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COPY

CAUSE NO. 94-007165

STEPHEN F. BLOCK, JR. and IN THE DISTRICT COURT
RITA BLOCK, OF HARRIS COUNTY, TEXAS
 Plaintiffs,

-vs-

MAREMONT CORPORATION, ET AL. 215TH JUDICIAL DISTRICT
 Defendants.

V I D E O D E P O S I T I O N O F

ARNOLD ANDERSON

Dickinson Wright
500 Woodward Avenue, Ste. 4000
Detroit, MI 48226

May 4, 1998
10:35 a.m.

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I N D E X

WITNESS: ARNOLD ANDERSON

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Examination by Mr. Cook

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EXHIBIT INDEX

EXHIBIT NO.

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4 Carcinogen Task Force Report to
E&R and M&S Subcommittees 41

ARNOLD ANDERSON

Detroit, Michigan

May 4, 1998

10:42 a.m.

- - - - -

THE TECHNICIAN: Today's date is May 4, 1998 and we're on the record at 10:42 a.m. This is the video deposition of Mr. Arnold Anderson at the offices of Dickinson Wright in Detroit, Michigan. This is the matter of Block versus Maremont Corporation et al.

Counsel, can you put your appearances on the record, please?

MR. COOK: Russell Cook and Lynn Bradshaw for plaintiffs.

MR. KRAUSE: Robert Krause on behalf of Ford Motor Company.

MR. GARZA: Bernard Garza, Ford Motor Company.

MS. WRIGHT: Dawn Wright, on behalf of Allied Signal and General Motors.

MR. MC MAHAN: Troy McMahan, Ford Motor Company.

MR. SHIPLEY: George Shipley, Bridgestone/Firestone.

MS. MASON: Laura Mason, for Morton

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1 International.

2 MR. POLING: Richard B. Poling, Jr., on
3 behalf of Abex Corporation.

ARNOLD ANDERSON

4
5 called as a witness by the Plaintiff, being first
6 duly sworn, was examined and testified as follows:

EXAMINATION

7
8 BY MR. COOK:

9 Q. Please state your full name for the record, sir.

10 A. Arnold Eric Anderson.

11 Q. Mr. Anderson, you are here today as corporate
12 representative for Ford Motor Company, am I correct?

13 A. I believe so.

14 Q. Let me hand to you what has been marked as Exhibit 1
15 and ask you if you have seen this.

16 A. No, I have not. The information is information I
17 received on the telephone but I have not seen this
18 document.

19 Q. From the standpoint of information you've received
20 on the telephone, are you talking about the notice
21 of deposition?

22 A. Yes.

23 Q. And the areas that were to be covered in the
24 deposition?

25 A. Yes.

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1 Q. Are you here today as the representative for Ford
2 Motor Company as the person best able to testify as
3 to those areas?

4 A. Ford Motor Company must think so. I'm a retiree
5 so I'm not in a position to make that judgment for
6 Ford Motor Company.

7 THE TECHNICIAN: Off the record at 10:45
8 a.m.

9 We're back on the record at 10:46.

10

11 (Deposition Exhibit No. 1 was marked.)

12 BY MR. COOK:

13 Q. Mr. Anderson, have you had a chance to read that
14 deposition notice while we were taking the break?

15 A. Yes.

16 Q. Can we go through the four areas that are listed
17 there and would you first read number 1 into the
18 record?

19 A. "Any and all industrial hygiene studies conducted by
20 or on behalf of Ford Motor Company to evaluate
21 worker exposure to asbestos dust during brake or
22 clutch maintenance or repair."

23 Q. Do you have any knowledge of that area?

24 A. Yes.

25 Q. Number 2?

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- 1 A. "Ford Motor Company policies and/or procedures
2 for brake or clutch maintenance or repair."
3 Q. Do you have any knowledge of that area?
4 A. Yes, I do.
5 Q. No. 3?
6 A. "The Medical link between inhalation of
7 asbestos-containing dust and asbestosis, lung
8 cancer, mesothelioma and gastrointestinal cancer."
9 Q. Do you have any knowledge about that area?
10 A. Yes, sir.
11 Q. No. 4?
12 A. "Any and all studies performed by Ford Motor Company
13 concerning fiber release from asbestos-containing
14 products (brakes, clutches and gaskets) during
15 grinding, sanding and/or filing, or other
16 procedures."
17 Q. Do you have any information about that area?
18 A. Yes.
19 Q. Did you bring with you today any documents?
20 A. No, I did not.
21 Q. Do you have any personal documents at home that
22 relate to any of these areas?
23 A. I have quite a number of file cabinets with
24 information on the subject, yes.
25 Q. At your house?

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1 A. At my home, yes.

2 Q. Where did those file cabinets come from?

3 A. I bought them.

4 Q. Where did the information come from that's in those
5 file cabinets?

6 A. Quite a number of sources, some from libraries, some
7 I obtained personally over a time period from
8 technical society meetings, large numbers -- plus a
9 number of documents that I wrote myself.

10 Q. While you were at Ford Motor Company?

11 A. And after, yes.

12 Q. We will be filing a motion to take a look at your
13 files so we would ask that you preserve any
14 information that is in those files that might relate
15 to any of the areas we've asked you about today or
16 asbestos generally.

17 A. All right.

18 Q. Now, sir, have you ever given your deposition
19 before?

20 A. Yes, I have.

21 Q. On how many occasions?

22 A. I never kept track. I would imagine by now it must
23 be around 20.

24 Q. When did you start?

25 A. About 19 -- somewhere around 1980, I think.

ARNOLD ANDERSON

1 Q. How many of these depositions related to asbestos?

2 A. Ten probably, maybe one or two more, I don't know.

3 Q. What did the others relate to?

4 A. Mostly brakes and clutches, one form or another,
5 with regard to performance, about the safety issues,
6 diagnostics.

7 Q. There are certain engineers at Ford Motor Company
8 that are assigned to litigation. Are you one of
9 those engineers?

10 A. No, never have been.

11 Q. Since you've given your deposition on a number of
12 occasions you know even though we're sitting here
13 informally this proceeding has the same
14 significance, force and effect as if we were before
15 a judge and jury in a courtroom?

16 A. I'm aware of that.

17 Q. If I ask you a question and you don't understand
18 what I'm asking, will you stop me and tell me you
19 don't understand?

20 A. You can count on it.

21 Q. If I ask you any more questions about where did you
22 get the file cabinets, you can tell me about that,
23 too.

24 A. I'll answer your questions.

25 Q. That's what you're supposed to do.

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1 So when did Ford Motor Company quit selling
2 vehicles that had asbestos in their brakes?

3 MR. KRAUSE: You mean by model first or
4 what are you talking about?

5 BY MR. COOK:

6 Q. The last time a Ford Motor Company vehicle
7 was sold containing asbestos in the brake
8 assemblies.

9 A. Of all the vehicles made including the trucks, I do
10 not know absolutely but I believe it would have been
11 somewhere around 1992, perhaps '93.

12 Q. How about if I take out the trucks and just go with
13 cars?

14 A. That would be somewhat earlier, I would have to
15 check through the records on that. That happened
16 after I retired so I did not have privy to the full
17 information on that.

18 Q. When did you retire?

19 A. 1987.

20 Q. So it would have been sometime between '87 and 1992
21 that they stopped using -- selling vehicles with
22 brakes containing asbestos?

23 A. Right. Probably early '90s. I believe there was
24 one or two applications that they had no effective
25 substitute.

1 Q. I want to ask you about that. Was there a
2 particular type of brake that needed asbestos to
3 perform?

4 A. I don't understand that question the way you worded
5 it.

6 Q. I'm trying to -- and it's a poor question. When did
7 Ford Motor Company start looking for substitutes for
8 asbestos in their brakes?

9 A. Well, to look for substitutes to get rid of asbestos
10 or to look for some material other than asbestos
11 for whatever reason, because there were two separate
12 investigations?

13 Q. Let's talk about whichever one came first.

14 A. The first one was the late '60s for performance
15 enhancement. Perhaps it was 1970 but I believe it
16 was 1969.

17 Q. What was the purpose of that study?

18 A. To find some brake linings with improved green fade,
19 in other words, so hard usage early in the life
20 would produce somewhat higher friction or less
21 friction loss.

22 Q. Was it thought that perhaps that could be achieved
23 by finding a substitute for asbestos?

24 A. Yes. It was believed the water from the chrysotile
25 asbestosis was contributing to the green fade.

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1 Q. Then when was the next study done?

2 A. That would have been a little further into the '70s,
3 looking at potential replacement materials for
4 asbestos and there were different time periods
5 involved in the research area. We were looking at
6 it somewhat earlier than in the divisions because
7 the divisions had to go through the brake suppliers
8 and brake lining suppliers to get work done.

9 Q. I'm not sure I understood that. Tell me what you
10 mean by the research area you were looking at.

11 A. I was in the scientific research staff. We did some
12 research studies into brake lining formulation and
13 making linings with other than chrysotile asbestos.
14 We could do this with almost no time delay.

15 The divisions, Ford Motor Company, Lincoln
16 Mercury Division, et cetera, if they wanted to look
17 for a brake lining without asbestos they would have
18 to go to a brake supplier who in turn would go to
19 their lining suppliers who would then try to make
20 materials without asbestos.

21 So there could be some time delay.

22 Q. When was it the scientific research staff was
23 looking at finding a substitute for asbestos in the
24 second phase?

25 A. We were looking for substitutes somewhere in the

ARNOLD ANDERSON

1 early '70s.

2 Q. Why were you looking for substitutes in the early
3 '70s?

4 A. Basically to see if there were safe and effective
5 substitutes available.

6 Q. Why did you want safe and effective substitutes
7 for asbestos?

8 A. There had been some words issued, I think the first
9 came from a Dr. Thompson from South Africa
10 suggesting brake lining wear debris could be a
11 problem.

12 There were issues that came up later
13 somewhat secondary to the studies from Mt. Sinai on
14 the shipyard workers suggesting potential risk from
15 all forms of asbestos.

16 Q. When was the South African study done?

17 A. That preceded the work by Lynch, so it must have
18 been about 1965 or '66.

19 Q. How did you become aware of that study?

20 A. There was a reference, I believe, in Jeremiah
21 Lynch's study.

22 Q. Who is Jeremiah Lynch?

23 A. Jeremiah Lynch is from the U.S. Public Health
24 Service who performed the study of brake lining
25 fiber emissions in, I think, '68 or thereabouts.

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1 Q. And you read that study when it came out?

2 A. Oh, yes.

3 Q. Why?

4 A. I read virtually everything that had to do with
5 brakes that I could find.

6 Q. Did you share that information contained in that
7 study with anyone else at Ford Motor Company?

8 A. Yes.

9 MR. KRAUSE: The Lynch study?

10 MR. COOK: Yes, the Lynch study.

11 BY MR. COOK:

12 Q. Who did you share it with?

13 A. The information was on the technical information
14 accession list. In other words, the technical
15 library had it published as a list so that
16 publication list of documents went to all the
17 divisions within Ford Motor Company.

18 Q. Was that the first time you became aware there may
19 be some hazard associated with asbestos use?

20 A. Well, you say asbestos. That's a couple families of
21 minerals. That's a generic term and in the
22 technical community we prefer to use technical
23 terms. So it's a difficult question to answer.

24 Q. With any of the families of asbestos as you might
25 want to define them, when was the first time you

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1 became aware there be might be any problem with any
2 of the asbestos families?

3 A. The amphibole family in the '65 timeframe, I
4 believe.

5 Q. Was that from Dr. Selikoff's study?

6 A. Among others, yes.

7 Q. Did you ever work with Dr. Selikoff?

8 A. Yes, I did.

9 Q. When was that?

10 A. He was invited to Ford Motor Company. We had
11 meetings at Ford Motor Company and at Mt. Sinai and
12 for a time period they did some contract work for
13 Ford Motor Company.

14 Q. What years would that have been?

15 A. First meeting, I think, was 1970 and it continued
16 for a few years. I remember we had communications
17 in '76, is the last I specifically remember but
18 there could have been others with other portions of
19 the company.

20 Q. Prior to 1965 -- I think that's when you said you
21 first became aware of the amphibole potential hazard
22 -- did you have any knowledge that asbestos in any
23 form might be harmful to the human body

24 A. I don't believe so, no.

25 Q. Let me get a little bit about your background and

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1 training, sir. You're a scientist, is that correct?

2 A. Technically, I'm an engineer.

3 Q. What is your background from an educational
4 standpoint to be an engineer?

5 A. Well, I started off as physics and math major at
6 Reed College in Portland and then I transferred to
7 engineering and a brief stint at Portland University
8 and then to Oregon State University as it's called
9 now.

10 I got a Bachelor's degree in mechanical
11 engineering with automotive options. That was in
12 '56. Then '56, '57 I was with Chrysler at the
13 Chrysler Institute. I did graduate studies with
14 University of Michigan on a part-time basis and I've
15 taken a number of courses at quite a few locations
16 in material science since then.

17 Q. If I looked at the Ford light truck line, as I
18 understand it, there was a small utility vehicle
19 that was produced in the late '60s and the early
20 '70s. Ford also had the F-Series trucks during that
21 time period and then, of course, right around 1980,
22 there were the large Broncos and then 83-1/2 they
23 introduced the Ford Bronco II. Then, of course, the
24 Explorer, I think, in '90.

25 When was asbestos -- when were brakes not

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1 containing asbestos put in those lines?

2 A. The first I recall -- well, in the front brakes,
3 removal of asbestos was relatively straightforward.
4 There was a transition to semi-metallic or
5 resin-bonded metallic brake linings, which initially
6 contained asbestos backing layers so there was an
7 asbestos-containing layer behind the friction
8 material.

9 So from a working surface standpoint it was
10 a non-asbestos lining but from a total content there
11 was some asbestos which if you totally wore the
12 lining out, it could be released and could be part
13 of the friction system.

14 Those started to be used in the late '70s,
15 I believe. The first drum brake lining without
16 asbestos that Ford used, I believe, was from Abex
17 and that I think came into usage late '81, something
18 like that for the '82 model year is what I recall.

19 That was suitable for the smaller
20 duoservo drum brakes but had some performance
21 problems on the duoservo drum brakes used on the big
22 pickups and vans.

23 Q. So in the early '80s the Abex product would be used
24 on the smaller Ranger and Bronco II?

25 A. I believe so, yes, on the 9-inch brake.

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1 Q. Was Abex the only manufacturer that was producing
2 for drum brakes a non-asbestos substitute?

3 A. There are other companies that made materials but it
4 becomes a question of finding the material that
5 meets the performance standards.

6 Q. Abex was the only one to meet the performance
7 standards?

8 A. Initially, yes, as far as making a production
9 material.

10 Q. Then did the others follow suit?

11 A. Yes.

12 Q. Abex was making this material that would meet
13 production standards, non-asbestos material, in
14 the early '80s, 1982, '83, that timeframe?

15 A. Yes, I believe that's correct.

16 Q. They were used on the small pickups and utility
17 vehicles?

18 A. Yes.

19 Q. How about cars?

20 A. That came into use on some of the cars as well, yes.

21 Q. Can you give me the names of some of the cars?

22 A. Actual introduction dates I don't recall off the
23 top of my head. I'm sure that information is
24 readily available. But the vehicles that used the
25 same size brake would be the Mustang, particularly

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1 the smaller Mustang, the rear of the Thunderbird,
2 the rear of the Escort. There's a number of the
3 small vehicles that were able to use that same
4 friction material or one very similar to it.

5 Q. Did you continue to -- you being Ford Motor Company
6 -- continue to buy asbestos-containing brakes from
7 Abex once they started coming out with the
8 non-asbestos material?

9 A. I believe we used Abex asbestos-containing brakes up
10 until -- I think 1987, '87 or '89 I think was the
11 last they made the asbestos-containing linings.

12 Q. Where were you getting the asbestos brakes from
13 after '87?

14 A. There was a disc brake lining from Friction Division
15 Products, FDP, it was called, That was used in
16 several vehicle lines. Bendix made some
17 asbestos-containing segments, drum brake linings
18 which were used on the big pickup trucks and vans.

19 Q. By big pickup trucks and vans, you're talking about
20 Ford F-150 and larger?

21 A. 250 and larger.

22 Q. The vans, we're talking about the Aerostar and
23 Econoline?

24 A. No. We're talking the 250 and 350 vans, basically
25 the equivalent of the pickup truck but with a closed

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1 body, using the Large brake, 13-1/8-inch drum brake.

2 Q. So if there was a 250 or larger pickup or van, those
3 brake linings were supplied by Bendix?

4 A. I believe Bendix was the supplier of the brake
5 linings for those, yes.

6 Q. Is that how it worked at Ford Motor Company,
7 different suppliers would supply brakes for
8 different lines of vehicles?

9 A. Right. The materials have to be certified for use
10 in a particular vehicle so a specific vehicle would
11 use a particular brake lining.

12 Q. Let me go back then and you're going to stretch my
13 memory a little bit but back into the '70s, was the
14 Ford Maverick being manufactured in the '70s?

15 A. I believe so.

16 Q. Who would have made the brake lining for the Ford
17 Maverick?

18 A. You're stretching my memory also. I think the front
19 brake on the Maverick was FDP-1353 and the rears, I
20 think that was a Bendix primary and secondary.
21 But I would have to check the records on that.

22 Q. Who is FDP?

23 A. Friction Division Products. The original company
24 was Thiacol and the Friction Division was separated
25 from that and it was then called Friction Division

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1 Products and they shortened it to FDP.

2 Q. Back in the '70s and '60s if you can go back that
3 far, do you remember any other specific application
4 of FDP brakes in Ford Motor Company products?

5 A. FDP for Ford Motor Company supplied only disc brake
6 linings, which at various times covered almost the
7 full line of vehicles so they supplied linings for
8 the smaller vehicles. I don't know think that they
9 supplied for the trucks but for passenger cars they
10 supplied Ford, Lincoln and Mercury Divisions.

11 Q. So they would have supplied the disc brake linings
12 on the Pinto?

13 A. I believe the Pinto -- let's see. The Pinto had for
14 some of the time it had a Bendix lining I know of.
15 Pinto was around for a long enough time there were
16 several linings used.

17 Q. Can you give me a timeframe when we could be sure it
18 was an FDP as opposed to Bendix?

19 A. There you're asking for a little more from my memory
20 than I would be comfortable with. But that should
21 be a matter of record. The information is published
22 each year as far as car models and what linings are
23 used.

24 Q. Where is it published?

25 A. For U.S.-manufactured vehicles there's a

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1 manufacturers group, the data sheets I know are in
2 the Detroit Public Library. I've looked them up on
3 a number of occasions. Right now, I don't remember
4 the name of the group. My memory is such I can go
5 to a file cabinet and find something but I don't
6 necessarily know the name of it.

7 Q. Let me talk about some other original equipment
8 manufacturers that were vendors to Ford. Did you
9 buy brake linings from Worldbestos?

10 A. I think they supplied some materials for light
11 truck. I don't remember Worldbestos ever supplying
12 anything for passenger cars.

13 Q. In what timeframe would Worldbestos have supplied
14 it for light truck?

15 A. I don't believe they ever amounted to much of a
16 supplier. I remember looking at running some tests
17 on some of their materials but it was some time
18 back.

19 Q. Can you give me a rough timeframe, '70s, '60s?

20 A. Late '60s, early '70s. I'm pretty sure I ran some
21 tests on the Worldbestos materials.

22 Q. Those would have been tests to see if they met your
23 specifications?

24 A. Performance standards, yes.

25 Q. Can you remember -- the only light trucks they had

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1 at that point in time, I think, and correct me if
2 I'm wrong, would be the F-Series trucks and the
3 small original Bronco and the Econoline vans?

4 A. Probably that would be right. Again, you probably
5 have looked at the records more recently than I.

6 Q. Do not take what I'm saying as being right. I'm
7 doing this by memory, not by looking at the records.
8 I haven't seen those records. To be fair with you I
9 want you to know that.

10 Do you recall in what context you were
11 testing those Worldbestos brakes, whether it was
12 with the Econoline, the Ford F-series or the small
13 Bronco?

14 A. At the time when I did the tests the tests were done
15 with a specific brake, not for a specific vehicle.
16 Initially the lining is tested and the specific
17 brake for the performance in that brake. Then
18 knowing that performance you can decide which
19 vehicle it may be appropriate for.

20 Q. Do you know what vehicle that was approved for use
21 on?

22 A. No, I don't. I'm pretty sure the testing we did was
23 on an 11-inch drum brake so that it would have been
24 for the larger of the light trucks.

25 Q. Again, the 250 series?

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1 A. No. It could have been a 150 but it would have been
2 more than an Econoline.

3 Q. You think I can find out that information by looking
4 in the Detroit Public Library?

5 A. I know I would be able to fine it. I would hope you
6 would.

7 Q. Can you give me some more hints as to where I should
8 look?

9 A. Right now I would have to check some of my files to
10 see what the names were on the sources. At one
11 time, Automotive Industries would put out an annual
12 index which included all the vehicles and raw
13 materials and brake suppliers and sizes and so on
14 and I believe some of those including lining
15 formulations.

16 They stopped doing that about the timeframe
17 you're talking about and then after that, there was
18 some formal and informal publication of whose
19 linings were used on what vehicle. I'm not sure
20 right now what my references would have on that.

21 Q. What would you have to do to determine that?

22 A. Probably go home and open a couple file cabinets and
23 look through. That's the reason why I have file
24 cabinets because I don't have a perfect memory.

25 Q. Subject to your lawyer's agreeing to this and they

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1 may or may not, again, but we're going to request
2 that you do that and we're going to leave a blank in
3 the deposition so you can, assuming your lawyers
4 agree, fill in as to what sources we might go to
5 determine for specific vehicle line at Ford Motor
6 Company who might have made the brakes in a
7 particular year.

8 A. All right.

9 Q. It's my understanding you think that information is
10 available; you just can't remember exactly where to
11 find it as we sit here today?

12 A. That's correct.

13

14 (Deposition Exhibit No. 2 was marked.)

15

16 BY MR. COOK:

17 Q. I would like to hand to you what is marked as
18 Exhibit 2 and ask if you can identify that for me,
19 please.

20 A. It's A Technical Service Bulletin No. 99 from
21 October of 1975 from Ford Parts and Service
22 Division. Seems to be three pages from something
23 which is quite obviously much bigger.

24 Q. All right, sir. Can you tell us what a Technical
25 Service Bulletin is?

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1 A. Technical information sheets that are put out
2 periodically by the Parts and Service Division of
3 Ford Motor Company.

4 Q. Does Exhibit 2, at least those pages that are
5 copied, appear to be a true and correct copy of an
6 original Ford document?

7 A. Certainly appears to be, yes.

8 Q. Now, if you turn to the second page, under Chassis?

9 A. Yes.

10 Q. Article 1269?

11 A. Yes.

12 Q. It has Brake Asbestos Fiber Dust Removal?

13 A. Yes.

14 Q. Is that the first time that you're aware this
15 October 24, 1975 Technical Service Bulletin at Ford
16 told the people that were working on Ford vehicles
17 about the dangers of asbestos?

18 MR. KRAUSE: I think without having other
19 Technical Service Bulletins in front of him it's
20 kind of unfair to ask this witness if this is the
21 first. This is a document authored 23 years ago.

22 MR. COOK: The reason I ask it is because
23 in reading some other depositions it's my
24 understanding this is the first and if it's not --

25 MR. KRAUSE: I just don't know if he's in a

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1 position to say yes or no.

2 THE WITNESS: As far as I'm aware, this
3 came about after a meeting with Irving Selikoff and
4 some government and industry people talking or
5 requesting some additional studies on brakes.

6 So I would expect it would be quite
7 unlikely there would be a similar publication before
8 '75. I'm not sure but I think it was somewhere
9 around April or May of '75 when Selikoff had that
10 meeting and I believe that was the basis, why this
11 article was written.

12 BY MR. COOK:

13 Q. Would you read the warning?

14 A. You mean the caution?

15 Q. Is it a warning or caution?

16 A. It says caution. "Dust and dirt conditions present
17 on wheel brake assemblies and rotors and drums may
18 contain asbestos fibers that can represent a
19 potential health hazard when made airborne by
20 cleaning with compressed air."

21 Q. Do you know what that means as we sit here today?

22 A. I believe so.

23 Q. What do you think that means?

24 A. That basically common sense rewording of that is, it
25 would be prudent not to blow off brakes with

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1 compressed air.

2 Q. Why?

3 A. Because of a potential health hazard.

4 Q. What is the health hazard of blowing off asbestos
5 fibers with compressed air?

6 A. That was not known at that time but it was
7 considered a potential risk based on the presumption
8 that chrysotile asbestos, the type used in brake
9 linings, behaves the same as the amphibole types
10 that were used in the shipyards.

11 Q. Did your studies in regard to asbestos deal with
12 asbestosis?

13 A. My studies dealt with fiber release. We didn't
14 perform animal or people experiments.

15 Q. Let me restate the question. It was another poor
16 question on my part.

17 Do you know what asbestosis is?

18 A. Certainly.

19 Q. How do you know that?

20 A. I've read several hundred articles and medical
21 literature on the subject.

22 Q. Do you know of any article that indicates chrysotile
23 is not a causative agent in asbestosis?

24 A. Not in that form.

25 Q. Is asbestosis potentially a disabling disease?

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1 A. Certainly.

2 Q. Is it potentially a fatal disease?

3 A. There's some argument on that but a reasonable
4 argument can be made that it would be causative as
5 far as a person's premature death.

6 Q. So is it true one health hazard of asbestos and
7 blowing off asbestos as stated in this caution is
8 the fact someone may contract asbestosis?

9 A. That would not be logical from this nor from the
10 research that's been done.

11 Q. When did you retire, sir?

12 A. 1987.

13 Q. Have you continued to keep track of asbestos
14 articles as you did when you were working at Ford?

15 A. Not as I did, but I still follow the literature. I
16 can use the computer now which sometimes is more
17 efficient than going to libraries.

18 Q. Why do you follow the literature?

19 A. I'm interested, I'm still writing, still presenting
20 papers.

21 Q. Who do you present papers to?

22 A. One I'll be presenting next week is Southern
23 Illinois University at a break colloquium. One
24 coming up in September is for the Society of
25 Automotive Engineers break meeting.

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1 Q. What is your position in regard to whether or not
2 auto mechanics should clean rotors and drums with
3 compressed air?

4 A. I think it would be prudent for them not to use
5 compressed air.

6 Q. And why is that?

7 A. It's a lot cleaner.

8 Q. As you sit here today do you tell these seminars and
9 other people to whom you make speeches that there is
10 a health hazard in regard to asbestos as opposed to
11 a potential health hazard?

12 A. All the studies I've seen indicate that brake
13 mechanics are not an at-risk population with regard
14 to asbestos fibers but that's beside the point. A
15 person still should use common sense in working with
16 any particulate matter.

17 MR. COOK: I'm going to object. It's
18 nonresponsive. I may have asked a bad question,
19 though. Let me see if I can restate the question.

20 BY MR. COOK:

21 Q. Do you take the position at these seminars that
22 brake mechanics are not at risk from
23 asbestos-related diseases?

24 MR. KRAUSE: That assumes the subject of
25 his talks has to do with health hazards.

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1 THE WITNESS: At the various presentations
2 I've made with regard to brakes, I point out the
3 mechanisms involved in the friction and wear
4 process, what sort of fibers may be released from a
5 theoretical standpoint and a practical standpoint
6 and what the consequences may be of that.

7 I don't get into the business of telling
8 people how to service brakes because at the meetings
9 where I'm making my presentations it is not brake
10 mechanics.

11 BY MR. COOK:

12 Q. Do you think that asbestos should have been
13 eliminated from a health standpoint from brakes?

14 A. No.

15 Q. Do you think asbestos should have been eliminated
16 from a performance standpoint from brakes?

17 A. In some applications.

18 Q. If you were the one that got to decide the rules in
19 this country, what would your rules be about
20 asbestos in brakes?

21 A. I sent a rather long letter to the people at the
22 U.S. government with regard to the asbestos ban
23 pointing out my position, what I believed would be a
24 proper approach, and that would be to pay attention
25 to the actual risks from the fiber standpoint, the

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1 risks from a vehicle braking standpoint, and the
2 risks of substitutes from both fiber standpoint and
3 the safety standpoint.

4 That if you don't look at the big picture
5 you can't make a logical decision.

6 Q. Did you disagree with Dr. Selikoff?

7 A. On some things. I agreed with him on others.

8 Q. What did Dr. Selikoff think about whether asbestos
9 should remain in brakes?

10 A. At our first meeting he thought the probability was
11 quite low that brake asbestos was the source of
12 any problem.

13 Q. In subsequent meetings did he change that opinion?

14 A. Whether he changed the opinion or not, I don't know.
15 What he did say in 1975 was that there's need for
16 more studies.

17 But Dr. Selikoff was an interesting person
18 as far as what he would say when he was on the soap
19 box.

20 Q. By that, do you mean he would say something
21 different on the soap box than what he would say
22 personally to you?

23 A. Yes.

24

25 (Deposition Exhibit No. 3 was marked.)

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1 BY MR. COOK:

2 Q. Take look if you will at what has been marked as
3 Exhibit 3 and see if you can identify that.

4 A. It's a document I've seen. It's been a while.

5 It seems like something was eliminated.
6 There's a sentence on the first page that doesn't
7 make sense.

8 Q. You mean portions of this document are missing?

9 A. It says general plant ventilation is the only
10 engineered control used for these operations period
11 and then on the next line there's nothing for about
12 three-quarters of the line that says, but
13 respirators are not worn during brake rebuilding
14 or pipe covering.

15 I don't understand that. Then there's an
16 empty space before the next section occurs.

17 MR. COOK: To the extent this document is
18 incomplete, we would request a true and correct copy
19 of the original document.

20 MR. GARZA: What is the document?

21 MR. COOK: Here's a copy of it here.

22 MR. GARZA: This is a May 29, 1973 memo to
23 J.A. Keller, Personnel Services Supervisor.

24 MR. COOK: It appears to me that portions
25 of that document have been redacted and I would like

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1 to ask the witness about the complete document.

2 MR. GARZA: When was this document
3 produced?

4 MR. COOK: I think in the Kents case.

5 MR. GARZA: We will be happy to look for
6 it. I don't know if we have the original here.

7 MR. COOK: If we can have that; if not, we
8 will reserve the rights to re-examine this witness
9 on the complete document.

10 MR. GARZA: Have you seen that in the
11 documents produced in this case or in the documents
12 you were allowed to review today?

13 MR. COOK: There's are no Bates numbers on
14 this document and there's ten or twelve boxes in
15 there or something like that. It's hard for me to
16 know.

17 BY MR. COOK:

18 Q. Understanding that it appears there's some portion
19 of this document missing, can you identify this
20 document?

21 A. I've seen this document yes, I recall that.

22 Q. What is this document?

23 A. It's a document sent by Henry Lick, who is an
24 industrial hygienist, to I believe his name was Jack
25 Keller who was the supervisor at the General

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1 Services Division which covered this basic area.

2 Q. Who is Mr. Harris, Dr. Harris?

3 A. At the time I believe he was the medical officer at
4 the Engineering Center.

5 Q. Mr. Anderson, you presented papers and made speeches
6 regarding asbestos in brakes. I want to know what
7 your background is from a medical standpoint as to
8 whether or not asbestos can cause harmful diseases?

9 A. My background is not in medicine, as I'm sure you
10 are well aware.

11 Q. Have you ever taken any medical courses?

12 A. Not specifically, no.

13 Q. Do you feel uncomfortable in taking the position
14 that asbestos should not be taken out of brakes, not
15 having any medical background in that regard?

16 A. No, not at all.

17 Q. Why is it that you feel as an engineer that your
18 opinions on the medical issues of asbestos should be
19 taken into account?

20 A. The issue is one of engineering up until the fiber
21 has gotten into the lung and I think an engineer is
22 far more qualified in doing research with regard to
23 fibers, fiber emissions and respirability than a
24 medical doctor.

25 Once the fiber reaches the lung and what

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1 happens to it after that, the etiology is certainly
2 more in the field of medicine. But certainly the
3 engineering aspects I think are best done by
4 engineers and medical aspects best done by medical
5 people.

6 Q. Don't they overlap to some extent?

7 A. Certainly.

8 Q. One area of overlapping is whether or not the amount
9 of fibers that the engineers or exposing individuals
10 to through whatever programs they have as to whether
11 or not that causes a harmful effect on the body.

12 A. You've leaving a big empty space in there, sir.

13 Q. What is the big, empty space that I'm leaving out?

14 A. The thing is, how much fiber is released from a
15 brake is totally different than how much fiber
16 makes it into the lung. The body has its defense
17 mechanisms as far as reducing the amount of fiber
18 that can make it into the lungs.

19 There's also the question of what is the
20 residence time of the fiber from the brake which
21 establishes whether or not there's going to be
22 fibers in the breathing zone of the person. Those
23 are engineering things.

24 Q. How the fiber gets into the lung is not an
25 engineering thing, though, is it?

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1 A. Yes. It is an engineering thing. Medical people
2 have come to our lab as far as some of the fluid
3 dynamic aspects of things.

4 Q. Are you an expert as to the fluid dynamics of the
5 airways?

6 A. Not of the airways, no.

7 Q. Isn't that how asbestos gets into the lungs?

8 A. Yes.

9 Q. That's a medical decision?

10 A. It could be.

11 Q. Do you think it's an engineering decision, too?

12 A. I don't consider it a decision. It's a matter of
13 doing some research with regard to what happens with
14 regard to fibers in an airstream.

15 Q. Has Ford Motor Company successfully modeled the
16 human airway in regard to fiber transfer?

17 A. That's an ill -- the question is inappropriate. As
18 far as fiber transfer?

19 Q. Well, somehow the fiber has to get from the outside
20 air, goes in either the nostrils or the mouth,
21 right?

22 A. That's correct.

23 Q. And then down, what, the trachea?

24 A. The thing is there's a turbinator bone which causes
25 some spin and there's passageways which contain

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1 mucous which will attract some materials and then
2 you have your bronchial tree with mother and
3 daughter passages and there's a potential of impact
4 of fiber at those junctures and then there's the
5 potential -- if you have a straight fiber of
6 appropriate dimensions to make it all the way to the
7 air sac.

8 But the thing is that could be handled very
9 easily by either an engineer or doctor, both of
10 which would have about the same sort of academic
11 training as far as that aspect.

12 Q. So you believe an engineer can -- let me ask the
13 question. You've just described the passage, the
14 potential passage of an asbestos fiber into the
15 lungs, is that right?

16 A. Roughly, yes.

17 Q. Has Ford modeled that in any scientific way?

18 A. Not that I've know of.

19 Q. How did you come about this knowledge?

20 A. We did some work with Dr. Andrew Reeves at Wayne
21 State University on some of this.

22 Q. Who is Dr. Nicholson?

23 A. He's a physicist that worked -- if you're talking
24 about Bill Nicholson, a physicist that worked with
25 Irving Selikoff.

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1 Q. Now, I want to ask you how an engineer can determine
2 whether or not a particular asbestos fiber will
3 become lodged in this passage through the airway,
4 through the mouth and through the daughter and
5 sister passages you've just talked about.

6 How would an engineer do this?

7 A. The first thing you have to do is know the particle
8 size and size distribution of the materials entering
9 the nose or mouth.

10 Q. You said a minute ago you could do this as an
11 engineer as well as a doctor. My question is: How
12 would you know how the human body will react that
13 particular piece or portion of asbestos fiber as it
14 passes through there?

15 A. The human body isn't involved in reaction until the
16 fiber or particle touches the human body. It's
17 free flowing within the airway initially.

18 Q. How do you know when the fiber touches the human
19 body?

20 A. That's done by aerodynamic studies.

21 Q. Have you done such aerodynamic studies?

22 A. Not lately.

23 Q. Well, have you ever done such aerodynamic studies?

24 A. I had some of my people look at that sometime ago,
25 yes.

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1 Q. When did you decide that the asbestos fiber first
2 touched the human body?

3 A. That's a question that by itself wouldn't be able to
4 be answered.

5 Q. If you can't answer that question how do you know as
6 to when it touches the human body, how can you
7 possibly answer the question as to what reaction it
8 would have with the human body?

9 A. Well, if you talk about reaction to the human body,
10 there I have done a little bit of work. With regard
11 to what happens to the chrysotile fiber in contact
12 with the surface fluids of the human body, that has
13 been done.

14 Q. You as an engineer have been doing this work as
15 opposed to a medical doctor doing this work?

16 A. Yes.

17 Q. Is chrysotile asbestos harmful to the human body?

18 A. It can be.

19 Q. How?

20 A. In sufficient quantities -- if a person according to
21 the data I've seen, if a person inhales something in
22 excess of ten or so fiber per cc over an extended
23 time period, there's a potential for asbestosis and
24 lung cancer.

25

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1 (Deposition Exhibit No. 4 was marked.)

2

3 BY MR. COOK:

4 Q. Let me hand you what's been marked as Plaintiff's
5 Exhibit 4.

6 A. Yes.

7 Q. Can you identify that for me, sir?

8 A. Yes. It's a document called Carcinogens Task Force
9 Report to Engineering & Research and M&S
10 Subcommittees.

11 Q. What does that mean?

12 MR. KRAUSE: What does what mean?

13 MR. COOK: What he just said.

14 THE WITNESS: It was a task force report as
15 a result of -- I think OSHA required, it should be
16 in here. There's a requirement for all
17 manufacturers to keep records on virtually
18 everything that may have toxic effects.

19 BY MR. COOK:

20 Q. Who is this J.W. Durstine?

21 A. I don't know him.

22 Q. Who are these people that are copied -- D. Baker --

23 A. Well, Block was the corporate medical officer,
24 Douma, Fadow, Frey, Gratch -- well, Gratch was my
25 boss. A number of these people are involved in

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1 various manufacturing, engineering activities
2 through the company.

3 Q. Is Dr. Block a vice-president of Ford Motor Company?

4 A. I don't remember what his title was. He was the
5 medical officer. I don't believe that was a
6 vice-presidential position.

7 Q. Was it the highest medical position at Ford Motor
8 Company?

9 A. Yes.

10 Q. Does this document appear to be an accurate
11 reproduction of an original Ford document?

12 A. Well, it's been a long time since I've seen this
13 document but this one has all the earmarks of being
14 the correct and total -- I would have to spend
15 sometime looking it on over to make a positive
16 statement but it definitely looks --

17 Q. Take whatever time you need because what I need to
18 do is find out if this appears to be a true
19 and correct copy of an original Ford document.

20 A. Let me take a moment here then.

21 THE TECHNICIAN: Off the record at 11:40
22 a.m.

23

24 (A brief recess was taken.)

25

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1 THE TECHNICIAN: Back on the record at
2 11:48.

3 BY MR. COOK:

4 Q. Mr. Anderson, do you have any training in
5 epidemiology?

6 A. No.

7 Q. Does Exhibit 4 appear to be a true and correct copy
8 of an original Ford document?

9 A. No.

10 Q. In what regard is it not a true and correct copy?

11 A. There's five or six duplicate pages in it. At least
12 six pages, a couple are out of location.

13 Q. All right, sir. Do those pages, though, appear to
14 be true and correct copies of original Ford
15 documents?

16 A. Yes. It could be reassembled, taking out the
17 duplicate and making what appears to be the
18 original document.

19 Q. Take a look at page 5.

20 Would you read the first sentence?

21 A. "During the past several years positive evidence has
22 established the link between the inhalation of
23 asbestos-containing dust and chronic respiratory
24 disease (asbestosis) as well as several forms of
25 cancer."

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1 Q. Do you agree that statement?

2 A. That statement is correct.

3 Q. What about the next sentence? Would you read that,
4 please?

5 A. "These include lung cancer, mesothelioma, cancer of
6 the membranes lining the chest and abdominal
7 cavities and gastrointestinal cancer."

8 Q. Is that statement correct?

9 A. At the time that was believed -- the
10 gastrointestinal cancer was one proposed by Selikoff
11 and his group and has not been accepted very
12 broadly.

13 MR. COOK: Object to the response as being
14 nonresponsive.

15 BY MR. COOK:

16 Q. Other than the part concerning gastrointestinal
17 cancer do you believe the rest of that statement is
18 correct?

19 A. Since they are using asbestos in the generic sense,
20 that would be a correct statement, yes.

21 Q. Could you read the next sentence, please?

22 A. "Asbestos is found in a variety of automotive
23 components and thus many occupational exposures are
24 possible."

25 Q. Is that correct?

1 A. Yes.

2 Q. Do you feel that it is important for an engineer who
3 is designing a product to warn potential users of
4 that product of any hazards related to that product?

5 MR. KRAUSE: I think you're getting beyond
6 this witness's area of expertise. This witness is
7 not an expert in the warnings area, he's qualified
8 as what he's indicated are his areas of expertise.

9 MR. COOK: Are you going answer the
10 question?

11 THE WITNESS: At this stage, could you
12 repeat the question?

13 MR. COOK: I'm going to have the court
14 reporter read it.

15
16 (The reporter read the last question.)
17

18 THE WITNESS: The designer -- that is not
19 the role of the designer to warn the end user. It's
20 the role of the designer to do the most effective
21 design he can and relay any information he may have
22 about potential hazards on to other people whose job
23 it is to provide the warnings.

24 BY MR. COOK:

25 Q. Whose job is it to provide the warnings?

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1 A. Right now, I would not know. But that would
2 certainly not be the job directly for a designer.
3 It would be downstream substantially.

4 Q. What do you mean by downstream substantially?

5 A. The person designing something is doing his work way
6 before production has even started so there's quite
7 a bit of time that can pass and materials may change
8 and a number of things may change before production
9 but the thing is a designer has an obligation to
10 relay information with regard to potential risks and
11 hazards in his work to the people that he works
12 with.

13 Q. All right. Is one of the principles you are taught
14 in your engineering courses that if it's possible to
15 design out a hazard, possible and reasonable to
16 design out a hazard, then you design a hazard out of
17 a product but if it's not, then you warn about the
18 hazard?

19 A. That's a reasonable statement, yes.

20 Q. That's generally accepted in the engineering field?

21 A. Generally accepted, yes.

22 Q. What you're telling me is that you pass on any
23 potential hazard as a designer to other people that
24 are more likely to be dealing directly with the
25 general public or the user of the product?

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1 A. Right. The designer from the design stage goes
2 through quite a few further stages of evolution
3 before it gets into production so that by the time
4 something is in production materials may change.

5 Q. What information did the people that were designing
6 the brakes pass on about the hazards if any about
7 asbestos in those brakes?

8 A. Ford only designed a portion of the brake system.
9 Ford bought the complete brake assembly so Ford
10 technically didn't even purchase the brake linings.
11 They bought full brake assemblies from their raw
12 material suppliers so that aspect would not be a
13 direct portion for Ford Motor Company.

14 Q. So did they rely on the suppliers to provide
15 information about hazards regarding the brake
16 assemblies to potential consumers?

17 A. That would be an area that I had no direct
18 involvement with so I'm not sure how that would be
19 done but certainly we would have expected the
20 suppliers to relay information with regard to
21 potential safety and health issues.

22 Q. Did the suppliers provide any information to Ford
23 Motor Company about health risks in regard to
24 asbestos?

25 A. I have no knowledge of that.

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1 Q. Were you in a position to have seen that information
2 had it been provided?

3 A. Possibly, yes.

4 Q. Who would have been in a better position to see that
5 information so they would know whether or not such
6 information was provided than you?

7 A. Well, the toxicologists, industrial hygiene people,
8 I would presume would be the first to be informed.

9 Q. Then what about the people that actually worked with
10 the product on the Ford assembly line?

11 A. The plant Safety and Industrial Hygiene people are
12 involved there also.

13 Q. As far as you know, in talking to any of them and
14 doing your research did the suppliers ever provide
15 you any information about the hazards of asbestos in
16 brakes?

17 A. I've not seen any, no.

18 Q. I want to ask you a couple questions about some more
19 suppliers. One of them is Abex.

20 Can you tell me some vehicles in the --
21 vehicle lines in the 1960s and 1970s that would
22 contain Abex brakes?

23 A. '60s and '70s. In that timeframe I know heavy truck
24 used Abex brake block, that I'm sure.

25 Q. Tell me what heavy truck is. I'm not sure I'm

1 familiar with heavy truck.

2 A. The 18-wheelers you see on the road, those are heavy
3 truck, the big guys.

4 Q. So in 1960 and 1970 they were using Abex brake
5 linings?

6 A. Heavy trucks are basically built to order but the
7 most common brakes and the most common linings
8 included Abex.

9 Q. So unless there was a special order, it would be
10 Abex?

11 A. For some of the lines. There was Abex and Carlisle,
12 I think were the primary suppliers of block for the
13 heavy truck.

14 Q. Were there any lines that were just Abex?

15 A. Could very well be. There was one material,
16 brake lock 551-C, which is in very common usage and
17 that would have been a fairly good size volume.

18 Q. Can you give me any specifics in the 1960 to 1970
19 timeframe of a vehicle that I could feel more likely
20 than not was going to contain Abex brakes?

21 A. Abex brake lining?

22 Q. Brake lining.

23 A. Up to 1970 -- in the '60 to '70 timeframe, I don't
24 know of any Abex lining used in passenger car. I'm
25 not sure I can think -- I would have to go back

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1 through the records but I think at that time frame
2 Abex was primarily a supplier for heavy truck for
3 Ford Motor Company.

4 Q. Who is Carlisle?

5 A. Carlisle is another supplier, primarily of heavy
6 truck friction material and also called Motion
7 Control Industries.

8 Q. Any particular vehicles that their product was used
9 on?

10 A. There again, primarily their heavy truck on the
11 blocks, used on the air brakes.

12 I think Carlisle made some heavy duty
13 segment and there may have been some -- in that
14 timeframe there may have been some large segments
15 used on the light and medium trucks that were
16 Carlisle.

17 Q. How about Wagner Electric?

18 A. Wagner supplied a number of components. At that
19 time I don't know that they were manufacturing brake
20 linings. I think they were buying from others and
21 marketing with their brand name.

22 Q. Were they marketing to Ford?

23 A. Brake linings to Ford?

24 Q. Yes.

25 A. For the OEM, I don't believe so. I don't recall

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1 them.

2 Q. Now, back to this document, Plaintiff's Exhibit 4,
3 page 5, what is the date on that page?

4 A. May 2, 1980.

5 Q. The next sentence after the words gastrointestinal
6 cancer is what, sir?

7 A. "Asbestos is found in a variety of automotive
8 components and thus many occupational exposures are
9 possible."

10 Q. Is that statement true?

11 A. That's correct, yes.

12 Q. What is the next sentence?

13 A. "The most critical exposure occurs during brake and
14 clutch repair."

15 Q. Is that statement true?

16 A. It was probably believed to be true at that time.

17 Q. Do you believe that the non-asbestos-containing
18 brakes used by Ford are inferior to the
19 asbestos-containing brakes used by General Motors?

20 MR. KRAUSE: I'm not so sure this witness
21 knows what brakes General Motors uses. Maybe he
22 does.

23 THE WITNESS: To make a blanket statement
24 about inferior from one to another is not the sort
25 of statement I would like to make. If you would

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1 indicate a specific area to address, there are
2 advantages and disadvantages to each formulation and
3 each basic type of material and you can say some
4 materials have advantages over others. If you
5 confine to one area as opposed to another you could
6 flip flop which is the better material.

7 BY MR. COOK:

8 Q. Are you familiar with GM brakes?

9 A. Yes.

10 Q. How did you gain that familiarity?

11 A. Working on cars and being in the industry, you're
12 aware of pretty much everything.

13 Q. You want to know what your competitor is doing?

14 A. It's certainly is part of being in business, yes.

15 Q. Taurus is Ford's best selling car today?

16 A. I think it still is, yes. For a car, yes, not best
17 selling vehicle, best selling car, right.

18 Q. Ford F-150 is the best selling vehicle?

19 A. Best selling vehicle everywhere.

20 Q. Maybe that would be easier to do. Let's use the Ford
21 F-150 vehicle. It's the truck, large -- not the
22 largest truck but a large size truck, not the
23 smaller Ranger, right?

24 A. Yes.

25 Q. Then the comparable truck would be what, the GMC

1 Sierra?

2 A. GMC and Chevrolet both make pickup trucks, yes.

3 Q. Those are the CK pickup trucks?

4 A. That's one of the types, yes.

5 Q. Those would be comparable to the Ford F-150 series?

6 A. Yes.

7 Q. Now, looking at the brakes on those two vehicles
8 what advantages do the GM brakes have which contain
9 asbestos over the brakes the Ford F-150 have?

10 A. If you're comparing a GM brake with asbestos with
11 the Ford which was non-asbestos, one of the big
12 differences was in morning sickness.

13 You want probably to have more information
14 on that?

15 Q. I'm sure you're going to tell me.

16 A. In the morning particularly after there has been
17 some dew during the night which may not be
18 commonplace in your area, but for a good portion of
19 the United States you can have dew during the night.

20 Q. Believe me, we have plenty of humidity in our part
21 of the world.

22 A. In the morning that moisture, with brake linings
23 containing a lot of graphite, can cause the friction
24 to be abnormally low and this can cause a
25 substantial loss of friction. This is referred to

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1 as morning sickness, either having abnormally low or
2 abnormally high friction first thing in the morning.

3 Q. Does that mean graphite replaced asbestos in the
4 Ford products?

5 A. Well, when Ford went to the non-asbestos lining for
6 disc brakes, they went to a semi-metallic material
7 which used steel wool, sponge iron and graphite held
8 together with a phenolic binder and that did provide
9 a morning sickness issue.

10 Q. Is that an advantage or disadvantage for the GM CK?

11 A. First thing in the morning, it's an advantage.
12 Later in the day, it's gone.

13 Q. Do you know whether the GM CK trucks have
14 asbestos-containing brakes?

15 A. They went to non-asbestos, semi-mets themselves.

16 Q. When did they do that?

17 A. I don't remember the exactly time. I believe they
18 switched somewhere in the late '70s for the disc
19 brakes.

20 Q. So everybody switched in the late '70s to the disc
21 brakes?

22 A. To semi-metallic disc brakes, yes, particularly for
23 trucks. It's a particularly good application for
24 trucks.

25 Q. I need to understand a little bit about the

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1 terminology. Are there metallic brakes?

2 A. There are, but they are extremely rare.

3 Q. And what would their usage be?

4 A. As far as automotive?

5 Q. Yes.

6 A. I would hope very minimal. They are not a safe
7 material to use for automotive applications.

8 Q. Do you know anybody that's using metallic brakes in
9 automotive applications?

10 A. There's a few race car applications where they don't
11 have concern about the first few stops in the
12 morning.

13 Q. Then there's semi-metallic brakes?

14 A. Yes.

15 Q. And are there then brakes that contain no metal at
16 all?

17 A. Yes, called NANMs, non-asbestos, non-metallic.

18 Q. What are the applications for NANMs?

19 A. They are used for a number of -- if we want to get
20 through this, there's about ten different categories
21 of brake linings for different applications and
22 unfortunately, right now they are more confusing
23 than enlightening.

24 For example, non-asbestos doesn't say what
25 it has in it, it says what it doesn't have in it.

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1 So that some of the designations are somewhat
2 confusing, like non-metallic. It says, again, what
3 it doesn't have.

4 But the evolution of friction materials
5 with time and the fact people want to make secret
6 what they have for raw materials tends to give rise
7 to some rather poor description for the product.

8 Q. Are there any passenger cars that have these
9 NANM-type brakes?

10 A. Yes.

11 Q. Which ones would those be?

12 A. Right now, the specific models, I don't have those
13 at the top of my head. It used to be I had the list
14 of each application for each lining for each vehicle
15 in usage every year.

16 I don't go through those anymore. There
17 are some which are low mets, some which are high
18 mets, there are some which are nonmetallic, there's
19 still some semi-mets being used.

20 Q. If we see "organic" on the box, what does that tell
21 us about it?

22 A. Very little. The original term organic basically
23 referred to an organic binder or resin which was
24 used to hold together a classical brake lining which
25 contained chrysotile asbestos.

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1 Originally if you said organic brake
2 lining, you were talking about the materials that
3 were in common usage up through the '70s for the
4 entire industry.

5 Q. What does it mean if you say it today?

6 A. Not very much. Because it could be organic
7 non-asbestos. It could be organic with asbestos.

8 Q. If you use the term organic what would you be
9 communicating to the consumer?

10 A. Basically that you have a resin binder and not much
11 else.

12 Q. Are there any that don't have resin binders?

13 A. Yes. But they are the rare breed. Those are the
14 full metallics and those hopefully are not being
15 sold to consumers.

16 Q. So basically for the average person's automobile or
17 light truck or even heavy truck, they would all be
18 organic?

19 A. They all could be called organic. However,
20 semi-metallic linings are commonly called semi-mets
21 although occasionally are misrepresented as being
22 metallic brake linings.

23 In the retail end of things the marketers
24 are not particularly precise in their descriptions
25 and they are not consistent with what is used in the

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1 OEM side of things.

2 Q. What do you mean by that?

3 A. OEM is original equipment manufacturers.

4 Q. How are they not consistent is my question.

5 A. The descriptive terms tend to be a little bit
6 flowery, a little bit more, I think they call it
7 puffery, to go along with their advertising.

8 Q. Why would organic be something that someone would
9 want to put on a box? Can you think of any reason?

10 A. Well, today for an aftermarket brake lining if you
11 put organic on, it might be used to conceal the fact
12 that it's an asbestos-based lining.

13 Q. Why would that be concealing the fact it's an
14 asbestos-based lining?

15 A. Well, if the box says organic brake lining, it
16 doesn't say asbestos, does it? For some customers
17 that would make a difference as far as their
18 purchase decision.

19 Q. You would feel that would be misleading?

20 A. There's a lot of things in the aftermarket brake
21 lining I consider misleading but that in my opinion
22 would be misleading at this stage, yes.

23 Q. What other things in the aftermarket brake area do
24 you consider misleading from a marketing standpoint?

25 A. I already indicated they sometimes call linings

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1 metallic and I've seen linings which were not
2 semi-metallic linings that were referred to as
3 semi-metallic merely because they contained some
4 metal chips.

5 Q. Anything else you can think of in marketing that you
6 feel is misleading in the aftermarket area?

7 A. Yes. Very common to say meets or exceeds all state
8 and federal standards. There are no state or
9 federal standards. To make a statement it meets or
10 exceeds is, I think, misleading.

11 Q. Anything else?

12 A. Not that I can think of right now.

13 Q. Have you seen how Ford packages its aftermarket
14 equipment?

15 A. Equipment?

16 Q. Brakes.

17 A. Brake shoes?

18 Q. Brake shoes, brake linings.

19 A. Sure.

20 Q. Do they use this organic term on them?

21 A. I don't remember seeing the term organic or semi-met
22 or any other designation on the boxes.

23 Q. Is that under the Motorcraft name? Is that how
24 that's distributed?

25 A. I believe so. I would have to go back and take a

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1 look at the box. They've made some changes over
2 time.

3 Q. Did Ford ever put on there meets or exceeds
4 all state and federal standards?

5 A. No, fortunately not.

6 MR. COOK: I pass the witness.

7 I need to put on the record, subject to this one
8 document that I may have some more questions that is
9 missing some pages.

10 THE TECHNICIAN: Deposition concluded at
11 12:15 p.m.

12 (Deposition concluded at 12:15 p.m.)

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ARNOLD ANDERSON

1 CERTIFICATE

2 STATE OF MICHIGAN)
3) SS:
4 COUNTY OF LIVINGSTON)

5 I, PATRICIA R. MURRAY, Certified Shorthand
6 Reporter, a Notary Public, hereby certify that I recorded
7 in shorthand the examination of ARNOLD ANDERSON,
8 the deponent in the foregoing deposition; and that prior
9 to the taking of said deposition the deponent was first
10 duly sworn, and that the foregoing is a true, correct and
11 complete transcript of the testimony of said deponent.

12 I further certify that no request was made for
13 submission of the transcript to the deponent for reading
14 and signature and that no such submission was made.

15
16 PATRICIA R. MURRAY, CSR-2155

17 Notary Public, Livingston County, Michigan

18 My commission expires: 1/27/01

19 Dated: This 7th day of May, 1998.
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