOT, SIR?

12 A. FROM THE CENTER LINE OF THE AIRCRAFT, YES, SIR.

13 Q. AND THE FUSELAGE HAS SOME WIDTH; DOES IT NOT,
14 SIR?

15 A. RIGHT.

16 Q. SO IT WOULD NOT BE HALF OF THAT DIMENSION. IT
17 WOULD BE SOMETHING LESS THAN HALF; WOULDN'T IT?

18 A. IT WOULD BE HALF OF THE WING SPAN, MINUS HALF
19 OF THE WIDTH OF THE FUSELAGE.

20 Q. ALL RIGHT.

21 DO YOU KNOW WHAT THAT NUMBER IS?

22 A. NO, SIR. IT IS IN THE DIAGRAMS.

23 Q. WOULD THAT NUMBER BE IMPORTANT TO KNOW, IF YOU
24 WERE DETERMINING WHETHER THE AIRPLANE, IN FACT, HIT THE
25 PALM TREES: TO KNOW WHETHER THE WING WAS LONG ENOUGH

1 TO DO THAT UNDER THE CIRCUMSTANCES SET FORTH IN THAT PICTURE?
2 DO YOU KNOW THAT?

3 A. OBVIOUSLY, IF THE WING COULDN'T REACH THE TREES,
4 IT COULDN'T CHOP THEM OFF.

5 Q. THAT IS CORRECT. BUT MY QUESTION IS:
6 HOW DO YOU KNOW IT DID? DID YOU MAKE THAT COMPUTATION,
7 SIR?

8 A. NO. IT IS MY OPINION THAT THOSE WERE CHOPPED
9 OFF BY SOME PORTION OF THE AIRCRAFT, PROBABLY THE RIGHT
10 WING.

11 Q. WITHOUT A COMPUTATION; JUST FROM THE PICTURES?

12 A. RIGHT. YOU CAN GET A FEEL FROM THE DISTANCE
13 BETWEEN THE GEAR GOUGES AS TO THE OVERALL SCALE, AND THAT
14 PROBABLY THE WING DID CUT THOSE TREES OF.

15 Q. IT CAN BE COMPUTED, TOO; CAN IT NOT, SIR?

16 A. I CAN'T DO THAT.

17 Q. BUT YOU DIDN'T DO THAT?

18 A. NO.

19 Q. YOU CAN'T DO THAT?

20 A. NO.

21 Q. YOU ARE JUST ASSUMING THAT FROM WHAT YOU SEE?

22 A. RIGHT.

23 Q. OKAY. LET'S HAVE THE NEXT ONE.

24 MR. DUBUC: SAVE THAT ONE. LET'S GO TO THE NEXT
25 ONE.

1 BY MR. DUBUC:

2 Q. NOW, THIS IS ANOTHER ONE SHOWING THE GOUGES. WOULD
3 YOU SAY THAT IS THE CENTER? THIS IS EXHIBIT 5219. IS
4 THAT THE LANDING GEAR THAT ARE MAKING THOSE MARKS THERE,
5 IN YOUR OPINION?

6 A. YES, SIR.

7 Q. DO YOU NOTICE WHERE THOSE PALM TREES ARE? THEY
8 ARE NOT IN THE SAME LINE WITH THE DIRECTION OF THE GOUGES;
9 ARE THEY?

10 A. NO. FROM THE PHOTOGRAPHS, THEY WOULD BE OFF
11 TO THE RIGHT OF THIS PHOTOGRAPH.

12 Q. OKAY.

13 AND ON THE OTHER SIDE OF THE RIVER IS THE ACCIDENT
14 SITE, THE WEST SIDE; IS THAT CORRECT?

15 A. BOTH SIDES OF THE RIVER, YES, SIR.

16 Q. ALL RIGHT. OKAY.

17 AND WHAT WAS THE SIGNIFICANCE OF THIS PICTURE, AGAIN,
18 TO YOUR OPINION?

19 A. AS I RECALL, THESE ARE THE INITIAL GOUGE MARKS
20 ON THE WEST SIDE OF THE SAIGON RIVER; AND, FROM THIS POINT
21 ON, THE WRECKAGE PATTERN BEGINS TO APPEAR ON THE GROUND.

22 Q. AND WHAT PART OF THE AIRPLANE, IF YOU KNOW, MADE
23 THAT GOUGE?

24 A. IT IS UNLIKELY THAT ANYTHING OTHER THAN THE MAIN
25 LANDING GEAR, AND PROBABLY THE AFT MAIN LANDING GEAR, MADE

1 THIS GOUGE.

2 Q. AND HOW ABOUT THE GOUGES FURTHER ON DOWN HERE;
3 THAT IS THE LANDING GEAR, AS WELL?

4 A. THE DEEP GOUGE IN THE LEFT OF THAT SERIES WOULD
5 BE THE ACTUAL SHEARING POINT FOR THAT MAIN LANDING GEAR
6 STRUT, WHERE IT WAS TORN OFF, AND THE WHEELS WOULD HAVE
7 BEEN THROWN OUT INTO THE CRASH PATH FROM THERE.

8 Q. ALL RIGHT.

9 DID YOU MAKE ANY DETERMINATION AS TO WHAT THIS LINE
10 IN HERE BETWEEN THE GOUGES IS?

11 A. JUST A SEPARATION BETWEEN SECTIONS IN THE TERRAIN
12 THERE.

13 Q. A SEPARATION? DO YOU KNOW WHAT IT IS?

14 A. IT IS PROBABLY A SMALL DIKE OR BERM SEPARATING
15 THE SECTIONS OF EARTH, BUT I DON'T KNOW THAT.

16 Q. IN MAKING YOUR ANALYSIS, DID YOU DETERMINE HOW
17 HIGH THAT WAS?

18 A. NO, I DIDN'T.

19 Q. WOULD IT MAKE ANY DIFFERENCE?

20 A. NO, SIR.

21 Q. ALL RIGHT.

22 THE COURT: I THINK THIS IS A GOOD TIME TO ADJOURN.
23 WE WILL RESUME CROSS-EXAMINATION AT 9:30 IN THE MORNING.

24 MR. DUBUC: PARDON, YOUR HONOR?

25 THE COURT: THIS IS A GOOD TIME TO ADJOURN. WE

1 WILL RESUME AT 9:30 IN THE MORNING.

2 MR. DUBUC: ALL RIGHT, YOUR HONOR.

3 THE COURT: YOU MAY STEP DOWN, MR. CARROLL.

4 THE WITNESS: THANK YOU, SIR.

5 MR. DUBUC: YOUR HONOR -- OH, EXCUSE ME.

6 THE COURT: IS THERE SOMETHING YOU WANTED TO
7 BRING TO THE ATTENTION OF THE JURY?

8 MR. DUBUC: NO, YOUR HONOR.

9 THE COURT: ALL RIGHT.

10 LADIES AND GENTLEMEN, I AM GOING TO EXCUSE YOU
11 FOR THE NIGHT.

12 I WANT TO REMIND YOU, UNTIL I HAVE STEEPED IT
13 INTO YOUR CONSCIOUSNESS, THAT YOU ARE NOT TO TALK ABOUT
14 THIS CASE TO EACH OTHER.

15 YOU ARE NOT TO TALK ABOUT IT TO ANYBODY ON THE
16 WAY HOME.

17 YOU ARE NOT TO TALK ABOUT IT TO ANYBODY AT HOME.

18 YOU ARE NOT TO TALK ABOUT IT TO ANYBODY ON THE
19 WAY BACK TOMORROW MORNING.

20 NOW, SOMETIMES IT SNOWS, OR SOME OTHER KIND OF
21 THING HAPPENS THAT MAKES IT DIFFICULT TO GET FROM ONE PLACE
22 TO ANOTHER IN THE CITY.

23 YOU HAVE A DUTY, LIKE THE DUTY OF A SOLDIER, TO
24 BE HERE AT 9:30 TOMORROW. AND YOU HAVE THAT DUTY WHETHER
25 IT SNOWS OR NOT.

1 THE COURT: CALL MR. CARROLL.

2 MR. MC MANUS: MR. CARROLL IS RIGHT HERE, YOUR
3 HONOR. .

4 THE COURT: OH, THERE HE IS. I AM BLIND.

5 (THE JURY WAS BROUGHT INTO THE COURTROOM, AND
6 THE FOLLOWING PROCEEDINGS WERE HAD WITHIN THE PRESENCE
7 AND HEARING OF THE JURY:)

8 THE COURT: GOOD MORNING, LADIES AND GENTLEMEN.

9 I WANT TO THANK YOU FOR DEFYING THE SNOW AND
10 ARRIVING ON TIME.

11 MR. DUBUC?

12 WHEREUPON,

13 JOHN J. CARROLL

14 RESUMED THE STAND, AND, HAVING BEEN PREVIOUSLY DULY SWORN,
15 WAS EXAMINED AND TESTIFIED FURTHER, AS FOLLOWS:

16 THE COURT: YOU MAY INQUIRE.

17 MR. DUBUC: THANK YOU, YOUR HONOR.

18 CROSS-EXAMINATION -- (CONTINUED)

19 BY MR. DUBUC:

20 Q. GOOD MORNING, MR. CARROLL.

21 A. GOOD MORNING.

22 Q. MR. CARROLL, BEFORE WE LEFT YESTERDAY, WE WERE
23 LOOKING AT SOME PICTURES THAT YOU HAD BEEN SHOWN BY MR.
24 MC MANUS, AND I WOULD LIKE TO FINISH THAT FIRST, IF WE
25 COULD.

1 I WOULD LIKE YOU TO HAVE A LOOK AT PLAINTIFFS' EXHIBIT

2 2-J. DO YOU REMEMBER BEING ASKED ABOUT THAT?

3 A. YES, SIR.

4 Q. YOU IDENTIFIED THAT AS A C5-A?

5 A. YES, SIR.

6 Q. YOU HAVE SEEN C5-A'S BEFORE --

7 A. YES, SIR.

8 Q. (CONTINUING) -- LOOKING AT THESE PICTURES?

9 A. YES, SIR.

10 Q. ALL RIGHT.

11 AND YOU HAVE EXAMINED SOME MEASUREMENTS AND THINGS
12 ON C5-A'S, HAVE YOU NOT -- DIMENSIONS?

13 A. I --

14 Q. YOU MENTIONED SOME YESTERDAY?

15 A. I HAVE REVIEWED THE DIMENSIONS, BUT I HAVEN'T
16 MEASURED IT, OR HAD ANY NEED TO TAKE DIMENSIONS FROM IT,
17 SIR.

18 Q. OKAY.

19 YOU MENTIONED SOME MARKS THAT HAD BEEN MADE ON THE
20 GROUND, ON THE TERRAIN, IN SOME OF THE PICTURES YOU WERE
21 SHOWN YESTERDAY.

22 DO YOU REMEMBER THAT?

23 A. YES, SIR.

24 Q. AND YOU MENTIONED THAT THEY WERE THE WHEELS,
25 SOME OF THEM?

1 A. IT WAS OBVIOUS THAT THERE WAS NOTHING ELSE ON
2 THE AIRCRAFT THAT COULD HAVE MADE THOSE. SO IT WAS THE
3 WHEELS, AND THE WHEEL STRUCTURES WERE LEFT IN THAT AREA.

4 Q. SIR, DO YOU KNOW HOW FAR THE WHEELS EXTEND BELOW
5 THE FUSELAGE IN FLIGHT ON THAT --

6 A. NOT EXACTLY, NO, SIR.

7 Q. IS IT DIFFERENT THAN THE EXTENSION OR THE MEASUREMENT
8 AS THE AIRCRAFT SITS ON THE GROUND?

9 A. YES. THE STRUTS ARE COMPRESSED.

10 Q. THEY EXTEND DOWN?

11 A. IN FLIGHT THEY EXTEND DOWN.

12 Q. IS THAT CORRECT?

13 A. YES.

14 Q. DO YOU KNOW HOW FAR?

15 A. NO, SIR.

16 Q. WOULD THAT MAKE ANY DIFFERENCE IN DETERMINING
17 THE MARKS AND THE RELATIVE POSITION OF THE FUSELAGE VERSUS
18 THE MARKS MADE BY THE WHEELS; DO YOU KNOW, SIR?

19 A. IT WOULD MAKE A DIFFERENCE AS TO WHETHER THE
20 STRUTS WERE EXTENDED OR CONTRACTED, YES.

21 Q. AND DID YOU CONSIDER THAT IN FORMING YOUR OPINION:
22 THAT DIFFERENCE IN DISTANCE?

23 A. I DIDN'T HAVE ANY MEASUREMENTS. I WASN'T AT
24 THE SCENE TO MAKE THOSE MEASUREMENTS.

25 Q. THOSE MEASUREMENTS ARE AVAILABLE, ARE THEY NOT,

1 SIR, IN SOME OF THE DOCUMENTS THAT ARE AVAILABLE?

2 A. THE MEASUREMENTS OF THE WHEELS, BUT NOT THE
3 MEASUREMENTS OF THE GOUGES.

4 Q. I SEE. OKAY.

5 YOU DIDN'T READ ANY DEPOSITION TESTIMONY THAT INDICATED
6 THAT; IS THAT CORRECT, SIR?

7 A. THAT WOULD INDICATE WHAT, SIR?

8 Q. THAT EXTENSION DISTANCE.

9 A. NO, SIR.

10 Q. ALL RIGHT. CAN WE LOOK AT THE NEXT PICTURE,
11 WHICH WOULD BE PLAINTIFFS' EXHIBIT 1000-115.

12 THIS WAS ONE YOU LOOKED AT YESTERDAY; IS THAT CORRECT,
13 SIR?

14 A. THAT APPEARS TO BE, YES, SIR.

15 MR. DUBUC: I WILL MOVE THIS BACK, YOUR HONOR.

16 THE COURT: THAT IS ALL RIGHT. I AM NOW IN
17 PLACE.

18 BY MR. DUBUC:

19 Q. I THINK YOU TOLD US THAT WAS THE WEST BANK OF
20 THE SAIGON RIVER; IS THAT CORRECT?

21 A. YES, SIR.

22 THE COURT: MR. DUBUC, WHEN YOU ARE TALKING FROM
23 THESE EXHIBITS, JUST SO THAT THE RECORD WILL BE CLEAR,
24 TELL US WHICH EXHIBIT IT IS.

25 MR. DUBUC: ALL RIGHT. WELL, YOUR HONOR, THE

1 WEST BANK IS THE ENTIRE PICTURE SO FAR.

2 THE COURT: I KNOW, BUT WHAT IS THE EXHIBIT NUMBER?

3 MR. DUBUC: AND I IDENTIFIED IT ORIGINALLY. IT
4 IS EXHIBIT 1000-115, PLAINTIFFS' EXHIBIT.

5 THE COURT: THANK YOU.

6 BY MR. DUBUC:

7 Q. OKAY.

8 AND IF I UNDERSTOOD YOU CORRECTLY, YOU INDICATED THAT
9 THIS WAS PART OF THE GOUGE MARK THAT WAS MADE BY SOME
10 PART OF THE AIRCRAFT?

11 A. YES, SIR.

12 Q. AND DID I UNDERSTAND YOU CORRECTLY:

13 THAT WAS THE GEAR OR THE GEAR STRUTS?

14 A. NO. I HAVEN'T BEEN ABLE TO IDENTIFY EXACTLY
15 WHAT THAT WAS.

16 Q. OKAY.

17 IF THE WHEELS CAME OUT OF THE AIRCRAFT, BUT THE STRUTS
18 THAT WE JUST SAW ON THAT PRIOR EXHIBIT WERE STILL HANGING
19 DOWN, THERE WOULD STILL BE THAT DIFFERENTIAL, TO SOME EXTENT;
20 WOULD THERE NOT?

21 A. IF THE STRUTS WERE THERE, AND THE WHEELS AND
22 THE BOGIE BEAMS WERE GONE, THERE WOULD BE A DIFFERENCE
23 IN HEIGHT. THE WHEELS ARE ABOUT FOUR FEET HIGH.

24 Q. SIR, DO YOU KNOW WHAT THIS IS TO THE LEFT HERE?

25 A. THAT WOULD APPEAR TO BE UNRELATED TO THE ACCIDENT,

1 JUST DRAINAGE CANALS OR DITCHES.

2 Q. AN IRRIGATION DITCH?

3 A. POSSIBLY.

4 Q. THIS IS TO GET WATER IN AND OUT OF THE FIELDS?

5 A. I DON'T KNOW THAT.

6 Q. OR DON'T YOU KNOW?

7 A. I DON'T KNOW THAT, NO.

8 Q. OKAY.

9 NOW, IN THIS AREA -- I GUESS THIS IS THE AREA WHERE
10 YOU INDICATED THE AIRPLANE FIRST TOUCHED DOWN ON THE WEST
11 SIDE?

12 A. ON THE WEST SIDE, YES, SIR.

13 Q. THERE ARE NOT MANY TREES, I GATHER, IN THE PATH
14 OF THE AIRPLANE, AS IT IS DEPICTED? IS THAT YOUR UNDERSTANDING
15 OF THE SITUATION?

16 A. WELL, THERE ARE SOME TREES ALONG THAT BANK THERE.

17 Q. I SEE ONE OVER THERE, AND THEN SOME BUSHES OR
18 SOMETHING TO THE RIGHT. DO YOU SEE ANY OTHERS?

19 A. I SEE THAT, YES.

20 Q. I BEG YOUR PARDON?

21 A. I CAN SEE THAT, YES, SIR.

22 Q. IT IS RELATIVELY CLEAR OF TREES OR HIGH BUSHES;
23 IS THAT CORRECT?

24 A. IT DEPENDS UPON WHAT "RELATIVELY" MEANS. YES,
25 THERE IS NO TALL GROWTH ALONG THE BANK AT THAT POINT.

1 Q. AND DID YOU CONSIDER THAT, OR NOTICE THAT, IN
2 FORMING YOUR OPINION?

3 A. I NOTICED THAT.

4 Q. OKAY, SIR.

5 MR. DUBUC: COULD I HAVE THE NEXT ONE, WHICH IS
6 1000-60? WE LOOKED AT THIS YESTERDAY.

7 BY MR. DUBUC:

8 Q. AS I RECALL, SIR, THIS WAS A PICTURE ON WHICH
9 YOU LOCATED THE INITIAL POINT -- THE POINT OF BREAK-UP
10 AT "B," AND THE TAIL SECTION AND THE TROOP COMPARTMENT.
11 DO YOU REMEMBER THAT YESTERDAY?

12 A. YES, IN THOSE GENERAL AREAS ACROSS THE PHOTOGRAPH
13 FROM LEFT TO RIGHT.

14 Q. AND I HAD ASKED YOU, SIR, YESTERDAY IF YOU WERE
15 SURE THAT WAS WHERE YOU THOUGHT THE POINT OF IMPACT WAS,
16 "A"; DO YOU REMEMBER THAT QUESTION?

17 A. WELL, IF YOU ARE TRYING TO PINPOINT THAT PRECISELY --

18 Q. THE QUESTION IS:

19 DO YOU REMEMBER THE QUESTION, FIRST, SIR?

20 A. I REMEMBER THE QUESTION, YES, SIR.

21 Q. ALL RIGHT. THANK YOU.

22 I NOTICE A LOT OF FOLIAGE APPEARING IN THAT AREA WHICH
23 DOES NOT APPEAR IN THE PREVIOUS PICTURE WE JUST LOOKED
24 AT.

25 A. WELL, THAT COULD EASILY BE EXPLAINED BY THE DISTANCE

1 FROM WHICH THIS PICTURE WAS TAKEN, AT A MUCH HIGHER ALTITUDE.

2 Q. OKAY.

3 I ALSO NOTICE ABOUT AN INCH ON THE PICTURE, AND PROBABLY
4 SEVERAL HUNDRED FEET OR YARDS FROM POINT "A," A CLEAR AREA
5 WHICH APPEARS IN LINE WITH "B," AND THE TAIL SECTION AND
6 THE TROOP COMPARTMENT.

7 DO YOU SEE THAT RIGHT HERE, JUST BELOW "A"?

8 A. YES, MR. DUBUC.

9 I DIDN'T SAY THAT POINT "A" IS PRECISELY WHERE THE
10 AIRPLANE TOUCHED DOWN, BUT IN THAT AREA OF THE PHOTOGRAPH,
11 RELATIVELY SPEAKING, FROM LEFT TO RIGHT.

12 Q. IN OTHER WORDS, THAT ANSWER WASN'T PRECISE?

13 A. NO, SIR. THAT IS THE GENERAL AREA.

14 Q. ARE ALL OF THE OTHER STATEMENTS YOU MADE YESTERDAY
15 PRECISE, OR IS THAT THE ONLY --

16 MR. MC MANUS: YOUR HONOR, I OBJECT TO THAT.

17 THE COURT: SUSTAINED.

18 BY MR. DUBUC:

19 Q. THE NEXT PICTURE I WOULD LIKE TO HAVE IS EXHIBIT
20 1000-38, PLAINTIFFS' EXHIBIT. THIS IS THE EAST SIDE OF
21 THE RIVER; IS THAT CORRECT, SIR?

22 A. THAT IS CORRECT.

23 Q. ALL RIGHT.

24 THAT IS THE WEST SIDE OVER HERE, WHERE WE SAW THOSE
25 MARKS IN THE PRIOR PICTURES?

1 A. YES, SIR.

2 Q. OKAY.

3 AND WHAT, OF SIGNIFICANCE, WAS IN THIS PICTURE, OTHER
4 THAN THE TREE BUSINESS THAT WE HAVE ALREADY DISCUSSED YESTERDAY,
5 SIGNIFICANT TO YOUR OPINION?

6 A. WELL, THE DISTURBANCE OF THE TERRAIN WHERE THE
7 AIRCRAFT HAD CONTACTED THE GROUND AND LEFT PARTS IN THAT
8 CRASH PATH.

9 Q. OKAY.

10 ARE THERE ANY MARKS FROM THE WHEELS IN THIS PICTURE,
11 IN YOUR OPINION?

12 A. FROM HERE I CAN'T SEE ANY SPECIFIC MARKS MADE
13 BY WHEELS, EXCEPT FOR THOSE LITTLE POTHOLE MARKS WHICH
14 WERE ASSOCIATED WITH THE WHEELS AFTER THEY TORE LOOSE AND
15 BOUNCED FORWARD.

16 Q. THERE ARE SOME WHEELS IN THE PICTURE; ARE THERE
17 NOT?

18 A. I CAN'T SEE THEM IN THAT PICTURE, BUT THEY CAN
19 BE SEEN IN OTHER PICTURES.

20 Q. WOULD YOU LIKE TO COME UP AND LOOK CLOSER, OR
21 YOU JUST DON'T SEE IT IN THAT PICTURE?

22 A. THERE ARE OTHER PICTURES THAT SHOW THEM MUCH
23 BETTER.

24 Q. IS THAT A WHEEL?

25 A. I CAN'T TELL FROM HERE, SIR.

1 Q. ALL RIGHT.

2 DID YOU NOTE THE TERRAIN IN EXAMINING THIS PICTURE?
3 WHEN I SAY "THE TERRAIN," I AM SUGGESTING, FOR EXAMPLE,
4 THE EXISTENCE OF THIS HIGH GROWTH AND BUSHES.

5 A. YES, SIR.

6 Q. WOULD YOU SAY THOSE ARE BUSHES OR A DIFFERENCE
7 IN ELEVATION?

8 A. I COULDN'T TELL THE DIFFERENCE. THERE ARE BUSHES
9 THERE, AND THERE MAY NOT BE A RISE IN ELEVATION.

10 Q. SO THERE ARE BUSHES; AND IF THERE IS A RISE IN
11 ELEVATION, YOU WOULD HAVE TO GET RID OF THE BUSHES TO SEE
12 IT.

13 IS THAT A FAIR STATEMENT?

14 A. YOU MIGHT BE ABLE TO SEE IT IF THE BUSHES WEREN'T
15 THERE, IF THERE WERE ONE, YES, SIR.

16 Q. BUT THERE CERTAINLY ARE HIGH-GROWING BUSHES THERE,
17 HIGHER THAN THE LEVEL OF THE RICE BED?

18 A. I CAN'T TELL HOW HIGH, SIR.

19 Q. OKAY.

20 HIGHER THAN THE LEVEL OF THE RICE PADDY, IN ANY EVENT?

21 A. IT APPEARS TO BE THAT WAY, YES, SIR.

22 Q. ALL RIGHT.

23 THE NEXT PICTURE YOU WERE SHOWN YESTERDAY -- AND I
24 WOULD LIKE YOU TO LOOK AT IT ONCE MORE -- IS PLAINTIFFS'
25 EXHIBIT 5258. THIS IS THE WEST SIDE OF THE RIVER?

1 A. YES, SIR.

2 Q. AND I THOUGHT I HEARD YOU MENTION YESTERDAY SOMETHING
3 ABOUT THE GOUGE MARKS AND WATER HAVING FILLED IN, BUT I
4 MAY HAVE MISSED IT.

5 COULD YOU TELL ME WHAT YOU MEANT BY THAT?

6 A. WELL, IT APPEARS THAT THE OVERALL TERRAIN ONLY
7 SHOWS WATER IN THE CANALS OR DITCHES THAT DELINEATE THE
8 SEGMENTS OF THE LAND.

9 THESE MARKS TOWARD THE CENTER-LEFT OF THE PICTURE
10 WERE MADE BY THE AIRCRAFT COMING IN CONTACT WITH THE GROUND.

11 Q. THAT IS HERE?

12 A. YES.

13 Q. AND WE HAVE ALREADY ESTABLISHED THAT IS AN IRRIGATION
14 DITCH?

15 A. YES, SIR.

16 Q. ALL RIGHT, SIR.

17 NOW, WHAT WAS IT ABOUT THE WATER FILLING IN?

18 A. WELL, THE REASON THEY LOOK LIKE, PERHAPS, THEY
19 ARE FILLED WITH SNOW, BEING VERY BRIGHT, IS SIMPLY A REFLECTION
20 OF THE SKY LIGHT COMING BACK TOWARD THE CAMERA LENS, SHOWING
21 THAT WHERE THE EARTH WAS TORN UP, OBVIOUSLY, SOME WATER
22 HAD FILLED IN, CAUSING THESE REFLECTIONS TO MAKE THEM ALMOST
23 PURE WHITE, AS A REFLECTION FROM THE SKY LIGHT.

24 Q. THE WATER HAVING COME FROM THE SURROUNDING AREA
25 IN THE RICE FIELD HERE?

1 A. I CAN PRESUME THAT. I DON'T KNOW IF THERE MAY
2 HAVE BEEN A HEAVY RAINFALL INTERVENING, WHICH MAY HAVE
3 FILLED THESE TROUGHS AND DITCHES AND GOUGE MARKS WITH WATER,
4 SIR.

5 BUT NONE OF THE PICTURES WOULD INDICATE THERE HAD
6 BEEN ANY HEAVY RAINSTORM.

7 Q. THERE IS WATER, HOWEVER, IN SEVERAL OF THE OTHER
8 PICTURES THAT YOU LOOKED AT, THOUGH, IS THERE NOT, STANDING
9 WATER IN THESE FIELDS?

10 A. YES, SIR.

11 Q. THIS IS A WET AREA?

12 A. I AM NO EXPERT ON THAT, BUT IT APPEARS THAT THE
13 GROUND IS FAIRLY SATURATED THERE. AND IF GOUGES WERE
14 DUG, WATER COULD FILL INTO THEM VERY EASILY.

15 Q. WELL, DID YOU CONSIDER THAT IN FORMING YOUR OPINIONS?

16 A. YES, SIR.

17 Q. THE WETNESS OF THIS AREA AND THE AMOUNT OF WATER
18 AND THE SOFT GROUND?

19 A. YES, SIR.

20 Q. NOW, JUST BEFORE WE LEAVE THIS PICTURE, IN THE
21 DISTANCE YOU MENTIONED A BURNING PART OF THE WING. IS
22 THAT THE WING OUT IN THE DISTANCE THERE?

23 A. THAT WOULD BE PAST THE OTHER MAIN AREAS OF WRECKAGE,
24 SO THAT WOULD BE IN THE AREA IN WHICH THE WING CAME TO
25 REST.

1 Q. AND THE TROOP COMPARTMENT IS NEARER, AS WE VIEW
2 IT --

3 A YES, SIR.

4 Q. (CONTINUING) -- SEPARATE FROM THAT BURNING AREA?

5 A. VIRTUALLY IN LINE WITH THOSE GOUGE MARKS.

6 Q. BUT SEPARATE FROM THE BURNING WING AREA?

7 A. YES, SIR.

8 Q. DID YOU NOTICE ANYTHING ABOUT THE DIRECTION OF
9 THAT SMOKE WHEN YOU LOOKED AT THAT PICTURE AND FORMED YOUR
10 OPINION?

11 A. I DID LOOK AT THAT, BUT IT DIDN'T HAVE ANYTHING
12 TO DO WITH FORMING MY OPINION, NO, SIR.

13 Q. WHICH WAY IS IT BLOWING, AS YOU LOOK AT THE PICTURE?

14 A. I WOULD HAVE TO --

15 Q. TOWARD OR AWAY FROM THE TROOP COMPARTMENT?

16 A. I WOULD REALLY HAVE TO HAVE MORE PHOTOGRAPHS
17 FROM DIFFERENT ANGLES TO MAKE THAT DETERMINATION.

18 Q. OKAY, SIR. WE WILL SEE IF WE CAN FIND ANOTHER
19 ONE.

20 THE NEXT PICTURE WE WOULD LIKE TO LOOK AT IS 1000-87,
21 PLAINTIFFS' EXHIBIT 1000-87.

22 JUST SO I UNDERSTAND THIS, AS I UNDERSTAND YOUR
23 DESCRIPTION YESTERDAY FROM THIS PICTURE, THAT IS THE TROOP
24 COMPARTMENT; IS IS NOT?

25 A. YES, SIR.

1 Q. AND THAT IS THE WING AREA, THE AREA THAT WE JUST
2 SAW BURNING IN THE PRIOR PICTURE OVER HERE?

3 A. YES, SIR, IN THAT AREA.

4 Q. DID YOU MAKE ANY DETERMINATION HOW FAR THE DISTANCE
5 WAS BETWEEN THAT TROOP COMPARTMENT AND THAT BURNING WING
6 AREA?

7 A. ONLY FROM THE WRECKAGE CHARTS WHICH PLOT THOSE
8 AT VARIOUS DISTANCES ALONG THE CRASH PATH.

9 Q. AND YOU DID NOT PREPARE THOSE CHARTS; IS THAT
10 CORRECT?

11 A. NO, SIR.

12 Q. SO YOU ARE RELYING ON WHATEVER DISTANCES THERE
13 ARE IN THERE?

14 A. YES, SIR.

15 Q. IF THEY ARE CORRECT, THOSE ARE THE ONES YOU USED
16 FOR YOUR OPINION?

17 A. YES, SIR.

18 Q. ALL RIGHT.

19 AND THEN THIS IS THE TAIL SECTION HERE?

20 A. YES, SIR.

21 Q. AND THE DIKE AND THE RIVER ARE DOWN IN THIS DIRECTION
22 OFF THE PICTURE; IS THAT CORRECT?

23 A. OFF TO THE LEFT, YES, SIR.

24 Q. OKAY. ALL RIGHT. THANK YOU, SIR.

25 THIS IS PLAINTIFFS' EXHIBIT 5233. I THINK YOU LOOKED

1 AT THIS YESTERDAY, SIR.

2 A. YES, SIR.

3 Q. THAT IS A LITTLE CLOSER VIEW OF THAT PRIOR PICTURE,
4 WHERE YOU HAD THE WING FIRE AND THE TROOP COMPARTMENT;
5 IS THAT CORRECT?

6 A. YES, SIR.

7 Q. AND DOES THAT HELP YOU ANY IN DETERMING IN WHAT
8 DIRECTION THE WIND IS BLOWING RELATIVE TO THE TROOP COMPARTMENT:
9 TOWARD IT OR AWAY FROM IT?

10 MR. MC MANUS: I PRESUME, SIR, YOU MEAN AT THE
11 TIME THAT PICTURE WAS TAKEN.

12 THE COURT: MR. MC MANUS, DO YOU HAVE AN OBJECTION?

13 MR. MC MANUS: YES, SIR.

14 THE COURT: STATE THE OBJECTION. WHAT IS IT?

15 MR. MC MANUS: MY OBJECTION IS THAT I WOULD
16 PRESUME THAT MR. DUBUC IS REFERRING TO THE TIME THAT THAT
17 PICTURE WAS TAKEN, AND NO OTHER TIME, BECAUSE, OBVIOUSLY,
18 THAT IS THE ONLY REFERENCE THAT CAN BE MADE.

19 THE COURT: WELL, YOU CAN DEVELOP THAT ON REDIRECT.
20 GO AHEAD, MR. DUBUC.

21 THE WITNESS: YES. AT THE TIME THAT THIS PICTURE
22 WAS TAKEN, THIS PICTURE, IN COMBINATION WITH THE EARLIER
23 ONE, WOULD INDICATE THAT THERE IS A GENERAL WESTERLY AND
24 POSSIBLY NORTHWESTERLY FLOW OF THAT SMOKE.

25 BY MR. DUBUC:

1 Q. AWAY FROM THE TROOP COMPARTMENT, THE TROOP COMPARTMENT
2 BEING HERE; RIGHT?

3 IT IS AWAY FROM IT; IS THAT RIGHT?

4 A. THAT BURNING AREA IS AWAY FROM THE TROOP COMPARTMENT,
5 YES, SIR.

6 Q. SO THE SMOKE IS GOING AWAY FROM IT, BECAUSE THE
7 WIND IS BLOWING IN THAT DIRECTION; IS THAT CORRECT?

8 A. AT THE TIME THIS PICTURE WAS TAKEN, YES, SIR.

9 Q. YOU REFER TO THE DIAGRAMS, SIR, WRECKAGE DIAGRAMS,
10 AND I THINK YOU REFERRED TO ONE PREPARED BY MR. MORAIN
11 THAT YOU SAID YOU RELIED UPON. YOU JUST TOLD US THAT;
12 IS THAT CORRECT?

13 A. THAT AND THE ONE THAT WAS IN THE AIR FORCE COLLATERAL
14 REPORT.

15 Q. RIGHT.

16 A. YES, SIR.

17 Q. ALL RIGHT, SIR.

18 DO YOU KNOW IF THAT DIAGRAM IS SUPPOSED TO REPRESENT
19 THE SITUATION AT THE TIME OF THE ACCIDENT WITH RESPECT
20 TO EVENTS, AND SO FORTH?

21 A. WHICH ONE? THERE WERE -- THERE WERE --

22 Q. THE ONE DR. MORAIN PREPARED THAT YOU RELIED UPON,
23 SIR?

24 A. IF THAT REPRESENTS WHAT, SIR?

25 Q. IF THAT REPRESENTS THE EVENTS AND CIRCUMSTANCES

1 AS HE RECONSTRUCTED THEM AT THE TIME OF THE ACCIDENT.

2 THAT IS, HE RECONSTRUCTED A SITUATION ON THE DAY OF
3 THE ACCIDENT. IS THAT WHAT YOU UNDERSTAND IT TO BE, AFTER
4 THE ACCIDENT OCCURRED?

5 A. WELL, YOUR QUESTION IS: DID HE DO IT AT THE
6 TIME OF THE ACCIDENT? I DON'T KNOW.

7 Q. NO. NO. NO, SIR. OF COURSE, HE DID NOT
8 DO IT AT THE TIME OF THE ACCIDENT. HE DID IT UPON
9 RECONSTRUCTING IT AFTER THE ACCIDENT, AS YOU HAVE DONE.

10 A. YES, SIR. YES, SIR.

11 Q. AND MY QUESTION IS:

12 DO YOU UNDERSTAND IT TO BE A RECONSTRUCTION OF THE
13 EVENTS AS THEY ARE LAID OUT IN THE DIAGRAM, AND THE LOCATION,
14 ON THE DAY OF THE ACCIDENT?

15 A. YES, SIR.

16 Q. ALL RIGHT.

17 NOW, THAT HAS THE WIND DIRECTION ON IT, DOES IT NOT,
18 ON THAT DIAGRAM?

19 A. I DON'T RECALL THAT. PERHAPS IT DOES.

20 MR. DUBUC: THIS IS PLAINTIFFS' EXHIBIT 248.

21 BY MR. DUBUC:

22 Q. YOU WERE SHOWN THAT YESTERDAY; IS THAT CORRECT,
23 SIR?

24 A. YES, SIR.

25 Q. AND I SEE SOME WORDS "WIND DIRECTION." DID YOU

1 NOTICE THAT ON THERE, WHEN YOU EXAMINED IT?

2 A. I PROBABLY DID AT THE TIME. I DON'T RECALL
3 IT RIGHT NOW, SIR.

4 Q. AND NORTH IS AT THE TOP OF THE DIAGRAM; IS IT
5 NOT, SIR?

6 A. YES, SIR.

7 Q. AND SO THE WIND DIRECTION IS WEST/NORTHWESTERLY;
8 IS THAT CORRECT?

9 A. ACCORDING TO THAT CHART, YES, SIR.

10 Q. AND IS THAT PRETTY CLOSE OR JUST ABOUT THE SAME
11 AS THE DIRECTION WE ARE SEEING ON THAT PICTURE: WEST/NORTHWESTER
12 AWAY FROM THE TROOP COMPARTMENT AS DEPICTED BY DR. MORAIN
13 ON THE DAY OF THE ACCIDENT, AS YOU ASSUME THIS DIAGRAM
14 TO BE?

15 ISN'T THAT SO, SIR?

16 A. WELL, I WOULD HAVE TO PRESUME, SIR THAT THE 15-KNOT
17 WIND DIRECTION SHOWN ON THAT CHART WOULD PROBABLY BE REPRESENTING
18 WHAT WAS REPORTED AS THE WIND CONDITION AT THE TIME OF
19 THE ACCIDENT.

20 AND THAT THE PHOTOGRAPHS WERE TAKEN SOME TIME LATER.

21 SO THEY ARE ESSENTIALLY CONSISTENT IN THAT GENERAL
22 DIRECTION, YES, SIR.

23 Q. IT IS THE SAME DIRECTION. THAT DIRECTION RELATIVE
24 TO THE TROOP COMPARTMENT ON THE PICTURE WE JUST LOOKED
25 AT IS RELATIVELY THE SAME DIRECTION AS DEPICTED BY

1 DR. MORAIN ON HIS CHART; ISN'T THAT SO?

2 A. THEY ARE BOTH THE SAME, YES, SIR.

3 Q. THANK YOU, SIR.

4 THE NEXT PHOTOGRAPH, SIR, IS 5261, AND THIS DEPICTS
5 LOOKING IN THE OTHER DIRECTION, DOES IT NOT, SIR, FROM
6 WEST TO EAST?

7 DO YOU RECALL SEEING THIS PICTURE YESTERDAY?

8 A. YES, SIR. I AM TRYING TO ORIENT THE --

9 Q. WOULD YOU LIKE TO COME DOWN AND LOOK AT IT?

10 A. NO. I AM TRYING TO ORIENT THE DIRECTION FROM
11 THIS ANGLE.

12 THE COURT: MR. DUBUC, COULD YOU STAND OVER THAT
13 WAY, PLEASE?

14 THANK YOU.

15 MR. DUBUC: NOW, I AM NOT GOING TO BE ABLE TO
16 SEE IT. I AM SORRY, YOUR HONOR.

17 THE WITNESS: THE GENERAL DIRECTION, YES, WOULD
18 BE LOOKING FROM THE WEST TO THE EAST. YES, SIR.

19 BY MR. DUBUC:

20 Q. AND IN THE FOREGROUND IS THE BURNING WING AREA?

21 A. YES, SIR.

22 Q. AND THEN BACK HERE IS THE TROOP COMPARTMENT;
23 IS THAT CORRECT?

24 A. YES, SIR, IN THE CENTER OF THE PICTURE.

25 Q. AND THEN BACK IN THE DISTANCE IS THE OTHER SIDE

1 OF THE RIVER?

2 A. YES, SIR.

3 Q. AND THAT ALSO SHOWS, DOES IT NOT, SIR, WHATEVER
4 LITTLE SMOKE WE SEE BLOWING IN THE SAME DIRECTION AND --

5 THE COURT: YOU DON'T HAVE TO CHARACTERIZE IT.

6 BY MR. DUBUC:

7 Q. WELL, IS THAT SMOKE DOWN HERE IN THE LEFT-HAND
8 CORNER?

9 A. WELL, AGAIN, THIS ONE ISOLATED PHOTOGRAPH --
10 I WOULD HAVE TO HAVE ANOTHER ONE SHOWING THE RELATIVE DIRECTIONS
11 TAKEN AT THE SAME TIME TO BE ABLE TO MAKE A GUESS AS TO
12 WHICH WAY THAT SMOKE WAS BLOWING IN THIS PICTURE.

13 Q. SIR, WE DON'T WANT YOU TO GUESS.

14 A. NO, I CAN'T TELL FROM THAT PICTURE.

15 Q. WE DON'T WANT ANY GUESSES.

16 A. I CAN'T TELL FROM THAT PICTURE.

17 Q. YOU CAN'T TELL FROM THIS?

18 A. NO, SIR.

19 Q. IN ANY EVENT, CAN YOU TELL WHETHER THERE IS ANY
20 SMOKE BLOWING IN THE AREA OF THE TROOP COMPARTMENT?

21 A. NOT IN THIS PHOTOGRAPH, NO, SIR.

22 Q. THANK YOU, SIR.

23 THE COURT: WHAT WAS THE NUMBER OF THAT ONE,
24 AGAIN?

25 MR. DUBUC: I BEG YOUR PARDON, YOUR HONOR?

1 THE COURT: WHAT WAS THE NUMBER OF THAT ONE?

2 MR. DUBUC: THAT ONE IS 5261, YOUR HONOR.

3 THE COURT: THANK YOU.

4 BY MR. DUBUC:

5 Q. THE NEXT PHOTOGRAPH IS PLAINTIFFS' EXHIBIT 5211.

6 DO YOU RECALL WHAT THAT WAS, SIR?

7 A. THIS IS A PHOTOGRAPH TAKEN FROM, GENERALLY, AGAIN,
8 FROM THE WEST TO THE EAST. ON THE RIGHT SIDE IS THE AFT
9 TROOP COMPARTMENT. ON THE FAR RIGHT WOULD BE THE FORWARD
10 END OF THE AFT TROOP COMPARTMENT. AND OVER TO THE LEFT
11 IS THE EMPENNAGE, THE TAIL SECTION.

12 Q. THERE IS SOME FOLIAGE GROWING UP AROUND THE BOTTOM
13 WHERE THE TROOP COMPARTMENT RESTS? IS THAT FOLIAGE?

14 A. SOME FORM OF FOLIAGE. I AM NOT FAMILIAR WITH
15 THAT TYPE OF FOLIAGE, THOUGH.

16 Q. IT IS FOLIAGE THAT IS A LITTLE HIGHER THAN THE
17 BOTTOM OF THE TROOP COMPARTMENT; IS THAT RIGHT?

18 A. I CAN'T TELL WHETHER IT IS GROWING THERE, OR
19 IF IT WAS PUSHED THERE, OR LAID IN FRONT OF THE CAMERA
20 LENS.

21 THERE IS NO WAY I CAN TELL FROM ONE PHOTOGRAPH, SIR.

22 Q. WHEN YOU SAY "LAID IN FRONT OF THE CAMERA LENS,"
23 WHAT DO YOU MEAN? DO YOU MEAN SOMEBODY --

24 A. IF SOMEONE PICKED UP SOME WRECKAGE, FOR INSTANCE,
25 AND PUSHED THIS ASIDE, IT MAY JUST HAVE BEEN PUSHED INTO

1 PLACE THERE.

2 Q. ALL RIGHT.

3 AND SOME OF THAT FOLIAGE IS GREEN; ISN'T IT?

4 A. YES, SIR.

5 Q. DO YOU SEE SOME STANDING WATER THERE DOWN IN
6 THE LEFT-HAND CORNER?

7 A. I CAN'T IDENTIFY IT PARTICULARLY AS STANDING
8 WATER. IT COULD BE.

9 Q. DID YOU NOTICE THAT WHEN YOU LOOKED AT THIS PICTURE
10 AND FORMED YOUR OPINION?

11 A. YES, SIR. THERE ARE PIECES OF DEBRIS AND WRECKAGE
12 THAT CAN BE STREWN ABOUT THAT WOULD APPEAR TO BE, AND IN
13 THE ABSENCE OF A CLOSE-UP PHOTOGRAPH, I COULDN'T TELL WHAT
14 THAT WAS.

15 Q. WHEN YOU LOOKED AT THESE PHOTOGRAPHS, HOW DID
16 YOU LOOK AT THEM? DID YOU USE ANY DEVICE, ANY HAND-MAGNIFIER
17 OR ANYTHING LIKE THAT?

18 A. IN SOME CASES, YES, SIR.

19 Q. ALL RIGHT.

20 YOU DO NOT KNOW IF YOU LOOKED AT THIS ONE THAT WAY
21 OR NOT?

22 A. I WOULDN'T RECALL THAT, NO, SIR. THERE ARE
23 HUNDREDS AND HUNDREDS OF PHOTOGRAPHS.

24 Q. OKAY.

25 SO YOU LOOKED AT SOME OF THEM WITH A MAGNIFYING GLASS

1 AND SOME OF THEM JUST WITH THE NAKED EYE?

2 A. YES, SIR.

3 Q. ALL RIGHT.

4 AND THE ONES YOU LOOKED AT WITH A MAGNIFYING GLASS,
5 YOU WERE PARTICULARLY INTERESTED IN?

6 A. I WAS PARTICULARLY INTERESTED IN ALL OF THEM,
7 SIR.

8 Q. WELL, YOU SAY SOME OF THEM YOU LOOKED AT VERY
9 CLOSELY AND SOME OF THEM YOU LOOKED AT OTHER THAN THAT.
10 I AM TRYING TO DETERMINE HOW YOU DISTINGUISHED WHICH ONES
11 OF WHICH YOU MADE THE CLOSE-UP EXAMINATION.

12 A. WELL, WHEN I CAN'T DETERMINE WHAT SOMETHING IS
13 IN A PHOTOGRAPH THAT I AM LOOKING AT WITH MY NAKED EYE,
14 THEN I PUT ON MY READING GLASSES.

15 AND IF I CAN'T DETERMINE IT THEN, THEN I LOOK FOR
16 A MAGNIFYING GLASS AND FOLLOW THAT PROCEDURE.

17 Q. OKAY.

18 YOU DON'T RECALL THIS PARTICULAR PICTURE?

19 A. WHETHER I LOOKED AT IT WITH A MAGNIFYING GLASS
20 OR NOT, NO, SIR.

21 Q. ALL RIGHT.

22 A. I DON'T RECALL THAT.

23 Q. MAY WE HAVE THE NEXT ONE, PLEASE, PLAINTIFFS'
24 EXHIBIT 5236.

25 THIS SHOWS A CLOSE-UP OF THE T-TAIL?

1 A. YES, SIR.

2 Q. I THOUGHT I HEARD YOU MENTION SOMETHING YESTERDAY
3 ABOUT CHARRING ON THE T-TAIL. DID I HEAR THAT?

4 A. THERE IS SOOTING. I WOULDN'T PARTICULARLY CHARACTERIZE
5 IT AS CHARRING, BUT SOOTING, POSSIBLY CHARRING.

6 Q. DID YOU SEE SOOTING ON THIS T-TAIL?

7 A. IN THIS PHOTOGRAPH IT APPEARS TO BE SOOTED FROM
8 A POSSIBLE FLASH FIRE, A FIREBALL, A FLAMMABLE-FUEL-MIST
9 EXPLOSION.

10 Q. THIS BROWNISH AREA DOWN HERE, IS THAT SOOTING?

11 A. I WOULD SAY THAT THE ENTIRE, OVERALL SURFACE
12 APPEARS TO HAVE BEEN SOOTED. THE SPOTTING WHERE YOU POINTED
13 TO ON THAT COULD BE MUD, OR DEBRIS, OR WATER SPLASHED ON
14 A SOOTED SURFACE.

15 Q. THERE IS A LOT OF MUD IN THIS FIELD; ISN'T THERE?

16 A. I DIDN'T PARTICULARLY LOOK FOR MUD IN THE FIELD,
17 NO, SIR.

18 Q. YOU WERE LOOKING FOR SOOTING AND NOT MUD; IS
19 THAT IT?

20 A. WELL, YES. I MEAN IF THERE IS MUD IN THE FIELD,
21 I DIDN'T EXAMINE THE FIELD FOR MUD, NO, SIR.

22 Q. SIR, IS IT YOUR TESTIMONY THAT THIS SHADED AREA
23 IS SOOTING?

24 A. IT WOULD APPEAR THAT THE ENTIRE EXTERIOR SURFACE
25 HAS BEEN EXPOSED TO SOMETHING THAT WOULD SOOT IT.

1 Q. DID YOU MAKE ANY ATTEMPT TO -- IT LOOKS LIKE
2 THE LIGHT SIDE OF THIS PICTURE IS ON MY RIGHT, AND THE
3 DARK SIDE IS ON THE LEFT SIDE. DO YOU KNOW ANY REASON
4 FOR THAT?

5 A. JUST THE LIGHTING ANGLE AT THE TIME THE PICTURE
6 WAS TAKEN.

7 Q. THE SUN, MAYBE?

8 A. POSSIBLY, OR BRIGHT SKY.

9 Q. IF THE SUN IS ON THE RIGHT AND THE T-TAIL IS
10 AS BIG AS YOU DESCRIBED IT YESTERDAY, IN YOUR EXPERIENCE,
11 MIGHT THERE BE A SHADOW ON THE LEFT SIDE, OR THE SIDE AWAY
12 FROM THE SUN?

13 A. WELL, LOOKING AT THE OTHER PIECE OF WRECKAGE
14 TO THE RIGHT, THERE IS NO DISTINCT SHADOW. SO IT APPEARS
15 TO BE AN OVERCAST -- OVERCAST LIGHTING.

16 Q. YOU MEAN THIS SMALLER PIECE HERE?

17 A. YES, SIR, WITH NO SHARPLY DEFINED SHADOWS.

18 Q. WELL, THE OTHER PIECE IS KIND OF HORIZONTAL,
19 TO THE LIGHT, IT APPEARS HERE. WOULD YOU AGREE WITH THAT,
20 THIS SMALL PIECE?

21 A. HORIZONTAL TO THE LIGHT, SIR?

22 Q. WELL, MAYBE YOU DON'T UNDERSTAND MY QUESTION.

23 IT IS PROBABLY NOT VERY WELL PHRASED.

24 BUT THE T-TAIL IS A VERY LARGE PIECE WHICH IS GOING
25 TO SCREEN SOME LIGHT FROM THE SHADED SIDE AWAY FROM THE

1 SUN, ISN'T IT, WHILE THE OTHER PIECE IS SMALLER AND OPEN
2 AND DOESN'T SEEM TO HAVE MUCH AREA PERPENDICULAR TO THE
3 SUN?

4 DO YOU AGREE WITH THAT?

5 A. YES, SIR.

6 Q. ALL RIGHT.

7 THE NEXT PHOTO THAT YOU LOOKED AT YESTERDAY, WE WOULD
8 JUST LIKE TO LOOK AT FOR A MINUTE. IT IS PLAINTIFFS' EXHIBIT
9 5244. THAT WAS THE COCKPIT YOU DESCRIBED YESTERDAY; IS
10 THAT CORRECT, SIR?

11 A. YES, SIR.

12 Q. I THINK I HEARD YOU SAY THAT THAT PART OF IT
13 WAS PART OF THE CARGO COMPARTMENT; IS THAT RIGHT?

14 A. THE FORWARD CARGO SECTION OF THE AIRCRAFT -- THAT
15 WOULD BE DIRECTLY AFT AND BELOW THE FLIGHT DECK.

16 Q. I FORGOT WHETHER I ASKED YOU THIS:

17 DO YOU RECALL HOW MANY PEOPLE, CREW MEMBERS, WERE
18 IN THERE AND HOW MANY SURVIVED?

19 A. NO, SIR.

20 Q. IN THIS COCKPIT, THIS AREA RIGHT HERE?

21 A. I --

22 Q. YOU DON'T RECALL THAT?

23 A. I THINK YOU ASKED THAT YESTERDAY, AND I DON'T
24 RECALL, NO, SIR.

25 Q. FOR THE PURPOSES OF THIS QUESTION, I WANT YOU

1 TO ASSUME THAT THERE WERE AT LEAST FIVE OR SIX PEOPLE IN
2 THERE, AND THAT EVERY ONE OF THEM SURVIVED WITHOUT INJURY
3 EXCEPT TO ONE PERSON WHO SPRAINED HIS ANKLE TRYING TO CLIMB
4 OUT AFTER IT HAD STOPPED.

5 MAKING THAT ASSUMPTION, AND CONSIDERING YOUR DEFINITION
6 OF "SURVIVABLE ACCIDENT" THAT YOU GAVE US YESTERDAY --
7 AND I THINK ONE OF THE CRITERIA WAS THAT THE COMPONENT
8 REMAIN REASONABLY INTACT, AND THIS APPEARS TO BE -- WOULD
9 YOU SAY THAT, AS TO THE COCKPIT/FLIGHT-CREW AREA, MAKING
10 THOSE ASSUMPTIONS, THIS IS STILL AN UNSURVIVABLE ACCIDENT
11 FOR THAT COCKPIT CREW, AND THE AREA IN WHICH THEY WERE
12 LOCATED?

13 A. THERE WERE, AMONG THE HUNDREDS OF PHOTOGRAPHS,
14 AN INTERIOR PICTURE OF THE FLIGHT DECK IN WHICH THE CONTROL
15 CONSOLE AND THE OVERHEAD AND THE UNDERSTRUCTURE APPEARED
16 ALL TO BE CRUSHED IN.

17 SO THAT WOULD MEET IMMEDIATELY THE CRITERION FOR HAVING
18 CRUSHED IN ON VITAL BODY AREAS ON THE FLIGHT DECK.

19 Q. WELL, ALL RIGHT, SIR.

20 Q. AND THE UNDERSIDE OF THE AIRCRAFT, AS SHOWN IN
21 OTHER PICTURES, SHOWS DISINTEGRATION OF ALL THE STRUCTURES
22 UNDERNEATH.

23 BUT I HAVE SEEN NO PHOTOGRAPHS TAKEN INSIDE OF THAT
24 FORWARD, UPPER TROOP COMPARTMENT, OR CREW COMPARTMENT.

25 Q. WELL, ASSUMING THE PICTURE THAT YOU SAW IS AS

1 YOU JUST DESCRIBED IT, BUT MAKING THE ASSUMPTIONS I ASKED
2 YOU TO MAKE, IF EVERYBODY SURVIVED AND THEY WALKED OUT
3 OF HERE, WHAT DIFFERENCE DOES IT MAKE?

4 A. I WOULD NEED MORE INFORMATION, SIR, AS TO WHAT
5 THE G-FORCES WERE.

6 Q. THE QUESTION IS:

7 WHAT DIFFERENCE DOES IT MAKE? IF YOU MAKE THE ASSUMPTION
8 THAT THEY ALL SURVIVED AND THEY ALL WALKED OUT OF THIS, WHAT
9 DIFFERENCE DOES IT MAKE, WHETHER WE USE THESE TERMS, "SURVIVABLE"
10 OR "NON-SURVIVABLE ACCIDENT"?

11 THEY ALL SURVIVED. WHAT IS THE DIFFERENCE? WHAT
12 IS THE SIGNIFICANCE OF IT?

13 A. I DON'T KNOW WHAT THE SIGNIFICANCE WOULD BE,
14 SIR.

15 Q. THANK YOU, SIR.

16 NOW, THIS IS THE TROOP COMPARTMENT OVER HERE, BEHIND;
17 IS THAT CORRECT?

18 A. YES, SIR. THAT IS THE AFT TROOP COMPARTMENT.

19 Q. THIS IS A LITTLE CLOSER VIEW.

20 DO YOU RECALL HOW FAR IT IS BETWEEN THERE AND THE
21 COCKPIT AREA?

22 A. IT IS INDICATED ON THE WRECKAGE CHART, SIR. I
23 DON'T RECALL THAT EXACT DISTANCE.

24 Q. AND THE TROOP COMPARTMENT, ALSO, FROM THE STANDPOINT
25 OF BEING A COMPONENT, IS RELATIVELY INTACT UNDER YOUR

1 DEFINITION, THE OUTSIDE STRUCTURE, AND SO ON, OF THE TROOP
2 COMPARTMENT; IS IT NOT, SIR?

3 A. WELL, I CAN'T SAY THAT IS RELATIVELY INTACT.
4 IT IS JUST THE TOP PORTION OF THE OVERALL FUSELAGE. IT
5 IS LESS THAN PERHAPS ONE-THIRD OF THE ENTIRE FUSELAGE AT
6 THAT POINT IN THE AIRPLANE.

7 Q. GRANTED, SIR. I PROBABLY DIDN'T STATE MY QUESTION
8 VERY WELL. MY QUESTION WAS:

9 THE TROOP COMPARTMENT AS A COMPONENT -- WE JUST TALKED
10 ABOUT THE COCKPIT/FLIGHT-DECK AREA AS A COMPONENT. DO
11 YOU REMEMBER THAT LINE OF QUESTIONING?

12 A. YES.

13 Q. OKAY.

14 I HAVE SHIFTED NOW TO THE TROOP COMPARTMENT, AS A
15 COMPONENT. IT IS RELATIVELY INTACT AS THAT COMPONENT.
16 THE FLOOR IS THERE. THE WALLS AND TOP AND FORWARD AND
17 BACK WALLS ARE THERE. YOU CAN SEE THE FRONT WALL HERE;
18 IS THAT CORRECT?

19 A. I DON'T KNOW IF THAT IS THE FRONT WALL. I THINK
20 IT IS PART OF THE WING SPAR STRUCTURE.

21 Q. IN YOUR OPINION, THAT IS PART OF THE WING SPAR
22 STRUCTURE?

23 A. YES, SIR.

24 Q. ALL RIGHT.

25 AND WHAT IS FORWARD OF THAT IN THE AIRPLANE, WHEN

1 IT WAS ATTACHED TO THE AIRPLANE; DO YOU KNOW?

2 A. THE WING.

3 Q. ARE YOU CERTAIN ABOUT THAT?

4 A. YES, SIR.

5 Q. OKAY.

6 IN YOUR OPINION, DID THIS ENTIRE TROOP COMPARTMENT
7 ENCOMPASS THE TROOP COMPARTMENT, ITSELF, OR MORE THAN THE
8 TROOP COMPARTMENT?

9 IN OTHER WORDS, AS YOU SAID, PART OF IT ON THIS END
10 IS THE WING STRUCTURE. ON THE OTHER END, THE BACK END,
11 IS THERE ANYTHING OTHER THAN JUST THE TROOP COMPARTMENT,
12 IN YOUR OPINION?

13 A. NO, SIR.

14 Q. NOTHING. SO THE BACK END IS JUST THE BACK END
15 OF THE TROOP COMPARTMENT?

16 A. AND THAT IS CARRIED ON BY THE FORWARD EMPENNAGE
17 AREA IN THE FUSELAGE.

18 Q. THE FORWARD --

19 A. FORWARD OF THE EMPENNAGE --

20 Q. THE EMPENNAGE --

21 A. (CONTINUING) -- FUSELAGE.

22 Q. (CONTINUING) -- IS BACK HERE?

23 A. YES, SIR.

24 Q. OKAY. BUT I WANT TO BE SURE WE HAVE THIS CLEAR.

25 AS FAR AS YOU ARE CONCERNED, THAT BACK END IS THE

1 BACK END WALL OF THE TROOP COMPARTMENT; IS THAT CORRECT?

2 A. IT IS A FEW FEET -- THE STRUCTURE THAT IS SHOWN
3 IN THAT PHOTOGRAPH EXTENDS A FEW FEET BEYOND THE AFT END
4 OF THE TROOP COMPARTMENT.

5 Q. HOW MANY FEET, IN YOUR OPINION?

6 A. I WOULD HAVE TO GUESS AT THAT, SIR.

7 Q. I DON'T WANT YOU TO GUESS. YOU DIDN'T MAKE
8 A DETERMINATION OF IT?

9 A. JUST GENERALLY, I WOULD SAY SEVERAL FEET.

10 Q. TEN, TWELVE?

11 A. POSSIBLY LESS THAN THAT.

12 Q. OKAY.

13 A. POSSIBLY MORE THAN THREE.

14 Q. NOW, AGAIN, IF WE CAN NOTE -- I DON'T KNOW WHETHER
15 YOU NOTED IT, BUT I WOULD LIKE TO ASK YOU ABOUT IT -- THERE
16 IS SOME FOLIAGE AROUND HERE, AND THERE IS A GOOD DEAL OF
17 GREEN FOLIAGE; THERE IS SOME BROWN; THERE IS SOME YELLOW;
18 IS THAT CORRECT?

19 A. YES, SIR.

20 Q. BUT THERE IS GREEN INTERSPERSED IN THERE; IS
21 THERE NOT?

22 A. YES, SIR.

23 Q. OKAY.

24 NOW, SIR, DO YOU KNOW IF THIS IS STANDING WATER OR
25 NOT, THESE BLuish-WHITE AREAS OVER HERE?

1 A. THAT APPEARS TO BE, YES, SIR.

2 Q. AND WHAT SIGNIFICANCE WOULD THAT HAVE, STANDING
3 WATER, IN YOUR OPINION, IF ANY?

4 A. WELL, THE SIGNIFICANCE TO ME WOULD BE THAT IT
5 COULD HAVE BEEN THERE A LONG TIME BEFORE THE CRASH, OR
6 IT COULD HAVE BEEN CAUSED BY THE GOUGING OF MATERIALS THAT
7 CUT A TROUGH, INTO WHICH THE WATER SEEPED AND NOW STANDS,
8 SIR.

9 Q. WELL, SIR, I DON'T KNOW WHETHER YOU LOOKED AT
10 THIS OR CONSIDERED THIS, BUT DID YOU CONSIDER THE FACT
11 THAT THERE IS SOME SCIENTIFIC THOUGHT TO THE EFFECT THAT
12 STANDING WATER, IF IT SHOWS UP ON A FLAT AREA LIKE THIS,
13 INDICATES THE AREA IS FLAT, BECAUSE IT DOESN'T DRAIN IN
14 ONE DIRECTION OR THE OTHER?

15 ARE YOU FAMILIAR WITH THAT?

16 A. CERTAINLY, IT IS A BASIC --

17 Q. WOULD YOU AGREE WITH THAT?

18 A. YES, SIR.

19 Q. OKAY.

20 NOW, THE NEXT PICTURE IS PLAINTIFFS' EXHIBIT 5213.
21 I HAD ASKED YOU BEFORE, WHEN WE LOOKED AT THE COCKPIT,
22 ABOUT A PJECE THAT LOOKED LIKE IT WAS PART OF THE CARGO
23 COMPARTMENT, AND I THINK YOU SAID YOU WEREN'T SURE. YOU
24 WOULD HAVE TO LOOK AT ANOTHER PICTURE.

25 IS THIS THE ONE YOU IDENTIFIED YESTERDAY AS BEING

1 THE UNDERSIDE OF THE COCKPIT; THE COCKPIT IS ON THE OTHER
2 SIDE OF THIS?

3 A. YES, SIR.

4 Q. AND DOES THAT HELP YOU? IS THIS PART OF THE
5 COCKPIT, OR IS IT PART OF THE WALL AND POSSIBLY PART OF
6 THE FLOOR OF THE CARGO COMPARTMENT THAT SITS DOWN UNDERNEATH,
7 THE BIG CARGO AREA UNDERNEATH THE COCKPIT AND THE TROOP
8 COMPARTMENT?

9 A. THAT APPEARS TO BE THE LEFT SIDEWALL STRUCTURE
10 FROM THE CARGO COMPARTMENT UNDERNEATH THE FLIGHT DECK AND
11 THE FORWARD CREW COMPARTMENT.

12 Q. SO WOULD THAT INDICATE TO YOU THAT THERE WAS
13 SOME -- WITHDRAWN.

14 THAT IS ON ONE SIDE; ISN'T IT?

15 A. YES, SIR.

16 Q. IT IS ON THE LEFT SIDE?

17 A. YES, SIR.

18 Q. AND THERE DOESN'T SEEM TO BE ANY SIMILAR CARGO
19 AREA ON THE RIGHT SIDE; IS THAT TRUE?

20 A. WELL, THE CARGO AREA WOULD BE SURROUNDED BY THAT
21 LEFT SIDE CARGO WALL, AND THE CEILING OF IT SHOWS IN THE
22 CENTER OF THE PICTURE.

23 Q. WELL, THERE WOULD BE ANOTHER ONE ON THE RIGHT
24 SIDE?

25 A. YES, SIR.

1 Q. BUT THAT HAS WORN AWAY HERE; HAS IT NOT?

2 A. THAT HAS DISINTEGRATED, YES. YES.

3 Q. OKAY.

4 A. IT IS EITHER SOMEWHERE ELSE OR DISINTEGRATED.

5 Q. SO WOULD THAT SUGGEST TO YOU THAT THE WEARING
6 OR DISINTEGRATION WAS UNEVEN?

7 A. YES, SIR.

8 Q. BETWEEN THE --

9 A. THE LEFT AND THE RIGHT SIDE.

10 Q. (CONTINUING) -- COCKPIT AND THE CARGO COMPARTMENT?

11 A. YES, SIR.

12 Q. IN FACT, THAT MAY BE WHY IT ROLLED OVER; IS THAT
13 RIGHT?

14 A. POSSIBLY.

15 Q. WOULD IT ALSO SUGGEST TO YOU THAT THERE WAS NOT
16 A CLEAN SEPARATION OF THE COMPONENT FROM THE REST OF THE
17 AIRPLANE, BUT A JAGGED OR UNEVEN TEAR?

18 A. FROM THIS PHOTOGRAPH, THAT IS WHAT IT WOULD APPEAR
19 TO BE.

20 BUT FROM THE OTHER SIDE, IT LOOKS LIKE A CLEAN BREAK,
21 SIR. SO IT IS HARD TO TELL FROM ONE PHOTOGRAPH OR ANOTHER,
22 WITHOUT COMPARING THEM ALL.

23 Q. WELL, YOU WOULD HAVE TO LOOK AT BOTH SIDES; WOULDN'T
24 YOU?

25 A. YES, SIR.

1 Q. IF YOU LOOKED AT ONE SIDE AND IT WAS CLEAN, BUT
2 THE OTHER SIDE WAS JAGGED, IT WOULD HAVE TO BE A TEAR,
3 AN UNEVEN, JAGGED TEAR, SOMEHOW, BECAUSE BOTH SIDES HAVE
4 TO COME OFF AT THE SAME TIME; DON'T THEY?

5 A. NOT NECESSARILY, NO, SIR.

6 Q. WELL, IF THEY DIDN'T BOTH COME OFF AT THE SAME
7 TIME, WE WOULDN'T HAVE THE COCKPIT INTACT; WOULD WE?

8 A. WELL, "AT THE SAME TIME," WE ARE TALKING ABOUT
9 MICROSECONDS OR MILLISECONDS AT WHICH THE SEPARATIONS OCCUR.

10 Q. SURE.

11 A. SO IT COULD OCCUR ON ONE SIDE OF THE FUSELAGE
12 CLEAN AND TEAR AND STRETCH AND EXTRUDE AND DISINTEGRATE
13 ON THE OTHER SIDE.

14 Q. WE MIGHT BE TALKING ABOUT MORE THAN MICROSECONDS
15 IF, IN FACT, THIS IS THE RESULT OF WEAR?

16 A. YES, SIR.

17 Q. AS WE DISCUSSED YESTERDAY, THE WEAR AND THE ABSORPTION
18 OF ENERGY AS IT WENT DOWN THE TRACK; IS THAT RIGHT?

19 A. DURING THE EROSION AND DISINTEGRATION, YES, SIR.

20 Q. ALL RIGHT.

21 THE COURT: TELL ME AGAIN THE NUMBER OF THAT
22 ONE.

23 MR. DUBUC: YOUR HONOR, THAT IS 5213.

24 THE COURT: THANK YOU.

25 BY MR. DUBUC:

1 Q. THE NEXT ONE IS PLAINTIFFS' EXHIBIT 5213. DO
2 YOU RECALL SEEING THIS ONE YESTERDAY?

3 A. YES, SIR.

4 Q. THAT IS THE REAR, A REARVIEW OF THAT TROOP COMPARTMENT
5 INTACT; IS IT NOT?

6 A. YES, SIR.

7 Q. NOW, ARE YOU ABLE TO SEE IN THIS PICTURE, OR
8 DID YOU, WHEN YOU LOOKED AT IT ORIGINALLY -- WITHDRAWN.

9 WAS THIS ONE OF THE ONES YOU LOOKED AT CLOSELY WITH
10 A MAGNIFYING GLASS?

11 A. IT MAY HAVE BEEN.

12 Q. THAT SHOWS SOME OVERHANG IN THE REAR PART OF
13 THE TROOP COMPARTMENT, THE SEVERAL FEET YOU HAVE MENTIONED?

14 A. YES, SIR.

15 Q. NOW, I THOUGHT I HEARD YOU SAY YESTERDAY THAT
16 THESE MARKS AND TRACKS IN THIS PICTURE OF THE TROOP COMPARTMENT
17 INDICATED TO YOU THAT IT WAS GOING DOWN THIS TRACK AND
18 COMING TO A STOP WITH A SLIGHTLY NOSE-UP, OR FRONT-END-UP
19 ATTITUDE; IS THAT RIGHT?

20 A. YES, SIR.

21 IF THE FLOOR OF THAT STRUCTURE WERE DRAGGED ALONG
22 THE GROUND AT THE VELOCITIES THAT WERE INVOLVED IN GETTING
23 THAT PIECE OF STRUCTURE TO WHERE IT IS, IT WOULD HAVE TORN
24 UP THE GROUND CONSIDERABLY MORE, OR IT WOULDN'T HAVE TORN
25 UP THE GROUND AS GREAT A LENGTH AS THAT.

1 Q. SO THE FRONT END, IN YOUR OPINION, WAS SLIGHTLY
2 HIGHER THAN THE BACK END, AS IT WAS GOING DOWN THE TRACK;
3 IS THAT RIGHT?

4 A. YES.

5 THE TRAJECTORY, GETTING THAT TO WHERE IT IS, WOULD
6 PROBABLY HAVE HAD IT IN A FORWARD AND HIGH ATTITUDE, WITH
7 RAM AND AERODYNAMIC FORCES HOLDING IT FROM TUMBLING FORWARD.

8 Q. WHEN YOU SAY "AERODYNAMIC FORCES," DID YOU NOTICE
9 THE PARTS OF THE CARGO COMPARTMENT HERE ON BOTH SIDES?

10 A. YES, SIR.

11 Q. THAT IS PART OF THAT CARGO COMPARTMENT WALL,
12 SMALLER THAN WHAT WE SAW WITH THE COCKPIT, BUT STILL PART
13 OF THE CARGO COMPARTMENT?

14 A. YES, SIR.

15 Q. AND THAT WAS ERODED AND WORN AWAY; WAS IT NOT?

16 A. THAT WOULD APPEAR TO BE, YES, SIR.

17 Q. IN YOUR OPINION, WOULD THERE HAVE BEEN ANY --
18 WHEN YOU MENTIONED "AERODYNAMIC EFFECT" AS PART OF THIS
19 KEEPING THE NOSE OR THE FRONT END UP, DID THE FACT THAT
20 THESE THINGS, THESE PARTS OF THE CARGO COMPARTMENT SHOWN
21 KIND OF BRANCHING OUT ON BOTH SIDES -- DID THAT HAVE ANY EFFECT
22 ON YOUR OPINION THAT THE FRONT END WAS SLIGHTLY UP?

23 IS THAT WHAT YOU MEAN BY "AERODYNAMICS"?

24 A. I BELIEVE THAT THOSE PARTS WERE ERODED IN THE
25 PROCESS OF MAKING THOSE TWO TRACKS THERE.

1 Q. SO THE TROOP COMPARTMENT, AS WELL, DID NOT JUST
2 SEPARATE FROM THE REST OF THE FUSELAGE AT THE BOTTOM OF
3 IT, BUT THERE WERE JAGGED PARTS WHERE IT WAS TORN AND WORN
4 AWAY, AS PART OF THE CARGO COMPARTMENT UNDERNEATH IT; IS
5 THAT RIGHT?

6 A. THAT WOULD HAVE TO BE AN ASSUMPTION, AND A FAIRLY
7 REASONABLE ONE.

8 Q. YOU WOULD AGREE WITH THAT; WOULD YOU NOT?

9 A. AS A REASONABLE ASSUMPTION, YES.

10 Q. AND THAT WOULD EXPLAIN PARTLY WHAT YOU HAVE JUST
11 BEEN TELLING US ABOUT THE FRONT END BEING UP.

12 AS IT WEARS, THERE WOULD BE SOME AERODYNAMIC EFFECT
13 THERE; WOULD THERE NOT?

14 A. IF ALL OF THE CONDITIONS WERE MET, YES, SIR,
15 TO KEEP IT FROM TUMBLING.

16 Q. ALL RIGHT.

17 SO THAT WOULD MEAN: THE FRONT END BEING HIGHER, IF
18 THERE WAS A DIFFERENCE IN THE LEVEL OF THE TERRAIN, THE
19 FRONT END, BEING HIGHER, WOULD BE HIGHER THAN THE REAR
20 END, AND THERE WOULD BE A TENDENCY TO GO UP THE DIFFERENT
21 LEVEL OF TERRAIN; WOULD THERE NOT?

22 A. UNLESS IT WAS IN THE PROCESS OF SLOWING DOWN
23 AND ROTATING DOWN FORWARD.

24 Q. ALL RIGHT.

25 WELL, YOU MENTIONED A RISE OR SOMETHING YESTERDAY.

1 I AM TRYING TO FIND OUT WHERE THAT IS.

2 WAS THAT SOMEWHERE AT THE TIME IT STOPPED? WAS THAT
3 SOMEWHERE DURING THE PERIOD OF THIS TRACK, WHERE IT WAS
4 SLOWING DOWN, WHEN THE FRONT END IS HIGH, OR WAS THAT RISE
5 BEYOND, OR SLIGHTLY BEYOND, THE TROOP COMPARTMENT? DO
6 YOU REMEMBER?

7 A. WELL, FROM THIS PHOTOGRAPH AND OTHERS, I HAVE
8 CONCLUDED THAT THE FORWARD END OF THE AFT TROOP COMPARTMENT
9 IS AGAINST THE SLIGHT RISE IN TERRAIN AT THAT POINT.

10 Q. IS THERE SOME FOLIAGE THERE IN THIS AREA?

11 A. YES, SIR.

12 Q. IS THAT FOLIAGE HIGHER, A LITTLE HIGHER, THAN
13 THE BOTTOM OF THE TROOP COMPARTMENT?

14 A. FROM ALL OF THE DIFFERENT VIEWS THAT I HAVE LOOKED
15 AT, IT APPEARS TO BE HIGHER.

16 Q. AND I THINK YOU TOLD US EARLIER TODAY THAT TO
17 DETERMINE WHETHER THERE IS A DIFFERENCE IN THE LEVEL OF
18 TERRAIN, YOU WOULD HAVE TO GET RID OF THE FOLIAGE.

19 DO YOU REMEMBER THAT WE TALKED ABOUT THAT?

20 A. IN THAT --

21 Q. YOU SAID YOU CAN'T TELL --

22 A. IN THAT ONE PHOTOGRAPH, YES, SIR.

23 Q. (CONTINUING) -- WHETHER IT IS LEVEL BECAUSE THERE
24 IS FOLIAGE?

25 A. YES, SIR. IN THAT ONE PHOTOGRAPH, YES, SIR.

1 Q. ALL RIGHT.

2 HOW ABOUT HERE; WOULDN'T THE SAME BE TRUE? IF THERE
3 IS FOLIAGE, YOU HAVE TO GET THE FOLIAGE OUT OF THERE TO
4 SEE IF IT IS THE FOLIAGE OR THE GROUND? ISN'T THAT REASONABLE
5 SIR?

6 A. YES.

7 Q. DID YOU DO THAT IN MAKING YOUR ANALYSIS? DID
8 YOU MAKE SOME EXAMINATION WHERE YOU COULD COMPENSATE OR
9 GET RID OF THIS FOLIAGE IN ORDER TO DETERMINE WHETHER THERE
10 WAS A RISE IN THE GROUND THERE?

11 A. I KNOW OF NO WAY TO DO THAT, SIR.

12 Q. YOU DON'T KNOW HOW TO DO THAT?

13 A. NO, SIR.

14 Q. FROM LOOKING AT PICTURES, YOU CAN'T DO THAT?

15 A. IN LOOKING AT A GREAT NUMBER OF PICTURES, I THINK
16 YOU CAN DETERMINE WHETHER THERE IS A RISE IN THE TERRAIN,
17 IN THE ELEVATION OF THE TERRAIN.

18 Q. YOU DON'T KNOW? YOU HAVE NOT HAD --

19 A. I DON'T SEE ANY WATER DISPERSED IN A FLAT AREA
20 FORWARD OF THE TROOP COMPARTMENT, BUT I DO SEE IT IN THE
21 TRACKS LEADING UP TO THAT AREA.

22 Q. IF YOU HAVE SOME WATER UP NEAR THAT FRONT END,
23 THAT WOULD SUGGEST THERE WASN'T ANY RISE; WOULDN'T IT?

24 A. AT AND BEYOND, PERHAPS.

25 Q. IN OTHER WORDS, IF WE FIND STANDING WATER

1 UP IN THAT AREA, IT WOULD INDICATE THAT WE ARE PROBABLY
2 LOOKING AT FOLIAGE; THE WATER BEING LEVEL AND IT, THEREFORE,
3 NOT DRAINING OFF, THE LAND IS REALLY FLAT; RIGHT?

4 A. THERE WOULD HAVE TO BE SOMETHING TO GOUGE THE
5 LEVEL TERRAIN TO HAVE THE WATER FILL IN, TO BEGIN WITH.
6 SO WHETHER -- YOU KNOW, IF IT WERE THERE, IT MAY MAKE A
7 DIFFERENCE.

8 IF IT IS NOT, WE JUST DON'T KNOW.

9 Q. BUT THERE IS WATER IN THESE RICE FIELDS. THERE
10 ARE LITTLE IRRIGATION DITCHES ALL OVER; AREN'T THERE?

11 A. I --

12 Q. DID YOU NOTICE THAT?

13 A. IT WOULD APPEAR IN GENERAL TERMS, YES, SIR.

14 Q. THIS IS A -- TALKING ABOUT IRRIGATION, THIS IS
15 ALL AN IRRIGATED AREA?

16 A. WELL, I DON'T KNOW IF THAT AREA THAT THE STRUCTURE
17 IS STOPPED AGAINST IS PART OF THE IRRIGATED AREA OR NOT.

18 Q. YOU DIDN'T MAKE THAT DETERMINATION?

19 A. THAT TERRAIN DOESN'T SEEM TO BE SEGMENTED INTO
20 THE QUADRANTS OR THE RECTANGULAR SHAPES OF THE TERRAIN
21 PRECEDING IT.

22 Q. IN DESCRIBING THIS HILL, THOUGH, AS A RISE IN
23 TERRAIN, DID YOU MAKE THAT DETERMINATION YOURSELF, JUST
24 LOOKING AT THE PICTURES; OR DID YOU RELY UPON, OR CONSULT
25 WITH, ANYBODY ELSE, BASED UPON WHAT YOU JUST TOLD US?

1 A. I CAME TO THAT CONCLUSION BY MYSELF, SIR.

2 Q. WELL, SIR, YOU HAVE NOT -- I THINK YOU TOLD US
3 IN YOUR DEPOSITION YOU HAVE NOT HAD ANY SPECIAL TRAINING
4 IN PHOTO-ANALYSIS; IS THAT CORRECT?

5 A. IN PHOTO-ANALYSIS?

6 Q. YES.

7 A. WELL, I HAVEN'T HAD SPECIAL TRAINING, BUT I HAVE
8 EMPLOYED THE TECHNIQUES FOR 25 YEARS.

9 Q. JUST LOOKING AT PICTURES?

10 A. YES, SIR.

11 Q. HOW ABOUT THE TECHNIQUE OF TRYING TO DETERMINE,
12 WHEN YOU HAVE FOLIAGE --

13 A. WELL, YOU SAY "JUST LOOKING AT PICTURES." NO,
14 HAVING LOOKED AT THE PICTURES AND HAVING BEEN AT THE SCENE
15 AND SEEING WHAT THE PICTURES THEN RELATE.

16 Q. SIR, I MAY HAVE BEEN CONFUSED, AND I WANT TO
17 BE SURE WE HAVE THIS.

18 ON THAT SUBJECT, DO YOU CONSIDER YOURSELF TO HAVE
19 EXPERTISE IN PHOTO-ANALYSIS, TO MAKE THIS KIND OF DETERMINATION
20 OF LEVELS OF TERRAIN, AND SO ON?

21 A. NO, SIR.

22 Q. ALL RIGHT. NOW, I THINK THE NEXT PHOTOGRAPH
23 IS 5205. THAT IS THE SIDE VIEW OF THE TROOP COMPARTMENT;
24 IS IT NOT, SIR?

25 THE COURT: 5205?

1 THE WITNESS: THE --

2 BY MR. DUBUC:

3 Q. THE TROOP COMPARTMENT --

4 MR. DUBUC: I AM SORRY, YOUR HONOR. IT IS 5205,
5 PLAINTIFFS' 5205.

6 THE COURT: THANK YOU.

7 BY MR. DUBUC:

8 Q. THAT IS A SIDE VIEW OF THE TROOP COMPARTMENT?

9 A. YES, SIR.

10 Q. AND WE HAVE SOME FOLIAGE THERE -- YOU SAID YOU
11 COULD NOT TELL FROM THE OTHER ONE, AND I CAN UNDERSTAND
12 WHY YOU COULD NOT.

13 BUT WE DO HAVE SOME FOLIAGE THERE WHICH IS HIGHER
14 THAN THE SIDE OF THE TROOP COMPARTMENT; DO WE NOT?

15 A. FROM THIS ANGLE, IN THIS PHOTOGRAPH, YES, SIR.

16 Q. YOU WOULD AGREE WITH THAT?

17 A. YES, SIR.

18 Q. AND IT IS GREEN; RIGHT?

19 A. WELL, IT IS GREEN AND BROWN.

20 Q. WELL, THERE IS A LOT OF GREEN IN THERE; ISN'T
21 THERE?

22 A. AND THERE IS A LOT OF BROWN, TOO. THERE IS PROBABLY
23 MORE BROWN THAN GREEN.

24 Q. A LOT OF BROWN AND A LOT OF GREEN.

25 A. YES.

1 Q. OKAY.

2 WOULD YOU EXPECT THERE TO BE GREEN FOLIAGE, THAT GREEN,
3 IF THIS WAS AN AREA IN WHICH THERE HAD BEEN ANY FLASH FIRE?

4 A. I HAVE SEEN GRASS THAT'S BEEN COMPLETELY BURNED
5 OVER AND STILL GREEN, AND RIGHT NEXT TO IT CHARCOAL BLACK.

6 Q. I --

7 A. SO IT DEPENDS ON THE FIRE CONDITIONS.

8 Q. I UNDERSTAND. I MEAN FOLIAGE -- MY GRASS LOOKS
9 LIKE THAT SOMETIMES. BUT IF THERE IS GREEN, IF THERE IS
10 THAT MUCH GREEN, YOU WOULD EXPECT IN A FLASH FIRE TO HAVE
11 SOME CHANGE OF COLOR; WOULD YOU NOT?

12 A. THAT -- IT WOULDN'T --

13 Q. IF IT HAD OCCURRED AT THAT POSITION?

14 A. IT WOULDN'T NECESSARILY BE UNIFORM, BUT YOU WOULD
15 EXPECT TO HAVE SOME DISCOLORATION, YES, SIR.

16 Q. ALL RIGHT.

17 NOW, SIR, DID YOU NOTE WHETHER THAT WAS STANDING WATER,
18 THIS INDICATION RIGHT HERE IN THE PICTURE? MAYBE YOU WOULD
19 LIKE TO COME DOWN AND LOOK AT IT.

20 A. IT APPEARS TO BE, BUT I DON'T THINK I COULD DEFINITELY
21 SAY THAT IS WHAT THAT IS.

22 Q. OKAY. ALL RIGHT.

23 NOW, THE NEXT PICTURE IS 5209, PLAINTIFFS' EXHIBIT
24 5209. THAT IS THE FRONT END OF THE TROOP COMPARTMENT;
25 IS IT NOT?

1 A. THE FRONT END WOULD BE ON THE LEFT SIDE OF THAT
2 PICTURE.

3 Q.. IT IS OVER HERE; RIGHT?

4 A. YES.

5 Q. AND THERE IS SOME FOLIAGE THERE THAT IS HIGHER
6 THAN THE FLOOR; IS THERE NOT?

7 THE COURT: HIGHER THAN THE WHAT?

8 MR. DUBUC: THE FLOOR, THE BOTTOM, YOUR HONOR.

9 THE COURT: ALL RIGHT.

10 BY MR. DUBUC:

11 Q. AND ON THE SIDE, AS WELL; IS THAT TRUE? DO
12 YOU AGREE WITH THAT?

13 A. IT APPEARS TO BE, BUT I CAN'T AGREE ENTIRELY
14 WITH THAT. BECAUSE IF THE CAMERA LENS IS AT A LOW LEVEL
15 BEHIND SOME CLOSE FOLIAGE, IT CAN MAKE IT APPEAR TO BE
16 MUCH HIGHER, AND VICE-VERSA.

17 IF YOU TAKE THE CAMERA LENS AT A MUCH HIGHER ANGLE,
18 YOU COULD HAVE TALL FOLIAGE WHICH WOULD LOOK MUCH LOWER,
19 MUCH SHORTER.

20 Q. CAN YOU SEE THE BOTTOM LINE OF THE TROOP COMPARTMENT,
21 SIR?

22 A. NO, SIR.

23 Q. WOULD IT BE A FAIR INFERENCE, FROM LOOKING AT
24 THIS PICTURE, IF YOU CAN'T SEE THE BOTTOM LINE, THAT THE
25 FOLIAGE IS HIGHER THAN THAT BOTTOM LINE?

1 A. NO, SIR.

2 Q. YOU DON'T AGREE WITH THAT?

3 A. NO, SIR.

4 Q. ALL RIGHT. NOW, THE NEXT PICTURE -- WE WILL
5 SEE IF WE CAN CLARIFY IT FOR YOU. I THINK WE HAVE ANOTHER
6 ONE HERE.

7 MR. DUBUC: YOUR HONOR, THIS IS EXHIBIT 5207,
8 PLAINTIFFS' EXHIBIT 5207. THIS IS ALSO DEFENDANTS' 1321.
9 IT IS THE SAME PICTURE. I JUST THOUGHT I WOULD IDENTIFY
10 IT FOR THE COURT, BECAUSE IT WILL COME UP AGAIN.

11 BY MR. DUBUC:

12 Q. THAT IS THE FRONT OF THE TROOP COMPARTMENT; IS
13 IT NOT?

14 A. THE GENERAL AREA, BUT THAT STRUCTURE THAT YOU
15 ARE LOOKING AT IS REALLY PART OF THE AFT WING SPAR BOX
16 WEB STRUCTURE.

17 Q. YOU ARE SURE OF THAT?

18 A. YES, SIR.

19 Q. IN YOUR OPINION, THAT IS THE WING BOX, AND THEN
20 THE WALL IN FRONT OF THE TROOP COMPARTMENT IS BACK SOME
21 DISTANCE FROM THIS?

22 A. IT IS POSSIBLE THAT IT IS ADJACENT TO IT, WHERE
23 THAT RECTANGULAR OPENING APPEARS IN THE CENTER OF THE PHOTO-
24 GRAPH.

25 Q. OKAY. ALL RIGHT. AND THERE IS SOME FOLIAGE,

1 AGAIN, IN THIS PICTURE. IN FACT, THERE IS A PIECE THERE
2 THAT CERTAINLY IS HIGHER -- A COUPLE OF PIECES THAT ARE
3 CERTAINLY HIGHER THAN THAT TROOP-COMPARTMENT FLOOR BY THREE
4 OR FOUR FEET, AT LEAST; IS THERE NOT?

5 A. AGAIN, I CAN'T --

6 Q. RIGHT HERE?

7 A. I CAN'T ESTIMATE A DIMENSION FROM THAT PHOTOGRAPH,
8 NO, SIR. I CAN'T TELL IF IT IS TEN-INCHES HIGH OR THREE-
9 FEET HIGH.

10 Q. DO YOU RECALL HOW HIGH THE TROOP COMPARTMENT
11 WAS? I THOUGHT YOU MENTIONED THAT YESTERDAY.

12 A. IT IS ABOUT SEVEN-AND-A-HALF FEET.

13 Q. ALL RIGHT. SO THIS IS AT LEAST A THIRD OF THAT;
14 ISN'T IT?

15 A. IN THIS PHOTOGRAPH, BUT IF THIS PIECE OF GRASS
16 THAT IS SHOWN ON THE LEFT SIDE IS INCHES AWAY FROM THE
17 CAMERA LENS, AND THAT STRUCTURE IS 15 OR 20 FEET AWAY,
18 IT COULD APPEAR THAT IT WOULD EVEN BE HIGHER THAN THE FUSELAGE.
19 IT DEPENDS ON THE CAMERA ANGLE.

20 I CAN'T ESTIMATE FROM THAT PHOTOGRAPH WHAT THE HEIGHT
21 OF THAT FOLIAGE IS, SIR.

22 Q. SIR, THE CAMERA IS OVER HERE ON THE LEFT SIDE
23 OF THE TROOP COMPARTMENT. IT HAS TO BE, IN ORDER TO PICK
24 UP THAT WHOLE FRONT; DOES IT NOT?

25 A. YES, SIR.

1 Q. OKAY.

2 HOW WIDE IS THAT TROOP COMPARTMENT THERE? DO YOU
3 REMEMBER THAT?

4 A. NOT EXACTLY.

5 Q. WELL, IT IS 10 OR 15 FEET; ISN'T IT?

6 A. TWELVE FEET, PERHAPS.

7 Q. TWELVE FEET ACROSS?

8 A. APPROXIMATELY, YES, SIR.

9 Q. AND ARE YOU SUGGESTING THAT THIS CAMERA IS ONLY
10 INCHES AWAY FROM THOSE BUSHES?

11 A. IT COULD BE, YES, SIR. I CAN TAKE PHOTOGRAPHS
12 WHICH MAKE A BLADE OF GRASS LOOK TALLER THAN THE WASHINGTON
13 MONUMENT.

14 I JUST DON'T KNOW WHAT THE CAMERA ANGLE IS. I CAN'T
15 TELL WHAT FOCAL-LENGTH LENS WAS USED ON THE CAMERA WITH
16 WHICH THIS PICTURE WAS TAKEN.

17 I DON'T THINK ANYBODY COULD GIVE YOU A REASONABLE
18 ESTIMATE OF THE HEIGHT OF THAT TERRAIN FROM THIS PHOTOGRAPH.

19 Q. WELL, SIR, I JUST WANT TO BE SURE I UNDERSTAND
20 THIS, BECAUSE I MUST ADMIT THAT I DON'T. MAYBE I AM DENSE.

21 BUT IF YOU WERE DIRECTLY BEHIND THAT PLANT HERE, WHICH
22 IS THREE OR FOUR FEET HIGH, OR AT LEAST IT APPEARS TO BE,
23 IF YOU WERE DIRECTLY BEHIND THAT, AND YOU GOT DOWN LOW
24 ENOUGH RIGHT BEHIND IT AND TOOK THE PICTURE UP, YOU ARE
25 SAYING YOU COULD MAKE IT LOOK THREE OR FOUR FEET HIGH;

1 IS THAT CORRECT?

2 A. YES, SIR.

3 Q. WHAT I DON'T UNDERSTAND IS HOW YOU CAN BE STANDING
4 OVER HERE, NOT DIRECTLY IN FRONT OF IT, BUT Laterally TO
5 IT, AND HOW YOU COULD GET DOWN LOW ENOUGH TO MAKE IT APPEAR
6 THREE FEET, AND DO IT WHEN YOU SAY THE CAMERA IS ONLY INCHES
7 AWAY FROM IT.

8 I DON'T SEE HOW THE CAMERA COULD BE HERE, AT LEAST
9 SIX OR SEVEN FEET -- YOU SAY THE THING IS 10 OR 12 FEET
10 WIDE.

11 I DON'T SEE HOW THE CAMERA CAN BE SIX OR SEVEN FEET
12 HERE, Laterally OVER THERE, AND THAT STILL POSSIBLY BE
13 ONLY INCHES HIGH.

14 CAN YOU TELL ME HOW THAT WOULD BE DONE?

15 A. YES, SIR.

16 IF I AM TAKING A PICTURE OF THAT FUSELAGE FROM THIS
17 DISTANCE, FROM ME TO THAT PHOTOGRAPH, AND I HAVE A SMALL
18 PLANT PERHAPS THREE INCHES HIGH, I CAN PUT THAT A FOOT
19 OR SO AWAY FROM MY CAMERA LENS.

20 AND WHEN I TAKE THE PICTURE, IT MAKES IT LOOK LIKE
21 THAT LITTLE THREE-INCH-HIGH PLANT IS FOUR-, FIVE-, OR SIX-
22 FEET-TALL IN THE PICTURE.

23 I DON'T KNOW THE DIMENSION OF THAT PLANT THAT I AM
24 LOOKING AT. IT MAY BE A TINY LITTLE PLANT CLOSE, OR
25 IT MAY BE A VERY TALL PLANT FAR AWAY -- CLOSER TO THE

1 STRUCTURE.

2 I CAN'T TELL FROM THAT PHOTOGRAPH, SIR.

3 Q. NOW, SIR, DOESN'T THE RELATIVE SIZE OF THINGS
4 IN THE AREA HAVE TO REMAIN THE SAME? IF THE PLANT IS
5 ONLY A FEW INCHES HIGH HERE, THEN I SUPPOSE THIS DEPICTS
6 THE TROOP COMPARTMENT AS 40 OR 50 FEET HIGH.

7 I MEAN, RELATIVELY, THEY HAVE TO CHANGE TOGETHER.
8 YOU CAN'T BLOW THE PLANT UP AND KEEP THE TROOP COMPARTMENT
9 THE SAME SIZE; CAN YOU?

10 A. IF ALL OF THE FOLIAGE WAS IDENTICAL IN THE AREA,
11 AND YOU KNEW THE HEIGHT OF THAT FOLIAGE, THEN YOU WOULD
12 HAVE SOME BASIS TO MAKE A JUDGMENT.

13 Q. ALL RIGHT, SIR. WE WILL TRY TO DO THIS WITH
14 ANOTHER PICTURE.

15 DO YOU NOTE THE BOTTOM OF THE TROOP COMPARTMENT THERE?

16 A. THAT APPEARS TO BE FLOOR-LEVEL IN THE AFT TROOP
17 COMPARTMENT.

18 Q. AND THERE IS SOME FOLIAGE ALSO UNDER THERE?

19 A. YES, SIR.

20 Q. AND IN PART OF IT THE FOLIAGE ISN'T THERE, AND
21 YOU CAN SEE UNDER THERE; CAN YOU NOT?

22 A. YES, SIR.

23 Q. SO YOU CAN ACTUALLY SEE IN THERE. THERE IS
24 NOTHING IN FRONT OF IT. YOU CAN SEE RIGHT UNDER IT?

25 A. IN THAT PARTICULAR PORTION OF THE FLOOR, YES,

1 SIR.

2 Q. ALL RIGHT.

3 SO THERE IS CERTAINLY NO HILL THERE, IS THERE, WHERE

4 YOU CAN SEE UNDERNEATH IT? IT DIDN'T HIT ANYTHING THERE.

5 YOU CAN SEE UNDERNEATH IT.

6 ISN'T THAT TRUE, SIR?

7 A. THERE IS NO HILL BETWEEN WHERE THE CAMERA WAS

8 PLACED AND THE PICTURE WAS TAKEN. THERE MAY BE ONE UNDERNEATH

9 IT.

10 Q. AND THAT IS THE FRONT OF THE TROOP COMPARTMENT;

11 IS IT NOT, SIR?

12 A. BEHIND THAT AREA.

13 Q. THANK YOU.

14 MR. DUBUC: WOULD YOU INDULGE ME JUST A MOMENT,

15 YOUR HONOR?

16 THE COURT: CERTAINLY.

17 MR. DUBUC: I WOULD LIKE TO REQUEST THAT -- WE

18 HAVE SOME PICTURES, THREE OF THEM, I THINK THEY ARE, THREE

19 OR FOUR OF THEM.

20 THEY ARE ON SLIDES THAT ARE OUR EXHIBITS, BUT

21 THEY ARE OF THE SAME FRONT-END AREA WE WERE JUST TALKING

22 ABOUT.

23 I DON'T THINK THERE HAS BEEN ANY OBJECTION TO

24 THEM. IT IS JUST A MATTER OF OFFERING THEM, AS THESE WERE

25 OFFERED WITH MR. CARROLL.

1 AND I WOULD LIKE TO SHOW HIM THOSE ON THE QUESTION
2 WHERE WE HAVE MENTIONED THIS STANDING WATER, BECAUSE I
3 THINK THEY SHOW IT A LITTLE BIT BETTER.

4 IF WE CAN DO IT AT THIS POINT, I THINK IT WOULD
5 SAVE SOME TIME.

6 THE COURT: MR. MC MANUS?

7 MR. MC MANUS: YOUR HONOR, IF WE COULD JUST
8 HAVE THOSE SLIDES IDENTIFIED?

9 THE COURT: BEFORE YOU PUT IT UP, LET'S MAKE
10 SURE THERE IS NOT AN OBJECTION.

11 MR. DUBUC: YOU ARE GOING TO TALK TO MR. MC MANUS?

12 MR. CONNORS: YES.

13 THE COURT: DO YOU HAVE THE NUMBERS OF THE SLIDES,
14 THE EXHIBIT NUMBERS?

15 MR. DUBUC: MR. CONNORS HAS THOSE, YOUR HONOR.

16 THE COURT: I WOULD LIKE THEM ON THE RECORD.

17 MR. DUBUC: WHAT ARE THE NUMBERS, JOHN?

18 MR. CONNORS: D-1350, 1351, AND 1352.

19 MR. DUBUC: AND I UNDERSTAND THESE ARE SLIDES
20 THAT CAME OUT OF THAT MOVIE WE SAW YESTERDAY. THEY HAVE
21 JUST BEEN STOPPED FOR PURPOSES OF THE SLIDES.

22 THE COURT: IS THERE AN OBJECTION?

23 MR. MC MANUS: IF YOU WILL JUST GIVE ME A MOMENT,
24 SIR?

25 THE COURT: SURELY.

1 MR. MC MANUS: APPARENTLY, THE DEFENDANTS HAVE
2 TAKEN THE MOVIE AND HAVE BROKEN IT DOWN FRAME BY FRAME
3 AND MADE SLIDES.

4 SINCE WE HAVE SHOWN THE MOVE AND COUNSEL REPRESENTS
5 THAT THAT IS WHAT THOSE ARE, WE DO NOT HAVE ANY OBJECTION,
6 YOUR HONOR.

7 THE COURT: ALL RIGHT. WITHOUT OBJECTION, YOU
8 MAY PROCEED.

9 MR. DUBUC: THANK YOU, YOUR HONOR.

10 THE COURT: DO YOU WANT ANY LIGHTS OUT?

11 MR. DUBUC: I THINK WE HAD BETTER LET HIM GET
12 LINED UP, YOUR HONOR. I DON'T KNOW IF HE CAN DO IT IN
13 THE DARK OR NOT.

14 THE COURT: ALL RIGHT.

15 BY MR. DUBUC:

16 Q. MR. CARROLL, I AM GOING TO ASK YOU ABOUT THESE
17 PICTURES. YOU HAVE SEEN THE MOVIE, AS I UNDERSTAND IT.
18 IS THAT CORRECT?

19 A. YES, SIR.

20 Q. YOU MAY OR MAY NOT HAVE SEEN SOME OF THESE PICTURES,
21 BUT MAYBE YOU WOULD LIKE TO COME UP HERE AND TAKE A LOOK.

22 MY QUESTION IS:

23 YOU HAVE SEEN THE MOVIE, AND CONSIDERING THIS IS OUT
24 OF THE MOVIE, DO YOU NOTE THAT THERE IS STANDING WATER AROUND
25 THE TROOP COMPARTMENT IN SEVERAL PLACES, INCLUDING RIGHT

1 UP HERE, NEAR THE FRONT? DO YOU SEE THAT? IF YOU WANT
2 TO COME DOWN HERE AND LOOK AT IT, THAT IS FINE. WHY DON'T
3 YOU COME DOWN HERE?

4 THE COURT: YOU DON'T HAVE TO, MR. CARROLL.

5 BY MR. DUBUC:

6 Q. YOU DON'T HAVE TO, IF YOU DON'T WANT TO.

7 THE COURT: IF YOU WANT TO SIT RIGHT THERE, YOU
8 CAN.

9 BY MR. DUBUC:

10 Q. IF YOU WANT TO USE YOUR GLASSES, YOU CAN; OR
11 IF YOU WANT TO USE A MAGNIFYING GLASS, WE PROBABLY HAVE
12 ONE.

13 A. CAN YOU MAKE IT ANY SHARPER THAN THAT?

14 MR. CONNORS: I THINK IT IS THE LIGHTING.

15 THE COURT: DO YOU WANT SOME MORE LIGHTS OFF?

16 MR. CONNORS: THAT MIGHT HELP, SIR.

17 THE COURT: REDUCE THE LIGHTS.

18 MR. DUBUC: THERE, THAT IS FINE.

19 THE COURT: OKAY. LEAVE THE DOOR AJAR.

20 BY MR. DUBUC:

21 Q. DO YOU SEE THIS WATER, SIR?

22 A. I CAN USE YOUR POINTER AND POINT TO THE AREAS
23 WHERE I SEE THE WATER.

24 Q. DO YOU WANT TO COME DOWN AND USE IT?

25 A. YES.

1 Q. SURE. FINE. OKAY.

2 A. IN THIS PHOTOGRAPH, FROM A DISTANCE, THIS WOULD
3 APPEAR TO BE WATER OVER THE TOP OF THIS AFT FUSELAGE.

4 THE COURT: YOU WILL HAVE TO SPEAK LOUDER, MR.
5 CARROLL.

6 THE WITNESS: THIS APPEARS TO BE WATER IN THE
7 AREA OF THE PHOTOGRAPH OVER THE TOP OF THE AFT TROOP COMPARTMENT.
8 THERE APPEARS TO BE WATER AT THE AFT END.

9 THE REASON I WANTED TO COME DOWN HERE IS TO SEE
10 IF I COULD TELL IF THIS OTHER DISCOLORATION WAS WATER OR
11 DISCOLORATION OF THE FOLIAGE.

12 IN THIS PHOTOGRAPH IT LOOKS LIKE WATER AROUND
13 THE AFT END.

14 AT THE FORWARD END, I CAN'T TELL IF THAT'S WATER
15 OR DISCOLORATION. IT COULD BE EITHER.

16 BY MR. DUBUC:

17 Q. IS THAT FORWARD END THERE -- THAT IS THAT FORWARD
18 WALL WHICH YOU PREVIOUSLY SAID YOU THOUGHT WAS PART OF
19 THE WING STRUCTURE AND THE TROOP COMPARTMENT THAT WE WERE
20 LOOKING AT IN THE PRIOR PICTURE?

21 RIGHT HERE; IS THAT THE ONE?

22 A. THAT WOULD BE THE FORWARD AREA, THE WING BOX.

23 Q. AND THERE IS SOME FOLIAGE HERE AGAIN, BETWEEN
24 US AND THE TROOP COMPARTMENT; ISN'T THERE?

25 A. YES, SIR.

1 Q. ALL RIGHT.

2 AND IT APPEARS TO BE A LITTLE HIGHER THAN THE BOTTOM
3 OF THE TROOP COMPARTMENT; DOES IT NOT?

4 A. I CAN'T TELL FROM THAT PHOTOGRAPH, SIR.

5 Q. ALL RIGHT. LET'S HAVE THE NEXT SLIDE.

6 HOW ABOUT THIS ONE; DO YOU SEE SOME STANDING WATER
7 THERE? THIS IS FROM THAT OTHER SIDE THAT WAS HARD TO
8 SEE. IT IS FROM THE LEFT SIDE.

9 YOU HAVE ALREADY TOLD US THERE WAS SOME BACK HERE.
10 NOW YOU CAN SEE THE OTHER SIDE.

11 DOES THAT APPEAR TO BE STANDING WATER UP NEAR THE
12 FRONT HERE?

13 A. NOT TO ME, SIR, NO. AT THE AFT END IT DOES --
14 I WOULDN'T EVEN CHARACTERIZE WHAT I SEE THERE AS WATER.
15 IT MIGHT JUST BE WET MUD.

16 Q. OKAY.

17 THERE IS SOME BLUE IN HERE. YOU MAY NOT BE ABLE
18 TO SEE IT FROM THERE, AND I DON'T WANT TO TRY TO PUT WORDS
19 IN YOUR MOUTH.

20 BUT THE AREAS THAT ARE KIND OF BLUISH, ARE THOSE THE
21 ONES THAT ARE, IN YOUR OPINION, STANDING WATER? IS THAT
22 HOW YOU MAKE A DETERMINATION, OR ARE YOU USING SOME OTHER
23 METHOD?

24 A. NO, NOT THE COLOR OF IT.

25 Q. WELL, IF YOU ARE NOT DOING IT BY THE COLOR, HOW

1 ARE YOU DOING IT?

2 A. JUST THE SAME WAY ANYONE WOULD LOOK AT A PHOTOGRAPH
3 AND INTERPRET IT AS BEING WET OR DRY, OR BEING UNABLE TO
4 TELL.

5 Q. IN OTHER WORDS, YOU --

6 A. IN THIS PHOTOGRAPH THAT DARKENED AREA IN THE
7 LOWER CENTER OF THE PICTURE APPEARS MORE TO BE THE RESULT
8 OF FIRE THAN STANDING WATER.

9 Q. THIS HERE?

10 A. THE DARK AREA THERE, YES, SIR.

11 Q. AND THIS HERE? THIS?

12 A. THE DARK AREA IN THE CENTER OF THE PHOTOGRAPH.

13 Q. I SEE. WITH GREEN ON BOTH SIDES; RIGHT?

14 A. YES, SIR.

15 Q. OKAY.

16 SO YOU DON'T SEE ANY -- YOU DON'T SEE ANY BLUE WATER
17 ON THIS SIDE?

18 A. THERE MAY BE, AND, THEN, AGAIN, IT MAY JUST BE
19 BURNED FOLIAGE OR --

20 Q. OKAY. LET'S SEE THE NEXT SLIDE.

21 DOES THAT HELP YOU ANY? THIS IS FROM THE TOP, THE
22 SAME AREA. DO YOU SEE THIS IN HERE, THIS BLUISH COLOR
23 THAT APPEARS ALL OVER THE PLACE? IF YOU WANT TO COME
24 UP AND TAKE A CLOSER LOOK, FINE.

25 A. WELL, IT IS THE SAME AS THE OTHER PHOTOGRAPHS.

1 IN THIS ONE IT APPEARS THAT THERE IS STANDING WATER AT
2 THE AFT END AND ON BOTH THE LEFT AND RIGHT TOWARD THE AFT
3 END.

4 THE DISCOLORATION, AGAIN, IN THE CENTER OF THIS SLIDE,
5 IS HARD TO DISCERN AS TO WHETHER IT IS WATER OR BURNED
6 FOLIAGE.

7 IT IS DIFFERENT ENOUGH IN ITS VISUAL CHARACTERISTICS
8 TO SUGGEST THAT IT IS NOT JUST STANDING WATER.

9 Q. ALL RIGHT.

10 AGAIN, YOU ARE NOT DOING IT FROM THE COLOR, AS YOU
11 HAVE TOLD US. YOU ARE DOING IT SOME OTHER WAY; IS THAT
12 RIGHT?

13 A. IT IS A COMBINATION OF COLOR, TEXTURE, AND GENERAL
14 RELATIONSHIP TO THE OTHER FOLIAGE.

15 Q. ALL RIGHT, SIR.

16 NOW, AGAIN, WE HAVE THE FOLIAGE HERE WITH THE TROOP
17 COMPARTMENT, AND THE FOLIAGE IS JUST BEYOND THE FRONT OF
18 THE TROOP COMPARTMENT; IS THAT CORRECT?

19 A. THAT LOOKS TO BE CORRECT, YES, SIR.

20 Q. OKAY. THANK YOU, SIR.

21 NOW, MR. CARROLL, WHEN DID YOU FIRST START YOUR ANALYSIS
22 ON THIS CASE?

23 A. I THINK YOU ASKED ME THAT --

24 THE COURT: NOW, MR. DUBUC, COME TO THE BENCH,
25 PLEASE.

1 (AT THE BENCH)

2 THE COURT: I HAVE TOLD YOU THREE TIMES NOT TO
3 GET INTO SOMETHING THAT WOULD REQUIRE ME TO EXPLAIN WHERE
4 THE PICTURES WERE.

5 IF YOU ARE GOING TO MAKE A POINT OF THE FACT
6 THAT HE HAS NOT HAD ANY MORE TIME THAN HE HAS HAD SINCE
7 THE TIME THEY HAD THE PICTURES UNTIL NOW, I AM GOING TO
8 BLOW THE WHISTLE.

9 MR. DUBUC: WELL, I WILL DROP THAT, THEN. I
10 JUST WANT TO ASK HIM HOW MUCH, AND WHAT HE HAS DONE, YOUR
11 HONOR.

12 THE COURT: WELL, YOU JUST ARE PLAYING WITH DYNAMITE.

13 MR. DUBUC: ALL RIGHT, SIR.

14 (OPEN COURT)

15 BY MR. DUBUC:

16 Q. SIR, YOU HAVE TOLD US YOU HAVE LOOKED AT HUNDREDS
17 OF PICTURES; IS THAT CORRECT?

18 A. IN THIS CASE, YES.

19 Q. AND A MOVIE?

20 A. YES.

21 Q. AND SEVERAL REPORTS; IS THAT RIGHT?

22 A. RIGHT.

23 Q. YOU LOOKED AT DR. MORAIN'S AND DR. TURNER'S REPORTS,
24 AND YOU RELIED ON THEM; IS THAT CORRECT?

25 A. YES, SIR.

1 Q. AND YOU LOOKED AT MR. EDWARDS' REPORT?

2 A. YES, SIR.

3 Q. AND YOU READ THE COLLATERAL REPORT?

4 A. YES, SIR.

5 Q. THE COLLATERAL REPORT IS PRETTY THICK?

6 A. YES, SIR.

7 Q. SEVERAL HUNDRED PAGES?

8 A. PERHAPS, YES, SIR.

9 Q. AND YOU INDICATED YOU HAD LOOKED AT THE WITNESS
10 STATEMENTS AND ALL OF THIS STUFF, PROBABLY HUNDREDS OF
11 DOCUMENTS?

12 A. YES, SIR.

13 Q. AND HUNDREDS -- MAYBE OVER A THOUSAND PICTURES;
14 IS THAT RIGHT?

15 A. YES, SIR.

16 Q. DID YOU WRITE ANY REPORT OF THIS?

17 A. NO, SIR.

18 Q. DID YOU TAKE ANY NOTES OF ALL OF THESE THOUSANDS
19 OF PICTURES AND HUNDREDS OF DOCUMENTS THAT YOU LOOKED AT,
20 SIR?

21 A. JUST MENTAL NOTES.

22 Q. ALL IN YOUR HEAD?

23 A. YES, SIR.

24 Q. I SEE.

25 AND SOME OF THESE YOU LOOKED AT IN THE LAST WEEK

1 OR SO?

2 A. YESTERDAY.

3 Q. YESTERDAY?

4 A. YES.

5 Q. YOU MEAN HERE IN COURT?

6 A. YES, SIR.

7 Q. AND THEN SOME OF THESE YOU LOOKED AT A MONTH
8 OR TWO AGO?

9 A. YES, SIR.

10 Q. OR MAYBE EVEN BEFORE THAT?

11 A. YES, SIR.

12 Q. SO YOU HAVE RETAINED THIS ALL IN YOUR HEAD?

13 A. YES, SIR.

14 Q. OKAY.

15 NOW, YOU HAD OCCASION TO MEET DR. MORAIN AND DR. TURNER;
16 DID YOU NOT, SIR?

17 A. I MET THEM BRIEFLY WHILE THEY WERE WORKING AT
18 THE OFFICE WHERE I WAS, BUT --

19 Q. SOMETIME IN OCTOBER OF 1981?

20 A. OCTOBER OR NOVEMBER.

21 Q. AND YOU DISCUSSED THE CASE WITH THEM?

22 A. I DIDN'T DEVOTE ANY TIME, IN PARTICULAR, TO THAT.
23 WE WERE THERE, WORKING ON THE SAME CASE TOGETHER, AND WE
24 EACH HAD OUR OWN AREAS OF INTEREST.

25 I HAD DISCUSSIONS ON AND OFF ON DIFFERENT POINTS

1 ABOUT ASKING: HAD THEY SEEN A PICTURE THAT COVERED THIS
2 OR THAT, THAT SORT OF THING.

3 Q. HAVE YOU DISCUSSED THIS WITH ANY OTHER EXPERTS,
4 OTHER THAN DR. TURNER AND DR. MORAIN?

5 A. DR. COHEN.

6 Q. DR. COHEN?

7 A. YES.

8 Q. HE WORKS WITH THE LEWIS FIRM?

9 A. YES, SIR.

10 Q. OKAY. ANYBODY ELSE?

11 A. ON THE SAME BASIS, THE DOCTOR FROM SCOTLAND WAS
12 THERE.

13 Q. DR. MASON?

14 A. DR. MASON. HE WAS THERE ONE DAY, BUT I DIDN'T
15 HAVE ANY LENGTHY DISCUSSIONS WITH HIM, EITHER.

16 Q. BUT YOU DISCUSSED THE CASE.

17 WAS THIS BEFORE OR AFTER DR. MORAIN AND DR. TURNER
18 WROTE THEIR REPORTS THAT YOU TALKED TO THEM?

19 A. THAT WOULD HAVE BEEN ABOUT AT THE TIME THAT THEY
20 WERE PREPARING THEIR MATERIALS.

21 Q. OKAY.

22 IT WAS BEFORE THEY FINISHED THEIR REPORTS?

23 A. YES. I HAVEN'T SEEN ANY OF THEM SINCE THAT
24 TIME.

25 Q. WELL, YOU HAVE SEEN THE REPORTS SINCE?

1 A. YES, SIR.

2 Q. OKAY. MY QUESTION IS WHETHER YOU MET WITH THEM
3 BEFORE THEY WROTE THEIR REPORTS, AND THE TIME SEQUENCE --
4 I THINK WE SAID OCTOBER AND NOVEMBER. THE REPORTS WERE
5 LATER THAN THAT; WERE THEY NOT?

6 A. YES, SIR.

7 Q. OKAY.

8 YOU MENTIONED YOU HAD NOT READ THE DEPOSITION TESTIMONY
9 OF THE OCCUPANTS AND THE CREW, THEIR PRIOR TESTIMONY.

10 THERE ARE A COUPLE OF OTHER REPORTS THAT GO TO YOUR
11 AREA, AND I AM JUST WONDERING WHETHER YOU HAVE SEEN THEM.

12 HAVE YOU SEEN DR. BERRY'S REPORT, CHARLES BERRY?

13 A. THAT'S THE ONE THAT HAD TO DO WITH RAPID DECOMPRESSION

14 Q. AND --

15 A. I THINK THAT IS DR. BERRY'S REPORT.

16 Q. SO YOU DID LOOK AT THAT?

17 A. I THINK THAT'S THE REPORT. I CAN'T RECALL IT
18 PRECISELY NOW.

19 Q. DO YOU KNOW DR. BERRY BY REPUTATION?

20 A. I KNOW HIM PERSONALLY.

21 Q. YOU KNOW HIM PERSONALLY?

22 A. YES, SIR.

23 Q. OKAY. HE IS AN AEROSPACE --

24 A. MEDICINE.

25 Q. (CONTINUING) -- MEDICINE EXPERT; IS THAT RIGHT?

1 A. YES, SIR.

2 Q. DOES HE ENJOY A GOOD REPUTATION IN THE FIELD?

3 A. I HAVEN'T SEEN HIM FOR 15 YEARS OR SO. SO I DON'T
4 KNOW WHAT HE IS DOING NOW OR WHAT HIS REPUTATION MIGHT
5 BE.

6 Q. I SEE.

7 WHEN YOU MET HIM, WHAT WERE THE CIRCUMSTANCES?

8 A. HE WAS A FLIGHT SURGEON IN THE AIR FORCE, AND
9 I WAS ON THE NATO ADVISORY GROUP ON AERONAUTICAL RESEARCH
10 AND DEVELOPMENT IN TURKEY. WE WERE ON THE SAME PANEL
11 THERE.

12 Q. OKAY.

13 I WAS WONDERING: YOU DIDN'T MEET DR. BERRY WHILE
14 HE WAS AT NASA?

15 A. NO. I SAW HIM ON TELEVISION.

16 Q. OKAY.

17 THERE IS ANOTHER REPORT BY DR. JAMES GAUME. DID
18 YOU HAPPEN TO SEE THAT ONE?

19 A. I DON'T RECOGNIZE THAT ONE, SIR.

20 Q. YOU DIDN'T SEE THAT REPORT?

21 A. I MAY HAVE. I JUST DON'T RECOGNIZE IT BY THAT
22 NAME, OR WHAT THE SUBJECT MIGHT HAVE BEEN.

23 Q. THE SUBJECT WAS FORCES AND DECOMPRESSION AND
24 THE SEQUENCE OF WHAT HAPPENED IN THE ACCIDENT, PREPARED
25 FOR THE DEFENDANT.

1 A. I THINK THAT WAS DR. TURNBOW'S REPORT THAT I
2 SAW.

3 Q. WELL, DR. GAUME HAD ONE, TOO, AND I AM JUST WONDERING
4 IF YOU HAVE SEEN IT.

5 THE COURT: HE SAID HE HAS NOT SEEN IT.

6 MR. DUBUC: OH, OKAY.

7 THE WITNESS: I MAY HAVE SEEN IT. I DON'T RECALL.

8 THE COURT: HE DOES NOT NOW RECALL SEEING IT.

9 MR. DUBUC: ALL RIGHT, SIR.

10 BY MR. DUBUC:

11 Q. HAVE YOU SEEN MR. EDWARDS' REPORT, THE ORIGINAL
12 REPORT, OR HAVE YOU SEEN HIS ORIGINAL REPORT AND THE SUPPLEMENTAL
13 ONE THAT WAS DONE IN DECEMBER OF 1981?

14 A. I HAVEN'T SEEN ONE THAT WOULD HAVE BEEN DONE
15 IN DECEMBER OF 1981 THAT I KNOW OF, NO.

16 Q. ALL RIGHT.

17 I THINK YOU TOLD US AT YOUR DEPOSITION IN OCTOBER
18 OR NOVEMBER -- THERE WERE TWO --

19 A. THERE WAS ONE EDWARDS REPORT AT THAT TIME, AND
20 THAT WAS IT. I HAVEN'T HEARD OF, OR SEEN, ANY OTHER ONE.

21 Q. OKAY.

22 SO YOU DIDN'T -- YOU WERE NOT SHOWN THE MORE RECENT
23 ONE DEALING PARTICULARLY WITH THE LENGTH OF THE TROOP COMPARTMENT
24 AND THE MEASUREMENTS OF THE TROOP COMPARTMENT AND SOME
25 OF THE GOUGES AND THE WHEELS THAT YOU HAVE MENTIONED HERE

1 TODAY?

2 A. NO, SIR.

3 Q. YOU WEREN'T SHOWN THAT BY MR. LEWIS; IS THAT
4 RIGHT?

5 A. I NEVER SAW THAT, NO.

6 Q. OKAY.

7 NOW, YOU MENTIONED YESTERDAY LANDING DISTANCES, AND
8 I THOUGHT I HEARD YOU SAY THAT THIS TROOP COMPARTMENT CAME
9 TO A STOP IN 1900 FEET, WHICH IS SHORTER THAN THE NORMAL
10 LANDING DISTANCE, WHICH IS 2003 FEET.

11 NOW, I MAY HAVE MISUNDERSTOOD YOU, BUT IS THAT THE
12 SUBSTANCE OF WHAT YOU SAID?

13 A. I THINK SOMEONE ELSE MAY HAVE SAID THAT, SIR.
14 I DON'T RECALL SAYING THAT.

15 Q. WELL, OKAY. MAYBE IT WAS IN THE HYPOTHETICAL.
16 YOU HAVEN'T ADDRESSED THAT?

17 A. YESTERDAY THERE WAS A HYPOTHETICAL QUESTION,
18 YES, SIR.

19 Q. OKAY.

20 BUT YOU HAVEN'T ADDRESSED THAT SUBJECT. YOU ASSUME
21 THOSE FACTS. YOU DON'T KNOW THOSE FACTS?

22 A. YES, SIR.

23 Q. ALL RIGHT.

24 YOU HAVE NO INFORMATION ON THE NORMAL LANDING DISTANCE
25 OR THE EMERGENCY LANDING DISTANCE OF THE C5-A?

1 A. I HAVE THE SPECS ON THE AIRCRAFT --

2 Q. OH, YOU DO?

3 A. (CONTINUING) -- AND THE DESIGN CHARACTERISTICS,
4 YES, SIR.

5 Q. IS IT 1900 FEET? IS THE NORMAL LANDING DISTANCE
6 1900 FEET?

7 A. I WOULD HAVE TO CHECK THOSE CHARACTERISTICS.
8 I DON'T --

9 Q. YOU DON'T HAVE IT?

10 A. I DON'T MEMORIZE THOSE THINGS, NO, SIR.

11 Q. OKAY.

12 NOW, YOU MENTIONED, I THOUGHT, YESTERDAY THAT YOU
13 THOUGHT, IN ANSWER TO ONE OF MR. MC MANUS' QUESTIONS YESTERDAY,
14 THERE WAS AN IMPACT ON THE EAST SIDE BEFORE IT CROSSED
15 THE RIVER, AND THERE WERE SOME -- THE GEARS SHEARED, AND
16 THERE WAS SOME STRUCTURAL DAMAGE TO THE AIRPLANE, AS WELL?

17 A. YES, SIR.

18 Q. NOW, WHEN YOU SAID THAT, WERE YOU TALKING ABOUT
19 STRUCTURAL IMPINGEMENT; IN OTHER WORDS, FORCES GOING THROUGH
20 THE TAIL AND THE REST OF THE AIRPLANE?

21 A. A COMBINATION OF FORCES THAT SHEAR COMPONENTS,
22 ERODE STRUCTURES, AND THEY ARE TRANSMITTED BY SHOCK OR
23 HIGH PEAK FORCES THROUGH THE REST OF THE STRUCTURE OF THE
24 AIRCRAFT.

25 Q. AND I THINK YOU TOLD US, ALSO, THAT THAT MIGHT

1 HAVE CAUSED SOME WEAKENING OR DAMAGE IN THE TAIL AREA,
2 SUBSEQUENTLY MANIFESTED BY HAVING THE TAIL COME OFF?

3 A. I WOULD BE VERY SURPRISED IF IT HADN'T BEEN THAT
4 WAY, YES, SIR.

5 Q. YOU THINK THERE WAS SOME?

6 A. YES, SIR.

7 Q. EVEN THOUGH THERE IS NO INDICATION THERE WAS SOME
8 STRUCTURAL WEAKENING IN THE TAIL?

9 A. WELL, THERE MAY EVEN BE PARTS THAT ARE UNIDENTIFIED
10 ON THE EAST SIDE OF THE RIVER.

11 Q. AND I THINK YOU TOLD US IN YOUR DEPOSITION -- IF YOU
12 WANT ME TO GET THE PAGE, I WILL GET IT, BUT I THINK THIS
13 IS WHAT YOU TOLD US -- YOU WOULD ALSO EXPECT, BECAUSE OF
14 THE MOTION OF THE AIRCRAFT, AND THE YAW, THAT THERE WOULD
15 BE SOME AIR LOADS ON THAT TAIL SECTION?

16 A. AIR LOADS ON THE SECTION, YES, SIR.

17 Q. AND THERE WOULD BE SOME INERTIAL LOADS?

18 A. YES, SIR.

19 Q. BECAUSE OF IMBALANCE IN FLIGHT, AND SO ON?

20 A. YES, SIR.

21 Q. AND I THINK YOU TOLD US THERE WOULD BE SOME LATERAL
22 SHEAR LOADS SPECIFICALLY RELATED TO YAWS, BECAUSE THE CONTROLS
23 WERE NOT OPERATING?

24 A. YES, SIR.

25 Q. AND IS IT ALSO TRUE THERE WOULD BE SOME VERTICAL

1 AND SHEAR LOAD, BECAUSE THE HORIZONTAL STABILIZER WAS NOT
2 OPERATIVE? IT WAS STABLE; IT WAS STUCK?

3 A. YES, SIR.

4 BECAUSE WHATEVER THE SINK RATE WAS, IT WAS ARRESTED,
5 AND THE LOADS WOULD BE APPLIED VERTICALLY IN THAT SITUATION.

6 Q. AND THERE WOULD BE SOME TORSION LOADS?

7 A. YES, SIR.

8 Q. AND ALL OF THOSE LOADS WOULD HAVE SOME IMPACT
9 OR IMPINGEMENT ON THE TAIL, THE EMPENNAGE AREA, AND WOULD
10 BE A FACTOR, WOULD THEY NOT, IN DETERMINING WHEN IT WOULD
11 COME OFF?

12 A. NOT EXCLUSIVE TO THE TAIL, BUT PERHAPS TO THE
13 OTHER PARTS OF THE AIRCRAFT AS WELL.

14 Q. WELL --

15 A. YES.

16 Q. (CONTINUING) -- THERE WOULD BE SOME -- CERTAINLY,
17 WITH THE RUDDER INOPERATIVE AND THE ELEVATOR INOPERATIVE,
18 AND THAT TAIL BEING AS BIG AS IT IS, WITH YAW, THERE WOULD
19 BE THOSE KINDS OF LOADS ON THAT TAIL AREA, WOULD THERE
20 NOT, BETWEEN THE FIRST IMPACT AND THE TIME IT CAME TO REST
21 THE SECOND TIME?

22 A. YES, SIR.

23 Q. AND ALL OF THOSE WOULD AFFECT, WOULD THEY NOT,
24 SIR, ANY COMPUTATION OF G-FORCES NECESSARY TO STRUCTURALLY
25 SEPARATE THE TAIL? THESE ALL WOULD BE FORCES OPERATING

1 IN THAT AREA?

2 A. I DON'T KNOW EXACTLY AT WHAT POINT IN TIME YOU
3 ARE REFERRING TO NOW. IS IT AT THE POINT THAT THE AIRCRAFT
4 FIRST TOUCHED DOWN ON THE EAST SIDE, OR IS IT AFTER THE
5 AIRPLANE BOUNCED ACROSS THE RIVER?

6 Q. WELL, I AM THINKING OF AFTER IT BOUNCED ACROSS
7 THE RIVER, AND I AM SPECIFICALLY THINKING ABOUT THE LOADS
8 THAT MIGHT BE OPERATIVE ON THE TAIL SECTION, WHICH, CUMULATIVELY,
9 WOULD BE OPERATIVE TO IMPINGE ON THE DAMAGE TO THE STRUCTURE,
10 AND ULTIMATELY THE TAIL SEPARATES.

11 WOULDNT'T THEY ALL BE FACTORS?

12 A. YES.

13 AND I CHARACTERIZE THAT AS BEING WEAKENED ON THE EAST
14 SIDE OF THE RIVER BY IMPACTS AND THEN THE ULTIMATE LOADS
15 FOR FAILURE BEING APPLIED ON THE WEST SIDE OF THE RIVER
16 IN THE MAJOR IMPACT AREA.

17 Q. AND YOU WOULD EXPECT THOSE TO BE ALL FACTORS
18 IN ANY CALCULATION OF THE ACTUAL SHEAR LOAD?

19 A. IF IT COULD BE CALCULATED, YES, SIR.

20 Q. I KNOW YOU DID NOT MAKE THE CALCULATIONS.

21 A. NO.

22 Q. BUT I GATHER YOU ARE KNOWLEDGEABLE OF THE GENERAL
23 AREA, GENERALLY?

24 A. YES, SIR. I KNOW DESIGN LOAD LIMITS, IN GENERAL,
25 FOR THAT TYPE OF STRUCTURE.

1 Q. NOW, SIR, THAT DAMAGE, AS YOU HAVE DESCRIBED
2 IT, THAT IS TRANSMITTED THROUGH THE TAIL, WOULD THAT HAVE
3 BEEN OF SOME SIGNIFICANCE IN WEAKENING THE STRUCTURE OF
4 THE TAIL, IN YOUR OPINION?

5 A. AT WHAT POINT, AGAIN, SIR?

6 Q. WELL, WHEN IT FIRST HIT, THE WHEELS CAME OFF
7 ON THE EAST SIDE OF THE RIVER. YOU INDICATED THERE WOULD
8 BE SOME DAMAGE TRANSMITTED THROUGH THE STRUCTURE.

9 A. I WOULD EXPECT THERE TO BE SOME AT THAT POINT,
10 YES, SIR.

11 Q. SO --

12 A. OBVIOUSLY, NOT ENOUGH TO FAIL IT ON THAT SIDE,
13 BUT WHEN IT HIT DOWN THE SECOND TIME ON THE WEST SIDE OF
14 THE RIVER, THE MAJOR IMPACT ON THE WEST SIDE OF THE RIVER,
15 THAT IS WHEN THE FAILURE DID OCCUR.

16 Q. NOW, WOULD THERE BE SOME RESIDUAL STRUCTURAL
17 DAMAGE, SO THAT, FOR THE PURPOSES OF THIS QUESTION, IF
18 YOU ARE DETERMINING AT WHAT LOAD IT FAILS ON THE WEST SIDE
19 OF THE RIVER, BECAUSE OF THE DAMAGE ON THE EAST SIDE, STRUCTURAL
20 DAMAGE, IT WOULD POSSIBLY FAIL AT A LOWER SHEAR LOAD?

21 A. POSSIBLY.

22 Q. OTHER THAN -- AS COMPARED TO AN AIRPLANE THAT
23 HAD NOT HAD A HARD LANDING --

24 A. ONE THAT WAS INTACT.

25 Q. INTACT. OKAY.

1 A. POSSIBLY, YES, SIR.

2 Q. ALL RIGHT.

3 NOW, SIR, WE MENTIONED IN THE HYPOTHETICAL -- AND
4 I THOUGHT I HEARD YOU INDICATED THAT YOU AGREED -- WE MENTIONED
5 AVERAGE -- MR. MC MANUS MENTIONED AVERAGE G'S, HORIZONTAL
6 G'S IN THE TROOP COMPARTMENT, OF SEVEN TO 13 IN HIS HYPOTHETICAL.

7 HAVE YOU LOOKED AT THOSE NUMBERS?

8 A. THOSE, YES, I HAVE.

9 Q. AND I THINK YOU MENTIONED THAT ONE OF THE FACTORS
10 IN DETERMINING SURVIVABILITY WAS YOUR DESCRIPTION OF THE
11 COMPONENT REMAINING INTACT, AND THE FORCES NOT BEING BEYOND
12 HUMAN TOLERANCE, AND I FORGET WHAT THE THIRD ONE WAS. BUT
13 THOSE WERE TWO OF THE FACTORS; WERE THEY NOT?

14 A. YES, SIR.

15 Q. ALL RIGHT.

16 NOW, IN READING THE STATEMENTS THAT YOU READ -- I
17 REALIZE YOU DIDN'T READ THE TESTIMONY, BUT THE STATEMENTS --
18 DIDN'T SOME OF THOSE INDICATE SOME OF THE NURSES AND SOME
19 OF THE CIVILIANS IN THE TROOP COMPARTMENT WERE NOT IN SEATS,
20 BUT, IN FACT, WERE BRACED, UNRESTRAINED BY SEATBELTS AND
21 UNRESTRAINED BY SEATBACKS?

22 A. I CAN RECALL ONE STATEMENT IN PARTICULAR. I
23 DON'T KNOW IF THERE WERE SEVERAL. THERE MAY HAVE BEEN.
24 I THINK THERE WAS ONE WOMAN THAT WAS UNRESTRAINED AND PERHAPS
25 ONE MALE ATTENDANT WHO WAS IN THE LADDER AREA WHO WAS

1 INJURED.

2 Q. WELL, I WANT YOU TO ASSUME, SIR, THAT AT LEAST
3 THREE NURSES DIDN'T HAVE SEATS, SEATBELTS; NO SEATBACK
4 BEHIND THEM; THEY WERE EITHER LEANING OVER, BRACED, OR
5 SEATED ON THE FLOOR, HOLDING ON WITH THEIR HANDS.

6 AND ASSUME THAT A 58-YEAR-OLD PEDIATRICIAN, A PHYSICIAN,
7 WAS ALSO BRACED; NO SEATBELT, NO BACK TO A SEAT, BUT STANDING,
8 BRACING HIMSELF BETWEEN THE SEATS.

9 ONE OF THE NURSES WAS IN THE AISLE.

10 ASSUME THAT ONE OF THE CIVILIANS FROM THIS ORGANIZATION,
11 FRIENDS FOR ALL CHILDREN, MISS LIEVERMANN, WAS STANDING,
12 BRACED, OR CROUCHING AND BRACED; NO SEATBELT; NO SHOULDER
13 HARNESS; NO BACK TO A SEAT; NOTHING, EXCEPT WHAT SHE CAN
14 HOLD ON TO. SHE IS HOLDING ON, BRACED. ASSUME THAT.

15 YOU MENTIONED YOU HAD HUMAN FACTORS EXPERIENCE.

16 A. YES, SIR.

17 Q. NOW, AT WHAT G-LEVEL CAN, SAY, A 25- OR 30-YEAR-OLD
18 WOMAN HANG ON, UNRESTRAINED BY A SEATBELT OR A SEATBACK --

19 THE COURT: BEFORE YOU ANSWER THAT --

20 BY MR. DUBUC:

21 Q. (CONTINUING) -- FOR ANY GIVEN TIME?

22 THE COURT: IS THERE AN OBJECTION?

23 MR. MC MANUS: MAY WE APPROACH THE BENCH, YOUR
24 HONOR?

25 THE COURT: WE WILL TAKE A RECESS AT THIS TIME.

1 EXCUSE THE JURORS.

2 LADIES AND GENTLEMEN, WE WILL TAKE ABOUT A 15-MINUTE
3 RECESS.

4 (THE FOLLOWING PROCEEDINGS WERE HAD WITHOUT THE PRESENC
5 AND HEARING OF THE JURY:)

6 MR. MC MANUS: YOUR HONOR, I BELIEVE THAT COUNSEL
7 HAS GIVEN AN INCOMPLETE HYPOTHETICAL.

8 I WOULD JUST ASK THAT HE GO THROUGH A COMPLETE
9 LIST OF ALL OF THOSE INJURED IN THE TROOP COMPARTMENT,
10 IF HE IS GOING TO BE ASKING THIS WITNESS --

11 THE COURT: THAT WILL BE DEVELOPED, MR. MC MANUS.

12 MR. DUBUC: I AM NOT GOING INTO ALL OF THEM.
13 I AM JUST TRYING TO GET SOME EXAMPLES.

14 THE COURT: THE OBJECTION IS OVERRULED. YOU
15 MAY STEP DOWN, MR. CARROLL.

16 THE WITNESS: THANK YOU, SIR.

17 MR. DUBUC: YOUR HONOR, MR. CARROLL PROBABLY
18 DIDN'T HEAR US LAST NIGHT. I DON'T KNOW IF HE KNOWS THE
19 RULE OR NOT, WHILE HE IS ON THE STAND.

20 THE COURT: WELL, HIS LAWYERS KNOW IT.

21 MR. DUBUC: OKAY. FINE.

22 MR. MC MANUS: IT WAS MADE VERY CLEAR TO HIM,
23 YOUR HONOR.

24 MR. DUBUC: FINE.

25 THE COURT: NOW, HOW MUCH MORE DO YOU HAVE,

1 MR. DUBUC?

2 MR. DUBUC: I HAVE VERY LITTLE, YOUR HONOR. I
3 THINK WE HAVE THIS AREA AND ONE OR TWO OTHER QUESTIONS,
4 YOUR HONOR.

5 THE COURT: ACCORDING TO MY CALCULATION, YOU
6 HAVE ABOUT 30 MINUTES.

7 MR. DUBUC: I DON'T THINK I WILL USE THAT, YOUR
8 HONOR.

9 THE COURT: YOU WILL NOT USE IT. FINE.

10 (WHEREUPON, AT THIS POINT THE COURT TOOK A BRIEF
11 RECESS, AFTER WHICH THE FOLLOWING PROCEEDINGS WERE HAD:)

12 (TRANSCRIPT CONTINUED ON PAGE 450)

1 THE COURT; BRING BACK THE JURY, PLEASE.

2 (WHEREUPON, THE JURY ENTERS THE COURTROOM AND
3 TAKES THEIR SEATS IN THE JURY BOX.)

4 THE COURT: MR. DUBUC.

5 MR. DUBUC: YOUR HONOR, I SEE WE HAVE CHANGED
6 REPORTERS. MAYBE I BETTER ASK THE QUESTION AGAIN.

7 BY MR. DUBUC:

8 Q MR. CARROLL, I ASKED YOU THIS QUESTION -- I CAN'T
9 HAVE IT READ BACK. WE'VE GOT A NEW REPORTER. SO I'LL TRY TO
10 ASK IT AGAIN THE SAME WAY.

11 FOR THE PURPOSES OF THE QUESTION -- AND I'M
12 DEALING WITH HYPOTHETICAL G-FORCES, WHICH YOU HAVE REFERRED TO
13 AND WHICH WERE REFERRED TO IN THE HYPOTHETICAL, AS THEY
14 RELATE TO SURVIVABILITY OR INJURY.

15 I WANT YOU TO ASSUME FOR THIS QUESTION -- LET'S
16 TAKE SOME EXAMPLES OF WITNESSES WHO HAVE GIVEN TESTIMONY AND
17 WERE IN THE TROOP COMPARTMENT, THEIR POSITION OR STATEMENTS,
18 WHATEVER.

19 AND I BELIEVE THERE ARE STATEMENTS FROM THESE
20 WITNESSES WHICH ARE IN THE COLLATERAL REPORT, WHICH I ASSUME
21 YOU REVIEWED.

22 DR. STOCK IS A FIFTY-EIGHT YEAR-OLD PEDIATRICIAN
23 AND HE DIDN'T HAVE A SEATBELT OR A SEAT, AND HE WAS HOLDING
24 ON, LEANING OVER SOME SEATS -- ASSUME THESE FACTS -- BRACING
25 HIMSELF WITHOUT ANY RESTRAINT, IN THE TROOP COMPARTMENT

1 AT THE TIME OF THIS ACCIDENT.

2 ASSUME HE WASN'T INJURED; WASN'T THROWN LOOSE,
3 WASN'T INJURED.

4 AND ASSUME ANOTHER NURSE THAT WAS IN THAT TROOP
5 COMPARTMENT, MS. TATE -- MS. OR MRS. TATE -- WHO ALSO
6 DIDN'T HAVE A SEATBELT, DIDN'T HAVE A SEATBACK, WAS HOLDING
7 ON, BRACED, WAS IN THE TROOP COMPARTMENT WHERE THE CHILDREN
8 WERE, WHERE CARLY KURTH WAS, WASN'T INJURED -- HOLDING ON,
9 ONLY.

10 AND ASSUME MS. LIEVERMANN, CHRISTIE LIEVERMANN,
11 WHO IS ONE OF THE WITNESSES MR. LEWIS REFERRED TO, WAS ALSO
12 A CIVILIAN, SHE'S IN THAT TROOP COMPARTMENT, SHE DIDN'T
13 HAVE A SEATBELT, SHE DIDN'T HAVE A SEATBACK, SHE WAS NOT
14 RESTRAINED, SHE WAS HOLDING ON, BRACED SOMEWAY WITH THE
15 SEATS -- HOLDING ON WITH HER OWN STRENGTH. THIS IS THE
16 THRUST OF MY QUESTION.

17 YOU MENTIONED YOU HAVE EXPERIENCE IN HUMAN
18 FACTORS AND YOU MENTIONED HUMAN TOLERANCES IN YOUR
19 DESCRIPTION OF SURVIVABILITY. SO I GATHER YOU HAVE SOME
20 KNOWLEDGE OF IT.

21 MY QUESTION IS, SIR, IN YOUR OPINION CAN PEOPLE
22 FIFTY-EIGHT YEARS OLD, OR WOMEN, LET'S SAY TWENTY-FIVE TO
23 THIRTY YEARS OLD, UNDER THOSE CIRCUMSTANCES HOLD ON WITHOUT
24 RESTRAINT IF, SAY, AVERAGE G-FORCES WERE SEVEN TO THIRTEEN
25 G'S, OR DOES THERE COME A POINT WHERE THEY CAN'T HOLD ON

1 ANYMORE?

2 DO YOU UNDERSTAND THE QUESTION?

3 A YES. SEVEN TO THIRTEEN G'S?

4 Q YES, SIR.

5 A IT'S REALLY A VERY DIFFICULT QUESTION WITH JUST
6 THOSE NUMBERS, SEVEN TO THIRTEEN, BECAUSE IT DEPENDS ON THE
7 RATE AT WHICH THE FORCE WAS APPLIED, THE RATE OF ONSET, AND
8 THE SHAPE OF THE PULSE OF THAT FORCE.

9 BUT YOU SAID AVERAGE SEVEN TO THIRTEEN G'S.

10 Q RIGHT. THAT'S THE WAY THE HYPOTHETICAL WAS PUT.

11 A YES. AND BECAUSE THAT WOULD INCLUDE THEN POSSIBLY
12 LOWER AND HIGHER PEAKS WITHIN THAT RANGE, UNLESS YOU HAD A
13 TIME HISTORY CURVE OF THAT IT WOULD ALMOST BE IMPOSSIBLE TO
14 SAY AT WHAT RANGE COULD SOMEONE NO LONGER HOLD ON, AND
15 ALSO, VIRTUALLY A STUDY OF THE ENVIRONMENTAL STRUCTURES
16 THAT THEY'D HAVE TO HOLD ONTO, WHETHER IT WAS SOMETHING
17 LARGE OR SMALL RAIL, OR PART OF A SEAT OR JUST WHAT.

18 Q SUPPOSE WE HAVE, LET'S SAY, A PEAK G OF, SAY,
19 FIVE G'S, FIVE TO SEVEN G'S -- YOU MENTIONED A DIFFERENCE,
20 SO I'M TRYING TO UNDERSTAND YOUR ANSWER -- IF YOU HAVE A
21 PEAK G, THAT ASSUMES YOU GOT THE FORCE RIGHT NOW -- NOT
22 AVERAGE, JUST NOW; RIGHT?

23 A CHANCES ARE YOU COULD HOLD ON UNDER THAT TYPE
24 OF A FORCE APPLICATION.

25 Q NOW, A G IS ONE TIMES A PERSON'S WEIGHT; IS THAT

1 A FAIR --

2 A ESSENTIALLY, YES.

3 Q SO IF I'M STANDING HERE, ONE G TO THE GROUND;
4 ALL RIGHT?

5 A YES, SIR.

6 Q IF I DO A PULL-UP, I'M PULLING UP ONE G?

7 A YES, SIR.

8 Q IS THAT FAIR? THAT SIMPLE? I REALIZE IT'S SIMPLE,
9 BUT THAT'S FAIR?

10 A YES. THAT'S A SIMPLIFICATION.

11 Q IF I HAD SOMEBODY MY OWN WEIGHT HANGING ON MY
12 BACK AND I DID A PULL-UP, I'D BE LIFTING TWO G'S; WOULDN'T I,
13 WHATEVER PERIOD OF TIME IT TOOK?

14 A BOTH THE SAME WEIGHT, YES, SIR.

15 Q AND IF I HAD TWO PEOPLE MY WEIGHT ON MY BACK AND
16 I PULLED UP, I'D BE PULLING UP AT A FORCE OF THREE G'S.

17 A YES, SIR.

18 Q AND IF I HAD FOUR PEOPLE ON MY BACK THAT WEIGHED
19 THE SAME AS I DID, I'D BE DOING A PULL-UP EQUAL TO FIVE G'S;
20 IS THAT RIGHT?

21 A YES, SIR.

22 Q AND I PROBABLY WOULDN'T BE ABLE TO DO TOO MANY
23 OF THOSE; WOULD I?

24 A NO, SIR.

25 Q I PROBABLY WOULDN'T BE ABLE TO DO ONE; WOULD YOU

1 AGREE WITH THAT?

2 A I WOULD AGREE WITH THAT.

3 Q WOULD YOU AGREE THAT YOU PROBABLY COULDN'T DO MORE
4 THAN ONE IF YOU HAD TWICE YOUR OWN WEIGHT FOR ANY SHORT
5 PERIOD OF TIME?

6 A YOU'D HAVE TO BE AWFULLY STRONG EVEN TO DO JUST
7 ONE, YES, SIR.

8 Q AND SAY A FLIGHT NURSE OR A TWENTY-FIVE TO
9 THIRTY YEAR OLD CIVILIAN PROBABLY, UNLESS SHE HAD SPENT EARLY
10 YEARS IN THE OLYMPICS PROBABLY COULDN'T LIFT TWICE HER OWN
11 WEIGHT; WOULD YOU AGREE WITH THAT?

12 A YES, SIR.

13 Q THANK YOU.

14 SO IF THESE PEAK G'S WERE FOUR, FIVE, SIX G'S,
15 FOR ANY PERIOD OF TIME, THOSE PEOPLE COULDN'T HAVE HELD ON
16 IN THE TROOP COMPARTMENT; WOULD YOU AGREE WITH THAT?

17 A WELL, THE CIRCUMSTANCE THAT YOU DESCRIBE IS THE
18 CRASH POSITION THAT AIRLINE PERSONNEL WILL PUT THE PEOPLE INTO,
19 ON THE FLOOR, BETWEEN THE SEAT ROWS AND SO FORTH, BECAUSE
20 AS LONG AS THE SEATS REMAIN, CHANCES ARE, WITH THE CRASH
21 FORCE APPLICATIONS IN THAT RANGE, SEVEN TO THIRTEEN, THEY'D
22 BE HELD WHERE THEY ARE UNTIL THE FAILURE OCCURRED -- THE
23 FLOOR, THE SEATS, WHAT HAVE YOU.

24 Q ALL RIGHT, SIR. NOW, ANOTHER NUMBER YOU USED
25 IN THAT HYPOTHETICAL WAS 220 TO 480 G'S; DO YOU REMEMBER THAT?

1 A THIS IS IN THE AFT TROOP COMPARTMENT.

2 Q TROOP COMPARTMENT, WHERE CARLY KURTH WAS LOCATED.
3 THAT LONG TROOP COMPARTMENT WE'VE BEEN TALKING ABOUT IN THE
4 PICTURES.

5 THE ONE THAT I ASKED YOU QUESTIONS ABOUT WHERE
6 IT WAS LOCATED RELATIVE TO THE WING -- YOU KNOW, THE LONG ONE
7 WE HAD.

8 A YES, SIR.

9 Q WITH THE FRONT END WE JUST DISCUSSED BEFORE
10 OUR RECESS.

11 A RIGHT.

12 Q WOULD YOU AGREE, SIR, THAT IF THERE IS NO HILL,
13 NO RISE IN FRONT OF THAT TROOP COMPARTMENT THAT 220 TO 480
14 G'S IS PROBABLY NOT A REASONABLE FIGURE?

15 MR. MC MANUS: YOUR HONOR, I WOULD ASK IF COUNSEL
16 IS ASKING THAT IN THE FORM OF A HYPOTHETICAL QUESTION.

17 THE WITNESS HAS ASSUMED THAT THERE WAS A HILL IN
18 GIVING HIS PAST TESTIMONY.

19 MR. DUBUC: YOUR HONOR, I'M ASKING THE QUESTION
20 AS TO WHETHER HE THINKS THERE IS ACCURACY IN THE FIGURE IN THE
21 HYPOTHETICAL. HE'S QUALIFIED HERE AS AN EXPERT.

22 THE COURT: ASK THE QUESTION AS TO WHAT WOULD
23 HIS ANSWER BE IF THE QUESTION WAS ASKED IF THERE WERE NO HILL.

24 MR. DUBUC: THAT'S THE QUESTION.

25 BY MR. DUBUC:

1 Q IF THERE WERE NO HILL, SIR, IN FRONT OF THAT
2 TROOP COMPARTMENT -- WE LOOKED AT THE PICTURES AND THE JURY
3 CAN DECIDE WHETHER THERE'S A HILL OR NOT -- BUT IF THERE WERE
4 NO HILL WOULD YOU AGREE THAT WITH THE DISTANCES INVOLVED
5 AND THE CIRCUMSTANCES AND SEQUENCES THAT A FIGURE OF 220
6 TO 480 G'S WOULD NOT BE POSSIBLE?

7 A NO. I THINK IT WOULD BE POSSIBLE.

8 Q AND I THINK YOU TOLD US THAT HUMAN TOLERANCES
9 DO THAT KIND OF G-FORCES, HORIZONTAL G-FORCES, RUN OUT SOMEWHERE
10 AROUND 200 G'S.

11 DID YOU TELL US THAT IN YOUR DEPOSITION?

12 A SURVIVAL HAS BEEN EXPERIENCED AT G-FORCE
13 APPLICATIONS AS HIGH AS 200 G'S, POSSIBLE MORE, WITH EXTREMELY
14 HIGH RATES OF ONSET AND SHORT DURATIONS.

15 IT WAS EXPERIENCED IN FREE-FALL VICTIMS,
16 ACCIDENTAL FALLS AND SO FORTH THAT WERE INVESTIGATED.

17 Q WELL, SIR, IF THE G-FORCES WERE 220 TO 480 G'S,
18 THERE WOULDN'T HAVE BEEN ANY SURVIVORS IN THIS TROOP
19 COMPARTMENT; WOULDN'T THERE?

20 A I DON'T KNOW THAT, SIR.

21 Q DIDN'T YOU TELL US THERE WOULDN'T BE IN YOUR
22 DEPOSITION ON NOVEMBER 25TH?

23 A IT'S NOT LIKELY.

24 Q DIDN'T YOU SAY THERE WOULD NOT BE ANY SURVIVORS,
25 "THE ANSWER TO YOUR QUESTION BEING NO"?

1 DO YOU RECALL THAT? DO YOU WANT ME TO SHOW IT
2 TO YOU?

3 A NO; I RECALL THAT. BUT I THINK WE WERE TALKING
4 ABOUT A SITUATION WHERE THERE WOULD BE ADULTS AND IN
5 RELATIONSHIP TO WHETHER THE QUESTION INVOLVES ADULTS OR
6 INFANTS OR CHILDREN, IT WOULD MAKE A GREAT DEAL OF DIFFERENCE.

7 Q WELL, SIR, THE QUESTION IMMEDIATELY FOLLOWED
8 QUESTIONS ABOUT THE CHILDREN. DO YOU WANT TO SEE THE
9 TRANSCRIPT?

10 LET ME ASK YOU THIS. DID YOU GIVE THESE ANSWERS
11 TO THESE QUESTIONS?

12 READING FROM PAGE 76 OF MR. CARROLL'S DEPOSITION
13 OF NOVEMBER 25TH.

14 THE COURT: WAIT JUST A MOMENT. PAGE 27?

15 MR. DUBUC: SEVENTY-SIX, YOUR HONOR.

16 THE COURT: ALL RIGHT.

17 BY MR. DUBUC:

18 Q WE WERE DISCUSSING SURVIVABILITY OF CERTAIN PEOPLE
19 AND THE QUESTION STARTS ON LINE 4, AND WE WERE REFERRING
20 TO THE ACCIDENT REPORT.

21 "IT ALSO SHOWS, DOES IT NOT, AS FAR AS THE
22 ATTENDANTS IN THE TROOP COMPARTMENT, SIX SURVIVORS AND
23 ONE DECEASED; IS THAT CORRECT?"

24 "SIX AND ONE, YES."

25 "QUESTION: AND THAT IS OUT OF AS FAR AS THOSE

1 FIGURES ARE CONCERNED, THAT IS, 143 OUT OF 145 ORPHANS
2 AND SIX OUT OF SEVEN ATTENDANTS; IS THAT CORRECT?"

3 "YES."

4 "WOULD YOU SAY THAT IS A FAIRLY HIGH PERCENTAGE
5 OF SURVIVORS IN A COMPONENT OF AN AIRCRAFT INVOLVED
6 IN THIS KIND OF ACCIDENT?"

7 "YES."

8 "IN YOUR OPINION, BASED ON YOUR EXPERIENCE AND
9 WHAT YOU HAVE JUST BEEN TELLING US, COULD THAT HAVE
10 OCCURRED IF THE EXTERNAL G-FORCES WERE 220 AND 480 G'S?"

11 THERE WAS AN OBJECTION.

12 "ANSWER: I DON'T KNOW."

13 "QUESTION: YOU STILL DON'T KNOW?"

14 "NO."

15 YOU STILL DON'T KNOW TODAY?

16 A NO, SIR.

17 Q OKAY. AND WITH RESPECT TO THE QUESTION OF THE
18 HILL, I THINK YOU TOLD US YOU COULDN'T SAY WHETHER THERE WAS
19 OR WASN'T -- THE HILL HADN'T BEEN THERE, YOU DON'T KNOW IF
20 THERE HAD BEEN 220 G'S.

21 A IT'S SUCH A COMPLEX SITUATION, WHERE THE
22 COEFFECIENT OF FRICTION AND THE SURFACES THAT ARE IN CONTACT
23 WITH THAT SURFACE, UNLESS WE KNEW WHAT THESE VARIABLES WERE
24 IT'S AN IMPOSSIBLE QUESTION TO ANSWER, SIR.

25 Q IT IS AN IMPORTANT ELEMENT IN REACHING THAT

1 NUMBER OF G'S; IS IT NOT?

2 A WHAT IS --

3 Q YOU HAVE TO HAVE A HILL THERE IN ORDER TO GET
4 THE 220 TO 480 G'S. IT'S AN IMPORTANT ELEMENT OF THAT; ISN'T
5 IT?

6 A I'D SAY IT'S AN IMPORTANT ELEMENT, BUT IT'S NOT
7 REALLY NECESSARY IF THE COEFFICIENT OF FRICTION BETWEEN THE
8 ABRADED AND DISINTEGRATED STRUCTURES UNDERNEATH WERE ENOUGH
9 TO BE DECELERATED VERY, VERY ABRUPTLY -- THERE MAY BE NO
10 DIFFERENCE IN WHETHER THERE WAS A HILL THERE OR NOT.

11 Q DO YOU RECALL WHETHER -- WITHDRAWN.

12 YOU CERTAINLY RELY, TO THE EXTENT OF THE
13 COMPUTATION OF THE G-FORCES, ON WHATEVER WAS RELIED ON BY
14 DR. TURNER AND DR. MORAIN.

15 A YES, SIR.

16 Q AND IF THEY NEED THE HILL, THEN AS FAR AS THE
17 NUMBERS ARE CONCERNED, YOU NEED THE HILL; WOULDN'T YOU?

18 A I DON'T KNOW, SIR.

19 Q YOU DIDN'T MAKE THE CALCULATIONS.

20 A NO, SIR.

21 Q IF THEY NEEDED THE HILL IT WOULD BE AN IMPORTANT
22 ELEMENT IN ORDER TO GET TO THOSE FORCES.

23 A THAT'S LIKE SAYING IF YOU NEEDED THE ACCIDENT
24 TO MAKE THE MEASUREMENTS YOU NEED THE ACCIDENT; YES, SIR.

25 Q OKAY. BUT YOU ARE RELYING, ARE YOU NOT, ON

1 DR. TURNER ON THE CALCULATIONS AND DR. MORAIN ON THE TERRAIN?

2 A YES, SIR.

3 Q OKAY.

4 MR. DUBUC: NO FURTHER QUESTION.

5 THE COURT: REDIRECT EXAMINATION

6 REDIRECT EXAMINATION

7 BY MR. MC MANUS:

8 Q MR. CARROLL, I WOULD LIKE TO BE VERY BRIEF.

9 I BELIEVE THAT YOU HAVE PREVIOUSLY IDENTIFIED THIS STRUCTURE
10 AS BEING THE TROOP COMPARTMENT; IS THAT CORRECT?

11 A YES, SIR.

12 Q AND THAT IS WHERE CARLY KURTH, THE PLAINTIFF IN
13 THIS CASE, WAS LOCATED; IS THAT CORRECT?

14 A TO THE BEST OF MY KNOWLEDGE, YES, SIR.

15 Q SIR, MR. DUBUC ASKED YOU A HYPOTHETICAL QUESTION
16 CONCERNING INJURIES IN THE TROOP COMPARTMENT. I WOULD LIKE
17 YOU TO ASSUME THESE ADDITIONAL FACTS, SIR.

18 ONE OF THE AIR FORCE NURSES, HARRIET GOFFINET,
19 WAS BRACED WELL BETWEEN SEATS, ACCORDING TO HER TESTIMONY,
20 AND THAT UPON THE IMPACT SHE WAS THROWN OVER THE SEATS, UP
21 AGAINST THE BULKHEAD OF THE INTERIOR OF THE TROOP
22 COMPARTMENT, AND THAT SHE SUFFERED SOME BRUISES, SOME
23 INJURIES, INCLUDING A FRACTURED CLAVICLE, BURNS ON HER EAR,
24 BRUISES ALL UP AND DOWN THE BACK OF HER LEGS, LACERATIONS
25 ON HER RIGHT LEG AND THIGH, BIG BRUISES ON HER LEG AND UNDER

1 HER RIGHT ARM AND PULLED MUSCLES IN HER BACK.

2 I'D LIKE YOU ALSO TO ASSUME REGINA AUNE, ANOTHER
3 AIR FORCE NURSE, SUSTAINED FOUR BROKEN BONES IN HER RIGHT
4 FOOT, A PUNCTURE WOUND ON HER LEG, A DECOMPRESSION FRACTURE
5 IN HER BACK, CUTS AND SCRAPES, MULTIPLE BLACK AND BLUE
6 BRUISES, AND THAT SHE WAS ALSO LOCATED IN THE TROOP
7 COMPARTMENT, WHERE CARLY KURTH WAS LOCATED.

8 THAT SERGEANT PARKER, AN AIR FORCE CREWMAN,
9 ON THE C5-A AND LOCATED IN THE TROOP COMPARTMENT AT THE TIME
10 OF THE CRASH, DIED AS A RESULT OF INJURIES HE SUSTAINED
11 IN THE CRASH, THAT INJURY BEING A MASSIVE FRACTURE TO HIS
12 SKULL.

13 I WOULD LIKE YOU TO ALSO ASSUME, SIR, THAT A
14 BARBARA ADAMS, WHO IS PARTIALLY BETWEEN SEATS AND IN THE
15 AISLE, LOCATED IN THE TROOP COMPARTMENT AT THE TIME OF THE
16 CRASH, ALSO DIED AS A RESULT OF THE ACCIDENT AND THAT
17 HER INJURIES INCLUDED A CRUSHED AND BRUISED CHEST AND HER
18 LEGS WERE BROKEN AT THE KNEES.

19 I WOULD LIKE YOU TO ALSO ASSUME, SIR, THAT A
20 MS. SUSAN DURGEE, AN FFAC ESCORT WITH THE CHILDREN, WAS ALSO
21 LOCATED IN THE TROOP COMPARTMENT AT THE TIME OF THE CRASH,
22 THAT SHE LOST ONE OF HER EARS AND HER BACK WAS BROKEN IN FOUR
23 PLACES AS A RESULT OF THE CRASH.

24 SIR, DOES THAT INFORMATION INDICATE ANYTHING TO
25 YOU ABOUT THE AMOUNT OF FORCES THAT WERE GENERATED AND

1 IMPACTED ON THE PEOPLE THAT WERE LOCATED IN THE TROOP
2 COMPARTMENT?

3 A YES.

4 Q WHAT DOES IT INDICATE TO YOU, SIR?

5 A ALL OF THE INJURIES, THE FATAL AND NONFATAL,
6 THAT YOU PUT INTO THIS HYPOTHETICAL SITUATION, ARE ENTIRELY
7 CONSISTENT WITH THE TYPE OF SURVIVABLE AND NONSURVIVABLE
8 INJURIES THAT OCCUR IN THESE FREE-FALL STUDIES THAT
9 WERE DONE MANY, MANY YEARS AGO WHERE IF THE APPLICATION OF,
10 SAY, 200 G'S OF FORCE AT TWENTY THOUSAND G'S PER SECOND,
11 THAT GENERAL RANGE, ARE APPLIED; IN OTHER WORDS, A PERSON
12 FALLING FROM A TEN-STORY BUILDING INTO A PILE OF SAND,
13 IF THAT FORCE IS DISTRIBUTED WELL ENOUGH ACROSS THE ENTIRE
14 BODY, WITHOUT PUNCTURE WOUNDS OR CRUSHING WOUNDS ASSOCIATED,
15 THESE ARE THE TYPES OF INJURIES THAT YOU WOULD EXPECT IN
16 THOSE HIGH-G, TWO HUNDRED-G IMPACTS.

17 Q SIR, DO YOU HAVE AN OPINION WITH A REASONABLE
18 DEGREE OF SCIENTIFIC CERTAINTY AS TO WHETHER OR NOT THE
19 FORCES GENERATED IN THE TROOP COMPARTMENT WERE SUFFICIENT
20 TO HAVE CAUSED INJURY TO THOSE PEOPLE LOCATED INSIDE THE
21 TROOP COMPARTMENT AT THE TIME OF THE CRASH?

22 A YES, SIR.

23 Q AND WHAT IS THAT OPINION, SIR?

24 A THE FORCES THAT YOU MENTIONED ARE ENTIRELY
25 CONSISTENT WITH THE TYPES OF INJURIES THAT WERE SUSTAINED.

1 Q MR. DUBUC SHOWED YOU THESE TWO PICTURES, SIR,
2 PLAINTIFFS' EXHIBIT 52-44 AND 52-13.

3 DO YOU RECALL BEING SHOWN THESE PICTURES, SIR?

4 A YES, SIR.

5 Q ARE THESE PICTURES THE TWO DIFFERENT SIDES OF THE
6 SAME PART OF THE AIRPLANE?

7 A YES, SIR.

8 Q NOW, DO YOU REMEMBER BEING ASKED QUESTIONS BY
9 MR. DUBUC ABOUT THE SURVIVABLE OR NONSURVIVABLE ASPECTS OF
10 THIS PORTION OF THE AIRPLANE?

11 A YES, SIR.

12 Q WHEN ONE CLASSIFIES AN ACCIDENT AS SURVIVABLE OR
13 NONSURVIVABLE, DOES ONE TAKE INTO ACCOUNT THE ENTIRE
14 AIRPLANE?

15 A YES, SIR.

16 Q AND IS THAT WHAT YOU DID IN RENDERING YOUR
17 OPINION AS TO THE NONSURVIVABILITY OF THIS PARTICULAR
18 ACCIDENT?

19 A YES, SIR.

20 Q NOW, IN ANY OF THE HUNDREDS OF PICTURES THAT
21 YOU'VE LOOKED AT, SIR, OR THE MOVIE THAT YOU HAVE SEEN, DID
22 YOU EVER SEE ANYTHING THAT RESEMBLED A COHERENT AIRPLANE
23 AFTER THE CRASH?

24 A NO, SIR. THIS AIRCRAFT --

25 THE COURT: JUST A MOMENT, MR. CARROLL.

1 DID YOU OBJECT, MR. DUBUC?

2 MR. DUBUC: I DON'T KNOW WHAT COHERENT MEANS.

3 THE COURT: I DON'T EITHER.

4 BY MR. MC MANUS:

5 Q I'M SORRY, SIR.

6 A WHOLE AIRPLANE -- ANYTHING THAT LOOKED LIKE AN
7 AIRPLANE.

8 A THIS AIRCRAFT IS COMPLETELY DISINTEGRATED, EVEN
9 THOUGH THERE ARE SOME PARTS THAT ARE RECOGNIZABLE.

10 MR. MC MANUS: THANK YOU, SIR.

11 I HAVE NO FURTHER QUESTIONS.

12 THE COURT: RECROSS, MR. DUBUC?

13 MR. DUBUC: JUST A COUPLE, YOUR HONOR.

14 MR. MC MANUS HAS RAISED SOME Q'THER -- .

15 RECROSS EXAMINATION

16 BY MR. DUBUC:

17 Q SIR, MR. MC MANUS MENTIONED MR. PARKER. MR. PARKER
18 WAS STANDING, WITHOUT EVEN HOLDING ON AT THE TIME OF THESE
19 G-FORCES BECAME EFFECTIVE.

20 WOULD THAT MAKE A DIFFERENCE AS TO WHETHER OR NOT
21 HE MIGHT GET INJURED OR NOT? JUST STANDING THERE. HE'S
22 STANDING UP TO FIX SOMETHING.

23 A WELL, IF THERE WERE ANY G-FORCES AT ALL, EVEN TWO
24 G'S, HE WOULD PROBABLY BE IMPINGED AGAINST SOME SURFACE.
25 WHETHER IT'S ONE THAT WOULD PROTRUDE INTO HIS BODY OR ALLOW

1 HIM TO BE SUPPORTED, WHO KNOWS.

2 Q BUT EVEN TWO G'S, IF YOU STOOD IN THE AISLE
3 OF AN AIRPLANE LANDING, MAKING A SHORT LANDING AND THROWING
4 FULL REVERSE, PITCH AND BRAKES IN, YOU'D PROBABLY GET
5 THROWN; WOULDN'T YOU?

6 A PROBABLY.

7 Q EVEN IF IT'S A COMMERCIAL AIRPLANE.

8 A YES, SIR.

9 Q SO IF YOU'RE STANDING UNRESTRAINED YOU'VE GOT A
10 DIFFERENT SITUATION. YOU CAN GET THROWN AROUND PRETTY
11 QUICKLY, AT VERY LOW G-FORCES; ISN'T THAT TRUE?

12 A RESTRAINED OR UNKESTRAINED, WITH THE G-FORCES
13 APPLIED, YES.

14 Q AND MS. BARBARA ADAMS, IF SHE WERE STANDING AND
15 NOT RESTRAINED AND NOT HOLDING ON, THE SAME COULD BE TRUE FOR
16 HER -- SHE'D GET THROWN AT VERY LOW G-FORCES; WOULDN'T SHE?

17 THE COURT: THERE'S AN OBJECTION, BEFORE YOU
18 ANSWER, SIR.

19 MR. MC MANUS: IS THAT IN A HYPOTHETICAL QUESTION,
20 SIR?

21 MR. DUBUC: YEAH. THAT'S WHAT THIS IS THE
22 NATURE OF -- SURE. YES, YOUR HONOR.

23 MR. MC MANUS: EXCUSE ME. THE QUESTION IS, SHE
24 WAS NOT BETWEEN THE SEATS -- IS THAT WHAT -- ?

25 THE COURT: TAKE THE QUESTION AS A HYPOTHETICAL.

1 DO IT BY THE NUMBERS.

2 BY MR. DUBUC:

3 Q WHETHER SHE'S BETWEEN THE SEATS OR IN THE AISLE,
4 ASSUME THAT SHE'S NOT HOLDING ON WITH BOTH HANDS IN THE
5 POSITION, CROUCHED POSITION.

6 THE COURT: ASSUME THE WHOLE ENVIRONMENT, AS THE
7 RECORD WILL SHOW.

8 MR. DUBUC: YES.

9 THE COURT: TELL US WHAT THAT IS.

10 MR. DUBUC: THAT'S THE SEQUENCE THAT MR. CARROLL
11 HAS DESCRIBED.

12 THE COURT: HELP ME. STATE YOUR HYPOTHESIS
13 WITH RESPECT TO THIS PARTICULAR PERSON.

14 MR. DUBUC: ALL RIGHT.

15 BY MR. DUBUC:

16 Q THE HYPOTHESIS -- WE'VE COVERED MR. PARKER, THE
17 MECHANIC.

18 ASSUME SIMILARLY THAT BARBARA ADAMS IS IN THE
19 TROOP COMPARTMENT, SHE IS LOCATED BETWEEN SEATS, BUT FOR ONE
20 REASON OR ANOTHER, EITHER BECAUSE SHE THOUGHT THEY LANDED
21 OR BECAUSE SHE WAS TRYING TO STAND UP TO DO SOMETHING, SHE
22 WAS NOT IN A POSITION HOLDING ON WITH BOTH HANDS OR ANY
23 BRACED POSITION.

24 WOULD THE SAME BE TRUE WITH HER, THAT SHE COULD
25 BE THROWN AND SUSTAIN THE KIND OF INJURIES YOU'VE DESCRIBED,

1 AT VERY LOW G-FORCES, TWO G'S, THREE G'S?

2 A I DON'T KNOW EXACTLY WHAT THE INJURY PATTERN
3 WOULD BE, BUT ACCORDING TO THE WAY THE FORCE WOULD BE APPLIED
4 THERE COULD BE INJURIES OR THERE MIGHT NOT HAVE BEEN INJURIES.

5 Q AND, SIR, HYPOTHETICALLY, AGAIN, ASSUME THAT
6 HARRIET GOFFINET, WHO IS NOW NAMED NEILL, AND WHO WILL BE
7 HERE TO TESTIFY, ASSUME THAT SHE WAS HOLDING ON AND BRACED
8 BETWEEN THE SEATS IN THE TROOP COMPARTMENT AT THE TIME THESE
9 G-FORCES BECAME EFFECTIVE AND ASSUME SHE RELEASED HER GRIP
10 WITH ONE HAND.

11 SHE COULD BE DISLODGED BY RELEASING THAT GRIP,
12 SO WE ONLY HAVE ONE HAND NOW -- WE'VE ONLY GOT ONE HAND
13 HANDLING THE G-FORCES OF HER OWN BODY -- THE G-FORCES COULD
14 DISLodge HER; COULD THEY NOT?

15 A YES, SIR.

16 Q YOU MIGHT TRY AND DO THE PULL-UP WITH ONE HAND,
17 THAT WE WERE TALKING ABOUT; RIGHT?

18 A YES.

19 Q AND ASSUME THAT THE SAME TROOP COMPARTMENT THAT
20 NURSE AUNE THAT WAS MENTIONED BY MR. MC MANUS, ASSUME SHE
21 WAS SEATED ON THE FLOOR IN THE AISLE, HOLDING ON AND THAT
22 SHE RELEASED HER GRIP WITH ONE HAND, TO TRY TO STOP, PERHAPS,
23 SERGEANT PARKER FROM STANDING UP.

24 IF THAT HAPPENS SHE'S ONLY HOLDING ON WITH ONE
25 HAND AT THE TIME THE G-FORCES WERE APPLIED, SHE, TOO, MIGHT

1 BE DISLODGED AT LOWER G-FORCES; WOULD YOU AGREE WITH THAT?

2 A SURE.

3 Q OKAY.

4 MR. DUBUC: I HAVE NO FURTHER QUESTIONS.

5 MR. MC MANUS: NO FURTHER QUESTIONS.

6 THE COURT: EXCUSE THE JURY A MOMENT, MARSHAL.

7 (WHEREUPON, THE JURY RETIRES FROM THE JURY BOX.)

8 THE COURT: I HAVE SOME QUESTIONS I WANT TO ASK
9 MR. CARROLL OUT OF THE PRESENCE OF THE JURY, ASSUMING THAT
10 HE IS FINISHED TESTIFYING.

11 MR. CARROLL, IS THE TERM "CRASH LANDING" A
12 MEANINGFUL TERM TO YOU?

13 THE WITNESS: NOT REALLY, SIR. CRASH LANDING IS
14 CHARACTERIZED IN THE FEDERAL REGULATIONS -- THEY USE THE
15 TERM "MINOR CRASH LANDING."

16 THE COURT: WHAT DOES THAT MEAN?

17 THE WITNESS: IN DETERMINING HOW STRONG STRUCTURES
18 SHOULD BE CONSTRUCTED IN ORDER TO RESIST A CRASH. A MINOR
19 CRASH LANDING IN THE DESIGN REGULATIONS REFERS TO A THREE
20 HUNDRED FOOT PER MINUTE VERTICAL RATE OF DESCENT, AND THEY
21 ASSUME A GEAR-UP POSITION FOR THE AIRCRAFT ON A FLAT SURFACE
22 FOR LANDING.

23 AT THAT RATE OF DESCENT IT'S A GREASER OF A
24 LANDING. IT'S NOT A CRASH. BUT A CRASH CAN BE CHARACTERIZED
25 AS ANYTHING FROM THAT UP TO A TOTALLY DISINTEGRATING FIVE

1 G-FORCE ACCIDENT.

2 THE COURT: CRASH LANDING COULD INCLUDE THIS
3 LANDING?

4 THE WITNESS: YES, SIR.

5 THE COURT: THAT DEFINITION.

6 THE WITNESS: YES.

7 THE COURT: ALL RIGHT. NOW, YOU DESCRIBED A
8 NUMBER OF INVESTIGATIONS OF ACCIDENTS THAT YOU'VE CONDUCTED
9 OVER YOUR CAREER, AND I GATHER THERE'S SOME STANDARD
10 OPERATING PROCEDURE FOR THAT PROCESS.

11 THE WITNESS: YES, SIR.

12 THE COURT: DOES IT NORMALLY INCLUDE ANY KIND
13 OF EVALUATION OF G-FORCES?

14 THE WITNESS: IT WOULD DEPEND ON THE ACCIDENT,
15 SIR. IN SOME CASES IT'S NOT DONE AT ALL. IN OTHERS, --

16 THE COURT: WHAT WOULD BE THE CIRCUMSTANCES
17 IN WHICH THOSE BECOME GERMANE?

18 THE WITNESS: WHEN IT WAS NECESSARY TO DETERMINE
19 THE FAILURE POINT AT WHICH PARTS DISINTEGRATED, TO PUT THEM
20 IN PERSPECTIVE WITH WHAT THEY WERE REQUIRED TO HAVE BEEN
21 BUILT TO IN THE FIRST PLACE.

22 THE COURT: THERE WOULD BE NO OCCASION TO MAKE
23 THAT KIND OF DETERMINATION WHERE THERE WERE SURVIVORS, FROM
24 THE POINT OF VIEW OF THEIR SITUATION?

25 THE WITNESS: OH, YES. IF A FULL CRASH INJURY

1 INVESTIGATION IS DONE, THEN A GREAT DEAL OF PAINSTAKING
2 EFFORT IS TAKEN TO DETERMINE WHAT THE FORCES WERE OF VARIOUS
3 PARTS OF THE CRASH SEQUENCE AND WHAT DIRECTION THEY WERE AND
4 MAGNITUDE AND SO FORTH.

5 THE COURT: WOULD IT HAVE BEEN POSSIBLE TO DO
6 THAT ON THE SCENE HERE? ASSUMING THAT IT DIDN'T HAPPEN IN
7 A PLACE THAT WAS ABOUT TO BE EVACUATED, IF IT HAPPENED AT
8 ANDREWS AIR FORCE BASE.

9 THE WITNESS: YES. IN GENERAL TERMS, IT COULD
10 HAVE BEEN DONE, YES, SIR.

11 THE COURT: IT'S SOMETHING THAT'S WITHIN THE
12 CAPABILITY OF SCIENCE.

13 THE WITNESS: YES, SIR.

14 THE COURT: TO DO IT ACCURATELY AND --

15 THE WITNESS: WELL --

16 THE COURT: DO IT BETTER SIMULTANEOUSLY THAN
17 AFTER THE PARTS HAVE BEEN REMOVED?

18 THE WITNESS: NO. IF YOU KNOW THE VELOCITIES
19 AND THE STOPPING DISTANCES, THESE ARE JUST BASIC.

20 THE COURT: IT DOESN'T MAKE ANY DIFFERENCE
21 WHETHER IT'S CONTEMPORANEOUS OR NOT; THAT IS, THE ACCIDENT
22 INVESTIGATION.

23 THE WITNESS: WELL, IT WOULD BE BETTER IF YOU
24 COULD TAKE SOIL SAMPLES, FOR INSTANCE, AT THE TIME AND KNOW
25 WHAT THE COEFFICIENTS OF FRICTION OF VARIOUS SURFACES MIGHT BE.

1 THE COURT: NOW, IN THOSE PICTURES THERE -- ONE
2 WAS EXHIBIT 52-61 -- THERE WAS SOME FLAMES OFF TO THE LEFT,
3 AND THEN IN THE MOVIE THERE WAS PICTURES OF FLAMES AND SMOKE.

4 DID YOU GET ANY KIND OF EYEBALL IMPRESSION OF
5 THE DIMENSION OF THE FLAME, JUST IN TERMS OF WIDTH AND HEIGHT,
6 AND THE DIMENTIONS OF THE SMOKE?

7 THE WITNESS: IT WAS OBVIOUS IN SOME OF THE
8 EARLY MOVIES THAT THERE ~~WERE~~ ~~ARE~~ ~~LITTLE~~ POCKETS OF FIRE AND
9 SMOKE THROUGHOUT EXTENSIVE AREAS OF THE CRASH SCENE, BESIDES
10 THAT ONE AREA WHERE THE LIQUID FUEL IS BURNING FIERCELY.

11 THE COURT: DID YOU GET AN IMPRESSION OF THE
12 DIMENSION OF THAT?

13 THE WITNESS: YES, SIR. IN SIZE, YOU MEAN?

14 THE COURT: YES. JUST COMPARED TO TWO STORIES,
15 SIX-STORY, TEN-STORY BUILDING, OR HOWEVER YOU WANT TO
16 TRANSLATE IT TO ME.

17 THE WITNESS: PROBABLY AN AREA THAT WAS A LITTLE
18 MORE PERHAPS THAN HALF THE WING SPAN OF THE AIRCRAFT, WHICH
19 WOULD REPRESENT THE CENTER BOX STRUCTURE OF THE AIRCRAFT,
20 WHICH CARRIES ALL OF THE FUEL.

21 THE COURT: ABOUT HOW HIGH DO YOU THINK THAT
22 PILLAR OF FLAME WENT?

23 THE WITNESS: I'M TRYING TO RECALL.

24 THE COURT: IF YOU DON'T HAVE ANY --

25 THE WITNESS: I DON'T KNOW, SIR. I CAN'T TELL

1 YOU THAT.

2 THE COURT: NOW, WHEN YOU WERE DOING YOUR WORK
3 ON THIS THING YOU HAD THE BENEFIT OF THESE PICTURES THAT WERE
4 SHOWN TODAY.

5 THE WITNESS: YES, SIR.

6 THE COURT: AND THE COLLATERAL REPORT.

7 THE WITNESS: YES, SIR.

8 THE COURT: CAN YOU EVALUATE THE EXTENT, IF ANY,
9 TO WHICH YOUR WORK WAS FACILITATED BY HAVING THESE PICTURES
10 AND MOVIES?

11 THE WITNESS: IT WOULD HAVE BEEN IMPOSSIBLE TO
12 MAKE THESE DETERMINATIONS WITHOUT THOSE PICTURES, SIR.

13 THE COURT: COLLATERAL REPORT AND ITS EXHIBITS
14 WOULD NOT HAVE ENABLED YOU TO MAKE THESE DETERMINATIONS?

15 THE WITNESS: NO, SIR.

16 THE COURT: NOW, IF YOU HAD MADE THIS STUDY, HAD
17 DONE THIS REPORT, AND HAD BEEN ASKED, SAY, BY THE ORPHANAGE
18 THEREAFTER TO GIVE THEIR DOCTORS LEADS AS TO WHAT THEY
19 SHOULD EXPECT FOR THE SURVIVING CHILDREN, WOULD YOU HAVE BEEN
20 IN A POSITION TO DO THAT?

21 THE WITNESS: NO, SIR. I WOULDN'T BE QUALIFIED
22 FOR THAT.

23 THE COURT: OKAY. THANK YOU. THAT'S ALL I HAVE.

24 DOES ANY COUNSEL WANT TO JUST CLEAN UP WHAT I
25 ASKED FOR ANY PURPOSE? I DON'T WANT TO CUT THAT OFF.

1 OTHERWISE, MR. CARROLL, YOU'RE EXCUSED.

2 THANK YOU VERY MUCH.

3 THE WITNESS: THANK YOU, SIR.

4 THE COURT: CALL YOUR NEXT WITNESS, AND BRING
5 BACK THE JURY.

6 MR. MC MANUS: THE NEXT WITNESS WILL BE WENDE GRANT
7 AND MR. HORVATH WILL CONDUCT THE QUESTIONING.

8 THE COURT: ALL RIGHT.

9 (WHEREUPON, THE JURY ENTERS THE COURTROOM AND
10 TAKES THEIR SEATS IN THE JURY BOX.)

11 MR. HORVATH: OUR NEXT WITNESS IS MRS. WENDE GRANT.

12 WHEREUPON,

13 WENDE GRANT,

14 HAVING BEEN CALLED AS A WITNESS FOR AND ON BEHALF OF THE
15 PLAINTIFFS, AND HAVING BEEN FIRST DULY SWORN BY THE DEPUTY
16 CLERK, WAS EXAMINED AND TESTIFIED, AS FOLLOWS:

17 DIRECT EXAMINATION

18 Q WOULD YOU PLEASE STATE YOUR FULL NAME AND ADDRESS?

19 A MY NAME IS WENDE GRANT. MY ADDRESS IS
20 445 SOUTH SIXTY-EIGHTH STREET, BOULDER, COLORADO.

21 Q MRS. GRANT, I UNDERSTAND YOU'RE HAVING SOME
22 PROBLEMS WITH YOUR VOICE RIGHT NOW, AND IF YOU NEED TO STOP
23 JUST PLEASE LET ME KNOW, TO GET A DRINK OF WATER OR ANYTHING
24 ELSE.

25 A THANK YOU.