

FILE NAME: Union Carbide (UC)

DATE: 1989 Mar 10

DOC#: UC190

DOCUMENT DESCRIPTION: Legal - Deposition of Carl. U. Dernehl, M.D. with
Barry Castleman Notes

Age 75

Ret. Assoc. Corp. Med. Dir. UCC 8/79 (from 4/47)

36-7 set up chem hysg fellowship at Mellon Institute
(Carnegie Mellon University) 1938-~~80's~~
regarded as UCC employees

43 UCC never advised customers about employee protection
that he recalls e.g. X-rays

59 (Gaulby Bridge) sensitized UCC to concern over rapidly
fatal silicosis $\Rightarrow$ testing of Calidra at Mellon (66
rpt.)

135 He found Sayers' report of 1967 to be reasonably accurate
and said so in a letter to Dr. Hall (Ex. 33)

138 He was member of UCC label committee, 1955-78

139 cancer labeling "was discussed"

145-46 UCC had IH expertise in 1960 to do asbestos in sampling
& analysis

148 he recognized a hazard from A to insulators in the 1940's

151-52 He thinks there's evidence linking M to smoking

155 stronger warnings warranted in late 60's & early 70's
because LCa and M risks "pretty well established"

162 he thinks massive chry. exp. $\Rightarrow$ Mesothelioma but is skeptical
of reports of lesser exposures

Vol II ~~Deke~~ Denehl Depo 3/15/89

- 16 He thought TLV was safe for A'sis and
later assumed ("it was believed") it
took A'sis to set up occup. cancer
- 17 incorrectly says what TLVs were
- 22 knows of no agent but A that had been assoc. w/M
in 1967- early 70's
- 21/22 doesn't know the names amosite, crocidolite
- 74 "mesothelioma must have been considered
in this setting of the (TLV)"
he expresses ^{near-}total reliance on TLVs as safe
- 84 never heard of the Stanton Hypothesis
- 37 ref to 3/24/70 = prudent to treat Chelonia as
equally dangerous as other asbestos

1
2 STATE OF MINNESOTA

COUNTY OF CARLTON

3 DISTRICT COURT

SIXTH JUDICIAL DISTRICT

4 7 PERSONAL INJURY/CAREY
5
6

6 Arthur A. Frehse,
7 and Helen J. Frehse,
8 husband and wife,

9 Plaintiffs,

10 vs.

11 Anchor Packing Company,
12 et al.,

13 Defendants.
14
15

16 VOLUME I
17
18

18 Deposition of CARL U. DERNEHL, M.D., taken
19 pursuant to Notice of Taking Deposition, and taken before
20 Kirby A. Kennedy, a Notary Public in and for the County of
21 Hennepin, State of Minnesota, on the 10th day of March
22 1989, at the ~~Holiday~~ Inn, University Plaza & Trade Center,
23 333 Sherman Parkway, Springfield, Missouri, commencing at
24 approximately 9:15 o'clock a.m.
25

UC 01731

2

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

APPEARANCES:

MICHAEL S. POLK, ESQUIRE, of the Law Firm of HERTOGS, FLUEGEL, SIEBEN, POLK, JONES & LAVERDIERE, 999 Westview Drive, Hastings, Minnesota 55033, appeared for and on behalf of Plaintiff.

ROBERT D. BROWNSON, ESQUIRE, of the Law Firm of STICH, ANGELL, KREIDLER & MUTH, Suite 120, The Crossings, 250 Second Avenue South, Minneapolis, Minnesota 55401, appeared for and on behalf of Defendant Conwed Corporation.

BRUCE JONES, ESQUIRE, of the Law Firm of FAEGRE & BENSON, 2200 Norwest Center, 90 South Seventh Street, Minneapolis, Minnesota 55402-39001, appeared for and on behalf of Defendants Armstrong World Industries (Delaware), Inc., GAF Corporation, Keene Corporation, National Gypsum Company, Owens-Corning Fiberglas Corporation, Owens-Illinois, Inc., Turner & Newall PLC, Union Carbide Corporation and United States Gypsum Company.

WILLIAM D. HARVARD, ESQUIRE, of the Law Firm of BLASINGAME, BURCH, GARRARD & BRYANT, PC, 440 College Avenue North, P.O. Box 832, Athens, Georgia 30603, appeared for and on behalf of Defendant Union Carbide Corporation and members of CCR.

ANTHONY J. LAURA, ESQUIRE, of the Law Firm of KELLEY, DRYE & WARREN, 175 South Street, Morristown, New Jersey 07960, appeared for and on behalf of Defendant Union Carbide Corporation.

JOSEPH GOLDBERG, ESQUIRE, of the Law Firm of MILLER & NEARY, Suite 606, Park National Bank Building, 5353 Wayzata Boulevard, Minneapolis, Minnesota 55416, appeared for and on behalf of Defendant A. W. Chesterton Company.

ROBERT E. DIEHL, ESQUIRE, of the Law Firm of MEAGHER, GEER, MARKHAM, ANDERSON, ADAMSON, FLASKAMP & BRENNAN, 4200 Multifeeds Tower, 33 South Sixth Street, Minneapolis, Minnesota 55402, appeared for and on behalf of Defendant A.H. Bennett Company.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

GARY E. BISHOP, ESQUIRE, of the Law Firm of
MANN, WALTER, BURKART, WEATHERS & WALTER, 300 John Q.
Hammons Parkway, Suite 600, Springfield, Missouri 65806,
appeared for and on behalf of Defendant W. R. Grace &
Company.

INDEX:

Cross-Examination by Mr. Brownson	Page 5
Cross-Examination by Mr. Polk	Page 116
Recross-Examination by Mr. Brownson	Page 161
Cross-Examination by Mr. Goldberg	Page 164
Dernehl Deposition Exhibits 1 through 44 marked	Page 4
Dernehl Deposition Exhibit 45 marked	Page 55
Dernehl Deposition Exhibit 46 marked	Page 147

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

(At this time DERNEHL Deposition Exhibits
1 through 44 were marked for identification by
the Court Reporter.)

MR. JONES: Dr. Dernehl has informed us
that he is a diabetic and for that reason is occasionally
subject to hypoglycemia. He has also asked us to watch him
carefully because he has difficulty because of lack of
concentration. He will take the measures that he can to
correct it. It's also important for that reason that we
break for lunch right at 11:55 or noon.

MR. BROWNSON: Why don't you make sure
that we have a watch here.

MR. JONES: I just wanted to let you
know.

MR. BROWNSON: We will do anything to
accommodate.

(At this time a discussion was held off
the record.)

CARL U. DERNEHL, M.D.,
the Witness in the above-entitled
matter after having been first duly
sworn deposes and says as follows:

CROSS-EXAMINATION

5

BY MR. BROWNSON:

1. Dr. Darnahl, my name is Bob Brownson. I introduced myself to you earlier. I represent a company called Conwed Corporation, which is a Defendant in a lawsuit up in Minnesota brought by a James Manisto against many Defendants. Do you understand generally that we are here on that case? Have you been informed of that fact?

A. I have been informed that there is a lawsuit which involves Union Carbide and that's about it.

Q. We are here today to ask you some questions concerning Union Carbide matters and I am going to start out the questioning and others, I am sure, will also question you. Before we start I would like to tell you a couple of things. The first is if my questions are not clear to you or anyone's questions are not clear to you or you don't understand them, would you please tell us that before you answer the question?

A. Yes.

Q. And that way we will have a record which reflects questions that you understood. Okay?

A. Right.

Q. And, secondly, please speak up audibly and don't shake your head or shrug your shoulders or say huh-uh

1 or those sorts of things because Kirby will have difficulty
2 with that.

3 A. I understand.

4 Q. And, finally, don't speak while I am speaking
5 and I will try not to speak while you are because he can't
6 take down two people at once. Is that agreeable?

7 A. Right.

8 Q. Dr. Dernehl, have you ever had your deposition
9 taken before?

10 A. Yes.

11 Q. Has it ever been taken in any proceedings
12 regarding an asbestos-related case?

13 A. I was called to give a deposition in an
14 asbestos-related case but the deposition was discontinued.
15 It was a problem between the attorneys.

16 Q. Did you actually give any testimony on the
17 record or didn't it get that far?

18 A. It never got that far.

19 Q. The depositions that you have given, generally
20 in what context were those, what type of case?

21 A. Usually involving chemicals.

22 Q. Were those injury type cases involving
23 chemicals or patent cases or what?

24 A. Injury type.

25 Q. Have you ever testified in court in an injury

1 case where you have actually gone with Counsel to the
2 courthouse and testified?

3 A. Yes.

4 Q. Do you recall where that was?

5 A. Well, there was some involving Workmans'
6 Compensation cases that were down in Galveston County in
7 Texas. I testified in Georgia, North Carolina, New York,
8 Tennessee, maybe some others. Those are all I can recall
9 right now.

10 Q. In any of those cases in which you have
11 testified, did they involve asbestos in any way?

12 A. They did not.

13 Q. Have you ever given testimony before Congress
14 or any regulatory agency?

15 A. As I recall I testified before a Senate
16 hearing on the OSHA law during the days when it was being
17 formulated.

18 Q. Was this the OSHA law with respect to asbestos
19 in the work place or something else?

20 A. No, this was the basic OSHA law.

21 Q. Did that testimony have anything to do with
22 asbestos or ~~asbestos~~ standards?

23 A. No, it did not.

24 Q. Have you ever given any testimony to, and this
25 would be testimony under oath, in any forum regarding

1 asbestos for OSHA standards which regulate asbestos that
2 you can think of? 8

3 A. No, I have not.

4 Q. Are you the author of any publications?

5 A. Regarding anything?

6 Q. Well, I will start with that and I think we
7 will narrow it down pretty quick depending on what you say.

8 A. Yes.

9 Q. About how many publications have you authored?
10 I don't need an exact number but give me a ballpark figure.

11 A. Ten.

12 Q. Did any of those publications have anything to
13 do with asbestos?

14 A. They did not.

15 Q. Have you contributed to any textbooks or
16 publications or texts of any type which dealt with asbestos
17 even if you weren't the primary author?

18 A. I have not.

19 Q. Have you peer reviewed any texts or articles
20 or published material dealing with asbestos?

21 A. I have not.

22 Q. ~~Dr. Dernehl~~, how old are you at the present
23 time?

24 A. Seventy-five.

25 Q. Are you currently employed?

1 A. No. 9
2 Q. Would you then be retired?
3 A. I am retired.
4 Q. Are you living here in Springfield?
5 A. Yes, I am.
6 Q. What was the last occupation you retired from?
7 A. I was the associate corporate medical director
8 of Union Carbide Corporation.
9 Q. When was the date of your retirement?
10 A. It would be August, I guess, probably the 30th,
11 1979.
12 Q. And where were you located at the time of your
13 retirement, where were you officing?
14 A. 270 Park Avenue, New York.
15 Q. Is that the location of the main Union Carbide
16 medical department in the United States, corporate medical
17 department?
18 A. It was at that time.
19 Q. Has that changed since that time?
20 A. Yes, it has.
21 Q. When did you begin with Union Carbide?
22 A. ~~April 1, 1947.~~
23 Q. Let me just back up before that a little bit
24 and ask you what your formal education was before that time?
25 A. I was in high school in a city called

1 Wauwatosa, Wisconsin, which is a suburb of Milwaukee. 10
2 entered the University of Wisconsin where I received a BA
3 degree and then an M.D. degree.

4 Q. When did you receive your M.D.?

5 A. 1933.

6 Q. And that was from Wisconsin?

7 A. That was from Wisconsin.

8 Q. At Madison?

9 A. At Madison.

10 Q. What was your BA in, what field?

11 A. Nothing specific, just general arts, Bachelor
12 of Arts.

13 Q. What training or further education did you
14 obtain upon getting your M.D.?

15 A. I had a one-year rotating internship at the
16 Medical College of Virginia in Richmond, Virginia, and then
17 I stayed on for the first year of a medical residency as
18 Internal Medical Residency at the Medical College of
19 Virginia. I was scheduled to take the last two years of a
20 residency there but due to problems with the alumni, the
21 decision was made to drop a number of non-MCV graduates
22 from the residency program and so we had to look elsewhere.
23 I then went to the medical branch of the University of
24 Texas at Galveston, Texas, where I took two years in a
25 trial residency program, which was a conflagration of

1 preventative and internal medicines.

2 Q. Sounds like the alumni at the Medical College
3 of Virginia didn't like non-Virginia Medical College
4 graduates in the residency, is that it?

5 A. Well, their problem was that all but one of
6 their residents were from outside schools and the alumni
7 felt that some of these residency positions should be
8 reserved for MCV graduates. At that time residencies were
9 hard to get, and when we were told that we were going to be
10 dropped it was really only by sheer luck that I got this
11 place down at the University of Texas. All of the rest of
12 them were filled up years in advance.

13 Q. Following that residency in Texas did you have
14 any further education, formal education?

15 A. After I finished the residency, I was offered
16 a position on the teaching faculty and I stayed on in the
17 Department of Preventive Medicine teaching Occupational
18 Medicine from 1942 to 1947.

19 Q. And did you then join Union Carbide?

20 A. Joined Union Carbide in 1947. The University
21 requested permission to keep me on as an advising lecturer,
22 which was granted by Carbide. In the couple of years later,
23 Baylor Medical College in Houston requested my services as
24 a faculty member and I was given a position as Clinical
25 Assistant Professor of Occupational Medicine, Industrial

1 medicine at that time.

2 Q. Would you describe for us your positions in
3 the medical department at Union Carbide through the years,
4 can you take us through that chronology?

5 A. I started in 1947 as the medical director of
6 the Texas City plant, which was a large chemical plant. I
7 worked there until 1955 when I was transferred to New York
8 as assistant medical director of Union Carbide Corporation
9 with responsibility for the chemicals plants. In 1963 I
10 was given the title of director of toxicology for the
11 corporation. In 1965 I was given the title of associate
12 corporate medical director with responsibility for
13 toxicology and assorted general trouble shooting operations.
14 I was also at that time told that I was to represent the
15 corporation in medical affairs in various specialty
16 organizations like the Manufacturing Chemists Association,
17 Society of the Plastics Industry, Compressed Gas
18 Association. Those I think were the major jobs that I have
19 done.

20 Q. Then from '65 through '75 you were associate
21 corporate medical director, do I have that right?

22 A. '65 through '79.

23 Q. '79?

24 A. Right.

25 Q. And you were stationed during those years at

1 New York City at the corporate offices on Park Avenue?

2 A. Right.

3 Q. During your years at Union Carbide up through
4 1979, did you ever attend any conferences or symposia or
5 proceedings which had anything to do with asbestos?

6 A. I did.

7 Q. What and where were those?

8 A. I really can't remember.

9 Q. Can you remember any of them?

10 A. I can't give you any dates, but I know that I
11 attended some that were conducted by Dr. Selikoff and at
12 least one that was conducted by the, I guess, New York
13 State Industrial Hygiene Department.

14 Q. And do you recall which conferences you
15 attended which were conducted by Dr. Selikoff?

16 A. No, I really don't.

17 Q. Do you recall where those conferences were
18 held?

19 A. In New York, as I recall.

20 Q. Were they at Mount Sinai Hospital?

21 A. One of them was.

22 Q. Were those conferences at which you attended
23 by Dr. Selikoff conferences conducted by the New York
24 Academy of Sciences?

25 A. I really don't remember.

1 Q. Do you recall the topics under discussion at
2 those conferences with Dr. Selikoff? 14

3 A. My recollection would be they were the general
4 types of hazards associated with asbestos and some research
5 reports on some of Selikoff's work.

6 Q. Do you remember any of the other speakers at
7 those conferences other than Dr. Selikoff himself?

8 A. No, not really.

9 Q. Do you know if either of the Dr. McDonalds
10 were involved, Dr. A. V. or a Corbit McDonald? How about
11 Dr. Wagner from South Africa, do you know if he had any
12 involvement?

13 A. I don't believe I ever heard him.

14 Q. How about a doctor named Arthur Rohl, do you
15 know if he was involved?

16 A. I don't remember.

17 Q. How about a doctor named Langer?

18 A. I don't remember.

19 Q. When did you first hear of the work of Dr.
20 Selikoff, do you recall that?

21 A. Yes, it was during the testimony before the
22 Senate committee when OSHA was being formed. Dr. Selikoff
23 testified immediately or a short time before I did and he
24 used the asbestos -- the observations he had made in
25 asbestos workers as the pressing point for an OSHA law.

1 Q. Do you remember when that was?

2 A. The best I could remember it would have to be
3 in the late '60s or early '70s.

4 Q. Do you recall where this Senate hearing took
5 place?

6 A. Washington, D.C..

7 Q. Was it some particular committee or
8 subcommittee of the Senate, do you recall?

9 A. I don't recall that. I know it was in one of
10 the hearing rooms in the Senate office building.

11 Q. Do you remember any of the Senators who were
12 present?

13 A. I am sorry, I don't. The only one that rings
14 any kind of a bell, and I don't remember his name, and he
15 was from New Jersey and he was one of the Democrats and one
16 of the pressing members of the issue.

17 Q. When did you first become involved in any way
18 with the asbestos group, if I can use that term, at Union
19 Carbide?

20 A. I would have to say in certainly the '60s.

21 Q. And do you recall what that involvement was or
22 what you did at that time?

23 A. At that time there was some conferences with
24 the corporate medical director and the asbestos production
25 people at which we discussed their plans for the production

1 of asbestos. 1b

2 Q. Now, when you say asbestos production people,
3 are these the people at King City, California, is that what
4 we are speaking about here?

5 A. At that time they were the people in the New
6 York offices who were working on the concept of going into
7 the mining of asbestos at King City.

8 Q. So if we could put this in context, it sounds
9 like the King City deposit, the Coalinga deposit, had been
10 discovered and now there was some discussions as to going
11 into production, is that about the time frame we are in?

12 A. That's about it.

13 Q. Were there any written reports or documents
14 produced as a result of those discussions?

15 A. I really don't know.

16 Q. Who were the asbestos production people, if I
17 can use that term, who were involved in the discussions?

18 A. I have no recollection.

19 Q. Do you recall why the medical director and
20 yourself were involved in the discussions?

21 A. Because that was standard procedure within the
22 corporation, that when we were about to embark upon a new
23 manufacturing activity early in the planning stages the
24 corporate medical department was brought into the picture.

25 Q. Who was the corporate medical director at that

1 time who was involved in the discussions?

17

2 A. Dr. Thomas Hale.

3 Q. Is Dr. Hale still around?

4 A. He is dead.

5 Q. Other than yourself and Dr. Hale, do you
6 recall any other people from the medical department
7 involved in those discussions?

8 A. At that time I think there was just the two of
9 us. Excuse me. There was one other who was involved at
10 that time and that was our chief industrial hygienist, Paul
11 McDaniel.

12 Q. Is Mr. McDaniel still around?

13 A. I really don't know.

14 Q. Do you know if he is alive?

15 A. He was two years ago. Whether he still is, I
16 don't know.

17 Q. I take it from your answer that he is no
18 longer working at Union Carbide?

19 A. No, he retired a number of years ago.

20 Q. Do you know where he was as of a couple of
21 years ago?

22 A. I think he was at Rochester, New York.

23 Q. Let me go back to the year 1955 when you moved
24 to New York City to the medical department at Union Carbide.
25 At that point in time I want to ask you about the medical

18
1 Department, how it was set up. I take it that the main
2 office of the medical department for Union Carbide
3 Corporation was in New York City at the Park Avenue address,
4 is that right?

5 A. We weren't in Park Avenue at that time. The
6 medical department was situated at 300 Madison Avenue.

7 Q. Did the medical department have its own
8 facility or was that in the corporate offices of Union
9 Carbide?

10 A. Well, they had two medical departments in New
11 York; they had a rather large personnel medical department,
12 which also was responsible for supervision of overseas
13 operations, and then the department they called the
14 industrial medicine and toxicology department, which was
15 comprised of two people, Dr. Nale and myself, and we were
16 at 300 Madison.

17 Q. Where was the personnel medical department?

18 A. It was at, what was the address, let's see, it
19 was on 42nd Street. Right around the corner on 42nd Street.

20 Q. Now, the personnel medical department, what
21 generally did they do or what was their function at that
22 time?

23 A. Provided medical service for people that
24 worked in the building, did pre-employment examinations.

25 Q. And would they, for example, have anything to

1 do with medical problems in the Union Carbide plant around 19
2 the country?

3 A. No.

4 Q. Was that under the auspices of you and Dr.
5 Male?

6 A. Yes.

7 Q. Now, the personnel medical department, you say,
8 also was in charge of overseas work. What was that?

9 A. Well, they did all the medical work for
10 individuals who were being sent overseas for either work
11 positions or on trips and they received a lot of the
12 questions that came up as a result of overseas operations
13 where as they received them they were commonly passed on to
14 Dr. Male and myself for answers.

15 Q. Let me give you a hypothetical example. Let's
16 say a Union Carbide Division in Brighton in 1955 some
17 question came up about a condition in a factory, for
18 example. Are you telling us that that question may have
19 been conveyed to the personnel medical department who would
20 then refer it to you and Dr. Male?

21 A. That sort of an operation, yes.

22 Q. But --

23 A. Excuse me, let me also comment on the fact
24 that without any specific directive in that direction in
25 the subsequent few years from '53 on, I would say the

1 overseas operations began to respond directly to Dr. Nale
2 and myself without going through the employee medical
3 services.

4 Q. Well, would it be fair to say that ultimately
5 such questions from overseas department about toxicology or
6 hygiene would end up in the department of you and Dr. Nale?

7 A. Absolutely.

8 Q. And would that also be true about such
9 questions in this country, if the question came from a
10 Union Carbide facility here about hygiene or toxicology,
11 that would be referred to you or Dr. Nale?

12 A. Yes.

13 MR. JONES: What time period are you
14 talking about?

15 MR. BROWNSON: I was still talking about
16 1955.

17 BY MR. BROWNSON:

18 Q. Was that true then up through 1965, that same
19 general set up from '55 to '65?

20 A. From '55 to '65 I would say practically all of
21 the overseas operations problems came to Nale and myself,
22 and all of the U.S. plant operations came to Nale and
23 myself.

24 Q. Now, when you were promoted to director of
25 toxicology in 1963, was this still within the industrial

1 medicine and toxicology branch of the medical department? 21

2 A. It was within the same framework with the
3 exception that somewhere in there, and I really don't know
4 when or where, the toxicology was dropped from the
5 department and it mainly became the industrial medical
6 department.

7 Q. But did that department still deal with
8 hygiene and toxicology questions?

9 A. Right.

10 Q. Throughout your tenure at the New York office
11 from 1965 to 1979, were you always involved with that
12 particular aspect of the medical department?

13 A. Yes.

14 Q. The toxicology aspect?

15 A. Yes.

16 Q. And I take it that the name changed from time
17 to time but the subject matter remained the same?

18 A. Correct.

19 Q. Other than Dr. Nale and yourself, who else was
20 involved in that department while you were there through
21 '79?

22 A. Let's see, Dr. Kenneth Lane, who was an
23 assistant medical director; Dr. Brian Balantyne; a large
24 staff of industrial hygienists, Paul McDaniel being one,
25 Leo LaFrance. I can't remember the other two. Those are

22
1 the ones that I knew best. There were about four or five
2 others. An epidemiologist by the name of Susan Austin.
3 There was another M.D., let's see, who was -- his name
4 escapes me but he is now medical director of Cyanamid. I
5 think that's about it. Wait a minute, I have to add one
6 more, there was a change in corporate medical directors in
7 there, Dr. John Welsh was the corporate medical director
8 from 1963 to 1979 when I left.

9 Q. I think you answered this before but just so I
10 am clear on this point, from 1955 to 1979 were questions of
11 industrial hygiene and toxicology in Union Carbide
12 facilities both in this country and overseas within the
13 jurisdiction of this industrial medicine and toxicology
14 group?

15 A. Yes, they were.

16 Q. And have you now given us the names of all the
17 people you can recall who were within that group for those
18 years, anyone else in that group that you can think of from
19 '55 to '79?

20 A. I really can't remember.

21 Q. Now, other than at the main medical office in
22 New York City, were there industrial hygiene type people,
23 whether they are medical doctors or not, at other Union
24 Carbide locations?

25 A. Yes.

do not
put
in
page/line
design

1 ~~Q.~~ Generally how was that set up, can you tell us?

2 A. Generally it was set up on the basis of plant
3 size and management opinion, let's put it that way, because
4 we had -- in the chemicals operations where we had large
5 clients, lots of people, lots of hazards, we had full time
6 medical services, one or two plant physicians, and
7 industrial hygienists, and nurses. And other operations
8 where we had just as many employees but the hazards were
9 different, they were lower, we would have part-time
10 positions in the community. So every plant we had had some
11 contact with a physician who acted as the medical director
12 for that particular unit.

13 Q. How about King City, California, do you know
14 what medical personnel you had there through the years?

15 A. They had a outside consulting physician who
16 examined their people, read their X-rays, handled any minor
17 injuries they had and so forth.

18 Q. Do you know who that physician was?

19 A. I don't recall his name.

20 Q. Was he at King City?

21 A. I am not sure, it was either King City or
22 Monterey. I believe he was at King City.

23 ~~Q.~~ Have you ever been to King City?

24 A. Twice.

25 Q. When was that, do you know?

1 A. Once I believe in the middle '60s, and once I
2 think in the early '70s would be my best recollection.

3 Q. Do you recall the reason for either of those
4 visits?

5 A. Just routine.

6 Q. And by routine, what do you mean, would you
7 visit all Union Carbide facilities on some rotating basis?

8 A. When it was convenient to do so, yes.

9 Q. Do you recall when you went to King City on
10 either of those visits what you did there?

11 A. I met with the physician and reviewed a bunch
12 of X-rays with him. I went down to the plant and made a
13 plant tour. And I went out to the mine site and observed
14 some of the mining operations and I had an industrial
15 hygienist with me. Following the completion of our survey
16 we met with the management and gave them our opinions of
17 the status.

18 Q. Do you recall what your opinions were of the
19 status on either occasion?

20 A. One thing that was of concern to us was the
21 ore pile, which was being allowed to dry out and becoming
22 rather dusty and we were concerned about that as a dust
23 hazard. And we were a bit concerned about certain
24 maintenance activities which were allowing some of the
25 ventilation equipment to deteriorate a little bit more than

1 we would like to see, so there were some leaks in
2 ventilation equipment. That's my recollection of our two
3 main concerns.

4 Q. Did you recognize at the time of the first
5 visit that asbestos dust could be in any way hazardous to
6 human health?

7 A. Yes, we knew that.

8 Q. Is that one of the things you were looking for
9 on the visit?

10 A. Yes.

11 Q. Was there any recognition at the time of the
12 first visit that asbestos dust in some form and some dose
13 could cause cancer?

14 A. Well, we were concerned with the disease
15 asbestosis.

16 Q. At the time of the first visit in the
17 mid-1960s had you heard of the disease mesothelioma?

18 A. I really can't recall just exactly when I did
19 first hear of that disease.

20 Q. Do you know when King City began, the King
21 City facility, began taking chest X-rays from employees?

22 A. As far as I know day one.

23 Q. Was that at your directive?

24 A. That was at that time the directive of Dr.
25 Nale who is the corporate medical director.

1 What was the policy for chest X-rays of
2 employees at King City, was it an X-ray or some other --

26

3 A. My recollection is it was annual.

4 Q. This was done by this outside doctor at King
5 City?

6 A. Yes.

7 Q. Were those annual chest X-rays of employees
8 then kept on file somewhere?

9 A. As far as I know, the doctor kept them.

10 Q. Did Union Carbide keep them anywhere?

11 A. No.

12 Q. At any time up through 1979, or even after
13 that time, if you are aware of it, do you know if any
14 epidemiological study has been done of employees at the
15 King City facility?

16 A. I don't believe so.

17 Q. Do you know if there has been any screening or
18 review of X-rays other than on a case-by-case basis for
19 those employees?

20 A. There was a time, I don't remember exactly
21 when it was, but we did have a large number of X-rays
22 reviewed by a specialist in reading X-rays for dust
23 exposure to make sure that the local people were not
24 missing anything.

25 Q. Do you know when this was?

1 A. I really can't recall.

2 Q. Do you know where this reading took place?

3 A. I don't remember that either.

4 Q. Do you remember who the expert was?

5 A. I don't remember that either.

6 Q. Do you recall if he was a so-called B reader?

7 A. I believe that's why he was selected.

8 Q. Do you know if he was a radiologist?

9 A. I believe he was a radiologist.

10 Q. Do you know where the records or reports or

11 findings of this screening would be located?

12 A. No, I do not.

13 Q. Do you know if any written report or findings

14 was ever prepared from that screening?

15 A. I can't recall.

16 Q. Do you know at whose instance the screening

17 was done or whose request the screening was done?

18 A. I think it was done at the request of

19 personnel in the medical department, that is the Union

20 Carbide medical department.

21 Q. So the Union Carbide medical department at New

22 York? _____

23 A. Yes.

24 Q. Now, other than --

25 A. Incidentally, I was not involved in that phase

28
1 of things. I saw it from the side but at that time Dr.
2 Lane was doing most of the coverage of the King City
3 operations.

4 Q. So this X-ray reading or screening or whatever
5 you want to call it would have been done at the direction
6 of Dr. Lane?

7 A. Probably at Dr. Lane's request.

8 Q. Do you know if Dr. Lane actually went out to
9 King City to set things up or --

10 A. I don't remember that.

11 Q. Is Dr. Lane still alive?

12 A. Yes.

13 Q. Is it he or she?

14 A. He.

15 Q. Is he still at Union Carbide?

16 A. No, he is retired.

17 Q. Do you know where he is located?

18 A. Bartlesville, Oklahoma.

19 Q. Do you know why this X-ray study of King City
20 employees was done?

21 A. I think it was done just to give us a feeling
22 of confidence in the fact that we had not observed any
23 problems in the people and we just wanted to make sure that
24 we weren't being suckered into a state of complacency.

25 Q. Was it done because the Union Carbide medical

1 department at that time recognized that exposure to
2 asbestos dust in some dose could cause disease?

3 MR. JONES: Object to the form of the
4 question as argumentative. You can go ahead and answer,
5 Doctor.

6 A. We know that before they ever started mining
7 asbestos.

8 Q. Was there a recognition at the time this X-ray
9 study was done that exposure to asbestos could cause cancer,
10 a recognition at Union Carbide's medical department that
11 asbestos exposure could cause cancer?

12 A. At the time that that review was done we knew
13 of Selikoff's studies with regard to cancer and asbestos.

14 Q. Was there a recognition at the Union Carbide
15 medical department at the time that X-ray study was done
16 that asbestos could cause mesothelioma?

17 A. Yes.

18 Q. Was that recognition gained from Dr.
19 Selikoff's work or from some other source?

20 A. I would say that Dr. Selikoff's work was the
21 moving force behind the knowledge that there was an
22 association between asbestos exposure and cancer.

23 Q. And by cancer would you include mesothelioma?

24 A. Yes.

25 Q. Now, the overseas divisions of Union Carbide,

1 did they have their own medical departments or would all
2 hygiene -- stop there. Did the overseas divisions of Union
3 Carbide have their own medical department?

4 A. Yes, they did.

5 Q. Would questions of toxicology and hygiene at
6 overseas facilities be handled by those medical departments
7 or would they all come to New York?

8 A. This would be handled by those medical
9 departments with the New York operation being the source of
10 expert knowledge if they needed it.

11 Q. Did the Niagara Falls research facility of
12 Union Carbide have its own medical personnel at any time
13 while you were with the company?

14 A. We did have a full time medical director at
15 the electro metalurgical group in Niagara Falls in 1955.
16 It goes back earlier than that. I guess the medical
17 director probably was hired about the same time I was in '47
18 and he stayed on at Niagara Falls Falls until maybe 1960.

19 Q. Did he have anything to do with the asbestos
20 group at Union Carbide?

21 A. Not that I recall.

22 Q. ~~Was there~~ anyone at the Union Carbide medical
23 department in New York City who had responsibility at one
24 time or another for asbestos related matters or for the
25 Union Carbide asbestos group?

1 A. In the medical department?

2 Q. Yes.

3 A. It would be Dr. Lane.

4 Q. Do you recall what period of years Dr. Lane
5 dealt with that topic?

6 A. Not specifically. I would say probably from
7 the late -- probably the last ten years that I was there,
8 about '68 to '79.

9 ~~Q.~~ Did the Union Carbide medical department in
10 New York City have a medical library?

11 A. Nothing more than the books that we ourselves
12 kept in our home.

13 Q. Did it subscribe to any medical journals or
14 periodicals?

15 A. Yes.

16 Q. Do you recall which medical journals or
17 periodicals?

18 A. British Medical Journal was one, Journal of
19 Occupational Health, American Hygiene Medical Journal was
20 another, Archives of Industrial Health was another. We had
21 a complete set of the Journal of Industrial Hygiene and
22 Toxicology. ~~Wait a minute now.~~ I will have to qualify an
23 answer I gave you earlier when you asked me did we have a
24 library. I had forgotten the fact, yes, we did have a
25 library. That's where we kept all of these journals and a

1 Q. As a matter of fact, I believe we had both of
2 them because the Archives of Industrial Health, as I recall,
3 was a continuation of the Journal of Industrial Hygiene and
4 Toxicology.

5 Q. How about the publication entitled Chest?

6 A. No.

7 Q. How about the Canadian Medical Association
8 Journal?

9 A. No.

10 Q. The British Journal Cancer?

11 A. No.

12 Q. The publication entitled American Review of
13 Respiratory Disease?

14 A. No.

15 Q. The publication entitled Environmental
16 Research?

17 A. No.

18 Q. How about the Annals of the New York Academy
19 of Sciences?

20 A. I think we had some of those but not all of
21 them.

22 Q. Do you know if you had the issues dealing with
23 any of Dr. Selikoff's studies?

24 A. I think we did.

25 Q. What was the purpose for maintaining this

1 Medical library and subscribing to these medical journals
2 at the medical department of Union Carbide?

33

3 MR. JONES: Object on the grounds of
4 foundation. Go ahead and answer.

5 A. Reference work.

6 Q. And were these used by yourself and the other
7 medical personnel at the medical department?

8 A. These and other sources, yes.

9 Q. What were the other sources? Were there other
10 medical libraries that your department used?

11 A. Yes.

12 Q. What were those?

13 A. New York Academy of Medicine Library. I guess
14 that would be the primary other source for medical
15 references.

16 Q. Did the Union Carbide medical department,
17 during the years you were there from '55 to '79, do its own
18 research into either industrial hygiene or toxicological
19 issues?

20 A. Yes, we had our own laboratory at Mellon
21 Institute in Pittsburgh.

22 Q. Now, before I get to that, other than at the
23 Mellon Institute in Pittsburgh, was there research
24 conducted within the medical department of Union Carbide
25 during the years you were there?

1 A. Yes, on occasion we participated in research
2 done at some other locations.

3 Q. Were any of those locations in this country?

4 A. Yes.

5 Q. Do you recall what they were?

6 A. One was the CIIT, Chemical Institute of
7 Industrial Toxicology at Chapel Hill -- at Research
8 Triangle, Research Triangle in North Carolina. There was
9 some work done at some of the private consulting toxicology
10 laboratories in Illinois and I don't remember where the
11 others were.

12 Q. Now, was this research at these places
13 research actually done by Union Carbide medical personnel
14 or was this research commissioned by Union Carbide and done
15 by these outside sources?

16 A. Commissioned by Union Carbide and done by the
17 outside people.

18 Q. Now, did Union Carbide personnel do their own
19 research?

20 A. At the Mellon Institute.

21 Q. And which Union Carbide personnel did research
22 at the Mellon Institute in Pittsburgh?

23 A. There was a staff of about 35 people who
24 worked at the chemical hygiene fellowship at the Mellon
25 Institute in Pittsburgh. At that time it was headed by Dr.

1 Dr. F. Smith, Junior. Second in command was Dr. C. P.
2 Carpenter, and an inhalation specialist Urbano Pozzani,
3 and statistician, Carol Weil. I don't remember the other
4 names.

5 Q. During what years did Union Carbide conduct
6 research at the Mellon Institute?

7 A. From about 1938 through the present. Wait a
8 minute, I shouldn't say through the present any more
9 because I guess just about the time I left they severed
10 their relationship with Mellon and they maintained a
11 laboratory as their own corporate toxicology laboratory.

12 Q. And is that corporate toxicology laboratory
13 still in existence?

14 A. To the best of my knowledge, yes.

15 Q. Where is that?

16 A. I am not sure whether it's either Bush Run
17 outside of Pittsburgh or up in Westchester County, New York
18 at -- I have forgotten the name of the place now.

19 Q. Was medical research commissioned by Union
20 Carbide at any facilities overseas during the years you
21 worked at Union Carbide?

22 A. I think. I am not certain about this, but I
23 believe that they had one study conducted by a British
24 research laboratory but I do not remember the name of the
25 laboratory.

1 Q. We will maybe talk about that a little later.
2 Let me back up to another topic. Let me ask you a little
3 bit about the Mellon Institute because I don't know much
4 about it. Is this part of Carnegie Mellon University or is
5 this another institution?

6 A. Mellon Institute was an organization founded
7 by the Mellon interests as a independant research center
8 run by the Mellon Institute in supporting a number of
9 different fellowships. Various corporations would contract
10 with the Mellon Institute for a fellowship; for example,
11 Union Carbide had a chemical fellowship there where a lot
12 of the basic research in chemical processes was being done,
13 and this was prior to the formation of the chemical hygiene
14 fellowship. And when in 1938 Union Carbide decided they
15 had to learn more about the toxicology of their products,
16 they established what they called the chemical hygiene
17 fellowship. And since they already had had chemical
18 fellowships at Mellon, they established this chemical
19 hygiene fellowship at Mellon.

20 Q. And what years did Union Carbide have the
21 chemical hygiene fellowship at Mellon Institute?

22 A. As long as Mellon Institute existed. And
23 sometime, I would guess sometime in the '60s, the Mellon
24 Institute was taken over by -- well, let me put it this way,
25 that the Mellon interests were taken over by Carnegie

1 University and at that time was formed the Carnegie Mellon
2 University.

3 Q. Okay.

4 A. The Institute people and activities then fell
5 under the umbrella of Carnegie Mellon University. And they
6 stayed there up until the late '70s or very early '80s when
7 Carbide decided, because of administrative problems with
8 the University, to withdraw their fellowship and establish
9 their own laboratories.

10 Q. Now, the Union Carbide chemical hygiene
11 fellowship, was that a fellowship that was always filled by
12 Union Carbide's personnel or would that be open to others?

13 A. All the people that worked there were -- this
14 was a peculiar situation. They were paid by the Mellon
15 Institute or Carnegie Mellon University, but they had all
16 the rights and benefits of Carbide employees so that we
17 always considered them as Carbide employees.

18 Q. And did Carbide provide the fellowship funds
19 that were paid out through the University?

20 A. That's correct.

21 Q. So the actual reimbursements for these people
22 came through Carbide or directly through the University?

23 A. Correct.

24 Q. And during the years that the industrial
25 hygiene fellowship was in existence at the Mellon Institute

1 was there always one fellow or were there sometimes nobody
2 or sometimes more than one or how did that work?

3 A. Well, I guess there were always a lot of
4 fellows. Henry Smith was the administrative fellow, and C.
5 P. Carpenter was the assistant administrative fellow, and
6 the others I guess would just be classified as fellows.

7 Q. Now, C. P. Carpenter, is that Charles P.
8 Carpenter?

9 A. Right.

10 Q. How about Edwin R. Kinkead, was he a fellow?

11 A. Kinkead came along later. I don't know what
12 his status was.

13 Q. Do you know if he ever held the Union Carbide
14 industrial hygiene fellowship at any time?

15 A. I don't know if he was ever classed as a
16 fellow there or not. He may have been. I don't recall.

17 Q. Was he kind of a lower echelon researcher?

18 A. He was not one of the top guys.

19 Q. I assume that the fellows had staffs of
20 technicians or researchers or whatever who worked for them?

21 A. Yes.

22 Q. So everyone who worked there would not
23 necessarily be a fellow, is that correct?

24 A. That's correct.

25 Q. Do you remember, in any event, that Edward

1 Kinkead worked for some of the fellows at the Union Carbide
2 industrial hygiene fellowship?

3 A. I don't know what Kinkead did.

4 Q. How about Urboano Pozzani, was he a Union
5 Carbide industrial hygiene fellow?

6 A. Yes.

7 Q. How about Charles C. Haun, do you recall him?

8 A. Yes, Haun was one of the later guys that came
9 in in the middle '60s probably.

10 Q. How about John M. King?

11 A. Also.

12 Q. He was also under that fellowship?

13 A. He was in the fellowship, yes.

14 Q. Now, I am going to get into this a little
15 later but I wanted to ask you now, in one of the reports
16 issued by the Mellon Institute it has attached a mailing
17 list and we are going to look at this a little later, but
18 what I wanted to ask you is it talks about what seems to be
19 different medical department and it says Number 4, Dr. C.
20 Dornahl. Was your department called Department 4?

21 A. No, it was on the fourth floor of the building.

22 Q. Actually I think in this particular case it
23 may mean that you got four copies?

24 A. That's also possible.

25 Q. Let me give you some other names. There is an

1 E. Q. Hull. I don't know if is he a doctor.

2 A. He is.

3 Q. Was he in your department?

4 A. No, he was the medical director of the plant
5 in South Charleston for a number of years and then in the
6 last five, six, eight years he was listed as the medical
7 director of the chemicals division.

8 Q. Where would he be located?

9 A. South Charleston.

10 Q. Did they have their own medical department at
11 South Charleston?

12 A. Yes, they did.

13 Q. That's West Virginia?

14 A. Yes.

15 Q. Is there a Union Carbide plant there of some
16 sort?

17 A. A very large plant in South Charleston.

18 Q. Does that have a name?

19 A. South Charleston plant.

20 Q. How about Dr. R. E. Joyner?

21 A. Dr. Joyner took my place at Texas City when I
22 went to New York.

23 Q. During the 1960s was he located in Texas City,
24 do you know?

25 A. Part of the time. He left sometime in the '60s

1 and became medical director for Shell Oil.

2 Q. How about Dr. R. J. Sexton?

3 A. He was the medical director of the chemicals
4 plant at Institute, West Virginia.

5 Q. That's the name I was thinking of. How about
6 Dr. F. E. Medford?

7 A. Medford.

8 Q. He may not be a doctor, F. E. Medford?

9 A. I think he is. He was after my time, I
10 believe.

11 Q. Do you know where he was located?

12 A. No.

13 Q. Was he within Union Carbide somewhere?

14 A. I am not sure.

15 Q. Do you know where the research and development
16 department library was located?

17 A. South Charleston, West Virginia.

18 Q. How about N. H. Ketcham?

19 A. He was the chemical division chief industrial
20 hygienist.

21 Q. He was where, South Charleston?

22 A. South Charleston.

23 MR. JONES: Would this be a good time to
24 take a brief break?

25 MR. BROWNSON: I think it would.

1 (At this time a brief recess was taken.)

2 BY MR. BROWNSON:

3 Q. You mentioned earlier, Dr. Dernenl, that the
4 chest X-rays of workers at King City were done at day one,
5 do you mean day one of production at King City?

6 A. At the time they were hired.

7 Q. Does that go back to the time that King City
8 started production?

9 A. That would be about the time that the first
10 people were hired.

11 Q. When was that, do you remember, that
12 production started?

13 A. I don't remember.

14 Q. Do you recall it being around 1963?

15 A. The best I could say it would probably be
16 sometime in the early '60s.

17 Q. Now, was there a policy among Union Carbide
18 plants elsewhere, other than King City, wherefor Union
19 Carbide facilities that employees have annual chest X-rays?

20 A. Yes.

21 Q. Where else?

22 A. All of them.

23 Q. When did that policy begin?

24 A. I would say probably in the early '40s.

25 Q. Do you know if Union Carbide at any time

1 instituted a policy wherein it would advise its customers
2 of asbestos that their workers ought to have annual chest
3 X-rays?

4 MR. JONES: Could you read the question
5 back?

6 (At this time the requested portion of the
7 transcript was read aloud by the Court
8 Reporter.)

9 MR. JONES: Thank you.

10 A. I don't recall that Carbide ever advised any
11 of their customers on the specific steps that should be
12 followed in protecting their people against the hazards of
13 a material is the best way I can express it, which in
14 effect says that we did not tell -- I do not recall that we
15 told people specifically that their people should have a
16 chest X-ray at regular intervals, although it is entirely
17 possible that customers may have been told this by sales
18 and marketing people with whom they dealt, that as far as
19 the medical department is concerned we did not issue any
20 directives to customers that they should have an annual
21 X-ray on their people.

22 Q. Did the medical department issue any
23 directives to sales and marketing people that customers
24 should be advised about annual chest X-rays for their
25 workers?

1 A. Not that I know of.

2 Q. Now, are you familiar with the OSHA standard
3 concerning asbestos in the work place which took effect in
4 1972?

5 A. I am hardly familiar with it. I think I read
6 through it once back when it first came out.

7 Q. I am not asking you at this point if you know
8 what it says, I am just asking you if you know that OSHA in
9 1972 issued it's standard for asbestos in the work place?

10 A. I know the issue, but I don't know the date.

11 Q. Do you know if the Union Carbide medical
12 department ever issued any material for customers telling
13 customers that their workers should take any kind of
14 precautions against asbestos dust before the OSHA standard
15 came out?

16 A. Carbide issued certain materials that were
17 available to customers that would involve precautions that
18 should be taken with regard to their employees but I do not
19 recall what specific wording or specific precautions were
20 involved in those documents.

21 Q. Do you know if any of these documents dealt
22 specifically with the topic of asbestos dust?

23 A. I think there were documents of that nature.

24 Q. Now, I am talking about the time period before
25 the OSHA standards came in. We know there were after the

1 OSHA standard.

2 MR. JONES: I will object on the basis he
3 said he didn't know when the OSHA standard came in. Can
4 you give him a date?

5 THE WITNESS: He did, '72.

6 BY MR. BROWNSON:

7 Q. Just so my question is clear, let me start
8 over. Confining ourselves to the time period before the
9 asbestos OSHA standard came out.

10 A. All right.

11 Q. Do you know if in that time period Union
12 Carbide issued any literature or notice to customers as to
13 how to protect their employees from asbestos dust?

14 A. I would have to say that they did not issue,
15 to the best of my knowledge, information on how the
16 employees were to be protected but I am reasonably sure
17 that they would have issued information on what the
18 employee should be protected against. How the employee
19 provided that protection was up to the employer, not Union
20 Carbide.

21 Q. Do you know what form these directives or
22 these notices took?

23 A. My best recollection would be they would be in
24 product bulletins and material safety data sheets, if there
25 was one on asbestos at that time, and in toxicology studies.

1 Q. I am going to show you what has been marked as
2 Dernehl Deposition Exhibit 9, it's a document that's
3 entitled "Union Carbide Material Safety Data Sheet". Is
4 that the type of sheet you just referred to?

5 A. That's the type of a sheet I am referring to.

6 Q. Okay.

7 A. But it's incomplete.

8 Q. Because there is only one page there?

9 A. That's right.

10 Q. Let me show you what's been marked as Dernehl
11 Deposition Exhibit 10 and ask you if this is a complete
12 copy of that document?

13 MR. GOLDBERG: Just for the record, Bob,
14 what is the title?

15 THE WITNESS: "Refind Chrysotile
16 Asbestos, Product Specifications, Descriptions, Uses."

17 A. What is the date on this?

18 Q. There is a September '72 date up on the top.

19 A. I have not seen this material safety data
20 sheet. It was not made in my department.

21 Q. Well, the questions I am asking right now, Dr.
22 Dernehl, are not about the contents of this particular
23 material safety data sheet, I am just asking if this is the
24 form or the type of material safety data sheet that you
25 referred to earlier?

1 A. This is a version or revision of the material
2 safety data sheet that we used for other products.

3 Q. Do you know when the first material safety
4 data sheets were issued with respect to the Calidria
5 asbestos by Union Carbide?

6 A. No, I don't remember when.

7 Q. Did the medical department have anything to do
8 with providing the information on the material safety data
9 sheets which dealt with Calidria asbestos?

10 A. If the material safety data sheet was prepared
11 in our medical department then we had an input into it. As
12 I indicated, I have not seen this particular material
13 safety data sheet before. It was issued, apparently, by
14 the asbestos people or the mining and metals people because
15 it came out of Niagara Falls. And I don't recall ever
16 having seen it before.

17 Q. And you are referring now to Dernehl Exhibit
18 10, for the record?

19 A. Yes, sir.

20 Q. Now, you mentioned earlier that customers were
21 not told what steps to take to protect their workers from
22 asbestos dust but they were told what the workers should be
23 protected from, is that a fair statement?

24 A. That's correct.

25 Q. And look at the particular material safety

1 safety data sheet said about asbestos?

2 A. First of all, I don't recall whether there was
3 one prior to this date and I would not recall what it said
4 without seeing the document.

5 2. Now, we had earlier been talking about what
6 notices Union Carbide gave to their customers about
7 protection of customer's workers from dust. Other than the
8 notices, which are headed material safety data, such as we
9 see in Exhibit 10, were there other types or forms of
10 notices that were issued by Union Carbide to customers?

11 A. Product bulletins would be one. This is a --
12 this is one type of a product bulletin. There were
13 probably others that were put out that would have made
14 reference to the hazards of the product and precautions
15 that should be taken in handling. Another one, of course,
16 is the label types which is put on the products which also
17 gave precautions and warnings.

18 Q. I am going to show you now what has been
19 marked as Dernehl Deposition Exhibit 15 and ask is you if
20 this is a Union Carbide information bulletin of the type
21 that you just mentioned?

22 A. ~~This is one~~ such bulletin, yes.

23 Q. And my question is, look at the first page of
24 that exhibit, it's got this heading at the top that says,
25 "Asbestos Product Information Bulletin."

1 A. Yes.

2 Q. Is that the type of heading that these product
3 information bulletins would carry, the ones that you have
4 mentioned?

5 A. Some of them, yes.

6 Q. Have you ever seen that particular heading
7 before?

8 A. I really don't recall.

9 Q. On the right corner of the heading there is
10 some kind of a logo that appears to be a jumble of fibers.
11 Do you know what that is, what that portrays?

12 MR. JONES: Object to the
13 characterization by Counsel. But go ahead and answer.

14 BY MR. BROWNSON:

15 Q. Do you know what the logo up on the upper
16 right-hand corner of the exhibit portrays?

17 A. I am sure I don't know. All I can think of is
18 it probably refers to asbestos fibers.

19 Q. Do those look to you like a magnified picture
20 of asbestos fibers?

21 MR. JONES: Objection.

22 A. ~~I am sure~~ I don't know.

23 Q. Have you ever observed Calcidia asbestos under
24 the microscope?

25 A. Yes. I looked at some of the samples

1 collected by our industrial hygienists. They did not look
2 like that.

3 Q. What did they look like, the ones that you saw?

4 A. Well, first of all, they were very short
5 fibers, not long drawn out fibers, but they were very short
6 fibers. They weren't single strands but they tended to be
7 sort of -- now could I best describe it? You could see
8 that they seemed to be made up of bundles of very small
9 fibers of unequal length, that's the best way I can
10 describe it.

11 Q. Are you familiar with the different types of
12 asbestos fibers?

13 A. Not really. I know that chrysotile generally
14 is considered to be the long fiber asbestos.

15 Q. The long or the short?

16 A. Long.

17 Q. Long. Okay.

18 A. It is the type of asbestos commonly used in
19 weaving the ropes and the mat and such because of its long
20 fiber characteristics.

21 Q. Are you familiar with the term amphibole
22 fibers? _____

23 A. I know it's a type of asbestos, but other than
24 that I know no more about it.

25 Q. Are you familiar with the term serpentine

1 fibers?

2 A. Serpentine, to the best of my knowledge, is
3 simply a mineral classification. Beyond that I don't know
4 anything about it.

5 Q. The logo on Exhibit 15 in the upper right-hand
6 corner, what type of asbestos fibers does that look like to
7 you, based on your own knowledge?

8 MR. JONES: Object to the form of the
9 question. Lack of foundation. He has already stated he
10 doesn't know what those are.

11 MR. POLK: I want the record to reflect
12 that the witness was about to answer the question.

13 MR. BROWNSON: He also stated he didn't
14 think that was Calridia fiber. I am asking him what he
15 thinks it is.

16 A. I would say it would be a long fiber
17 chrysotile.

18 Q. But not Calridia?

19 A. No way.

20 Q. Do you know if Union Carbide mined any
21 chrysotile other than that out of the Calridia deposit at
22 King City at any time?

23 A. Not that I know of.

24 Q. Do you know if Union Carbide sold any fiber
25 other than that, the Calridia fiber from King City?

1 A. I have no idea.

2 Q. I guess what I am wondering is do you know why
3 the logo on the product information bulletin, such as
4 Exhibit 15, would show a long chrysotile fiber that wasn't
5 Calidria that Union Carbide didn't mine or sell such fiber?

6 MR. JONES: Object to the form of the
7 question, lacking foundation.

8 A. I would have no way of knowing why the art
9 department of Carbide did what they did.

10 Q. Are you familiar with the term blue asbestos?
11 Have you ever heard that used?

12 A. Yes. As I recall, that referred to asbestos
13 that they mined in South Africa, crocidolite.

14 Q. I don't know. I am asking you.

15 A. I think. I am not sure.

16 Q. Okay.

17 A. But I believe it refers to the asbestos mined
18 in South Africa.

19 Q. To the best of your knowledge that is
20 crocidolite fiber?

21 A. To my recollection.

22 Q. ~~Have you ever~~ heard of a brand of asbestos
23 known as Johns-Manville Ultrabestos blue asbestos?

24 A. I have heard of Johns-Manville, beyond that
25 nothing.

1 Q. Do you know if Johns-Manville mined any
2 asbestos from the Coalinga deposit around King City?

3 A. I believe they had a mine maybe 20 miles east
4 of King City. Unless I am wrong, I think it was at a town
5 called Coalinga.

6 Q. Do you know what type of asbestos
7 Johns-Manville mined at that facility?

8 A. I have no idea.

9 Q. Are you aware of Union Carbide ever
10 commissioning any research or studies into the toxicity or
11 toxicology of the Coalinga or Calridia fiber?

12 A. Yes, we did some work on it.

13 Q. And do you recall some work ever being done by
14 a Dr. Arthur Langer, who was affiliated with Mount Sinai
15 Hospital, as far as analyzing that fiber?

16 A. That doesn't ring a bell.

17 (At this time DERNEHL Deposition Exhibit
18 45 was marked for identification by the
19 Court Reporter.)

20 BY MR. BROWNSON:

21 Q. I am going show show you a document which the
22 reporter has ~~marked as~~ Dernehl Deposition Exhibit 45 and
23 just ask, if you take a moment, you don't have to read the
24 whole thing but just look it over.

25 MR. JONES: For the record, I would

1 object to the exhibit on the grounds that it contains
2 highlighting by Counsel.

3 MR. BROWNSON: You are right, it does
4 contain highlighting.

5 (At this time a brief recess was taken.)

6 BY MR. BROWNSON:

7 Q. Doctor, let's go back on the record here. I
8 have shown you what has been marked as Dernehl Exhibit 45
9 and you have now had a chance to review that briefly, is
10 that right?

11 A. Right.

12 Q. Do you recognize any of the authors of that
13 particular article?

14 A. No, I don't.

15 Q. Langer, Wolff, Rohl and Selikoff?

16 A. Selikoff.

17 Q. That's the same Dr. Selikoff you were speaking
18 of before?

19 A. That's right.

20 Q. Do you recognize the publication? This was
21 published in the Journal of Toxicology and Environmental
22 Health.

23 MR. LAURA: Are you asking if he recalls
24 that journal?

25 MR. BROWNSON: Just the journal, right.

1 A. Q. My recollection is that this is a journal
2 that Selikoff and some of his people started and I don't
3 think we ever subscribed to that.

4 Q. Do you know if you have ever seen the journal?

5 A. I don't think so.

6 Q. Now, in this particular article, which was
7 published in 1978, there is some --

8 MR. JONES: For the record, why don't
9 you read the name of the article?

10 MR. BROWNSON: The name of the article
11 is, "Variation of Properties of Chrysotile Asbestos
12 Subjected to Milling."

13 BY MR. BROWNSON:

14 Q. And in this particular article there is a
15 study being done of Union Carbide Calridia RG 144 fiber.
16 Did you see that reference in here?

17 A. I saw that.

18 Q. That's at Page 1 1975. First of all, do you
19 know what Calridia RG 144 fiber is?

20 A. I do not.

21 Q. It's described in the article as chrysotile.
22 Does that ~~seem~~ right to you?

23 A. If they describe it as chrysotile, I assume
24 it's chrysotile.

25 Q. Have you ever heard of this particular study

1 Which is described in this article, Exhibit 45?

2 A. No, I have not.

3 Q. Do you know who commissioned that study?

4 A. I have no idea.

5 Q. And do you know if Union Carbide ever
6 commissioned studies similar to that where Calidria
7 asbestos fiber was analyzed for its toxicity?

8 MR. JONES: You said commissioned?

9 MR. BROWNSON: Yes.

10 A. Was analyzed for its toxicity, yes, we did
11 some work at Mellon.

12 Q. Other than studies at Mellon, do you know of
13 any other studies that Union Carbide commissioned on that
14 topic?

15 A. Not that I recall.

16 Q. Are you aware of any other studies that anyone
17 has done, whether they were commissioned by Union Carbide
18 or not, on the toxicity of the Calridia fiber?

19 A. Calridia fiber, no.

20 Q. Now, you mentioned the Mellon study and I want
21 to show you next a document that's been marked as Dernehl
22 Deposition Exhibit 7 and it's entitled "Mellon Institute,
23 Special Report, The Fibrogenic Potential of Asbestos
24 Products via Intraperitoneal Injection in Guinea Pigs, Rats
25 and Rabbits," and ask you to look at that one.

1 Dr. Dornenl, I would like to ask you some
2 questions about this particular document, which is
3 Deposition Exhibit 7. If you look at the cover page, first
4 of all, this appears to be a report by the Mellon Institute,
5 is that right?

6 A. That's correct.

7 Q. Is this the report that you just referred to
8 about the study about the toxicity of the Calidia asbestos?

9 A. Yes.

10 Q. And what is the date of it?

11 A. 1966.

12 Q. And this was a study done by Mellon Institute
13 personnel who were Union Carbide employees, is that right?

14 A. Right.

15 Q. And it indicates on the back that you received
16 it appears like four copies of this. If you go to the very
17 last page it shows the distribution list.

18 A. Uh-hun.

19 Q. Would you agree with me that based upon what
20 it says there that you, in fact, received four copies of
21 this report?

22 A. ~~Yes.~~

23 Q. Do you know of any other studies done by the
24 Mellon Institute done on the toxicity of Calidia asbestos
25 other than the one you are looking at, Deposition Exhibit 7?

1 A. That, I believe, is the only one I can recall.

2 Q. Do you remember why that study was done?

3 A. Yes.

4 Q. And why was that?

5 A. The current knowledge in the middle and early
6 '60s when this was done held that the fibers that were
7 active in causing asbestosis were the long fibers and that
8 was the reason why the air sampling standard at that time
9 limited the counting to fibers of ten microns or longer
10 because it was felt that these were the fibers that were of
11 significance and that you had to be protected against.
12 Sometime about this time there developed information that
13 there was a form of silicosis, which is a disease not
14 widely different from asbestosis, that there was a form of
15 silicosis which was rapidly fatal and was produced by ultra
16 fine particles of silica. It was first observed in the
17 mining process somewhere in the United States where, for
18 reasons unknown, a group of miners started working in an
19 area of high purity quartz and they developed a very
20 rapidly progressive and very rapidly fatal silicosis, which
21 was something totally unknown before.

22 ~~Shortly~~ after that in Germany there was some
23 work done with a ultra fine silica powder, I believe it
24 was -- went by the name of degusa silica, which was a micro
25 fine silica powder and which produced the same sort of

1 response in the workers exposed to it as was seen in this
2 group of workers in this country who developed a rapidly
3 progressive and fatal silicosis. Since this involved a
4 scaling down of particle size, we were concerned then
5 whether or not the short fiber Caltridia asbestos might have
6 a similar reaction in people as did the micro fine silica;
7 in other words, were we going to be faced with a rapidly
8 progressive and possibly rapidly fatal form of asbestosis
9 in people who were overexposed to this very short fiber and
10 very fine fiber type of asbestos that we were getting at
11 Coalinga.

12 Q. Okay.

13 A. Which is the reason why we asked for these
14 studies and to try to compare the action of these fibers in
15 animals as compared to a standard long fiber or reasonably
16 long fiber Johns-Manville product.

17 Q. So would it be fair to say that as a result of
18 your knowledge of hazards with silica you became concerned
19 at some point in the mid-'60s that the Caltridia asbestos
20 could have similar effects in humans?

21 A. Could be rapidly?

22 Q. ~~Yes.~~

23 A. Rapidly progressive and rapidly fatal, yes, we
24 were concerned with that possibility.

25 Q. As a result of that, you commissioned this

1 study by the Mellon Institute?

2 A. That's correct.

3 MR. JONES: The study reflected in
4 Exhibit 7.

5 BY MR. BROWNSON:

6 Q. Was your concern only for the workers at the
7 King City facility?

8 A. The concern would be to anybody that was
9 exposed to the material, the workers at the King City
10 facility certainly but anybody else who handled the
11 material likewise.

12 Q. Would that include workers at customer plants
13 who are handling the material?

14 A. Certainly.

15 Q. Are you familiar with a gentleman by the name
16 of Robert G. Woolery?

17 A. Robert G. Woolery?

18 Q. W-o-o-l-e-r-y.

19 A. No, I am afraid not. Not at this stage.

20 Q. He at one time was a group leader of product
21 development and technical services at the mining and metals
22 Division of Union Carbide in Tuxedo, New York.

23 A. I may have had contact with him, but that was
24 so long ago that I wouldn't remember it.

25 Q. I want to show you what has been marked as

1 Dernehl Deposition Exhibit 1 and ask you this question only,
2 Is this a publication put out by the Union Carbide
3 Corporation?

4 MR. HARVARD: What was the exhibit
5 number?

6 MR. BROWNSON: Exhibit 1.

7 MR. JONES: For the record, the document
8 is entitled, "The Effects of Chrysotile Asbestos Additions
9 to Cellulosic Paper" by Robert G. Woolery.

10 A. Well, this was a paper apparently prepared by
11 Robert G. Woolery, but what happened to the document I am
12 sure I don't know.

13 MR. GOLDBERG: What is the date on that?

14 THE WITNESS: There is no date that I
15 know. At this point in time it had not been accepted for
16 publication. This is apparently a copy that he kept of
17 something he did submit for publication which may or may
18 not have been published.

19 BY MR. BROWNSON:

20 Q. You have no idea if this was sent to customers,
21 however?

22 A. If it was published, interested customers
23 might be provided with a reprint of the paper.

24 Q. Well --

25 A. I don't know that that happened. I am merely

1 remember the request for support of the analytical studies.

2 Q. Well, would you agree --

3 A. The rest of the document I do not remember
4 seeing.

5 Q. Would you agree with me that this document
6 discusses toxicology issues concerning Union Carbide
7 asbestos at the British subsidiary?

8 A. Without reading the whole document I couldn't
9 agree to that, no.

10 Q. Well, let's look at Page 4, Paragraph 1.0, the
11 introduction reads, "Union Carbide U.K. Limited has been
12 promoting the sale of Coalinga asbestos for just over two
13 years. During this time, the public has become
14 increasingly aware of the considerable health risks
15 associated with the use of this material. So far, over 20
16 potential customers have raised the issue and have
17 requested an assurance that Carbide's material will not be
18 a source of danger to their employees." Now, would you
19 agree that those statements raise industrial hygiene and
20 toxicology issues about the use of Union Carbide asbestos
21 in England?

22 _____MR. JONES: Object again to the form of
23 the question. The foundation is not set. Unless you give
24 him a chance to read the entire document he can't answer
25 the question.

1 MR. BROWNSON: I am asking the question
2 based upon the statements I just read.

3 MR. JONES: Based upon two isolated
4 statements from the document?

5 MR. BROWNSON: Yes.

6 MR. JONES: Same objection.

7 A. Well, apparently this first paragraph
8 indicates that customers in England raised some questions
9 about the hazards of asbestos and it further follows in the
10 next paragraph to say that some of these concerns were
11 answered by materials sent from the New York office and the
12 Asbestos Toxicology Report, which you showed me earlier,
13 and that these reports had gone part way in alleviating
14 some of the concerns that existed.

15 Q. Well, based upon the three paragraphs entitled
16 "Introduction" that we have just looked at on Page 4 of 24
17 of this report, wouldn't you agree with me that this
18 discusses industrial hygiene and toxicology issues?

19 MR. JONES: Again, same objection.
20 Characterization of the document which the witness did not
21 write, the document speaks for itself.

22 A. ~~Well, as~~ I stated before, on the basis -- I
23 can only say that on the basis of these initial paragraphs
24 it is suggested that the subsequent contents of this
25 document would have something to say about the hazards

1 associated with the use of asbestos.

2 Q. And is that not the type of information which
3 would come to you in the medical department?

4 A. I have already indicated that the only thing
5 that I remember about this document is -- at this time the
6 only thing I remember is the request for support for the
7 analytical studies. I do not recall the rest of the report.

8 Q. Maybe my question isn't clear. I am not
9 asking you if you remember this particular document, I am
10 asking you isn't this document of the type that would come
11 to your attention because it contains toxicology and
12 industrial health issues?

13 A. It would come to my attention.

14 Q. Now, do you know what they are referring to in
15 the third paragraph in the introduction where they say,
16 "Carbide's replies have been based upon two communications
17 set by New York office on March 22nd 1966, and October 7th,
18 1966"?

19 A. I have no idea what they said.

20 Q. Do you have any recollection of being informed
21 of the work of Newhouse and Thompson at the London hospital
22 that's talked about in Paragraph 2?

23 A. No, I do not.

24 Q. Do you ever remember hearing about problems
25 with dock workers in London handling Union Carbide asbestos,

1 refusing to unload it from ships?

2 A. I remember hearing about that, yes.

3 Q. Do you know who you heard that from?

4 A. I heard that by word of mouth in the course of
5 just general discussions.

6 Q. And do you know what steps Union Carbide took,
7 if any, to alleviate the fears of those dock workers?

8 A. No, I do not.

9 Q. Will you look on Page 5 of the report?
10 Paragraph 2.2 is entitled "Paper," and I would ask you to
11 look at that paragraph.

12 A. The first paragraph?

13 Q. Well, the whole section about the -- Paragraph
14 2.2 about paper.

15 MR. JONES: Bob, to avoid interrupting
16 you later on, would you accept a continuing objection to
17 subsequent discussions of various paragraphs isolated from
18 the report without giving him an opportunity to read the
19 whole report?

20 MR. BROWNSON: Well, I don't like that
21 objection because I am going to have him read each section
22 that I ask him about.

23 MR. POLK: Counsel, you are representing
24 by that objection or the request for a continuing objection
25 that this witness has not reviewed this report before his

1 deposition today, is that correct?

2 MR. JONES: I didn't make any
3 representation like that.

4 MR. POLK: Well, in my opinion the
5 objection is not well taken if it's established through
6 this witness's testimony that he has reviewed the report
7 before his deposition today.

8 MR. HARVARD: The witness stated on the
9 record that he would not be in a position to answer what
10 the report says or doesn't say unless he had an opportunity
11 to go through the whole thing a moment ago, and I think
12 that's foundation for the objection. That's the extent to
13 which I believe the objection is offered.

14 MR. BROWNSON: We have now reached the
15 point where three different Union Carbide lawyers have made
16 objections at the deposition. I don't mean to cut you guys
17 off, but why don't one of you make the objection?

18 MR. JONES: Your concern is noted.

19 MR. BROWNSON: I don't care if you
20 consult or whatever, but we will be here all day if
21 everyone is thinking of objections.

22 MR. LAURA: Off the record for a second.

23 (At this time a discussion was held off
24 the record.)

25 BY MR. BROWNSON:

1 Q. Have you ever read this report before now?

2 A. I may have read the report when it first came
3 in my hands, assuming it did. I assume it did.

4 Q. Did you read it in preparation for your
5 deposition today?

6 A. No.

7 Q. Have you now had a chance to look at Section
8 2.2 entitled "Paper"?

9 A. Yes.

10 MR. JONES: Do you have a response to my
11 request for a continuing objection?

12 MR. BROWNSON: Go ahead, that's fine. I
13 don't think it's a good objection.

14 MR. JONES: I didn't expect you to.

15 BY MR. BROWNSON:

16 Q. Would you agree with me in Section 2.2 of the
17 Sayers report Dr. Sayers is describing concerns raised by
18 paper makers in England to the use of Union Carbide
19 asbestos in their plant?

20 A. Well, in part it's true. It not totally true.
21 2.2.3, for example, will tell. The Tullis people indicate
22 that their failure to use the material was not so much the
23 dust proposition as it was the fact that there was
24 indeterminant experimental work I gather on their product.

25 Q. Would you agree though that at Southalls, the

1 Charles Turner Mill, and the Tullis Paper Mill seems to be
2 expressing to Dr. Sayers about the use of Union Carbide
3 asbestos in their paper mills?

4 A. They raise questions about it, yes.

5 Q. Do you know if Union Carbide took any specific
6 steps to answer these questions raised by the paper makers
7 in England?

8 A. I have no idea.

9 Q. Do you know if Union Carbide ever advised its
10 customers in the United States in the paper industry about
11 these conversation from England?

12 A. I have no idea.

13 Q. Why don't you go to Page 3 of the Sayers
14 report? Paragraph 3.3 is entitled "Literature Surveys,"
15 and it reads, "These are made from time to time on the
16 subject of toxicology, and a number of more important
17 articles have been collected." Do you see that reference?

18 A. Un-nuh.

19 Q. Do you know who is making the literature
20 surveys that they talk about there?

21 A. I do not know.

22 Q. ~~Would you~~ agree with me as a general
23 proposition that in trying to determine the toxicology of
24 asbestos it would be a good idea to survey the medical
25 literature on that topic?

1 A. I think that we did survey the literature in
2 terms of keeping abreast of the material which came into
3 our hands. We did not specifically initiate a broad survey
4 of all the literature in the world. We did try to keep
5 abreast of the literature that came out in the United
6 states on this product.

7 Q. Are you aware of literature which came out in
8 the United States in the 1960s concerning studies done at
9 the South African asbestos mines with respect to disease?

10 A. We saw some literature which came out of South
11 Africa.

12 Q. Now, I am not speaking about literature
13 published in South Africa, I am speaking about literature
14 published in America concerning the disease in the South
15 African asbestos?

16 A. I would say that the only thing that we saw in
17 that regard were some references that were published in
18 Selikoff's papers.

19 Q. My next question then, Dr. Dernehl, is did you
20 also see some of the literature published outside of this
21 country about studies of disease among South African
22 asbestos mine workers?

23 A. We did see an occasional report which came to
24 our attention.

25 Q. Did you see studies about disease associated

1 with Canadian chrysotile mine workers?

2 A. Yes, that we did.

3 Q. Do you know if those were the studies of Dr.
4 J. C. McDonald, the other Dr. McDonald?

5 A. I believe they were.

6 Q. I will next ask you to go to Paragraph 4.4.2
7 on Page 11 which is entitled "Cause of Disease." In the
8 quote in that paragraph they refer to cases --

9 MR. JONES: Have you had a chance to
10 read the whole section?

11 THE WITNESS: I have read through the
12 quote.

13 BY MR. BROWNSON:

14 Q. They are referring to cases in Canada, six in
15 number from 1952 to 1964. My question is, are those the
16 cases that we just mentioned that you saw coming out of the
17 chrysotile miners?

18 A. They were part of them.

19 Q. McDonald articles?

20 A. There were others besides mesothelioma.

21 Q. Right. But does this reference, which you
22 have just read, the quote appear to talk about some of the
23 cases cited by Dr. McDonald among the Canadian chrysotile
24 miners?

25 A. Part of the cases, yes.

1 Q. On Page 13 of the Sayers report, at Paragraph
2 7.1.1 --

3 A. All right.

4 Q. They quote from your toxicology report, and
5 this is a quote we discussed earlier, "In paper
6 manufacturing, it would be desirable to know the dust
7 concentrations where the asbestos is dumped from bags into
8 the pulp slurry." Do you see that quote?

9 A. Yes.

10 Q. Do you know why it was considered desirable to
11 have that information?

12 A. Well, because if the dust concentrations were
13 high it would be highly hazardous areas. If the dust
14 concentrations were low it would be an area of less concern.

15 Q. It then goes on to state that, "Dr. Taylor
16 believes that there is more dust produced in opening a
17 paper or plastic bag of asbestos than there is with a
18 conventional hessian sack." Do you see that reference?

19 A. Yes.

20 MR. JONES: Would you like him to read
21 the whole section then he can talk about it all at once?

22 ~~MR.~~ BROWNSON: No.

23 MR. JONES: Okay.

24 BY MR. BROWNSON:

25 Q. Have you ever heard of such a thing, that

1 there is more dust produced in opening a paper sack?

2 A. No, I have not.

3 Q. Is that the first time you have ever heard
4 that statement made?

5 A. Well, if I read this report I assume I saw
6 this statement before. I also notice the following
7 statement that, "No satisfactory answer was forthcoming."
8 This was his opinion.

9 Q. They then go on to say two paragraphs later,
10 "It is recommended that a dust count be made in a region of
11 a freshly opened bag of pelletized and open products." Do
12 you know if that was ever done?

13 A. I have no way of knowing.

14 Q. Do you know if your medical department ever
15 did such a study?

16 A. To the best of my knowledge we did not.

17 Q. Do you know a Dr. Hilton Lewinsohn?

18 A. Lewinsohn, he is the guy with Carbide now?

19 Q. Well, he is, right.

20 A. I have met him once, I think, up in New York.

21 Q. Do you remember when you met him?

22 A. About 1985.

23 Q. Do you know, was he at Union Carbide at that
24 time?

25 A. I believe he was, yes.

1 Q. Do you know where Dr. Lewinsohn was employed
2 in September of 1975?

3 A. No, I didn't know that.

4 Q. Do you know where he worked before he came to
5 Union Carbide?

6 A. No. He came to Carbide after I left, if he is
7 there now.

8 Q. Do you know where he worked at the time you
9 met him in 1985? Was he at Carbide at that point?

10 A. I can't be certain. I would say he worked at
11 South Charleston.

12 Q. Have you ever heard a reference to Dr.
13 Lewinsohn and his TBA Associates, do you know what that
14 would mean?

15 A. TBA Associates?

16 MR. JONES: B as in boy?

17 MR. BROWNSON: Yes.

18 A. No.

19 Q. You don't know what that refers to?

20 A. No, I have no idea what that refers to.

21 Q. Do you remember some industrial hygiene
22 studies that were conducted at the Charleston, West
23 Virginia, plant in a couple buildings called buildings 511
24 and 512 back in 1962 and '63?

25 A. 511 and 512, that would be up in the research

1 area, I think. NO, I can't recall what you are talking
2 about.

3 Q. Well, these were particular studies that were
4 done about dust caused by workers sawing insulation block,
5 I think with a band saw.

6 MR. JONES: Object to the testimony by
7 Counsel.

8 BY MR. BROWNSON:

9 Q. Does that help refresh your recollection at
10 all?

11 A. Buildings 511 or 512 or plant 511 and 512?

12 Q. It's called plant 511 and 512.

13 A. Okay. Yes, that was done at the plant level
14 to determine the quantities of dust that were developed in
15 sawing insulation that was applied to pipes.

16 Q. And do you remember that particular work that
17 was done in connection with that?

18 A. I just know it was done.

19 Q. Do you know why it was done?

20 A. Because we wanted to know how much dust was
21 produced by the process.

22 Q. Do you know if there had been complaints from
23 workers in those plants about the dust?

24 A. I don't think there would be any complaints by
25 the workers. I think this was a concern of supervisors in

1 the industrial hygiene department about the potential
2 hazardous nature of the work.

3 Q. I am going to show you what has been marked as
4 Dernehl Exhibit 24 which is a memo of July 20, 1952.

5 MR. HARVARD: What's the number on that?

6 MR. BROWNSON: Exhibit 24.

7 BY MR. BROWNSON:

8 Q. The question I am going to ask you is is that
9 a memorandum concerning this study on sawing insulation in
10 Charleston, West Virginia?

11 MR. POLK: I will object to the form of
12 the question. The document speaks for itself.

13 A. Your question was.

14 Q. Is that a memorandum concerning the dust, what
15 we have just been talking about, from sawing insulation at
16 Charleston, West Virginia?

17 A. At the Institute plant?

18 Q. That's the Institute plant?

19 A. Yes.

20 Q. Now, on that memo on Exhibit 24, it indicates
21 that a copy was sent to you. Do you see that on the top?

22 A. Yes.

23 Q. Do you remember receiving it?

24 A. Sure.

25 Q. The next one I want to show you is Exhibit 26 --

1 the industrial hygiene department about the potential
2 hazardous nature of the work.

3 Q. I am going to show you what has been marked as
4 Dernehl Exhibit 24 which is a memo of July 20, 1952.

5 MR. HARVARD: What's the number on that?

6 MR. BROWNSON: Exhibit 24.

7 BY MR. BROWNSON:

8 Q. The question I am going to ask you is is that
9 a memorandum concerning this study on sawing insulation in
10 Charleston, West Virginia?

11 MR. POLK: I will object to the form of
12 the question. The document speaks for itself.

13 A. Your question was.

14 Q. Is that a memorandum concerning the dust, what
15 we have just been talking about, from sawing insulation at
16 Charleston, West Virginia?

17 A. At the Institute plant?

18 Q. That's the Institute plant?

19 A. Yes.

20 Q. Now, on that memo on Exhibit 24, it indicates
21 that a copy was sent to you. Do you see that on the top?

22 A. Yes.

23 Q. Do you remember receiving it?

24 A. Sure.

25 Q. The next one I want to show you is Exhibit 26 --

1 Well, we will go with Exhibit 25, and I will ask you if you
2 have ever seen that before?

3 MR. HARVARD: While he is looking at it
4 could you state for the record what the document is so we
5 can make our notes now?

6 MR. BROWNSON: That's a memo of December
7 3, 1962 from the medical department at Plant 512 at
8 Institute, West Virginia.

9 BY MR. BROWNSON:

10 Q. Can you tell us what that is, what the
11 document is?

12 A. Well, it's a document prepared by the
13 industrial hygienist at the Institute plant concerning dust
14 problems with the sawing of blocks of asbestos-containing
15 insulation and Johns-Manville's complaints that the results
16 of our observations did not coincide with observations that
17 they had made at their manufacturing plant in Manville, New
18 Jersey. He requested that the supervisor of the insulation
19 department and the industrial hygienist visit the Manville
20 plant to see if we could determine why there was a
21 discrepancy in the results.

22 Q. Let me show you what has been marked Exhibit
23 26, and ask you if you can tell us what that is? That's a
24 memo of December 4, 1962.

25 A. Well, in essence this is a letter from the

1 Medical Director, Dr. Sexton, to his supervisor, Jim
2 Giambruno, to not send Mr. Peele to Johns-Manville to
3 supervise or to study the Johns-Manville report, but that
4 we were to continue to do a sampling in our plant as the
5 situation indicated.

6 Q. And that shows that a copy was sent to you as
7 well, correct?

8 A. That's right, information copy.

9 Q. I assume you would have read it when you got
10 it?

11 A. Probably.

12 Q. Exhibit 27, would you tell us what that is?

13 MR. HARVARD: Could I see Exhibit Number
14 26, please?

15 MR. BROWNSON: December 4.

16 MR. JONES: For the record, Exhibit 27
17 is a letter from Sexton to Giambruno dated 23 October 1963.

18 A. Well, in essence this says that he is
19 submitting -- that Dr. Sexton is submitting a report from
20 Mr. Peele which indicates that two types of
21 asbestos-containing insulation blocks cannot be processed
22 with reasonable dust concentrations that one other type can.

23 Q. And is that also by Sexton?

24 A. It's by Dr. Sexton.

25 Q. Dr. Sexton of Union Carbide?

1 A. Right.

2 Q. Okay.

3 A. The medical director of the Institute plant.

4 Q. I am now going to show you what has been
5 marked as Dernehl Deposition Exhibit 33 and ask you if you
6 can tell us what that is?

7 MR. JONES: For the record, this is a
8 letter dated June 7, 1967, to Dr. Hall from Dr. Dernehl.
9 Beyond that I would object to the form of the question.
10 The document speaks for itself as to what it is.

11 BY MR. BROWNSON:

12 Q. Have you now had a chance to read it?

13 A. I did read it.

14 Q. Did you review this document before your
15 deposition today?

16 A. Which document?

17 Q. The one you are looking at there.

18 A. This one?

19 Q. Yes.

20 A. Yes, I did see this.

21 Q. When did you review it, do you know?

22 A. Last night.

23 Q. Now, is that a letter from you of June 7, 1967,
24 to Dr. Tom Hall?

25 A. Yes, it is.

1 2. And it indicates in the very first line that
2 you have reviewed Dr. Sayers' report?

3 A. Correct.

4 2. Entitled, The "asbestos as a Health Hazard in
5 the U.S.A."?

6 A. Yes, I did.

7 Q. Based on that, would you now agree that you
8 did in fact review the sales reports?

9 A. I indicated before I probably reviewed the
10 report, but I don't remember it.

11 Q. Now that you see this letter would you agree
12 with me that you did review it?

13 A. I did review it. I still don't remember it.

14 Q. Now, in the second paragraph on Page 1 in
15 about the middle you say, "We therefore made some
16 preliminary studies in which the material was injected into
17 the belly cavity of guinea pigs, rats and rabbits." Are
18 you referring there to the Mellon Institute study that we
19 just spoke about a little while ago?

20 A. That's correct.

21 Q. Going then to Page 2, to the second paragraph,
22 and the copy is not real good but you speak in that
23 paragraph about halfway through about the threshold limit
24 value. Do you see that?

25 A. Yes.

1 Q. And you state, "It is probable that the five
2 million particles per cubic foot will not be acceptable for
3 the prevention of mesothelioma."

4 A. Yes.

5 Q. That indicates, I take it, by at least June 7,
6 1967 some research was being done by Union Carbide with
7 respect to mesothelioma?

8 A. No.

9 Q. It does not indicate that?

10 A. It does not indicate that at all. This is my
11 personal opinion being expressed.

12 Q. Well, it does indicate that as of that date
13 you were aware of the disease mesothelioma?

14 A. Correct.

15 Q. And it also indicates that you questioned as
16 of June 7, 1967, whether the then threshold limit value was
17 sufficient to prevent mesothelioma?

18 A. I was concerned that it might not be.

19 Q. In fact, you were concerned that even one
20 million particles per cubic foot might not be enough, is
21 that right?

22 A. That's a possibility.

23 Q. And that was one-fifth of the threshold limit
24 value in effect that date?

25 A. That's correct.

1 Q. Now, do you know if this concern about the
2 threshold limit value not preventing mesothelioma was ever
3 communicated to Union Carbide customers?

4 A. I do not believe that it was communicated to
5 customers because it had no basis in fact, it was simply a
6 personal opinion at the time.

7 Q. But it was your --

8 A. It was my concern that this would not be
9 acceptable.

10 Q. And at that point in time you were -- I had
11 better get the title again, associate medical director
12 in '67?

13 A. In '67, yes, I was associate medical director.

14 Q. One of the other Union Carbide employees whose
15 deposition was taken in this case, Bert Barton, described
16 you as the Union Carbide toxicological guru. Would you
17 agree with that assessment?

18 A. I don't know what guru means, but I was the
19 expert in toxicology.

20 Q. Would it be fair to say that in the Union
21 Carbide company you were the expert or authority in the
22 field of toxicology?

23 A. That's correct.

24 Q. And would it be fair to say that your opinions
25 on that subject would carry a good deal of weight within

1 the company?

2 MR. JONES: I will object to the form of
3 the question as to asking him to speculate about people's
4 state of mind. Go ahead and answer, if you can.

5 A. Let's say that I liked to think that my
6 opinions would carry considerable weight.

7 Q. I will show you what has been marked as
8 Dernehl Exhibit 34 and ask you first, is that another
9 document that you reviewed before the deposition here today?

10 A. No, I did not review this.

11 Q. Okay.

12 A. This is one we looked at before.

13 Q. I am not sure if we did or not, but you might
14 have looked at it over lunch.

15 A. The Asbestos Toxicology Report.

16 Q. I am asking now about the letter.

17 A. The letter?

18 Q. To Frank Dexter.

19 MR. JONES: For the record, this is a
20 letter dated June 13, 1967, to Frank Dexter from T. J. Hall
21 with a two page asbestos toxicology report attached to it.

22 A. I don't remember this letter, but I do
23 remember that problems arose with the badly damaged
24 shipments of bags of asbestos and the refusal of the dock
25 workers to unload those badly damaged shipments.

1 Q. And were these badly damaged shipments, the
2 ones over in England?

3 A. In England.

4 Q. And these were the dock workers who wouldn't
5 unload them from ships?

6 A. That's right.

7 Q. And that was because the bags were broken and
8 they were very dusty?

9 A. Yes.

10 Q. Do you remember if that was open fiber or
11 pellets?

12 A. I have no idea.

13 Q. Do you remember what type of bags those were?

14 A. I have no idea.

15 Q. Do you know if they were paper bags?

16 A. I have no idea.

17 Q. The first paragraph of the letter says that
18 Dr. Dernehl has followed this area very closely, the area
19 of possible toxicity and carcinogenic properties of
20 asbestos, would you agree with that as of June 13, 1967?

21 A. I would say that we had followed it closely, I
22 am not sure that I would say very closely.

23 Q. And, again, following it closely includes
24 reviewing medical literature on that topic?

25 A. As it came to hand, very closely. It might

have involved going out and searching for stuff rather than just keeping abreast of the stuff that was coming to hand.

Q. Can you identify for us what Exhibit 24 is?

MR. JONES: It's already been identified for the record.

MR. BROWNSON: I didn't think it was for the record.

BY MR. BROWNSON:

Q. Tell us who the author is and what the date was.

MR. JONES: That's been done.

A. This was apparently written by T. J. Hall.

Q. Do you know T. J. Hall to be Dr. Thomas Hall?

A. That would be my understanding.

Q. Okay.

A. And apparently it was written to a Mr. Frank Dexter, who I do not know.

Q. Earlier I had showed you Exhibit 32, which is a memorandum of January 12, 1965. I will ask you now, does that exhibit indicate that a copy was sent to you?

MR. POLK: Did you say January or July?

MR. BROWNSON: January.

A. Yes, I saw the memorandum.

Q. That's all I have on that. The next exhibit I want to show you is Dernehl Deposition Exhibit 35, and I

1 will ask you first, is that something you reviewed before
2 the deposition copy?

3 A. No.

4 Q. Would you look at it now then?

5 MR. JONES: For the record, this is a
6 letter dated August 1, 1967, to Frank Dexter from Thomas
7 Hall.

8 BY MR. BROWNSON:

9 Q. Have you had a chance to review it?

10 A. Yes.

11 Q. Can you identify for us what that is?

12 MR. JONES: I will object to that, the
13 document speaks for itself.

14 BY MR. BROWNSON:

15 Q. Does that document indicate that a copy was
16 sent to you?

17 A. Yes, it does.

18 Q. And would you agree that a copy was sent to
19 you?

20 A. Yes, it was.

21 Q. The next document I want to show you is
22 Deposition Exhibit 36 and I will first ask you if you
23 reviewed that before your deposition?

24 A. No, I did not.

25 Q. I will then ask you to take a look at it.

1 That's a letter of November 30, 1967, to Frank Dexter from
2 Thomas Hall in Brussels.

3 MR. POLK: Well, I think, for the record,
4 it ought to reflect that there is a second page attached to
5 that exhibit that is not typewritten but in some
6 handwritten form.

7 BY MR. BROENSON:

8 Q. Do you recognize the signature at the bottom
9 of the first page where it says Thomas, the signature of
10 Dr. Thomas Hall?

11 A. It says Thomas Hall below it, so I assume it's
12 Tom Hall.

13 Q. There is some handwriting on the left margin
14 of that page. Can you tell whose handwriting that is?

15 A. No, I can't.

16 Q. Can you tell us whose initials those are at
17 the bottom of it?

18 A. I have no idea.

19 Q. Paragraph 2 of this letter there is a sentence,
20 "Perhaps it would be better to have this sort of
21 publication", and they are talking about the Sayers' report,
22 "-- first approved by Carl Dernehl before we finally agree."
23 Do you see that?

24 A. Yes, but this does not refer to the Sayers'
25 report really.

1 Q. Do you know --

2 A. It says, "In this report Ian passes on a
3 request for permission to publish our data." This is the
4 analytical data that should be developed at Niagara Falls,
5 "I would like your comments on this."

6 Q. Well, it says that "Ian", and I assume that's
7 Ian Sayers, "Passes on the request for permission to
8 publish our data." Do you know what data that refers to?

9 A. The data that would be -- wait a minute here
10 now. Belgium to Dexter, Union Carbide. No, I don't know
11 what that data refers to but this must have to do with some
12 asbestos data developed by Union Carbide Belgium.

13 Q. Well, attached to it is handwritten notes of
14 Dr. Sayers, is that right?

15 A. Well, I don't know who wrote the handwritten
16 note.

17 Q. The letter says it's Dr. Sayers handwritten
18 notes, is that right?

19 MR. JONES: It speaks for itself.

20 MR. HARVARD: Are you asking if that's
21 what the letter says, Bob?

22 MR. BROWNSON: Yes.

23 MR. JONES: I don't see it. Can you
24 point out where on the letter?

25 MR. BROWNSON: First paragraph right in

1 Q. Would you also agree that around this same
2 time you were also concerned that in fact the Caltridia
3 asbestos, because it was so fine, had a greater propensity
4 to get into the small airways of the lungs than other
5 asbestos fibers?

6 A. JONES: Do you understand the
7 question?

8 A. I don't like the word propensity.

9 Q. Well, how about ability?

10 A. How about possibility?

11 Q. Let me rephrase the question and you can
12 answer it. Will you agree that you were concerned at
13 around this time, 1967, that the Caltridia asbestos fibers
14 had a greater possibility of getting into the small airways
15 of the lungs than other asbestos because they were so short,
16 so fine?

17 A. Yes, I would agree with that.

18 Q. In fact, that was the reason that you had the
19 toxicology report done by the Mellon Institute in 1966?

20 A. That was a part of the reason.

21 Q. Now, again, do you recall approving any
22 publication by Dr. Ian Sayers or approving any reports of
23 Dr. Sayers for publication around 1967?

24 A. I do not recall any such approval.

25 Q. Now, you told us earlier that you did receive

1 Q. And that's because that insulation contained
2 asbestos?

3 A. That's correct.

4 Q. One of the things Union Carbide was doing from
5 1947 was taking air sampling and air tests?

6 A. They were not taking air samples in those
7 early dates. That came later.

8 Q. Do you know when that began?

9 A. About the time when we got industrial
10 hygienists in the plant, which would be in the early '60s.

11 Q. Do you know when you began to take annual
12 chest X-rays from your workers in the plant?

13 A. We started that when we -- about 1941 at South
14 Charleston, and we started it in 1947 in Texas City, '47 at
15 Institute, and at all the other plants it was initiated
16 when the plants started, came about.

17 Q. Did you attend the 13th Annual Congress on
18 Occupational Health at Brighton, England in 1975?

19 A. No, I did not.

20 Q. Do you know if anyone from your medical
21 department did?

22 A. ~~No, nobody~~ did.

23 Q. Do you know H. B. Rhodes?

24 A. No, I do not.

25 Q. Never heard that name?

1 A. I may have heard it, but I don't recall it.

2 MR. JONES: We have been going about an
3 hour and a half, let's take a short break here.

4 (At this time a brief recess was taken.)

5 BY MR. BROWNSON:

6 Q. Doctor, before we took our break we were
7 talking about the International Congress on Occupational
8 Health meeting at Brighton, England in 1975.

9 A. Yes. Was that the International something on
10 Permanent Commission on Occupational Health?

11 Q. I don't know. But what I wanted to show you
12 was an exhibit marked 39 and ask you to take a look at that
13 and see if that helps you at all in recalling anything
14 about that?

15 MR. JONES: For the record, this is a
16 memorandum dated September 23, 1975, from H. B. Rhodes to
17 R. E. Byrne, Junior, among others.

18 (At this time the requested portion of the
19 transcript was read aloud by the Court
20 Reporter.)

21 A. Not really. I seem to recall that there was a
22 meeting of the Permanent Commission and International
23 Association on Occupational Health, which was held in
24 Brighton, England, probably at about that time. I was a
25 member of that, but I did not go to England.

1 Q. Do you remember a conclusion coming out of
2 that meeting that the standard of two fibers per CC may be
3 even too high to prevent mesothelioma?

4 A. I do not remember that, no.

5 Q. Have you ever heard that said?

6 A. I don't recall whether I ever heard it said or
7 not.

8 Q. Do you know, have you ever heard of a Dr.
9 Steve Holmes?

10 A. No.

11 Q. Do you know who he is?

12 A. No.

13 Q. Now, earlier I had asked you some questions
14 about if Union Carbide did air testing in customer plants.

15 A. Yes.

16 Q. Do you know after the OSHA standard went into
17 effect in 1972 if Union Carbide offered that service to its
18 customers?

19 A. We did not.

20 Q. Okay.

21 A. To the best of my knowledge.

22 Q. ~~Do you know~~ who John L. Myers is? He was the
23 marketing manager for the Calridia asbestos division at one
24 time.

25 A. I met Myers a few times, yes.

1 the middle.

2 A. Okay.

3 Q. Does that indicate --

4 A. "I am enclosing a copy of his handwritten
5 report for your information." All right. So Sayers says,
6 "Chrysotile fibers, being curved, are less likely to go
7 deep into lungs. Injected chrysotile does cause cancer in
8 rats, so the fact that in practice it is less responsible
9 for tumor production is probably due to a greater
10 elimination rate as well as it's geome," whatever the hell
11 he means by geome.

12 Q. I think it means geometry but it's cut off.

13 A. That could be.

14 MR. JONES: What you have just done is
15 read the section handwritten?

16 THE WITNESS: Yes.

17 A. In other words, he says that because the
18 fibers are curved they are less apt to penetrate deep into
19 the lung and, therefore, less apt to cause disease in the
20 lung even though these curved fibers, when they are
21 injected into the animal, will produce cancers.

22 Q. Did you, at that time in 1967, agree with
23 those statements or conclusions by Dr. Sayers?

24 A. I would agree with them now, so I imagine I
25 did at that time.

1 a copy of his 1967 report. Do you know if that report was
2 published?

3 A. I have no idea.

4 Q. Do you know if you approved that report for
5 publication?

6 A. I have no idea.

7 Q. Do you know if you would have had to have
8 approved that report for publication? Let me rephrase that.
9 Was your approval required before that report could be
10 published?

11 A. I would say that I would be asked for an
12 opinion as to whether it should be published, but this
13 opinion was not binding upon whether or not it was or was
14 not published.

15 Q. So would your role then be as more of a
16 reviewer as opposed to the final authority as to whether
17 it's published or not?

18 A. I think that is a fair way to put it.

19 Q. I am going to show you what has been marked as
20 Dernehl Deposition Exhibit 38 and ask you, first of all,
21 did you review that before your deposition?

22 A. No.

23 Q. Can you review it and tell us if you know what
24 it is?

25 MR. JONES: For the record, this is a

1 Document dated April 26, 1967, to D. C. Willard from Bert
2 Murray.

3 A. This is a report from Bert Murray, who was an
4 industrial hygienist for the South Charleston plant on
5 studies which were made on employees while they were
6 installing Kaylo insulation and a recommendation that
7 studies be continued to get more meaningful data.

8 Q. Do you remember being involved in any way in
9 that particular project?

10 A. No, I do not.

11 Q. On the last sentence of the latter it says, "It
12 would be helpful to schedule --" I am sorry, it talks about
13 being kept informed of jobs pertaining to cutting,
14 installing and removing Kaylo in order to be helpful to
15 schedule the air sampling work. Does that indicate to you
16 that air sampling work was being done at the South
17 Charleston plant in '67?

18 MR. JONES: Object to the form of the
19 question. Dr. Dernehl has already said that he wasn't
20 involved in the project. Go ahead and answer, if you can.

21 A. Well, my answer would be that studies of this
22 type were going on in the three major chemicals plants,
23 Charleston, Institute and Texas City and that information
24 of this type was sent up to my office for information only.

25 Q. Now, were air sampling studies being done back

1 Q. Would you be surprised if in 1974 Mr. Myers
2 was telling customers that he would be happy to take and
3 or analyze air samples from their plant for asbestos dust?

4 A. That was Mr. Myers' problem and not mine. It
5 was not the type of thing that Union Carbide as such was
6 doing. We did not want to intrude on customer's operations.

7 Q. Do you know if in the 1970s such air sampling
8 was being done by Union Carbide as a marketing tool to
9 alleviate the fears of customers about asbestos dust?

10 A. Not that I know of.

11 MR. BROWNDON: I guess that's all the
12 questions I have right now. I will let Mr. Polk ask some.

13 MR. POLK: The record should reflect
14 it's five minutes to 3:00.

15
16 CROSS-EXAMINATION

17 BY MR. POLK:

18 Q. Dr. Darnahl, I am going to ask you some
19 questions and they are going to be fairly direct and
20 hopefully you will be able to respond in a fairly succinct
21 way so we can get back to Minnesota today. I don't want to
22 waive my right to continue this deposition in the event,
23 however, I am not able to finish.

24 First of all, I want to tell you my name
25 is Michael Polk. I represent the Plaintiffs in this case.

1 Secondly, I want to establish your agreement with me that
2 you will do your best to respond as succinctly as possible
3 to the questions that I ask you. Will you agree to do that?

4 A. I will try.

5 Q. If there is anything that I ask you that you
6 don't understand, please let me know and I will be happy to
7 clarify the question. First of all, would you agree with
8 this general proposition that Union Carbide, as a corporate
9 entity, as far as you know was well aware of hazards
10 associated with asbestos at the time that you arrived in
11 1947?

12 MR. JONES: Object to the legal
13 characterization "corporate knowledge," but go ahead and
14 answer.

15 A. There were people in the corporate medical
16 department that were aware of health hazards from asbestos.

17 Q. If you know, would you agree with this, that
18 the knowledge possessed by the Union Carbide medical
19 department, as of 1947, went back into the 1930s?

20 A. Yes.

21 Q. And would you agree that the basis for the
22 knowledge that was within Union Carbide's possession as of
23 1947 was based at least in part on a review of medical
24 literature?

25 A. Yes.

1 Q. And would you also agree that Union Carbide,
2 in its medical department as of 1947, had the capability of
3 doing in-depth literature searches?

4 A. I don't think so. We didn't have time.

5 Q. Would you agree that at some time subsequent
6 to 1947 Union Carbide had the ability and the resources to
7 do in-depth medical searches, that is medical literature
8 searches?

9 A. Union Carbide used their Mellon fellowship to
10 carry out some in-depth researches on certain products
11 rather than having this done by the medical department
12 itself.

13 Q. Let me rephrase it then. Did Union Carbide
14 have the ability and resources to draw on outside
15 organizations to conduct in-depth medical literature
16 searches at some time subsequent to 1947?

17 A. Yes.

18 Q. Did Union Carbide's medical department at any
19 time have access to computerized medical literature
20 searches?

21 A. Through Mellon Institute, yes.

22 Q. Now, at what point, in your opinion,
23 subsequent to 1947, did Union Carbide have the ability and
24 resources to conduct in-depth medical literature searches?

25 A. I would say in the late '50s and early '60s

1 When the Mellon Institute staff was expanded to the point
2 that they could put some people on this sort of search.

3 Q. This is almost the same kind of question that
4 I asked you earlier but it's a little bit different. Did
5 the knowledge that Union Carbide's medical department had
6 with reference to asbestos hazards, was that knowledge in
7 1947 solely based on the literature?

8 A. In 1947, yes.

9 Q. And when, in your opinion, was the first time
10 that Union Carbide's medical department had knowledge of
11 asbestos hazards that was not based solely on medical
12 literature?

13 A. I can't answer that question because it's
14 impossible to eliminate the medical literature source from
15 other sources of information.

16 Q. Okay.

17 A. They are intertwined.

18 Q. I understand what you are saying. Let me ask
19 you this. When was the first time, in your opinion, that
20 the Union Carbide medical department had information that
21 they gathered or had gathered at their direction concerning
22 the hazards of asbestos that were not contained within
23 medical literature?

24 A. I would say at the time that we did the animal
25 studies at Mellon Institute.

1 talking of a possibility.

2 Q. In this case, this particular report did reach
3 Conwed Corporation, who was a customer of Union Carbide.

4 Does that indicate to you whether it was published or not?

5 MR. JONES: I will object to that.

6 A. It suggests that it was published. Carbide
7 itself might have prepared a number of those documents for
8 submission to customers, I don't know about that.

9 Q. Now, was there any policy at Union Carbide in
10 the 1960s that technical reports concerning asbestos which
11 were sent to customers be reviewed by the medical
12 department?

13 A. Not all of them.

14 Q. So would it be possible for someone such as
15 Mr. Woolery to issue a technical report such as Exhibit 1
16 and it not be reviewed by the medical department?

17 MR. JONES: I am going to object to the
18 characterization of the exhibit as a technical report. Go
19 ahead and answer.

20 A. If the publication made any reference to
21 health problems associated with the product then it would
22 have been reviewed by somebody in the medical department.
23 If it was just a technical report we would not review it.

24 Q. Was there ever a policy instituted at Union
25 Carbide that reports to customers about the use of asbestos

1 be reviewed by the medical department?

2 A. Not that I know of.

3 Q. Was there ever a policy at Union Carbide that
4 reports to customers about the asbestos contained
5 statements about health?

6 A.R. LAURA: Rephrase that.

7 BY MR. BROWNSON:

8 Q. Was there ever a policy at Union Carbide
9 Corporation that reports sent to customers by Union Carbide
10 must contain a statement about the health effects of
11 asbestos?

12 A. There was no such policy, no.

13 Q. I am going to show you what has been marked as
14 Exhibit 2 and ask you if this is a report issued or a
15 document issued by Union Carbide?

16 MR. JONES: For the record, the document
17 is entitled "Properties of Asbestos Suitable for Use in
18 Cellulosic Paper" by A. W. Naumann.

19 A. It says that it was issued by Union Carbide,
20 so I presume it was. I don't know Naumann and I have not
21 seen the document.

22 Q. Do you know if this document was reviewed by
23 the Union Carbide medical department before it was issued?

24 A. I have no idea.

25 Q. The next thing I want to show you is a

1 document marked as Dernahi Deposition Exhibit Number 4, and
2 ask that you first look at that.

3 MR. JONES: For the record, as has been
4 noted before in other depositions, I will object to the
5 annotations on the copy.

6 MR. BROWNSON: That document was
7 produced to us with those annotations.

8 (At this time a discussion was held off
9 the record.)

10 BY MR. BROWNSON:

11 Q. Doctor, is this a copy of a document entitled
12 "Asbestos Toxicology Report" and it has your name at the
13 end of it?

14 A. Right.

15 Q. It also has the name of Dr. K. S. Lane?

16 A. Right.

17 Q. Is that the same Dr. Lane we were talking
18 about before?

19 A. Yes.

20 Q. Were you the author of this?

21 A. I probably wrote part of it and Lane probably
22 wrote part of it too.

23 Q. Do you remember writing it?

24 A. I doubt it.

25 Q. Do you recall writing any toxicology reports

do not
add to
page/in
diag-

1 about asbestos?

2 A. Do I specifically recall? The answer is no.
3 Did I write them? I am sure I did.

4 Q. You don't deny, for example, that you wrote
5 this particular one, Exhibit 4?

6 A. No, I don't deny that I had a hand in writing
7 that.

8 Q. You don't know whose writing these handwritten
9 notes are, do you, on Exhibit 4?

10 MR. BROWNSON: Are those yours?

11 MR. POLK: It might be.

12 THE WITNESS: Not mine.

13 MR. BROWNSON: Is that yours?

14 MR. POLK: Yes.

15 MR. BROWNSON: Now we know whose they
16 are.

17 BY MR. BROWNSON:

18 Q. We have been told in prior depositions by
19 Union Carbide employees that this particular Asbestos
20 Toxicology Report was updated from time to time. Do you
21 remember doing that?

22 A. Specifically, no.

23 Q. Does that sound like it's something that could
24 have occurred?

25 A. That's a logical procedure.

1 Q. Do you know where we would find today copies
2 of the different versions of this asbestos toxicology
3 report if it was updated?

4 A. I have no idea.

5 Q. While you were at Union Carbide at the medical
6 department until '79 where would you file these asbestos
7 toxicology reports?

8 A. They would be filed in our toxicology files
9 under asbestos.

10 Q. Did you have a particular drawer or file
11 marked asbestos?

12 A. We had folders marked asbestos.

13 Q. What sorts of materials would you keep in
14 those folders?

15 A. Anything that came to our mind about asbestos,
16 that came to our hand about asbestos, correspondence,
17 toxicology studies, anything we picked up in the literature
18 that was of interest if we felt we wanted to keep there.

19 Q. Did you maintain that file over the years?

20 A. Yes.

21 Q. Would you ever throw things out of it?

22 A. I doubt it.

23 Q. Do you know if it's still maintained today?

24 A. I have no idea.

25 Q. Do you know who would have custody or control

1 of such files today?

2 A. To the best of my knowledge, when I left New
3 York all of those files were put in a box and they were
4 shipped somewhere, down to West Virginia, I believe. What
5 they did, whether they kept all of that stuff in West
6 Virginia or simply kept the chemicals part, I don't know.

7 Q. Now, in the second paragraph of Exhibit 4, the
8 Asbestos Toxicology Report, there is a statement, "It is
9 believed by most authorities that these cases -- " and they
10 are talking about cases of cancers, " -- have been
11 associated with exposure significantly exceeding the
12 threshold limit value." Do you see that particular
13 sentence?

14 A. Yes.

15 Q. Do you know who the authorities are that are
16 referred to there as "most authorities"?

17 A. I think that is a statement that is lifted
18 from the general literature and really does not mention any
19 specific names.

20 Q. Well, let me back up a little bit. Do you
21 know when this Asbestos Toxicology Report was published,
22 Exhibit 4?

23 A. I do not. I am surprised that it does not
24 have a date on it. Ordinarily we dated those things.

25 Q. I am going to show you a document marked

1 Bernehl Deposition Exhibit 32, which is a memorandum of
2 January 12, 1965, which refers to the report and ask you if
3 that gives you a point of reference to date the report?

4 MR. LAURA: I object to that
5 characterization as it refers to that report. It refers to
6 a report.

7 MR. POLK: Off the the record.

8 (At this time a discussion was held off
9 the record.)

10 BY MR. BROWNSON:

11 Q. Doctor, do you believe that this memorandum,
12 which you are looking at which is Exhibit 32, does that
13 help you date the Asbestos Toxicology Report that we have
14 just been referring to?

15 A. I would suggest that we probably prepared it
16 in 1964.

17 Q. Now, with that knowledge, let's go back to the
18 Asbestos Toxicology Report, does that help you determine
19 who these authorities are that said that cases of cancer
20 have been associated with exposure significantly exceeding
21 the threshold limit value?

22 A. Not really.

23 Q. But is it your testimony that that statement
24 is based upon a review of the medical literature at the
25 time?

1 A. That's right.

2 Q. Can you give us any specific articles or
3 references or texts?

4 A. Not any more.

5 Q. Now, on the third paragraph of the Asbestos
6 Toxicology Report you are talking about waste control
7 asbestos dust exposure. Do you see that?

8 A. Yes.

9 Q. And one of the things that you talk about is
10 "wet processes where possible". What do you mean by that?

11 A. Well, if you handle the asbestos in a water
12 slurry or with the fibers thoroughly wetted with water,
13 there is no dust and there is no reasonable way that you
14 can expect the fiber to enter the body.

15 Q. And would you consider a paper making
16 operation to be a wet system?

17 A. Yes.

18 Q. But would you agree with me that in a paper
19 making operation or a wet system there is some process at
20 the beginning where the fiber has to be dumped into the wet
21 system where it would release dust?

22 MR. JONES: If you know.

23 A. Yes, we know that to be true. And I know that
24 Carbide tried to handle -- to reduce the amount of dusting
25 that occurred at such a time by pelletizing the product so

1 that it wasn't just loose fibers in a bag, which is the way
2 it was originally sold. But the product was pelletized so
3 when you dumped you had much less dust and your local
4 exhaust ventilation at the point of dumping more readily
5 picked up and carried away the dust.

6 Q. Would you agree, however, that even the
7 pelletized asbestos did create some dust as it was being
8 dumped into the wet process in a paper making operation?

9 A. I think very probably it did, yes.

10 Q. Would you also agree that even the pelletized
11 asbestos would create dust during delivery and unloading if
12 bags were broken or that sort of thing?

13 A. Certainly.

14 Q. Would you also agree that in a paper making
15 operation where you have a wet system, after that product
16 comes out of the dryer and is now in a paper board form
17 that you would get dust as it's cut and drilled and ground
18 and those sort of things?

19 MR. JONES: I will object on the basis
20 of foundation.

21 A. Not to my knowledge whatsoever.

22 Q. Have you ever observed a paper making
23 operation using the Calridia asbestos?

24 A. No, I have not.

25 Q. Do you know of any Union Carbide customers who

1 had such operations?

2 A. I know that Caltridia asbestos was sold to
3 certain customers for that purpose but I do not know who
4 the customers were.

5 Q. Have you ever heard of the Conwed Corporation?

6 A. No.

7 Q. Never visited their plant at Cloquet,
8 Minnesota?

9 A. No.

10 Q. And I take it then you weren't aware that it
11 was a manufacturer of ceiling tile?

12 A. No.

13 Q. Among other things?

14 A. No.

15 Q. Would you agree with me that as of the date
16 the Asbestos Toxicology Report was written, why don't you
17 look at it again, the recommendations that you made to
18 control dust were to use a closed flow system, a wet
19 process, adequate ventilation and pelletizing of the
20 asbestos? I am getting that all out of Paragraph 3 there.

21 MR. JONES: Look at it again.

22 A. "Closed flow systems, wet processes were
23 possible, and adequate exhaust ventilation where openings
24 in the system are necessary."

25 MR. LAURA: Let the record reflect that

1 the Doctor was reading from his report.

2 A. Then we also recommend the use of respirators.

3 Q. Where do you see that on there?

4 A. It says, "Where satisfactory containment to
5 stay within the threshold limit value is impractical or
6 impossible, efficient and reliable respirators are
7 available for the protection of employees."

8 Q. Now, would you agree with me, however, that
9 the recommendations made by you in the Asbestos Toxicology
10 Report are, Number 1, a closed flow system?

11 MR. JONES: I am going to object to the
12 form of the question first in the sense that he did not
13 draft it by himself. Second, that what recommendations the
14 document makes are in the document itself. You can go
15 ahead and answer.

16 A. Well, I agree to what is in this paragraph.

17 Q. Paragraph 3 of the toxicology report?

18 A. Certainly. I think that covers the thing very
19 practically and it is state of the art protection of that
20 day and time.

21 Q. One of the things listed in Paragraph 3 is the
22 statement, "In paper manufacturing, it would be desirable
23 to know the dust concentrations where the asbestos is
24 dumped from bags into the pulp slurry." Do you see that?

25 A. Yes.

1 Q. Why would that be desirable to know?

2 A. Because that's the place where a person might
3 be exposed where the product is removed from its protective
4 bag covering as used in shipping and it gets exposed to the
5 outside air and allows the escape of fibers to the outside
6 air.

7 Q. Would that be true with the pelletized
8 asbestos as well as the open fiber?

9 A. We are talking about pelletized fiber here.

10 Q. And it also goes on to say, "Concentrations
11 should also be determined where dusting occurs in finishing
12 products." Do you see that?

13 A. I see that.

14 Q. I take it from that statement that it was
15 recognized that once the product comes out of the wet
16 system and is in the finishing stage, you can get dust
17 there, is that right? Is that what we are talking about
18 there?

19 A. That is what the statement implies, and I
20 assume at the time we wrote this we were told that this
21 would occur.

22 Q. ~~Now, do you know if any tests were done by~~
23 Union Carbide to determine what the dust concentrations
24 were at the point that pellets were dumped from bags into
25 the pulp slurry?

1 A. Union Carbide did not do that kind of testing.
2 That would be the responsibility of the user.

3 Q. Did Union Carbide ever tell customers or users
4 that they should do that testing?

5 A. Did it right here.

6 Q. You are saying that Paragraph 3 of the
7 asbestos toxicology report tells customers to do that?

8 A. That's right.

9 Q. Did Union Carbide ever do any testing to
10 determine what concentrations of dust were in finishing
11 products in the paper industry?

12 A. That was the responsibility of the customer.
13 Union Carbide did not do testing in the customer's plant.

14 Q. Well, if the evidence in this case shows that
15 Union Carbide did do testing at the Conwed plant, would
16 that surprise you?

17 A. If they did, I didn't know about it and I
18 would be surprised if they did.

19 MR. JONES: Your questions were talking
20 about at the finished product end?

21 MR. BROWNSON: My last question was
22 anywhere in ~~the plant~~. I just said at the plant.

23 MR. JONES: I just want to make sure that
24 the Doctor understood that.

25 A. Well, it was our policy not to do testing at

1 the customer's plant. That was the responsibility of the
2 customer. If a Carbide person came in and did sampling in
3 the Conwed plant I would be very much surprised.

4 Q. Would you be surprised to hear that sampling
5 was done by Union Carbide at the point where the bags were
6 dumped into the pulp slurry?

7 A. I would be surprised to find out that Union
8 Carbide people did that, yes.

9 Q. Would you also be surprised to find out that
10 sampling and testing were done by Union Carbide at the
11 point where the products were being finished?

12 A. Yes, I would be surprised to hear that.

13 Q. Now, look at Page 2 of the Asbestos Toxicology
14 Report. It also says that, "Pre-employment and periodic
15 physical examination of workers are desirable." Do you see
16 that?

17 A. Yes.

18 Q. And then it goes on to say, "These should
19 include chest X-rays." Do you know why this particular
20 statement was made in the Asbestos Toxicology Report? What
21 was the purpose of putting it in there?

22 A. ~~Well, it's~~ known that breathing excessive
23 quantities of asbestos will produce changes within the lung
24 that show up on X-ray.

25 Q. Was it also known by you or the Union Carbide

1 medical department at the time this Asbestos Toxicology
2 Report was written that mesothelioma could be caused by
3 exposure to asbestos?

4 A. I am not sure it was known at the time that
5 this was in here, although in the earlier paragraph up here
6 they talked about increase in the incidents of cancerous
7 tumors, especially of the lung.

8 Q. Would you agree with me that mesothelioma is a
9 cancerous tumor of the lining of the lung?

10 A. That's right, I would agree with that.

11 Q. Let's move on to another exhibit.

12 MR. GOLDBERG: Before you do that, you
13 might want to review the time.

14 MR. BROWNSON: It's five to 12:00.

15 MR. JONES: Why don't we break now for
16 45 minutes for lunch.

17 (At this time a lunch recess was taken.)

18 BY MR. BROWNSON:

19 Q. Dr. Dernehl, the next thing I want to show you
20 is what's been marked as Dernehl Exhibit 5, and Dernehl
21 Exhibit 5 is a report by Doctor I. C. Sayers in England and
22 with Union Carbide U.K. Limited. I will show it to you. I
23 will ask you, first of all, have you ever seen that report
24 before I have shown it to you right now?

25 A. I really do not remember the report. I do

1 remember the request for analytical assistance from Union
2 Carbide.

3 Q. NOW --

4 A. It's probable that I did see the report since
5 I recollect that part about the analytical assistance.

6 Q. What request for analytical assistance are you
7 speaking of?

8 A. Let's see if I can find it back here in the
9 text. This would be on Page 15.

10 Q. That's Paragraph 5.0 entitled "Request for
11 Analytical Assistance."

12 A. Yes.

13 Q. What do you remember about that request?

14 A. Well, my recollection is that they wanted
15 Carbide to use some analysis to help to quantitatively
16 define the parameters to be used in -- parameters of the
17 fibers that were to be used in testing.

18 Q. And who is the they that was making that
19 request, was that Dr. Timbrell?

20 A. I think it was probably --

21 Q. Or Dr. Sayers?

22 A. I think it was probably a request of UICC. I
23 think that they wanted help in defining this matter. Now,
24 without reading this line-by-line I couldn't tell you
25 specifically which individual requested it.

1 Q. Who is UICC?

2 A. That was the organization that was being set
3 up to determine the characteristics of the fibers that were
4 to be used in a series of tests to determine the effects of
5 asbestos in animals, animal experimentation.

6 Q. Who was setting up this UICC, I guess, is what
7 I am wondering?

8 A. The international organization.

9 Q. Was Union Carbide involved with it?

10 A. I think it was a European organization. Union
11 Carbide would have been involved only through the British
12 organization.

13 Q. Was the British organization Union Carbide, U.
14 K. Limited?

15 A. Probably, yes.

16 Q. That name is on the first page of the Sayers'
17 report and, I guess, that's why I asked the question. You
18 wouldn't disagree?

19 A. No.

20 Q. Do you know Dr. I. C. Sayers?

21 A. I don't know him, no.

22 Q. ~~Have you ever~~ heard of him?

23 A. I don't know him. I haven't heard of him
24 other than what I would have gotten from this report.

25 Q. You told us today that reports about

1 industrial hygiene or toxicology from Union Carbide
 2 overseas subsidiaries would be routed to your department?

3 A. Yes.

4 Q. Would that be true with this report as well,
 5 exhibit --

6 MR. HARVARD: Is this Exhibit 7?

7 A. Exhibit 5.

8 Q. I take that back, Exhibit 5.

9 A. I think, as a matter of fact, we just would
 10 have been sort of on the fringes of this. This would be a
 11 request to go to the management people, since it involved
 12 commitment of laboratory facilities, people and the
 13 finances that were involved and medical would not be
 14 involved in that part of it.

15 Q. But it, nevertheless, contains numerous
 16 toxicology and industrial hygiene conclusions from England,
 17 and I am assuming that?

18 A. It's possible.

19 Q. As such it would have come to your attention?

20 MR. JONES: Let me object to the
 21 testimony of Counsel characterizing the document. Go ahead
 22 and answer it, Doctor.

23 A. I have stated that the only thing that I
 24 remember about this document was a request for -- was the
 25 only thing that makes me think I saw this document is I

1 Q. In 1963?

2 A. Whatever year it was.

3 Q. Would you agree with this, that Union Carbide
4 gained some knowledge in the early 1960s, specifically 1961
5 and 1962, by virtue of their own in-plant experience in
6 West Virginia?

7 A. What we gained at that time was information on
8 the dust concentrations that were present during certain
9 manufacturing operations and maintenance operations in the
10 plant.

11 Q. Now, let me ask you this, I have information
12 that indicates that you attended an IHF meeting in 1955.
13 First of all, did you regularly attend IHF meetings?

14 A. I wouldn't say regularly. I attended a number
15 of them.

16 Q. Would you agree that Union Carbide was a
17 founding member of IHF?

18 A. I would.

19 Q. And were you ever on the board of directors of
20 IHF?

21 A. I don't think so.

22 Q. Were you ever an officer of IHF?

23 A. No.

24 Q. And IHF was an organization that was begun
25 when?

1 A. I really don't remember.

2 Q. What does IHF stand for?

3 A. Industrial Hygiene Foundation.

4 Q. And did you start attending meetings in the
5 1940s, that is after 1947?

6 A. I really don't recall, but I doubt that I did.

7 Q. And why is it that you doubt that?

8 A. Because as a plant medical director we didn't
9 do much traveling.

10 Q. When specifically in 1955 were you transferred
11 to New York from the Texas City plant?

12 A. Officially July 1. I went then to New York
13 for about a week and then I spent a month in Pittsburgh
14 going through the records of Dr. A.G. Kramer, who was the
15 medical director of the chemicals operations prior to the
16 time that I took over in 1955.

17 Q. Would it make sense to you that you would have
18 attended the IHF 20th Annual Meeting held in November of
19 1955 in Pittsburgh?

20 A. I really can't say, but I might have.

21 Q. Well, I think the gist of my question is based
22 on the position that you held as of November of 1955, would
23 it make sense to you that you would have or may have
24 attended?

25 A. I might have attended, yes.

1 Q. I assume that you don't have a specific
2 recollection one way or another?

3 A. That is correct.

4 Q. I know this goes back a ways, but did you ever
5 have any discussions with the president of Johns-Manville
6 Corporation at any time during your career with Union
7 Carbide?

8 A. Not to the best of my knowledge. I don't even
9 know who the president of Johns-Manville was or is.

10 Q. You don't recognize the name then A. R.
11 Fischer at all?

12 A. No way.

13 Q. And when you came on board in 1947, it's my
14 understanding that you personally knew that asbestos could
15 cause asbestosis?

16 A. That's correct.

17 Q. And you gained that knowledge from what, your
18 medical education?

19 A. That's correct.

20 Q. At the University of Wisconsin?

21 A. That's correct.

22 Q. And you understood when you came on board with
23 Union Carbide in 1947 that asbestosis could be fatal?

24 A. That's correct.

25 Q. And you also knew that in 1947 asbestos was a

1 progressive disease, is that true?

2 A. Asbestosis was a progressive disease, that's
3 correct.

4 Q. And you also, I assume, had knowledge in 1947
5 that asbestosis was in part related to the dosage that one
6 inhaled or ingested?

7 A. That one inhaled, not ingested. It has
8 nothing to do with swallowing.

9 Q. I guess in terms of asbestosis you are
10 absolutely correct, I stand corrected. Now, did you gain
11 any knowledge whatsoever, be it by fact or theory, that
12 asbestos had a propensity to set up a reaction that could
13 lead to cancer?

14 A. This came to my attention in the early '60s
15 and prior to that I had no knowledge of this.

16 Q. So it's your testimony today that at no time
17 prior to the early '60s did you even have a hint that
18 asbestos could cause cancer?

19 A. That's correct.

20 Q. Do you know a Dr. Henshaw, Corwin Henshaw?

21 A. I know the name. I don't recall that I have
22 ever met the man.

23 Q. Do you have any recollection of any textbooks
24 that you have seen written by Dr. Corwin Henshaw?

25 A. I have not seen any.

1 Q. You took two years of trial residency in
2 Preventive Medicine and Internal Medicine, is that right?

3 A. That's correct.

4 Q. Were you ever board certified in any specialty?

5 A. I am board certified in the specialty of
6 Occupational Medicine.

7 Q. When did you become first board certified?

8 A. In 1955.

9 Q. To your knowledge is there any board
10 certification or was there ever any board certification for
11 Preventive Medicine?

12 A. Yes, the subspecialty of Occupational Medicine
13 is -- the certification in occupational medicine is a
14 subspecialty under the Board of Preventive Medicine.

15 Q. What is your definition of preventative
16 medicine?

17 A. Preventive medicine is that science of
18 medicine which is devoted to the prevention of illness and
19 disease in human beings.

20 Q. And if a person is board certified in 1955 in
21 Occupational Medicine, that I assume would include the
22 specialty of Preventive Medicine, is that true?

23 A. That was a part of it, yes.

24 Q. Did you ever study, in connection with your
25 medical training, industrial hygiene?

1 A. No, I did not.

2 Q. Was there a board certification for the
3 specialty of toxicology in 1953?

4 A. There was not.

5 Q. And since that time, to your knowledge, is
6 there such a board certification?

7 A. I am not sure. I think there may be.

8 Q. When you came on board with Union Carbide in
9 1947, did Union Carbide have an industrial hygiene
10 department?

11 A. In '47?

12 Q. In 1947.

13 A. No, they did not.

14 Q. And subsequent thereto they did establish such
15 a department, didn't they?

16 A. Yes, they did.

17 Q. When did Union Carbide first establish it's
18 industrially hygiene department?

19 A. Well, if one man is considered a department I
20 would say about 1953.

21 Q. And the one man you are speaking of, that
22 wouldn't have been Mr. Peele, would it?

23 A. No, that was Mr. Paul McDaniel.

24 Q. Now, since 1953, taking it up to 1979 when you
25 retired from Union Carbide, would you agree that the

1 industrial hygiene department grew by leaps and bounds?

2 MR. JONES: I will object to the form of
3 the question.

4 MR. POLK: He understands the question.
5 He is thinking about it.

6 A. The corporate industrial hygiene department
7 grew from one man to about six men and, in addition to that,
8 we had an industrial hygienist and in some instances two
9 industrial hygienists at three plant locations.

10 Q. Now, would you agree that between 1953 and
11 1959 or '79 that the industrial hygiene department worked
12 in tandem with the medical department of Union Carbide?

13 A. I would say yes.

14 Q. In your opinion, as an associate medical
15 director at Union Carbide, did there exist incontrovertible
16 evidence as of June 1967 that asbestos could cause
17 mesothelioma?

18 A. Clarify a word for me. Did you say
19 incontrovertible?

20 Q. Incontrovertible or, if you prefer,
21 uncontroversial, if there is such a word.

22 MR. GOLDBERG: Evidence that you can't
23 controvert.

24 A. I would not consider in 1967 that it was
25 incontrovertible. In 1967 there was a growing probability

1 that there was a relationship between asbestos and
2 mesothelioma, but there was evidence coming up at intervals
3 which suggested that this might not be the case.

4 Q. As you sit here today, do you believe that it
5 is incontrovertible that asbestos can cause mesothelioma?

6 A. I think --

7 MR. JONES: Any kind of asbestos?

8 MR. POLK: That's what the question was,
9 Counsel.

10 A. I think that mesothelioma -- I mean that
11 asbestos can cause mesothelioma.

12 Q. And that that proposition, in your opinion as
13 you sit here today, is incontrovertible?

14 A. I think that is true of some cases. Not all
15 cases are caused by asbestos.

16 Q. That's not the question though. The question
17 is is it, in your opinion as you sit here today,
18 incontrovertible that asbestos can cause mesothelioma?

19 A. Yes.

20 Q. Now, tell me the period of time or the date or
21 the year, as best as you can between 1967 and today's dates
22 when you formulated in your own mind that it was
23 incontrovertible that asbestos can cause mesothelioma?

24 A. I would say in the early '70s.

25 Q. Now, follow that up with me, if you will, and

1 tell me what the basis is that you rely upon or relied upon
2 then to come to that conclusion?

3 A. The epidemiological studies which were done on
4 various work groups which -- reliable epidemiological
5 studies on various work groups which demonstrated a
6 statistical association between asbestos exposure and
7 mesothelioma.

8 Q. And in your opinion was there an absence of
9 statistical data connecting asbestos to mesothelioma prior
10 to that time?

11 A. There was an absence of valid epidemiological
12 studies. The great majority of studies which had been done
13 at that time had some serious flaws which raised some
14 question as to the validity of the conclusions that were
15 reached.

16 Q. Tell me specifically what you are relying upon
17 or what you relied upon in coming to that the conclusion
18 that those studies were invalid?

19 A. One of them was that they failed to take into
20 account the question of smoking.

21 Q. What I am asking you is to identify the
22 studies that you reviewed that led you to the conclusion?

23 A. I really can't recall what the specific
24 studies were that led to those conclusions.

25 Q. Fair enough. Am I to take it, however, from

1 your testimony today that you in fact personally reviewed
2 certain studies regarding the connection between asbestos
3 and mesothelioma prior to 1967?

4 A. I don't believe that any of those types of
5 studies really existed prior to 1967. Prior to 1967 we
6 were in a position where people were counting cases of
7 mesothelioma and looking at exposure to asbestos and making
8 an association which might or might not have been valid.

9 Q. Did you at that time consider those cases to
10 be solely case studies as opposed to the epidemiological
11 studies that you --

12 A. I believe, yes, that they were case type
13 studies.

14 Q. You taught Occupational Medicine for five
15 years, correct?

16 A. Well, more than that. I continued teaching
17 Occupational Medicine until the day I retired. When I left
18 the University I was given a visiting lectureship at the
19 University and then Baylor Medical College in Houston asked
20 me to teach Occupational Medicine for them until 1955.
21 When I transferred to New York, I was given the title of
22 clinical assistant professor of Occupational Medicine by
23 New York University. I taught there several times a year
24 from 1955 until my retirement until 1979.

25 Q. Do you have anyone in mind that you consider

1 to be the, quote unquote, "Father of Occupational Medicine"?

2 A. I guess you would have to go back to that
3 venerable character known as Urbano Pozzani.

4 Q. And did you rely on any particular
5 occupational medicine text in your academic endeavors when
6 you were teaching?

7 A. There was one, I can't remember his name, but
8 it was -- I can't really remember the name of the text.

9 Q. You did in fact, however, utilize a textbook
10 for the teaching of occupational medicine, is that right?

11 A. There was such a text, yes, and we used it.
12 But as much as anything else we researched the literature
13 and used information from the literature.

14 Q. You have used the word hazard on several
15 occasions when you have been testifying here. Can you
16 define the word hazard as you have used it?

17 A. Hazard would be the probability of a material
18 causing harm under given conditions of exposure.

19 Q. Let me be a little bit more specific now than
20 I was earlier. Is this a true statement, that in 1947 when
21 you came on board at Union Carbide you understood
22 chrysotile asbestos fiber could cause asbestosis, is that
23 true?

24 A. That's correct.

25 Q. And have you personally participated or

1 directed to be done, participated in or directed to be done,
2 any studies of any nature whatsoever for the purpose of
3 determining the toxicity of chrysotile asbestos fiber when
4 compared to other types?

5 A. I have not participated in any studies which
6 compared the types of chrysotile toxicity to the toxicity
7 of other asbestos fibers.

8 Q. Can you tell me up to 1979 when you retired
9 whether you have any information at all that would indicate
10 that Union Carbide ever did a study or commissioned a study
11 for determining the toxicity of chrysotile asbestos fiber
12 as compared to another type of fiber?

13 A. Not that I know of.

14 Q. And, furthermore, can you tell me, up to 1979
15 when you retired, whether or not Union Carbide ever did any
16 kind of studies whatsoever concerning the carcinogenicity
17 of Chrysotile asbestos?

18 A. Not that I know of.

19 Q. Did you have any involvement with Union
20 Carbide as a consulting physician after 1979?

21 A. I had a contract with Union Carbide from 1979
22 to 1982, at which time the contract lapsed and anything I
23 have done since then has been as an individual contractor.

24 Q. Have you served Union Carbide as an
25 independent contractor since 1982?

1 A. Yes.

2 Q. And I don't want to be repetitious, but have
3 you ever served for Union Carbide as an independent
4 contractor since 1932 with reference to anything having
5 anything to do with asbestos?

6 A. Only the one case that I indicated early on in
7 which I was asked to make a deposition and for various
8 seasons it fell through.

9 Q. Now, were you aware of any Worker's
10 Compensation claims being asserted by workers of Union
11 Carbide for asbestos related diseases of any kind prior to
12 1970?

13 A. No, I am not.

14 Q. How about after 1970?

15 A. I believe there were a couple of cases of
16 alleged asbestosis at Institute in Charleston from the
17 period 1970 until the time I retired. Just how many there
18 were I don't recall.

19 Q. Do you profess any expertise in the area of
20 air sampling?

21 A. No.

22 Q. Do you understand the concept of time weighted
23 average?

24 A. I think so.

25 Q. Do you understand the concept of total

1 concentration in terms of dust studies?

2 A. Well, I don't really know what you mean by
3 total concentration.

4 Q. How about just the word concentration?

5 A. Do I understand the meaning of the term
6 concentration?

7 Q. Yes.

8 A. Yes.

9 Q. As the associate medical director did you have
10 any interfacing, if you will, with any other manufacturers
11 of asbestos or asbestos-containing products?

12 A. No.

13 Q. Did you have any relationship with a Dr.
14 Lewinsohn at Raybestos Manhattan at any time?

15 A. No.

16 Q. Did you share correspondence with other
17 asbestos manufacturers?

18 A. No.

19 Q. Do you know what Bakelite is?

20 A. Yes.

21 Q. Did you ever participate in any kind of
22 studies concerning Bakelite?

23 MR. JONES: Object on the grounds of
24 relevancy.

25 MR. POLK: Do you want me to show you

1 the sales records indicating Bakelite sales to Conwed? You
2 have them. There are all kinds of sales of Bakelite to
3 Conwed.

4 MR. JONES: Do you have them?

5 MR. POLK: I don't know if I have them
6 with me. I will be happy to share it with you when I get
7 back. I will warrant that to you on the record, that
8 Bakelite was sold to Conwed.

9 MR. LAURA: When?

10 MR. POLK: Between 1954 and 1963.

11 A. Repeat your question.

12 Q. Sure. Did you participate at all in any
13 studies concerning Bakelite?

14 A. In studies, no.

15 Q. Do you understand what Bakelite is used for?

16 A. I know Bakelite is a phenol formaldehyde resin.
17 It's used in molding various types of things like light
18 fixtures and pan lids, I mean pan handles, and things of
19 that type.

20 Q. And would you agree that Bakelite contains
21 asbestos?

22 A. Not to the best of my knowledge.

23 Q. So it would be your opinion, as you sit here
24 today, that as far as you know Bakelite never contained
25 asbestos?

1 A. It would be my opinion that the phenol
2 formaldehyde resin which composed Bakelite did not contain
3 asbestos. It would be possible that there might be some
4 varieties of asbestos that -- I mean some varieties of
5 Bakelite that had asbestos added to them. I don't know
6 about that. I don't know all of the product breakdowns of
7 Bakelite.

8 Q. I will read you an answer to Union Carbide's
9 interrogatories. It says, "Bakelite was a compounded
10 mixture of phenolic resin, tetramine, lubricant and fillers,
11 one of which was chrysotile asbestos."

12 MR. JONES: Identify the exhibit.

13 A. That might be one particular product of the
14 Bakelite. For example, we sold Bakelite under something
15 like BKS 400. This might have been BKS 780.

16 Q. Well, was Bakelite marketed by Union Carbide
17 in granular form?

18 A. Yes.

19 MR. JONES: Can you identify the --

20 MR. POLK: No. You have them. I don't
21 think I am obligated to identify the sources.

22 MR. LAURA: Sure you are. If you are
23 reading from a document at a deposition you have to let us
24 know what it is.

25 MR. POLK: I wasn't reading from a

1 document.

2 MR. LAURA: I said if you are reading
3 from a document we are entitled to know.

4 MR. JONES: I will move to strike the
5 last exchange on the basis of what he was reading was not
6 identified.

7 BY MR. POLK:

8 Q. Then, I will go through it without reading
9 from the document. Doctor, was Bakelite marketed in
10 granular form?

11 A. Yes.

12 Q. Doctor, was there a single purpose for the
13 drafting of the Asbestos Toxicology Report?

14 A. A single purpose?

15 Q. Yes. That would be a yes or a no answer, I
16 think.

17 A. Yes.

18 Q. And what was the singular purpose for the
19 Asbestos Toxicology Report?

20 A. A request on the part of the marketing people
21 for such a statement.

22 Q. And are you able to tell us the degree of
23 involvement that you had with the drafting of the Asbestos
24 Toxicology Report in comparison to Dr. Lane?

25 A. I can't remember the details of something like

1 that.

2 Q. Now, to the best of your recollection was the
3 disease of mesothelioma ever included in any asbestos
4 toxicology report which came from you or your department?

5 A. I really couldn't answer that. I have no -- I
6 don't have the document to look at, the host of documents,
7 to see whether we ever used the term mesothelioma or not.
8 I am afraid I can't answer your question.

9 Q. Were asbestos toxicology reports reviewed on
10 any time interval basis; in other words, were they reviewed
11 annually or more often than that for any purpose?

12 A. Are you talking about Union Carbide toxicology
13 reports?

14 Q. That's correct.

15 A. I don't believe that they were on any regular
16 review basis.

17 Q. Would you agree that as of 1967 you were
18 knowledgeable that there was not a particular safe dose of
19 asbestos for the development of mesothelioma?

20 A. No, I don't know that today.

21 Q. Maybe I should rephrase that. Did you have
22 knowledge in 1967 that the development of mesothelioma from
23 exposure to asbestos could occur with less dosage than that
24 needed to produce asbestosis?

25 A. No, I did not know that.

1 Q. Did you have any knowledge or idea of that?

2 A. I had an opinion that that might be the case.

3 Q. And where did that opinion that you formulated
4 in 1967 come from?

5 A. That's hard to say. I would say that it was
6 just a judgmental decision on my part at that time.

7 Q. Well, would you agree with me that an opinion
8 of that nature formulated at that time would have needed
9 some basis?

10 A. Not necessarily.

11 Q. Did that just pop into your mind then?

12 A. It's one of these things that when you pull
13 off something like this why you are concerned about a
14 disease like mesothelioma and it appears to you that a
15 level of five particles per cubic foot might not be low
16 enough to protect against a serious disease like
17 mesothelioma.

18 Q. And, as I understand it, you found Mr. Sayers'
19 1967 report to be reasonably accurate; is that correct? I
20 will show you the document if you would like, but I will
21 warrant to you that that's what your letter to Dr. Hall
22 says.

23 A. Yes, I remember the letter.

24 Q. All right.

25 A. Yes, I would say that's probably true.

1 Q. And without looking at Mr. Sayers' report, as
2 you sit here today, do you have a recollection as to
3 whether Mr. Sayers' report addressed the disease of
4 mesothelioma?

5 A. My recollection is that it did.

6 Q. And do you recollect, as you sit here today
7 without reviewing your letter of June of 1967, whether or
8 not that letter -- I take it it's the letter, let me make
9 sure, whether that draws upon Mr. Sayers' report, that is
10 the contents of the report?

11 MR. JONES: I will object. If you would
12 like to look at the letter again --

13 A. I have looked at so many documents I am not
14 sure what you are talking about.

15 Q. Well, I am talking specifically about the
16 letter that you wrote to Dr. Hall which I think you saw
17 before your deposition here today, it's your June '67
18 letter to Dr. Hall?

19 MR. JONES: Dernehl Exhibit 33.

20 BY MR. POLK:

21 Q. Your Counsel has given you a copy of the
22 letter, has he not?

23 A. Yes.

24 Q. Now, my question to you is this, as you are
25 sitting there in your chair right now reviewing the letter

1 do you have any recollection of drawing upon Mr. Sayers'
2 report in drafting the contents of Exhibit 33?

3 A. Not really.

4 Q. And setting aside the letter for a moment, do
5 you have any recollection of drafting any documents of any
6 kind, Doctor, wherein you relied upon the contents of Mr.
7 Sayers' report?

8 A. No, I do not recall such a document.

9 Q. Did you have any input -- I think you talked
10 earlier in your testimony about some kind of warning that
11 was put on to the containers of asbestos, do you recall
12 that?

13 A. Right.

14 Q. What kind of involvement did you have in that
15 issue?

16 A. All of the products that Union Carbide sold
17 had some sort of a label on it. Union Carbide had what
18 they called a label committee, it was a part of the
19 chemicals and plastics division but it acted as a label
20 committee for the whole corporation. The label committee
21 was comprised of the medical department, law department,
22 transportation, marketing and fire and safety protection
23 and chemical reactivity groups and when somebody had a
24 product that they wanted to market they submitted a request
25 for a label to the label committee.

1 Q. Did the medical department have any
2 involvement with the label committee?

3 A. Yes.

4 Q. Did you personally?

5 A. Yes.

6 Q. Were you a member of the label committee?

7 A. Yes.

8 Q. Were you a member of the label committee
9 between 1963 and 1979?

10 A. I was a member of the label committee from
11 1955 until 1973 when I withdrew from that activity.

12 Q. Did the label committee keep minutes?

13 A. Yes.

14 Q. Was there a secretary to that committee?

15 A. Yes.

16 Q. Who was the secretary of the labeling
17 community between 1965 and about 1975?

18 A. I don't know about as early as '65. I know at
19 '75 a gentleman by the name of Jim Chatsworth was the
20 secretary.

21 Q. What position or what department would he have
22 come from? _____

23 A. He was in, I am not sure, shipping, I think,
24 in South Charleston.

25 Q. When was the first time that labeling of

1 asbestos products was discussed in the labeling committee?

2 A. I have no recollection.

3 Q. Well, was it ever discussed?

4 A. Yes.

5 Q. And did you make recommendations from a
6 medical toxicology standpoint concerning the labeling of
7 the asbestos?

8 A. Yes.

9 Q. And were those recommendations geared towards
10 the wording of the label?

11 A. Yes.

12 Q. And did you actually, on your own behalf or
13 yourself, draft the language?

14 A. I probably drafted the language and submitted
15 it to the label committee as a whole for discussion.

16 Q. Now, was the draft of the label for the
17 asbestos that you did, whenever that was done, was that
18 adopted by the committee?

19 A. Oh, gee, it might have been adopted with some
20 minor revisions. I really can't answer that.

21 Q. Did you at any time or anyone from your
22 department ~~at any time~~ make a suggestion to the labeling
23 committee that notification of potential cancers be
24 included on a label?

25 A. It was discussed.

1 Q. And it was ultimately rejected, is that right?

2 A. I don't recall the exact wording which was
3 ultimately used.

4 Q. Well, Doctor, I am just asking you if the use
5 of the word cancer was rejected by the committee, that's
6 all.

7 A. Yes, but I think that they selected some
8 alternative language and I was trying to remember what it
9 was.

10 Q. Whenever the labeling committee met and
11 whenever these discussions were going on, and I understand
12 that you can't recall the time, can you tell me this, were
13 discussions concerning the labeling of asbestos produced by
14 Union Carbide, were those discussions ongoing over the
15 years?

16 A. They were from the standpoint that there were
17 alterations in the product over the years which resulted in
18 the need for a new label.

19 Q. And what alterations were made to the product
20 that required that?

21 A. Well, for one thing, they prepared a so-called
22 coated product, which ended up on the basis of all
23 acceptable knowledge at that day and time as having no
24 carcinogenic hazard and it was a product which, for example,
25 was exempt under the OSHA regulations. So that required a

1 change in labeling.

2 Q. Would you agree with me on this, that you knew
3 in 1947 that asbestos could cause serious bodily harm?

4 A. I knew that asbestos, when inhaled in
5 excessive quantities, could produce the disease asbestosis.

6 Q. In 1947 when you held that opinion, what was
7 your definition of excessive quantities?

8 A. Anything in excess of ten particles per cubic
9 foot greater than ten microns in length.

10 Q. And, Doctor, as far as the Union Carbide
11 asbestos is concerned, can you tell me how many particles
12 per cubic foot one needs to be able to see it?

13 A. I am not sure I can do that.

14 Q. Did you ever learn, while you were the
15 associate medical director, that there needed to be a
16 certain number of Coalinga or Caltridia fibers in a cubic
17 foot of air before it was visible?

18 A. That was outside of my area of knowledge or
19 competence to judge.

20 Q. Would you have been interested in knowing
21 information from the Union Carbide industrial hygiene
22 department that unless there were more than ten particles
23 per cubic foot you couldn't even see the stuff?

24 MR. JONES: Object to the question as
25 calling for speculation.

1 MR. POLK: I am asking if he would have
2 been interested in knowing that information when he was the
3 associate medical director.

4 A. Not particularly. We had industrial
5 hygienists that worried about that particular aspect.

6 Q. So you wouldn't have necessarily been
7 interested in knowing that even in your capacity as being
8 on the labeling committee?

9 A. That's right.

10 MR. JONES: I will object to the
11 question as argumentative. Go ahead.

12 BY MR. POLK:

13 Q. In your opinion, as a member of the labeling
14 committee for several years, do you personally feel that it
15 does any good to warn a user of Union Carbide asbestos
16 fiber to not breathe dust that they can't see?

17 MR. JONES: Object to that on the basis
18 it calls for speculation. It's beyond the witness's stated
19 expertise. Go ahead and answer in you can. Also, as to
20 the form of the question as to the words whether it does
21 any good being vague and ambiguous. Go ahead and answer.

22 A. ~~Yes,~~ because you can't see a gas but you warn
23 people about breathing gas. So it's the same sort of a
24 warning.

25 Q. And to your knowledge was the word cancer ever

1 used by Union Carbide in connection with its asbestos
2 products labeling?

3 A. The labeling I don't recall.

4 Q. What is the average length of a Calidria
5 asbestos fiber?

6 A. Average length is somewhere under five microns,
7 as I recall.

8 Q. And you certainly are familiar with the
9 standards that have been used by industrial hygienists for
10 a long time as far as the counting of asbestos fibers I
11 assume, is that true?

12 A. I am familiar that they count them. I don't
13 know exactly how they do it. That's their business.

14 Q. Have you ever had an occasion to do any
15 counting under a microscope of a filter containing asbestos
16 fiber?

17 A. No, I have not.

18 Q. Do you know what the aspect ratio is for a
19 particular fiber to be counted as an asbestos fiber?

20 A. I don't know what you are talking about.

21 Q. I am going to show you what I have marked as
22 Plaintiff's ~~Exhibit 3824~~. I will represent to you it's the
23 September 1, 1972 material data safety sheet which you saw
24 before, and I think you indicated that it was incomplete
25 because it didn't have another page connected to it. I

1 don't think there was any follow up on that. Would you
2 take a look at what I have here and tell me if the second
3 page that is now connected to the first page makes that
4 document complete?

5 A. That now makes the document complete.

6 Q. And, again, I don't want to be repetitious,
7 but as I recall your testimony, while you had involvement
8 with the labeling committee, you didn't have any
9 involvement in the drafting of material safety data sheets?

10 A. No, that's not true. I did not have any
11 particular input into drafting this material safety data
12 sheet.

13 Q. Can you answer this, with the document you
14 have got in your hand, the September 1, 1972 sheet, would
15 there have been anybody in the medical department that
16 would have had input other than yourself?

17 A. If there was medical input in it, it came from
18 Dr. Lane.

19 Q. When did Dr. Lane, by the way, leave Union
20 Carbide?

21 A. Gee, I am not sure. I would say probably '83.

22 MR. JONES: Do you mind if we mark that?

23 MR. POLK: Go ahead, sure.

24 (At this time DERNEHL Deposition Exhibit
25 46 was marked for identification by the

Court Reporter.)

195

MR. JONES: Dr. Bernahl, what has now been marked as Bernahl Exhibit 46, that's the material safety data sheet that you were just talking about?

THE WITNESS: Yes.

MR. JONES: Thank you.

BY MR. POLK:

Q. Would you agree with this, that as of 1960 Union Carbide had experts within it's employ to test ambient air levels for asbestos?

MR. JONES: Object to the form of the question. Test, you mean the capability of testing?

BY MR. POLK:

Q. Do you not understand that question?

A. Yes, we had experts who were capable of making determinations of air concentrations.

Q. And would you also agree that as of 1960 Union Carbide had the equipment within it's possession to test ambient air levels for asbestos?

A. At some locations.

Q. And would you also agree that as of 1960 Union Carbide had within it's employ experts who could evaluate the testing for purposes of determining those levels?

A. Yes.

Q. And in your opinion would Union Carbide's

1 expertise in the testing of ambient air levels and the
2 counting of asbestos fibers, would that expertise have
3 gotten better or worse between 1960 and 1972?

4 MR. JONES: Object on lack of foundation.
5 You can answer, if you can.

6 BY MR. POLK:

7 Q. In your opinion?

8 A. No. It would have improved because, for one
9 thing, the technology of sampling and of identification had
10 improved.

11 Q. And in your opinion, if you have one, is there
12 any expertise required for the counting of asbestos fibers
13 in the ambient air?

14 A. Yes.

15 Q. Can you categorize the degree of expertise
16 that in your opinion is necessary for that to be done?

17 A. No, I can't do that.

18 Q. And are you familiar with any kind of training
19 program offered by Union Carbide concerning the testing of
20 ambient air levels for asbestos that were offered to any
21 personnel within the employ of Union Carbide at any time?

22 A. ~~I really~~ have no reliable knowledge in that
23 degree on that question.

24 Q. You were apparently shown some documents last
25 night when you met with your attorneys from Union Carbide,

1 is that right?

2 A. Right.

3 Q. Are you represented here today?

4 A. Am I represented here today?

5 Q. Yes, by an attorney.

6 A. Two of them.

7 Q. Maybe even three of them?

8 A. Maybe even three. I forgot about him.

9 Q. Did you retain these attorneys last night?

10 A. No.

11 Q. Other than the document, which I believe
12 consists of the letter that you wrote to Dr. Hall in

13 '67 --

14 A. Yes.

15 Q. I want to know each and every document that
16 you reviewed last night with your attorneys.

17 A. That is the only document we looked at.

18 Q. When you left Union Carbide in 1979, did you
19 take any documents with you?

20 A. I did not.

21 Q. And who took your position, if anyone, in
22 1979? _____

23 A. I don't think anybody took my position.

24 Q. And I want to confirm with you that I have a
25 correct understanding of your prior testimony, correct me

1 if I am wrong, that in the 1940s you recognized a concern
2 in the asbestos area relating to insulators using asbestos,
3 is that true?

4 A. That's correct.

5 Q. And the reason that you recognized that at
6 that time was because insulators in the field were
7 manipulating, sawing, and doing other things in the field
8 with asbestos containing pipe insulation, block insulation
9 and that sort of thing, is that right?

10 A. That's correct.

11 Q. And, Doctor, do you understand or have any
12 knowledge concerning whether or not asbestos is an
13 ingredient in gasket type products?

14 A. My knowledge is that it is in some gaskets,
15 yes.

16 Q. Do you have any knowledge from any source
17 whatsoever that would indicate to you whether or not the
18 asbestos within gasket type products is a potential hazard?

19 A. It is a hazard in certain types of gaskets.

20 Q. Was Union Carbide, to your knowledge, ever a
21 producer of any asbestos-containing gaskets or packing
22 material? _____

23 A. Not that I know of.

24 Q. Do you have an opinion as to whether or not
25 in-place asbestos-containing insulation products such as

** This page out of order - got before last pg*

149

1 pipe covering and asbestos block possess a 'hazard' That
2 would be a yes or a no answer.

3 A. You want to know if I have an opinion? Yes, I
4 have an opinion.

5 Q. All right. What is your opinion?

6 A. My opinion is that as long as the
7 asbestos-containing material is not disturbed it is not a
8 hazard.

9 Q. Do you have an opinion as to whether or not
10 in-place asbestos-containing insulation products pose a
11 hazard if they are disturbed?

12 A. Yes.

13 Q. What is your opinion?

14 A. If they release asbestos into the air they are
15 a hazard.

16 Q. And do you have any opinions, based on any
17 source from I guess anywhere, as to what the airborne
18 characteristics are of asbestos fibers? I mean to use a
19 different word as opposed to airborne.

20 MR. BROWNSON: Aerodynamic?

21 BY MR. POLK:

22 Q. Do you know anything about the aerodynamics of
23 asbestos fiber?

24 A. None whatsoever.

25 Q. And you don't have any recollection of seeing

1 any reports, while you were the associate medical director,
2 concerning the aerodynamics of asbestos fiber?

3 A. Not that I can recall.

4 Q. And do you have an opinion, as you sit here
5 today, that leads you to a definite conclusion that
6 chrysotile asbestos cannot cause mesothelioma?

7 MR. JONES: I will object to the form of
8 the question as compound. Answer it if you can.

9 A. Do I have an opinion that chrysotile asbestos
10 cannot cause mesothelioma?

11 Q. Yes.

12 A. No.

13 Q. No what?

14 A. No, I don't have an opinion that it cannot.

15 Q. Do you have an opinion, with reasonable
16 medical certainty, that chrysotile asbestos in fact can
17 cause mesothelioma?

18 A. Providing that the exposure of an individual
19 is sufficient to bring about such a condition, yes.

20 Q. Let me just back up for a minute and get the
21 basis for your last opinion that chrysotile can cause
22 mesothelioma. What's the basis for your opinion?

23 A. That it can cause?

24 Q. Yes.

25 A. Well, there is sufficient valid

1 epidemiological studies today to indicate that chrysotile
2 asbestos can cause mesothelioma, lung cancers. And there
3 is even more conclusive evidence available that the
4 probability of this occurring is enhanced ten times or more
5 if an individual smokes.

6 Q. Are you of the opinion that there is any
7 synergistic effect between cigarette smoke and asbestos as
8 relates to the disease of mesothelioma?

9 A. Yes.

10 Q. And what's that opinion based on?

11 A. That opinion is based on the fact that there
12 is evidence that the asbestos fiber picks up the
13 carcinogenic materials from cigarette smoke, binds it and
14 carries it with it wherever it goes.

15 Q. Tell me, in your opinion, is mesothelioma a
16 lung cancer?

17 A. Not as such. It's a cancer of connective
18 tissue that lines the lung cavity and it lines the
19 intestinal cavity.

20 Q. Well, Doctor, are you able to cite for me any
21 medical literature from an epidemiological standpoint,
22 first of all, that has lead you to believe that cigarettes
23 can contribute to the development of a mesothelioma?

24 A. I can't cite for you the literature right now
25 but the statistical data which has been developed to this

1 point indicates that the incidence of mesothelioma is a
2 heck of a lot higher in those who smoke than it is in those
3 who do not.

4 Q. Is the same true for the development of lung
5 cancer?

6 A. Absolutely.

7 Q. And I assume that you would also agree that
8 Chrysotile asbestos is certainly capable of causing a
9 peritoneal mesothelioma, is that fair?

10 A. If it can cause it in the lung, it can cause
11 it in the peritoneum.

12 Q. Doctor, are you aware of any studies that were
13 done in the Cloquet, Minnesota, area concerning the
14 deposits of chrysotile asbestos in the river that adjoined
15 the Conwed or Cloquet plant?

16 A. I do not know anything about your studies in
17 the river at this point.

18 Q. And so you were never informed by Union
19 Carbide, at least as far as you can recall, about Union
20 Carbide going to the Conwed plant and testing for
21 chrysotile asbestos in the river, is that right?

22 A. Not that I know about.

23 Q. Now, did you know back in 1967 that cigarette
24 smoke and asbestosis had a synergistic effect with
25 reference to the development of lung cancer?

1 A. In 1967?

2 Q. That's correct.

3 A. No, we did not know that at that time.

4 Q. And did your knowledge concerning the
5 synergistic effect between cigarette smoke and lung cancer
6 arise in the early '70s?

7 MR. BROWNSON: You had better rephrase
8 that, Mike. You mean cigarette smoking and asbestos?

9 BY MR. POLK:

10 Q. I am sorry, cigarette smoking and asbestos,
11 did that knowledge come to you in the early '70s?

12 A. I would say yes.

13 Q. Finally, with reference to the labeling
14 committee, can you tell me what criteria was used by the
15 committee in dealing with asbestos labeling?

16 A. At the time that the first asbestos labels
17 were applied to the bags.

18 Q. May I interrupt you there? When was that?
19 You don't remember?

20 A. I am sure I don't know. It would probably be
21 in the early '60s when we first started shipping asbestos.

22 Q. Why do you say it would probably be in the
23 early '60s when you first started shipping?

24 A. Because that's when I think they probably
25 started shipping.

1 Q. Does that necessarily mean then in the early
2 '60s when you started shipping you had the knowledge to put
3 the warning on the bag?

4 A. We put a warning on the bag.

5 Q. When you started shipping from the King City
6 plant in the early '60s?

7 A. To the best of my knowledge that bag would
8 have had some sort of a warning. Now, I must admit there
9 is a possibility -- there is a possibility that the early
10 shipments for the first year or so may have been made
11 without a label but it was not done without the label
12 committee's knowledge or approval.

13 Q. They kind of snuck them out?

14 MR. JONES: Object to the form of the
15 question.

16 BY MR. POLK:

17 Q. I am just kidding. You think it was about a
18 year or so after that that you believed to the best of your
19 recollection that a warning label was put on the asbestos
20 bags?

21 A. To the best of my recollection and my
22 expectation that would have been the case at that time we
23 took into consideration what was known about asbestos, what
24 was known about Coalinga asbestos as compared to the long
25 fiber asbestos that was marketed by Johns-Manville and by

1 the Canadian operations and the belief on the part of many
2 people that only long fiber asbestos caused asbestosis, and
3 because of that the label on the initial Coalinga shipments
4 was probably a mild label.

5 Q. Saying something like what, don't breathe it?

6 A. Avoid breathing dust, a simple sort of a thing.

7 Q. Okay.

8 A. Subsequently, as we learned more about it, I
9 am sure the language became or should have become and
10 probably did become more stringent and we now warned that
11 breathing dust may cause prolonged serious illness and then
12 the statement, "Do not breathe dust." No longer "avoid",
13 but "do not".

14 Q. And based on the knowledge that you had at the
15 various times in the '60s and '70s, at what point do you
16 believe that the more serious warning should have been put
17 on the bag?

18 A. I would say in the late '60s and early '70s,
19 by which time it was pretty well established that there was
20 an association between exposure to asbestos and
21 mesothelioma and lung cancer.

22 Q. And you have kind of answered my question.
23 Were there any other criteria, other than what you have
24 mentioned, that was used by the labeling committee?

25 A. Well the kind of damage that was produced was

1 always taken into consideration.

2 Q. You mean the kind of damage that the product
3 itself could produce was always taken into consideration?

4 A. Right.

5 Q. Did I ask you if you ever recommended that the
6 word "cancer" be put on the label?

7 A. You asked me and I told you that we did not
8 ever recommend it, that I can recall.

9 Q. Is there any particular reason that in spite
10 of your knowledge concerning that issue that such a
11 recommendation wasn't made?

12 MR. JONES: Object to the question as
13 argumentative. Go ahead and answer.

14 A. My best recollection at the time is that,
15 number 1, at that point in time everybody was still
16 concerned about the long fiber chrysotile type of asbestos
17 and we were talking about the short fiber, short small
18 fiber Coalinga type asbestos. And it was our belief at
19 that time, and actually to some degree it is still my
20 belief, that they are not the same breed of cat, they don't
21 act exactly the same and they don't necessarily produce the
22 same disease or the same types of disease and that with
23 that uncertainty in there there was also a question of
24 whether we should go so far as to say causes cancer.

25 Q. Was that uncertainty ever resolved

1 definitively in your own mind before 1973?

2 A. I don't believe it has been assigned or
3 resigned totally at this point in time.

4 Q. Do you have any idea what Canadian Grade 7
5 fiber is?

6 A. No, I don't.

7 Q. Do you understand that the Calidria or
8 Coalinga fiber was likened from day one to Canadian Grade 7
9 fiber?

10 A. No.

11 MR. JONES: Object to the form of the
12 question.

13 A. Don't know anything about that.

14 Q. And did you ever do any kind of work to
15 determine the carcinogenicity of Canadian Grade 7?

16 A. No.

17 Q. So you wouldn't know, as you sit here today,
18 one way or another as to whether or not Canadian Grade 7
19 chrysotile causes mesothelioma, is that right?

20 A. That's correct.

21 Q. Have you ever been a diagnostic medical doctor?

22 A. I wouldn't say so, no.

23 Q. Have you ever treated a patient?

24 A. Yes.

25 Q. Do you know how mesothelioma works in the body?

1. In other words, once you have a tumor do you know what that
2. tumor does to cause death generally?

3. A. Well to the best of my recollection,
4. mesothelioma --

5. Q. Doctor, I am just asking you if you know. I
6. don't need an explanation.

7. A. I really haven't studied it to the point where
8. I could tell you how mesothelioma causes death.

9. Q. Do you have an opinion, and you may not,
10. whether or not mesothelioma or death by mesothelioma is
11. more painful or less painful than death by asbestosis?

12. A. I have no way of knowing that.

13. MR. POLK: That's all I have for now,
14. but again I want to retain my right to continue the
15. deposition. I am ending my questions now because it's 4:30
16. and we have to get back to Minnesota.

17.

18. RECROSS-EXAMINATION

19. BY MR. BROWNSON:

20. Q. Let me ask you a question, Doctor. Maybe Mike
21. asked it, but I don't think so. Are you aware that some
22. individuals are more susceptible to mesothelioma than
23. others?

24. MR. JONES: Object to the question as
25. repetitive. Go ahead.

1 A. I don't know how you determine that.

2 Q. Are you aware that in practice that has turned
3 out to be the case?

4 A. I don't know how anybody could prove that
5 there is greater susceptibility to mesothelioma.

6 Q. Are you aware that cases of mesothelioma have
7 been diagnosed upon extremely low exposure histories to
8 asbestos?

9 A. I am aware of the fact that there are cases of
10 mesothelioma which are not related to asbestos, so it is
11 entirely possible that you could have somebody with a very
12 low exposure to asbestos who had a mesothelioma.

13 Q. Are you also aware that people have been
14 diagnosed of having mesothelioma that had very low exposure
15 to asbestos?

16 A. I suppose that's possible.

17 MR. BROWNSON: That's all I have.

18 Thanks.

19 MR. GOLDBERG: I have a question.

20 MR. HARVARD: Can we take a break right
21 now just to give the Doctor a break?

22 MR. GOLDBERG: I just have one question
23 though. Can I just ask one question?

24 MR. POLK: I want to be clear here on
25 the record that we are going to have direct examination now.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

MR. JONES: Unless you want to say the deposition can't be used at trial.

MR. POLK: I didn't and my questions for the purpose of missing my airplane. I am not done cross-examining the gentleman.

MR. JONES: You made that clear on the record.

MR. POLK: Are you not planning on bringing this witness to the trial, is that the idea, because I have no notice that you intended on taking his testimonial deposition. This was noticed for discovery purposes.

MR. JONES: I think there are some things in discovery that need to be clarified based on some of the testimony that's been given today.

MR. POLK: Then I think you ought to note the gentleman's testimonial deposition. You discovered my client for six hours before I took any direct and I want to have the same opportunity.

MR. LAURA: In every deposition, discovery or otherwise, you have the right to direct examination, so I don't think that's a problem. I mean, if you have a problem with that, tell me what it is but I don't think that we should not have the right to do that.

MR. POLK: I don't know what the intent

1 here is. What's your intent? Are you intending on
2 offering the deposition at trial? If that's what your
3 intent is, yes, I have a whole lot of problems with that
4 and that's not in accordance with the Minnesota Rules.

5 MR. JONES: The Minnesota Rules don't
6 make any distinction between depositions for discovery
7 purposes and testimonial purposes.

8 MR. POLK: Sure it does.

9 MR. HARVARD: Why don't we get your one
10 question?

11
12 CROSS-EXAMINATION

13 BY MR. GOLDBERG:

14 Q. One question in two parts. Doctor, my name is
15 Joe Goldberg. With regard to your opinion that chrysotile
16 asbestos can cause mesothelioma, have you had an
17 opportunity to review any literature or hear any testimony
18 to the contrary from any expert?

19 A. I can only recall seeing, and I can't tell you
20 where I did read it, evidence to the effect that the
21 incidence of mesothelioma among a group where it was
22 expected to be high, was found to be very low. It
23 suggested that there may or may not be a relationship
24 between chrysotile asbestos and mesothelioma.

25 Q. And now the second part of my question. Would

1 it be fair to say then that it's not that you have
2 considered and rejected evidence to the contrary but rather
3 that you have just not been exposed to it.

4 MR. BROWNSON: I am going to object to
5 that in light of his last answer.

6 MR. POLK: I will join in that.

7 BY MR. GOLDBERG:

8 Q. Do you understand the question, Doctor? Let
9 me rephrase the question. Was it that you rejected the
10 voracity of the one item you were talking about or simply
11 that it was not a substantial enough body of evidence to
12 cause you to reconsider your opinion; in other words, did
13 you think it was wrong or not enough?

14 A. To reconsider what opinions?

15 Q. That chrysotile can cause mesothelioma.

16 A. I think that the preponderance of evidence at
17 the present time suggests that under certain
18 circumstances chrysotile asbestos can cause mesothelioma,
19 and the circumstances generally are those of rather large
20 exposure, massive exposure.

21 Q. I understand you have testified to that.

22 A. ~~Now,~~ I think it is also entirely possible that
23 the relationship between exposure to chrysotile asbestos
24 and mesothelioma is and has been exaggerated.

25 Q. Doctor, my question to you isn't quite on that

1 point. My question is evidence to the contrary, evidence
2 that asbestos doesn't cause mesothelioma has been described
3 to you. My question was did you think that evidence was
4 wrong or untruthful or simply inadequate in its scope to
5 change your opinion?

6 A. It was inadequate in its scope.

7 MR. GOLDBERG: I have no other questions.

8 MR. HARVARD: Can we take a break right
9 now for about five minutes and let us talk.

10 (At this time a brief recess was taken.)

11 MR. POLK: Doctor, we were just outside
12 talking and your lawyers would like to take some testimony
13 from you. I am sure you are tired and would like to go
14 home and we would like to go home. Do you have any problem,
15 if the weather was somewhat decent up in Minnesota, of
16 appearing in Minnesota at some future date for the purposes
17 of completing this testimony? Do you have any problem with
18 that?

19 THE WITNESS: Well, the main problem is
20 I don't like to travel any more. For one thing, this
21 business of hypoglycemia; the other is I am getting
22 cataracts and you noticed I had a little bit of trouble
23 trying to see when I was reading. And if I do travel my
24 wife has to go with me to keep an eye on me.

25 MR. POLK: How would you feel about it

1 If we brought or someone brought you and your wife up to
2 Minnesota at some future date for the purpose of completing
3 your testimony and put you up in a nice hotel in
4 Minneapolis?

5 MR. HARVARD: At their expense.

6 THE WITNESS: It would have to be after
7 the 1st of May because we are having a meeting of the Sons
8 of the American Revolution down here the last of April and
9 I am the general chairman of the whole damn meeting. It's
10 a state meeting. I am going to be wrapped up in that from
11 here on out until that is over.

12 MR. POLK: The lawyers for Union Carbide
13 would like to take some testimony from you. The case that
14 we are here on or one of the cases that we are here for is
15 the Manisto case which is scheduled for trial March 20
16 coming right up. I certainly don't want to do anything to
17 prejudice Union Carbide to take your testimony, but on the
18 other hand we would like to close it up and that's why we
19 are asking you about your availability and willingness to
20 come up. I think you have answered the question.

21 THE WITNESS: My problem is the
22 responsibilities I am going to have in this area up until
23 the end of April because from here on in it really gets
24 short and have to work like mad to get everything set up.

25 MR. POLK: Would those responsibilities

1 also entail the time period up to March 20, the next week
2 or so?

3 THE WITNESS: Right up until the 29th of
4 April.

5 MR. JONES: That starts immediately
6 tomorrow or --

7 THE WITNESS: It started a few weeks ago
8 and actually just this day loss is sort of a problem to me
9 so, I mean, that's --

10 MR. JONES: As I see it we have three
11 alternatives, one we can stay and continue it tomorrow; two,
12 we can come back; or, three, we can stipulate that it won't
13 be used until it's completed. You have indicated that you
14 are not willing to do the third, if I understand you
15 correctly.

16 MR. POLK: That's correct.

17 MR. GOLDBERG: Isn't there some late
18 plane out of here so you can switch airlines and get to
19 Minneapolis at midnight or something? You need another
20 hour and a half. You need to be walking out of here at
21 7:00 or 7:30.

22 MR. POLK: Why don't we reschedule
23 sometime prior to trial and come back?

24 MR. JONES: As opposed to staying
25 overnight. Doctor, what's your --

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

THE WITNESS: Well, it would be better for me if we did that. If I have to go up there I have to take a day to go up there, and a day being in session, and a day to get back. That's three days out of my area of responsibility. Down here, if you only have half a day left on me, why it's a half a day loss. If you have a whole day, it's a whole day loss.

MR. POLK: I have a suggestion. The new rules of Minnesota Civil Procedure call for a telephonic deposition, which we did just very recently. Do you have any problem with that? I will stipulate to the taking of the Doctor's telephonic deposition at a time mutually convenient for all parties.

MR. BROWNSON: So will I.

MR. POLK: Commencing with your direct examination and reserving any right to further cross. How is that?

MR. LAURA: Sounds good to me.

MR. POLK:- Doctor, would that be satisfactory with you? It's a matter of just talking into the telephone.

MR. HARVARD: One of us could be here to show him those documents and you all can just take the risk over the phone that we are living up to our obligation regarding the practice of law that we have shown him the

1 document and not handed him a script to read the next
2 answer.

3 MR. POLK: That's fine by me.

4 MR. HARVARD: I am just kidding about
5 that, Mike. We will have somebody here to meet with the
6 Doctor and be present with him if the telephone deposition
7 occurs, and I assume that's not a problem for anybody

8 (At this time a discussion was held off
9 the record.)

10 MR. POLK: It is then agreed on behalf
11 of the Plaintiff, that procedure.

12 MR. JONES: Fine on behalf of Union
13 Carbide.

14 MR. HARVARD: Just so the record is
15 clear, I want to make sure that Union Carbide is taking the
16 position that this -- that we object to any attempt to use
17 this deposition in any Court for any purpose allowed by law
18 until such time as the deposition has been complete and the
19 examination which we intend to conduct in the deposition
20 has in fact been accomplished because at this point the
21 deposition is incomplete. We believe there are matters
22 which can be inappropriately interpreted and we want the
23 opportunity to conduct our examination prior to this
24 deposition being concluded.

25 MR. POLK: You are not asking for my a

Age 75

Ret. Assoc. Corp. Med. Dir. UCC 8/79 (from 4/47)

36-7 set up chem hys fellowship at Mellon Institute
(Carnegie Mellon University) 1938-~~60~~
regarded as UCC employees

43 UCC never advised customers about employer protection
that recalls e.g. X-rays

59 (Gawley Bridge) sensitized UCC to concern over rapidly
fatal silicosis $\Rightarrow$ testing of Calclina at Mellon (66
rpt.)

135 He found Sayers' report of 1967 to be reasonably accurate
and said so in a letter to Dr. Hall (ex. 33)

138 He was member of UCC label committee, 1955-78

'39 cancer labeling "was discussed"

145-46 UCC had H expertise in 1960 to do asbestos air sampling
+ analysis

148 he recognized a hazard from A to insulators in the 1940's

151-52 He thinks there's evidence linking M to smoking

153 stronger warnings warranted in late 60's & early 70's
because LC and M risks "pretty well established"

162 he thinks massive chry. exp. $\Rightarrow$ Mes. but is skeptical
of reports of lesser exposures