

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF PENNSYLVANIA

-----x
IN RE: ASBESTOS PRODUCTS Civil Action
LIABILITY LITIGATION Number MDL 875
(NO. VI)
-----x

This Document Relates to:

UNITED STATES DISTRICT COURT
FIFTH DIVISION, DISTRICT OF MINNESOTA
-----x
CONWED CORPORATION,
Plaintiff,

Case Number
5-92-88

-against-

UNION CARBIDE CHEMICALS AND PLASTICS
COMPANY, INC. (f/k/a) Union Carbide
Corporation),
Defendant,

-and-

UNION CARBIDE CHEMICALS AND PLASTICS
COMPANY, INC. (f/k/a Union Carbide
Corporation),

-against-

OWENS CORNING FIBERGLAS CORPORATION, et
al., WALKER JAMAR COMPANY, A. W. KUETTEL
& SONS, INC., API, INC., and MACARTHUR
COMPANY,

Third-Party Defendants.
-----x

October 12, 1994

Doyle Reporting, Inc.

CERTIFIED STENOTYPE REPORTERS



Total Litigation Support

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DUPLICATE

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Rhodes, Harrison B.

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October 12, 1994
4:20 p.m.

Deposition of HARRISON B. RHODES, taken by
Plaintiff pursuant to notice, at the law offices
of Kelley, Drye & Warren, Esqs., 101 Park Avenue,
New York, New York, before Paul Kirschen,
Certified Shorthand Reporter and Notary Public
within and for the State of New York.

DEPOSITION CLARIFICATIONS

Page 59, lines 22 through 25 and Page 60, lines 2 through 7.

--The question was "...personally, had any involvement in working for or against the proposed change in the ceiling level in the OSHA standards(Emphasis supplied.)

--My answer, Page 60, lines 2 through 5, was intended to refer to the post retirement period.

--My response, Page 60, line 7, was simply in error. I meant after 1986.

As the resume provided shows, a lot of my time was spent during the 1972-1981 period in AIA/NA activities. The AIA/NA International Reference Method and the AIA/NA Air Monitoring Study were done at that time. These were scientifically sound studies to standardize and define the precision of of the Phase Contrast Air Monitoring Procedure. This had a direct bearing on the ability to measure the several very low proposed TWA levels with any degree of reliability. The ceiling level was never an issue. In essence, although I did not answer the question in the way I intended, the answer I gave was correct.

Page 100, lines 24 and 25, and Page 101, lines 2 and 3.

--The electron microscope (or scopes) at Niagara Falls were operated by the overall laboratory analytical services group. Undoubtedly Mumpton, Wollery, Chwastiak, and other research personnel had samples analyzed there by electron microscopy. I have no knowledge whether or not any of these were air samples.

--They did, however, analyze the artificially generated grinding air samples that were reported in the publication, "Detection of Chrysotile Asbestos in Airborne Dust from Thermosetting Resin Grinding" of which I am a co-author.

--To the best of my knowledge, and I am quite certain of this, they did not do fiber counting analysis on any samples collected to measure personal exposures to asbestos. My answer was given in this context.

**SUGGESTED CORRECTIONS TO THE TRANSCRIPT
OF THE DEPOSITION OF DR. HARRISON RHODES
OCTOBER 12, 1994**

<u>Page</u>	<u>Line</u>	<u>Correction</u>
p. 2	6	"4:20 p.m." should be "10:00 a.m."
p. 3	20 & 22	"Union Carbide Corporation" should be "Kelley, Drye & Warren"
p. 5	18	"Conwed core reports" should be "Conwed call reports"
p. 12	4	"but that it was not one of the things that was removed" is awkward, probably is not an accurate transcription of the witness's answer, and should be corrected
p. 13	2	"the delivery of asbestos" should be "Calidria asbestos"
p. 15	11	"come" should be "count"
p. 16	16	"that" should be "there"
p. 38	12	"it was" should be "there was"
p. 38	21	"In that time" should be "And that time"
p. 57	17	"accounting laboratory" is almost certainly wrong, and should be corrected
p. 58	6	"OSHA extrusion level" should be "OSHA excursion level"
p. 58	14	"extrusion" should be "excursion"
p. 72	19	"special limit value" should be "threshold limit value"
p. 73	4-5	"special limits" should be "threshold limit"
p. 73	10	"special limits" should be "threshold limit"

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<u>Page</u>	<u>Line</u>	<u>Correction</u>
p. 73	20	"special limits" should be "threshold limit"
p. 76	9, 19 & 23	"Durnell" should be "Dernehl"
p. 99	20	"electromicroscopy" should be "electron microscopy"
p. 100	2	"electromicroscopy" should be "electron microscopy"
p. 100	6 & 17	"electro" should be "electron"
p. 100	18	"electromicroscopy" should be "electron microscopy"
p. 103	19	"weighted in" should be "greater than"
p. 105	6	"'66" should be "'63"
p. 112	20	"an open part around the mill" is awkward, probably is not an accurate transcription of the witness's testimony, and should be corrected
p. 119	10	"Structure." seems wrong. This should be corrected
p. 122	19	"5/2/89" should be "5/2/78"
p. 123	17	"work of" should be "look at"
p. 166	2	"dry well" should be "dry wall"
p. 169	2	"Union carbide" should be "Union Carbide"
p. 179	25	"electromicroscopy" should be "electron microscopy"
p. 180	19 & 23	"electromicroscopy" should be "electron microscopy"
p. 181	12 & 13	"electromicroscopy" should be "electron microscopy"

Page
p. 188

Line
12 & 14

Correction
"Shwatzdiak" should be
"Chwastiak"

A p p e a r a n c e s :

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Also Present:

VIRGINIA M. RUSZCZYK
Paralegal
Union Carbide Corporation

ELBA I. POZO
Research Assistant
Union Carbide Corporation

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2 H A R R I S O N B . R H O D E S , having
3 been first duly sworn by a Notary Public of
4 the State of New York (Paul Kirschen), was
5 examined and testified as follows:

6 EXAMINATION.

7 BY MR. BROWNSON:

8 Q. Dr. Rhodes, as I told you earlier, my
9 name is Bob Brownson, and I am representing the
10 Conwed Corporation, who is a plaintiff in a
11 lawsuit against Union Carbide Corporation. We are
12 here today to take your deposition in connection
13 with that case.

14 I understand you have had your
15 deposition taken before, so I won't bore you with
16 a lot of rules about depositions. But you
17 understand that you are under oath here today?

18 A. Yes.

19 Q. I would just ask that you answer
20 audibly, out loud. Don't shake your head or
21 mumble, that sort of thing, because the court
22 reporter can't take that down.

23 A. O.K.

24 Q. And try not to speak when I am
25 speaking, and I will do the same, so each of us

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Rhodes

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2 speaks clearly and one at a time, so the reporter
3 can take this down more easily.

4 Will you do that?

5 A. Yes.

6 Q. Finally, if any question is unclear
7 to you or if you don't understand the question,
8 please tell me that before you answer the
9 question, so we have a record that reflects
10 answers to questions that you understood.

11 A. Yes.

12 Q. Dr. Rhodes, before you arrived here
13 this morning for this deposition, did you know
14 anything about this particular lawsuit, the case
15 of Conwed versus Union Carbide?

16 A. I arrived here several days ago and
17 reviewed at my request a variety of items,
18 basically dust counting files, the Conwed core
19 reports, the Conwed dust counting in particular,
20 the section of the deposition that Langer gave on
21 his experiments.

22 Q. The deposition by Dr. Langer in this
23 case?

24 A. In this case.

25 Q. O.K.

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Rhodes

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A. I also, on my own, did some reading, reviewing the asbestos regulations that applied to the period and the fiber counting, PCM fiber counting procedures, that I thought I might be questioned on and should have refreshed my memory on, on what was involved.

8

Q. You came in a couple of days ago, came to New York in connection with this deposition, and performed this review?

11

A. Yes.

12

A lot of these materials were 20 years old. It would take some recollection to remember what you were doing and when.

15

I also reviewed my resume.

16

Q. O.K. Prior to coming to New York for this deposition and performing this review, had you done any work in connection with this case at all?

20

A. No.

21

Q. Had you ever heard of the case?

22

A. I had never heard of it until Alan called me three or four weeks ago.

24

Q. As I understand, you are currently retired; is that correct?

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Rhodes

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A. That's correct.

Q. When did you retire?

A. I retired from Union Carbide in 1986
and from Versar, Inc., in 1989.

Q. In '86, when you retired from Union
Carbide, was it Union Carbide Corporation, a
company?

A. Yes. Metals division, Union Carbide.

Q. When you retired from the metals
division in '86, how old were you at that time?

A. 63.

Q. What was your title and position at
the company at that time?

A. I was manager of occupational health
and product safety for the metals division.

Q. Just to update ourselves, since that
time, from '86 to '89, did you work for a
different company?

A. Versar, Inc.

Q. Where was that located?

A. Springfield, Virginia.

Q. What sort of company is that?

A. It is an environmental consulting
firm.

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Rhodes

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Q. And you worked there for three years?

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A. Yes.

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Q. Till '89?

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A. Yes. I worked there, for Versar, for three years, two years in Springfield and one year back in Grand Junction.

8

Q. Colorado?

9

A. Yes.

10

Q. And then you retired from that?

11

A. In '89, yes.

12

Q. During that three-year period, what sort of work were you doing?

14

A. I was manager of their occupational health department. We were primarily doing asbestos building inspections, abatement design, abatement oversight.

18

Q. Among the other work, Versar did asbestos inspections and abatement design and consulting?

21

A. Yes.

22

Q. Your role in that particular segment of the work was what?

24

A. I was in charge of the group of six or seven, three CIH groups. We were out -- the

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Rhodes

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2 people in my group were out doing asbestos
3 building inspections and the others were designing
4 for outside clients the abatement procedures. And
5 then we would have people on-site doing oversight
6 on the abatement contract. We did not do the
7 abatement per se.

8 Q. So Versar, your group, did abatement
9 consulting, design and monitoring?

10 A. Oversight it was generally called, of
11 the abatement contract.

12 Q. When you say "CIH," you mean
13 certified industrial hygienists?

14 A. Yes.

15 I would add I received that after I
16 went to work for Versar, after I left Union
17 Carbide.

18 Q. While you were working for Versar,
19 did you do any air monitoring?

20 A. Yes.

21 Q. Was that during abatement projects,
22 before and after?

23 A. All of the above.

24 Q. Were you involved in any of the
25 decision-making as to whether to abate or remove

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asbestos or any materials from buildings?

A. No.

Q. You were involved in the industrial hygiene, and that is doing the air monitoring?

A. A client would come to us and ask to have the building inspected. And our people would go out and do the building inspection and provide a report to the client.

The client made the decision as to whether they wished to use our services further or whether they wished to abate.

Q. Were you involved in building inspections?

A. I had people working for me for building inspections. I was qualified under the EPA regulations, training requirements, to do building inspections, but I did not do them, personally.

Q. And these building inspections, among other things, would determine the presence of asbestos in any building materials in the building?

A. Yes.

Q. In connection with those, did you

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Rhodes

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2 provide any training for these people as to how to
3 identify asbestos in building materials?

4 A. They were -- EPA has required
5 training courses under AHERA you must have
6 satisfactorily completed before you can do
7 building inspections. And I have taken those
8 courses, and people working for me have taken
9 those courses.

10 Q. Are you familiar with what is called
11 EPA purple book?

12 A. Yes.

13 Q. And the blue book?

14 A. Yes.

15 Q. And the green book of 1991, the
16 second green book? Are you familiar with that
17 one?

18 A. Not familiar with that. After I
19 retired.

20 Q. How about the orange book?

21 A. I heard of it. I don't remember
22 which one it is.

23 Q. O.K. In connection with this work at
24 Versar, do you know if any of the jobs you were
25 involved with concerned abatement or removal of

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Rhodes

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2 asbestos in any ceiling tile?

3 A. I cannot specifically identify a job
4 but that it was not one of the things that was
5 removed. It was more often sprayed on, on the
6 concrete decking.

7 Q. Were any of these jobs for Union
8 Carbide buildings?

9 A. No.

10 Q. Now let's go back to when you were
11 working for Union Carbide.

12 You retired in '86, as manager of
13 occupational health and plant safety?

14 A. Product safety.

15 Q. Product safety.

16 For the metals division?

17 A. Right.

18 Q. How long had you been in that
19 position before '86?

20 A. I transferred in, in 1981, into that
21 position. That was a division staff position.

22 Q. From '81 to '86, you were in the same
23 position?

24 A. Yes.

25 Q. During that time period, '81 to '86,

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Rhodes

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2 did your work involve dealing with the delivery of
3 asbestos?

4 A. Yes.

5 Q. Let me preface this next series of
6 questions, so you see what I am getting at by
7 this.

8 I have had some confusion as to where
9 the asbestos group or the Calidria fit within the
10 structure of Union Carbide over the years. It
11 switches around to different groups. So I am
12 asking questions basically to try to get that
13 corporate relationship straight. I don't want to
14 spend a lot of time on it.

15 Just to kind of go back, from '81 to
16 '86, you were involved with work dealing with the
17 Calidria?

18 A. I am not sure that is a question.
19 Please repeat.

20 Q. During the '81-86 time period, were
21 you involved with work dealing with the Calidria
22 asbestos group?

23 A. Yes.

24 Q. And were you involved with work
25 dealing with that group for the entire time period

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Rhodes

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2 of '81-86, or just for some part of it?

3 A. I was respons'ble for formalizing the
4 occupational health program for the entire
5 division.

6 As I recall, I had twelve locations
7 that I was visiting, and preparing a manual,
8 working out their programs, and auditing them
9 periodically to see what they were doing with it.

10 In that structure, I would visit the
11 King City operation, generally audit every other
12 year, and visit periodically in between if there
13 were any problems or questions that needed to be
14 worked out. They took up roughly one-twelfth of
15 my time.

16 Q. O.K. Now, as I understand it, at
17 some point toward the end of your tenure at Union
18 Carbide, Union Carbide actually sold the Calidria
19 operation.

20 Was that while you were still working
21 there or afterward?

22 A. That was about the time I left. A
23 year. About the time I left, the sale was taking
24 place.

25 Q. Did you oversee the Calidria

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Rhodes

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2 operation in terms of what you were doing right up
3 until '86, or did that end in '85 or something?

4 A. I can't recall the exact time frame.

5 Q. Right around the time that you quit?

6 A. Yes.

7 Q. You were responsible for twelve
8 locations. One of them was the King City
9 operation?

10 A. Yes.

11 Q. Did that come as just one location?

12 A. Yes.

13 Q. So there is a mine and a mill, but
14 that was all one of your twelve?

15 A. Yes.

16 Q. O.K. How many of the other eleven
17 locations that you were responsible for used
18 asbestos?

19 MR. GERSON: Objection. Relevancy.

20 But you can go ahead and answer the
21 question if you can.

22 A. The --

23 MR. WILL: When you are using
24 "asbestos," are you talking about using
25 asbestos as raw material in the

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Rhodes

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manufacturing process or on a clutch facing
in a vehicle?

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MR. BROWNSON: Good point.

5

Q. As I understand, there were eleven
other Union Carbide locations that you had this
industrial hygiene responsibility for.

8

What I am trying to find out is, in
those eleven other locations, did you do work
dealing with asbestos, whether it was used as raw
material or in some other fashion.

12

A. The only asbestos in these other
plants were the ones in the brake facings and
insulation and that sort of thing. And to the
extent that the maintenance people would be
removing asbestos and replacing insulation, that
would be proper work procedure for that. The
proper work procedure for that would be part of my
responsibility overall.

20

But as far as any Calidria-produced
asbestos, it just wasn't there.

22

Q. O.K. As I understand it, the eleven
other locations were eleven Union Carbide plants
of one sort or another --

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A. Yes, Union Carbide metals division.

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Rhodes

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Q. Metals division plants of one sort or

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another --

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A. Yes.

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Q. -- none of which used Calidria raw

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material, if you will, in their production

7

process?

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A. That's correct.

9

Q. At those eleven other locations,

10

there were various asbestos products, pipe

11

covering and clutch facings, that were used by

12

maintenance people?

13

A. Yes.

14

MR. GERSON: Each of the eleven or

15

any of the eleven?

16

THE WITNESS: I can't say that at

17

every one of the eleven they had both of

18

those and any other. They all had vinyl

19

asbestos tile, too. But I couldn't say all

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of them had everything.

21

Q. I don't want to dwell on these eleven

22

other locations. But at some of these eleven,

23

there were asbestos-containing products, pipe

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covering, vinyl tile, clutch and brake facings?

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A. Yes.

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Q. In terms of your industrial hygiene supervision, there were certain maintenance activities taking place with respect to those materials that were watched or regulated by Union Carbide; would that be a fair way to put it?

A. There would be a safe operating procedure -- a written safe operating procedure. And when I audited and would check, I would spot-check that they -- that the procedure was in place and it was being followed.

Q. Did this procedure have some name to it? Was it called something?

A. Called different things at different locations, but basically a safe operating procedure.

And they had them for all of their operations, as part of their overall health and safety program.

Q. And whatever it was titled, it was a written procedure or guideline?

A. It was, yes.

Q. And it dealt with the topic of asbestos?

A. It dealt with how to do the job

2 properly and safely. And if asbestos was
3 involved, that would be included.

4 Q. Were these written procedures things
5 that were in place before '81, that you reviewed
6 and updated, or was this something that you
7 actually designed after '81 at these other
8 locations?

9 A. By and large, they were already in
10 place.

11 Q. Before '81, when you came in, was
12 there any companywide procedure in the metals
13 division for handling asbestos-containing
14 materials in the Union Carbide workplaces, or was
15 this on a plant-by-plant basis?

16 A. It was done on a plant-by-plant
17 basis.

18 Q. Was that standardized in any way
19 during your tenure from '81 to '86, or did you
20 leave that on a plant-by-plant basis?

21 A. It was changed if I looked at it and
22 felt it was inappropriate.

23 But we did have -- Union Carbide
24 metals division occupational health activities
25 didn't start in '81. It started well back before

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Rhodes

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2 my time. And the safety manager handled safety.
3 And Paul McDanie' out of the corporate
4 professional industrial hygienists, was assigned
5 to the division, and he would set up the basic
6 occupational health aspects of the safe operating
7 procedures, and he would work with the safety
8 director or manager.

9 The program was expanded and
10 formalized when they took on and put a full-time
11 person on it in '81.

12 Q. That was you?

13 A. That was me.

14 Q. And in '81, you visited each of the
15 twelve locations at least every other year, would
16 that be correct?

17 MR. GERSON: In '81 every other
18 year?

19 MR. BROWNSON: Beginning in '81.

20 A. I audited like every other year, but
21 physically around periodically, probably at least
22 once, maybe more than that if there were
23 difficult, significant problems.

24 Q. One of the things you did during
25 these visits or audits was to review the written

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Rhodes

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2 procedures?

3 A. Yes.

4 Q. And then you would update those and
5 revise them, if necessary?

6 A. If they were inappropriate.

7 If they needed working on, I would
8 discuss that with them.

9 Q. During the course of 1981 to '86, did
10 you have a chance to review the written procedures
11 at all of the locations, that had something to do
12 with asbestos?

13 MR. GERSON: Well, I object to the
14 question in the form it is in. It assumes.

15 Could you restate it.

16 MR. BROWNSON: Let me put it this
17 way:

18 Q. There were twelve locations, one of
19 which was King City, and eleven other ones?

20 A. Yes.

21 Q. As I understand it, at some of the
22 eleven other ones, the written safety procedures
23 dealt with asbestos. Or is that true of all
24 levels?

25 A. I can't recall.

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Q. My question is:

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At least at the ones that did have something to do with asbestos, where there were some asbestos products in the workplace, did you have a chance during those five years to review all of those?

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A. I just don't recall --

9

Q. O.K.

10

A. -- where it was spot-checking.

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Q. When you checked the written procedures at these eleven Union Carbide locations in the metals division other than King City, did you know when you first looked at them whether any of them made any distinction between different fiber types of asbestos and how asbestos in any materials should be handled or dealt with?

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A. I really didn't notice.

19

20

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23

Q. During your tenure from '81 to '86, when you revised and updated these various written procedures at these eleven locations, did you put anything in there which distinguished between asbestos fiber types?

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MR. GERSON: Before you answer --
and I will allow you to answer:

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I just want to reiterate the objection I stated earlier as to relevancy of the inquiry involving such details of Dr. Rhodes' work in eleven other sites when Dr. Rhodes has been designated by us as a fact witness with respect to his work pertaining to the Calidria operation. To the extent this may pertain to that and to Dr. Rhodes' qualifications generally, I can understand it, but I don't understand the deviation in such detail other than on the Calidria site.

But, that being said, if he can, I will allow the witness to answer.

MR. BROWNSON: Thank you.

MR. GERSON: Again, he has been designated as both a fact and expert witness. The expertise is with respect to the Calidria operation.

MR. WILL: I have a more prosaic objection:

Maybe we could just clarify on the record whether he, in fact, modified any of those safety operating manuals with respect

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to asbestos.

I think you have established and addressed a whole host of things that go on at a particular site. I am not certain that if we are talking about apart from King City if he ever made any changes with respect to asbestos.

MR. BROWNSON: I will start by asking that question.

BY MR. BROWNSON:

Q. Do you recall if, during the time period '81 to '86, you made any changes in any of the written procedures dealing with asbestos materials, whether handling or maintenance, dealing with them in any way?

A. I don't recall whether I made changes or not in any of them.

Q. Do you have any recollection as to whether you gave advice, whether written or oral, to Union Carbide people, at any of these eleven locations, that the different fiber types of asbestos should be handled differently or dealt with differently?

A. I don't recall doing that.

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MR. GERSON: I also object to

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foundation.

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I don't think we have established

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there were different fiber types present at

6

any of these sites.

7

MR. BROWNSON: I want to move on to

8

a different topic, but before I do:

9

Q. Of these eleven other locations,

10 Union Carbide locations, that you dealt with

11 between '81 and '86, do you remember, do you know,

12 was one of those at Taft, Louisiana?

13

A. No.

14

Q. That was the chemical division?

15

A. Chemical.

16

Q. How about the one at Institute, West

17 Virginia? Was that one of the eleven?

18

A. No.

19

Q. And the third one I wanted to ask you

20 about was Charles Town, West Virginia. I think it

21

is South Charles Town.

22

Was that one of the eleven?

23

A. No.

24

Q. The labs at Niagara Falls, the Union

25

Carbide labs at Niagara Falls or thereabouts, was

1

Rhodes

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2 that one of the eleven sites?

3 A. Yes.

4 I was located there.

5 Q. That is where you were physically
6 located?

7 A. Yes.

8 Q. Was that also considered one of the
9 twelve locations that you were in charge of?

10 A. At the time I transferred, the lab at
11 Niagara Falls was being closed down, so that I had
12 no real involvement with that.

13 The remaining operation at Niagara
14 Falls was one of the locations.

15 Q. And was there any Calidria used, in
16 use, at that location?

17 MR. WILL: Ferro-alloys or lab?

18 A. The ferro-alloys or lab?

19 Q. Ferro-alloys.

20 A. They had asbestos insulation, but
21 they did not use Calidria asbestos.

22 Q. You say it, the lab, was being closed
23 down around '81 at Niagara Falls.

24 Was it moved somewhere or closed
25 down?

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Rhodes

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2

A. Closed down.

3

Q. Before it was closed down, as I

4

understand it, they did some testing of Calidria

5

asbestos in those labs; is that correct?

6

A. They did research and testing in the

7

laboratories.

8

Q. There weren't any sort of production

9

facilities?

10

A. No asbestos.

11

I joined in 1967. Moved into that.

12

From that time forward, there was no production.

13

Q. Let me take you back before '81.

14

I will preface these questions by

15

telling you what I am getting at. I am interested

16

in the Calidria asbestos operation within Union

17

Carbide. And I know that shifted around in

18

different divisions that took responsibility for

19

it over the years. But regardless of which

20

division it happened to be in over the various

21

years, I am interested in talking about that

22

operation. O.K.?

23

Was that actually called something?

24

Was it called the asbestos operation or the

25

Calidria operation? How did you refer to it?

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A. I am sharing some of the same confusion you have, because it went on that far back. I believe it came out of the R&D operation in the nuclear division, and it was referred to as the asbestos project and it eventually got referred to as the asbestos business. It was as confused as you have indicated.

MR. BROWNSON: For purposes of this deposition, can we just call it the asbestos business? Is that all right with you guys?

MR. WILL: "Operation."

MR. GERSON: We have provided the history of the corporation. If it will help you, we have a copy and we can provide it.

MR. BROWNSON: It is all right. What I am trying to do is actually avoid the different corporate divisions and groups, like the chemical and plastics division, the metals.

MR. GERSON: I thought you wanted to get into that.

MR. BROWNSON: That had something to

1

2

do with it.

3

4

5

But what I am interested in is
talking about the Calidria asbestos
operation.

6

7

MR. GERSON: Why don't we call it
that.

8

9

MR. BROWNSON: O.K.
BY MR. BROWNSON:

10

11

12

Q. I would like to ask you some
questions now about the Calidria asbestos
operation, and my first question is:

13

14

When did your duties at Union Carbide
first bring you into contact with that operation?

15

16

17

A. The fall of 1967.

18

19

20

21

22

Q. Before we get into that, when did you
begin at Union Carbide?

18

19

20

21

22

A. 1957.

23

24

25

Q. I have seen your resume in the past.
I don't want to dwell on this. But was that when
you got right out of Columbia, or did you work
somewhere else first?

A. I worked from '49 to '53 at Sun Oil
Company, Marcus Hook, Pennsylvania, and worked for
Columbia University in a government research

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Rhodes

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2 project for four years after that, and was doing
3 my doctorate on the side. And then went to work
4 for Carbide in '57, when I finished.

5 Q. In connection with this deposition,
6 did you bring a copy of your CV or resume?

7 MR. WILL: I have one.

8 MR. BROWNSON: Thank you.

9 Can we just mark that and attach it
10 to the transcript?

11 MR. WILL: Yes.

12 It goes to June '86. It has not
13 been updated.

14 MR. BROWNSON: Let's mark that as
15 Exhibit 1.

16 (Curriculum vitae was marked as
17 Plaintiff's Exhibit 1 for identification,
18 as of this date)

19 BY MR. BROWNSON:

20 Q. We have now marked as Exhibit 1 a
21 copy of your curriculum vitae; is that what that
22 is?

23 A. Yes.

24 Q. And that takes you up through '86?

25 A. June '86.

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Rhodes

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Q. O.K. I wanted to just ask you a couple of questions from the time period '57 to '67, when you began at Union Carbide, until you first had some dealings with the Calidria asbestos operation.

During that time period, were you aware that Union Carbide had this Calidria operation?

A. Not until right before I made the switch and was looking around to see what else Union Carbide might have available.

Q. That was right around '67?

A. Yes.

Q. How was it that you discovered or learned that Union Carbide had the Calidria asbestos operation?

A. I had drifted into a position where I was basically doing product licensing for the Isosiv project, and it was basically a sales and marketing job. It was not the kind of thing I really wanted to be doing. So I asked the president what is available within Union Carbide that might be -- that might be able to be interested in my services, and this was mentioned.

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Rhodes

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And it was 20 minutes from where I lived, so it was a good, attractive opportunity.

4

5

Q. In '67, then, you actually went to work for where -- or at King City?

6

7

8

A. No. The asbestos project operation that I had interviewed for was in Niagara Falls, New York.

9

10

11

12

Q. I see.

A. It was the R&D laboratory operation.

Q. You lived 20 minutes from Niagara Falls, not King City?

13

14

15

16

17

18

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A. Actually, about 30 minutes.

That is correct.

Q. At that time, in '67, was the headquarters of the asbestos operation of Union Carbide at Niagara Falls, New York?

MR. WILL: "Headquarters" in that context is pretty vague. What do you mean by that?

Q. Well, I guess I was just following up on your prior answer, where you said the asbestos operation was 20 minutes from your house.

MR. WILL: He said the job he got was 20 minutes.

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Rhodes

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MR. BROWNSON: Let's back up.

3

Q. What was the job that you got in '67?

4

A. I took over a group that was doing application development, new applications, of the Calidria fiber, and customer service, technical service.

8

Q. That would be customer technical service with respect to Calidria asbestos fiber?

10

A. Calidria, yes.

11

Q. Before you took that job in '67, had your work at Union Carbide dealt with asbestos in any context?

14

A. No.

15

Q. How about your prior experience, before coming to Union Carbide? Had that dealt with asbestos in any context?

18

A. No.

19

Q. Would it be fair to say that beginning in '67, your job on a day-to-day basis was to be in charge of the Calidria asbestos fiber business at Union Carbide?

23

MR. WILL: Did you say '57 or '67?

24

MR. BROWNSON: '67.

25

A. No.

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Rhodes

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Q. You were just in charge of a certain aspect of that business?

4

5

A. The application development and technical service.

6

7

Q. Now, did that job deal with trying to find new applications for Calidria asbestos fiber?

8

9

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A. Yes.

Q. Did it also deal with developing or modifying or changing existing applications of Calidria asbestos fiber?

A. Yes.

Q. When you say "customer technical service," were you dealing with existing customers and any technical questions or service that they had?

A. Yes.

Q. And how long did you hold that position?

A. I held variations on that position until I was transferred to the occupational health manager position.

Q. So from the time period 1967 to '81, your job, if you will, on a day-to-day basis, was customer service with respect to Calidria asbestos

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Rhodes

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2 and developing applications for Calidria asbestos?

3 A. There was a period in there where we
4 were also in marketing.

5 Q. Was that marketing of Calidria?

6 A. Calidria asbestos. Everything that
7 was involved with Calidria asbestos.

8 Q. During that time period, '67 to '81,
9 as I understand it, your technical job title might
10 have changed a little bit --

11 A. Yes.

12 Q. -- but your basic duties remained the
13 same?

14 A. Pretty much the same, varying
15 depending on how much time you spent with
16 customers, how much time you spent doing
17 technical, doing research and development.

18 Q. Also, as I understand it, during that
19 time period of '67 to '81, the Calidria asbestos
20 business was shifted around within different
21 corporate divisions of Union Carbide?

22 A. That's correct.

23 Q. But at all times from '67 to '81, it
24 was actually owned by some part of Union Carbide.
25 It was just different divisions?

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Rhodes

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A. That's correct.

3

4

Q. O.K. I understand that one of the uses of Calidria asbestos fiber was in papermaking?

5

6

A. Yes.

7

8

Q. Was that already going on when you joined, in '67?

9

10

A. That was a major activity when I joined, in '67.

11

12

Q. O.K. Was there a predecessor to your job before '67?

13

14

MR. WILL: You mean a person that held that position?

15

16

17

MR. BROWNSON: Right.

Q. That did the same thing that you did. Or who was there before '67?

18

19

20

21

22

A. There were laboratory people who were doing some of this. The laboratory was divided basically into research and development, and the research people were doing some of this. But it was not a formal, relatively senior person basically in charge of it.

23

24

25

Q. When did the Calidria asbestos business actually begin, in terms of actually

1

Rhodes

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2 selling the fiber to customers?

3 A. I don't know. Back somewhere in the
4 '60s.

5 MR. GERSON: Are you asking him
6 Union Carbide versus Calidria?

7 MR. BROWNSON: Right.

8 MR. GERSON: We have also provided
9 that information.

10 MR. BROWNSON: I just wanted to know
11 if he knew.

12 BY MR. BROWNSON:

13 Q. Would it be fair to say that in '67
14 Union Carbide, or at least one of its divisions,
15 decided that a new, full-time, senior position
16 would be created, dealing with these aspects of
17 Calidria fiber that you have described, and you
18 were the person that was given that job?

19 A. Yes, as far as I know.

20 Q. From '67 to '81, was the research and
21 development and the laboratory work with respect
22 to Calidria asbestos at Union Carbide conducted in
23 New York, at Niagara Falls?

24 A. Niagara Falls, yes.

25 Q. In other words, there wasn't --

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2

MR. WILL: State of New York. Not

3

the City of New York.

4

Q. There wasn't a research lab out in

5

California, King City?

6

A. No.

7

Q. When did you first become involved

8

with industrial hygiene type work with respect to

9

the Calidria asbestos?

10

A. About the time I joined the group,

11

Selikoff was beginning to come out with the

12

publications, the British publications, and it was

13

beginning to be a lot of concern and awareness of

14

possible hazards from the handling of asbestos and

15

how much fiber was given off and exposures and

16

that sort of thing. And we got involved with

17

fiber counting. And at that point, the program I

18

am sure you are going to ask questions about was

19

kind of an outgrowth of technical service

20

application.

21

In that time was about the time we

22

began reading literature and getting interested in

23

the fiber count.

24

Q. Now, as I understand it, at some

25

point Union Carbide started a program where they

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2

actually did regular asbestos fiber counting at both King City, California, Union Carbide and also the lab at Niagara Falls?

5

6

A. Starting a program would be putting it a little bit strongly.

7

We were getting questioned about "How much fiber are we going to release if we use your product in my operation." And we started off with the corporate industrial hygienists. We would go to a location and make a fiber count. And these were not comprehensive industrial hygiene surveys. They were limited, spot-checks, ceiling checks, to give the potential user some idea of what kind of exposures he might be creating if he began to use the material.

17

And it became a rather popular thing. There were a limited number of places where the user could go to get a fiber count done, particularly the smaller users. And it became evident that we couldn't use corporate people. Too many other responsibilities.

23

So we trained a person -- under the corporate industrial hygienist, and our basic policy was to send them to the NIOSH training

25

2 school. And then we began having a technician who
3 could do these fiber counts, something that, once
4 we started it, it grew.

5 I don't believe it was a Carbide -- I
6 don't believe that Carbide made a decision that we
7 should go into this full-time.

8 Q. As I understand, what you have just
9 been talking about is asbestos fiber count that
10 Union Carbide would do at various Union Carbide
11 customer locations; right?

12 A. That's correct.

13 Q. And at some point along the line, as
14 I understand what you are telling us, you actually
15 had a technician who was an employee of Union
16 Carbide, trained to go out to these customer
17 locations and do this customer fiber counting?

18 A. Yes.

19 Q. Who was that?

20 A. The first one was Ed Kleber, and I
21 believe Blair Engels was trained. I can't
22 remember exactly who was trained to do what when,
23 but those two were involved. I took the training,
24 myself, in 1973.

25 Q. Were these people, these technicians,

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Rhodes

41

2 operating under the direction of Paul McDaniel or
3 under the direction of you?

4 A. Basically, the way a lab -- the way
5 Industrial Hygiene Association -- to be
6 accessible --

7 MR. WILL: Excuse me, Doctor. Were
8 they under you or under Mr. McDaniel?

9 THE WITNESS: They were under Paul
10 McDaniel's wing, but they were reporting
11 directly to me.

12 Q. Paul McDaniel was the Union Carbide
13 corporate?

14 A. One of the Union Carbide corporate
15 professional CIH, occupational hygienists.

16 Q. And he would train these people and
17 be in charge?

18 A. He would stop in periodically and
19 check with people. And they were under his wing.

20 But the day-to-day, who did what and
21 reports and things, I was handling.

22 Q. I want to talk about the asbestos
23 fiber counting done at various customer plants in
24 a little bit more detail.

25 Before I do, do you recall when that

1

Rhodes

42

2 was first done?

3 Q. When the first one was done?

4 MR. GERSON: You mean the first
5 count at a customer site?

6 MR. BROWNSON: Right.

7 A. Looking at the records, it was spread
8 over -- I think was near the end of '71 or about
9 maybe February or January or March, '72.

10 Q. As you think back to that time
11 period, which I think you have done over the past
12 couple of days, do you recall if that work was
13 initiated because of questions or inquiries from
14 customers, or was it initiated because Union
15 Carbide thought this would be a good idea, "Let's
16 tell customers about it"?

17 MR. GERSON: I object to the form.

18 But go ahead. I objected to the
19 form, but if you can answer...

20 THE WITNESS: You want him to
21 rephrase?

22 MR. GERSON: If he wants to, he can.
23 If you understand it, you can answer. If
24 you don't understand it, he will have to
25 rephrase.

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THE WITNESS: Could you read it

3

back.

4

(Question read)

5

A. It was basically an outgrowth of

6

customers asking about what kind of fiber counts

7

they are going to get in their operation.

8

Initial, first couple of counts were made by the

9

corporate industrial hygiene people. And it had

10

some potential advantages to us. It allowed us to

11

know what kind of exposures people were getting to

12

our products. It seemed as we got into it, it

13

seemed like a reasonably good idea.

14

We talked with the law department

15

about how to handle the reporting --

16

MR. WILL: Excuse me, Doctor. Why

17

don't you just answer his question. He

18

will ask you the next one.

19

THE WITNESS: O.K. Thank you.

20

BY MR. BROWNSON:

21

Q. Before these customer plant asbestos

22

air tests were done by the Union Carbide people

23

beginning at about '71 to '72, did Union Carbide

24

have any data as to what the asbestos exposures

25

were in customer plants using Calidria asbestos?

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MR. GERSON: I object to the form.

You can go ahead and answer.

A. I don't recall.

Q. In your review for the deposition today, have you seen any data from customer locations using Union Carbide Calidria asbestos before 1971?

A. No.

Q. Have you ever seen, that you can recall, any Union Carbide tests -- in other words, tests done by Union Carbide personnel -- at customer locations using the Calidria asbestos before '71?

A. No.

Q. As you can recall, do you remember seeing any asbestos air level measurements from customer locations using Calidria asbestos done by the customers, themselves, before '71?

A. No.

Q. So, as far as your best recollection as you sit here today, the air monitoring for asbestos at Calidria customer locations got under way in that '71-to-'72 time period?

A. Yes.

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Rhodes

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Q. You have told us that you were starting to get these inquiries from customers.

Do you know if any file or record was kept of these inquiries from customers that got this program going?

A. I don't know of any.

Q. As you sit here today, 20 some years later, do you recall which customers it was who made the initial inquiries to Union Carbide about air levels of asbestos?

A. I don't recall.

You have all the files.

Q. As best you recall, do you remember if these were papermaking customers, or were these customers in other industries?

A. To the best of my recollection, it was in other industries. But I just don't recall for sure.

Q. You are familiar with the fact that OSHA was passed right around that time and set the first OSHA asbestos workplace standard in '72?

A. Yes.

Q. And you are also aware, I take it, that before '72 there was a lot of discussion as

1

Rhodes

46

2 to work and about this upcoming OSHA asbestos
3 workplace standard?

4 A. Yes.

5 Q. As you sit here today and think back
6 on it, do you recall that these customers'
7 inquiries you talked about around that time were
8 arising because of the OSHA asbestos standard that
9 was going into effect around that time?

10 A. I have no way of knowing that.

11 Q. Would it be fair to say, at least
12 once Union Carbide got the air-monitoring program
13 under way for customer locations, that one of the
14 uses was to see how the customer workplaces were
15 complying with the OSHA asbestos test?

16 A. We were not --

17 THE WITNESS: Can I have the
18 question back.

19 (Question read)

20 A. The answer is no.

21 BY MR. BROWNSON:

22 Q. So, as far as Union Carbide was
23 concerned, you were not attempting to compile data
24 to see how customer locations were faring or
25 complying with respect to the OSHA asbestos

1

2 standards after '72?

3

A. No.

4

5 Q. Do you know, based upon your contacts
6 with the various customers, if the customers,
7 themselves, were using the Union Carbide air level
8 measurements for purposes of seeing whether they
9 were complying with the OSHA standards for
asbestos?

10

THE WITNESS: Can I hear that

11

question back again.

12

(Question read)

13

A. The answer is no.

14

BY MR. BROWNSON:

15

16 Q. By that you mean you don't know or
you know that they weren't using?

17

18 A. I don't know whether they were using
them.

19

20 Q. Do you recall that there was concern
21 at the Union Carbide Calidria asbestos business,
22 after '72, that if the Calidria could not be
23 handled and used by customers in conformity with
24 the OSHA standards, that it might hurt the
business, the Calidria business?

25

THE WITNESS: I am sorry. I am

1

2

having trouble.

3

Could you read that back.

4

(Question read)

5

A. I don't recall any of that.

6

BY MR. BROWNSON:

7

Q. In '67, when you joined this Calidria

8

business, what were the industries where Calidria

9

was used?

10

A. The major users, I think, were the

11

paper industry, and I am not sure whether the

12

vinyl asbestos tile producers were really going in

13

or -- they were substantially in at that time, I

14

think.

15

Q. But the largest user at that time was

16

the papermaking industry?

17

A. I think so.

18

Q. Now, as I understand it, over the

19

years, other businesses were developed for the

20

Calidria asbestos, the vinyl flooring, the

21

drilling mud, oil drilling mud, and I think also

22

spackling compound; is that right?

23

A. Taping compound.

24

Q. Were there other industries or

25

industry groups that were developed over the

2 years, as customers?

3 A. Well, the main thrust of our
4 development work was the use of the asbestos as a
5 viscosity-control agent, and on the RG244 in
6 particular. And we were working on the use of
7 that in polyester boat manufacture, shower and tub
8 stall manufacture, all the things you make out of
9 polyester. And, while in total tonnage that was
10 not a great, large tonnage, but it was sold in
11 competition with CABO-SIL, which was a
12 dollar-a-pound type product.

13 So our major thrust was application,
14 where we were selling in markets other than
15 asbestos.

16 Q. When you say your "major thrust," you
17 mean you were trying to develop new business in
18 those markets?

19 A. New business, new customers, in those
20 markets.

21 Q. While you were doing that, the
22 papermaking industry remained a large customer of
23 Calidria asbestos throughout the years?

24 A. The paper industry faded out after --
25 in the early part of the time that I was there.

1

Rhodes

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2 The vinyl asbestos tile more or less replaced that
3 as the product that kept the plant running.

4 Q. In '67, the papermaking industry was
5 the biggest customer for Union Carbide asbestos?

6 A. To the best of my knowledge, it was.
7 I was not involved in how much we were selling at
8 that point in time, in that kind of context.

9 Q. I am just asking for general figures
10 here.

11 But at some point the papermaking
12 industry declined as a customer and new
13 industries, notably vinyl flooring, became bigger?

14 A. Became bigger, yes.

15 Q. Would you say that it was in the
16 mid-'70s or so that that papermaking industry
17 decline took place? When was that?

18 A. My impression is it was earlier than
19 that. But it is in that time frame. I just don't
20 recall.

21 Q. Do you know why it was that the
22 papermaking industry lessened its usage of
23 Calidria asbestos?

24 A. There were some technical problems,
25 but I don't know for sure.

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Q. Let me ask you one more question and we will take our break:

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6

7

Do you recall in '67, when you began, whether Conwed was a customer, or do you recall learning that Conwed was a customer of Calidria asbestos?

8

9

A. All I can say to that was I may have heard it.

10

11

12

13

It was not an account that I had anything to do with. It was being handled by someone else, who I don't recall. It wasn't my job.

14

15

16

17

Q. And Conwed was previously known as Wood Conversion Company. It changed its name right around '67. So I guess the same question with respect to Wood Conversion Company.

18

19

20

A. Somewhere along the line I heard they were putting it in -- replacing amosite, amosite, in order to make their sag and fire retardants.

21

(Recess taken)

22

BY MR. BROWNSON:

23

24

25

Q. You mentioned just before the break that at some point you became aware of Conwed as one of the customers of Calidria asbestos; right?

1

2

A. Yes.

3

Q. Do you remember when that was?

4

A. No.

5

Q. We have been talking here about the

6

use of Calidria asbestos in the papermaking

7

industry.

8

Did you understand that Conwed was in

9

that industry?

10

A. No.

11

Q. Did you ever gain that understanding?

12

A. At this moment.

13

Q. O.K.

14

MR. WILL: Are you suggesting that

15

they are in the papermaking industry?

16

MR. BROWNSON: Well, let me back up

17

here. Yes, actually, I am.

18

Q. Did you understand that Conwed made

19

ceiling tiles?

20

A. Yes.

21

Q. Did you ever gain an understanding

22

that the manufacture of ceiling tiles is

23

essentially a papermaking process?

24

A. No.

25

Q. Now, you mentioned that you knew that

1

Rhodes

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2

Conwed was using the Calidria asbestos as an ingredient to meet sag standards and for fire retardancy in the ceiling tile?

5

A. Yes.

6

7

Q. And when did you gain that understanding?

8

A. I don't recall.

9

Q. When you say "sag standards," first of all, you know what acoustical ceiling tile is, I take it?

12

A. Yes.

13

Q. By "sag standards" you mean that the tile -- you are trying to prevent it from sagging; once they are installed, they have to have a certain strength?

17

A. My impression was it was a fire rating, that they don't sag under normal conditions.

20

But it is an area that I really was not much involved in.

22

Q. You said at some point that Conwed began purchasing asbestos?

24

A. I learned about it sometime when I was there. It was just casual conversations.

25

1

Rhodes

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3

Q. Did you ever have any conversations
with anyone from Conwed Corporation?

4

A. No.

5

6

Q. Did this knowledge you gained come
from people working at Union Carbide?

7

A. Yes.

8

9

Q. Do you know who it was that you had
these conversations with, who told you that?

10

A. No recollection whatsoever.

11

Q. Do you know if it was Mr. Meyers?

12

A. I don't know.

13

14

15

Q. Did you ever gain an understanding as
to why Conwed wished to replace the amosite
asbestos in its ceiling tile with Calidria?

16

17

A. The only real information I got on
that was reading the call reports yesterday.

18

Q. Which reports?

19

A. The call reports.

20

21

Q. When you say "call reports," what
specifically are you referring to?

22

23

A. The reports of the salesmen calling
on them prior to my time.

24

25

Q. Those are reports you read in
connection with the deposition here?

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Rhodes

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2

A. Yes.

3

Q. Those were prepared by who?

4

A. I don't recall.

5

Q. With respect to the industrial

6

hygiene asbestos air-monitoring tests that Union

7

Carbide did at customer locations that we were

8

talking about, how long did those continue?

9

A. They continued until approximately

10

1985, when the business was sold from the asbestos

11

group.

12

Q. Were those some of the things you

13

reviewed in preparation for the deposition today?

14

A. I reviewed them, but I did not

15

attempt to go through the file.

16

Q. Where did you conduct this review?

17

A. In a conference room here.

18

Q. Did you have available for your

19

review the entire file of all of the customer

20

air-monitoring data, or was it just certain ones?

21

A. It was my understanding that it was

22

the entire file, but I would have to defer, to see

23

if that is correct.

24

Q. Were there approximately four boxes'

25

worth, four of these big cardboard boxes?

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Rhodes

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A. It was considerably more than that.

3

Q. Do you remember how many of the

4

cardboard boxes?

5

MR. GERSON: Well, I mean, how are you defining the dimensions?

7

MR. BROWNSON: I could define them as boxes.

9

MR. WILL: If it helps, I think a rough guesstimate, there were about 500. He didn't read them all. But I think that was it, if that tells you.

13

MR. BROWNSON: Well, let me just -- the reason I am asking is we had requested the customer air-monitoring files. I got four boxes' worth of files. I am just wondering if that is what they are.

18

MR. WILL: It is my understanding that that is what you got. But that is my understanding. Maybe I am wrong.

21

MR. GERSON: Whatever you requested you got.

23

BY MR. BROWNSON:

24

Q. Prior to reviewing of the Union

25

Carbide air-monitor tests at customer locations

1

Rhodes

57

2 for the past few days, when had you last seen
3 those?

4 A. It was certainly not after I retired,
5 and I doubt very much if I had looked at them,
6 surveyed them, in the years prior to that time.

7 Q. And did the collection of tests you
8 looked at in the last few days seem to be
9 complete?

10 A. I had no way of knowing whether they
11 were complete or not.

12 They were extensive.

13 Q. When you were at Union Carbide from,
14 say, about '71, when these tests began, up through
15 '85, where were those kept?

16 A. Until '81, they were kept in a file
17 cabinet in the accounting laboratory.

18 Q. At Niagara Falls?

19 A. At Niagara Falls, New York.

20 After '81 -- I moved out '82, and
21 they were shutting down that operation. I have no
22 idea where they were kept.

23 Q. Now, earlier this morning, when I was
24 asking you about the air-monitoring testing at
25 customer locations, you described them as limited

1

Rhodes

58

2 spot-checks and ceiling checks. I want to ask you
3 a little bit about those terms.

4 When you described them as ceiling
5 checks, did you mean by that air testing to see if
6 what was called the OSHA extrusion level or
7 ceiling level was being exceeded?

8 A. Yes.

9 Q. You weren't talking about a ceiling
10 like acoustical tile ceiling?

11 A. No.

12 Q. So you were familiar that the OSHA
13 standard beginning about '72 had what was called
14 an extrusion level or a ceiling level in it?

15 A. Yes.

16 Q. What did you understand that
17 particular standard or term to be?

18 A. The term was defined as a level which
19 could not be exceeded at any time.

20 Q. As you sit here today, having made
21 this review of the regulations, do you recall what
22 that level was throughout the years? Because it
23 did change.

24 A. Through the time period we are
25 looking at, it was ten fibers per cc, and longer

1

Rhodes

59

2 than five microns.

3 Q. When the OSHA asbestos workplace
4 standard began, in '72, as far as you understand,
5 the ceiling level or extrusion level was ten
6 fibers per cc, and asbestos fibers longer than
7 five microns in length; is that right?

8 A. Yes.

9 Q. Then that changed at some point along
10 the way.

11 Do you recall when that first
12 changed?

13 A. My recollection is that wasn't until
14 the new standards, around '87 or '88, in
15 approximately that time frame.

16 Q. Do you recall any proposed changes in
17 that ceiling level before '87 or '88?

18 A. There was a proposal -- and I am
19 somewhere in that interval; I am not quite clear
20 where -- that was either withdrawn or knocked down
21 in court.

22 Q. As you sit here today, do you recall
23 whether you, personally, had any involvement in
24 working for or against the proposed change in the
25 ceiling level in the OSHA standards?

1

Rhodes

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2

A. The OSHA proposal was after I had

3

retired, I think. I did not work in any

4

connection in that time frame, working for or

5

against any standard.

6

Q. So that would be before '86?

7

A. Before '86.

8

Q. Are you aware of the fact that at all

9

times from '72 to '85 the OSHA occupational

10

workplace asbestos standards made no distinction

11

as to fiber type?

12

A. Yes.

13

Q. So am I correct when I made that

14

statement?

15

MR. WILL: Are you asking for a

16

legal opinion or for his understanding?

17

MR. BROWNSON: Let me rephrase the

18

question.

19

Q. Do you know if there was ever a

20

distinction in the OSHA asbestos workplace

21

standards, from '72 to '85, with respect to

22

asbestos fiber type?

23

A. There was no distinction.

24

Q. Did Union Carbide personnel,

25

including you, ever make any effort in that time

1

Rhodes

61

2 period, '72 to '86, to persuade OSHA to make a
3 distinction about asbestos fiber type in the
4 occupational asbestos standards?

5 A. I have no recollection of that kind
6 of activity.

7 Q. Are you familiar with the AIA?

8 A. Yes.

9 Q. What is the AIA?

10 A. AIA is Association of Asbestos
11 International Associations, which is an
12 association of asbestos trade associations from a
13 large number of countries AAIA.

14 Q. Was Union Carbide ever a member of
15 the AIAA?

16 A. Yes -- Union Carbide was not. Union
17 Carbide was a member of the AIANA, North America,
18 which was a member of the AAIA.

19 Q. O.K. Do you know what years Union
20 Carbide was a member of the AIANA?

21 A. It started in about 1971.

22 Q. Did you have anything to do with
23 Union Carbide joining the AIANA?

24 A. No.

25 Q. In other words, it wasn't done at

1

Rhodes

62

2 your suggestion?

3 A. That's correct.

4 Q. Do you know whose idea it was that
5 you ought to apply for membership in that
6 organization?

7 A. I have no idea.

8 Q. Do you know why it was that Union
9 Carbide joined the AIANA?

10 A. I really don't know that.

11 Those decisions were made at
12 corporate headquarters.

13 Q. Do you recall in the 1970s or in the
14 '72 time period that there was concern within the
15 Calidria asbestos business at Union Carbide that
16 the OSHA asbestos standard could have an effect on
17 the business?

18 MR. GERSON: You asked that already.

19 Can you read that back.

20 (Question read)

21 A. At what level?

22 BY MR. BROWNSON:

23 Q. Well, at your level.

24 A. I don't recall.

25 Q. What I am wondering is this:

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Rhodes

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It was around 1971 or so that Union Carbide joined the AIANA, and it was also around that same time that Union Carbide started the programming of air-monitoring customer locations; and I am just wondering if these activities were somehow connected with the OSHA asbestos standard that went into effect at around the same time.

A. I would say that they were an outgrowth of the concern that OSHA would go off and go out --

THE WITNESS: I am struggling, obviously.

MR. GERSON: Don't struggle. Take your time.

THE WITNESS: Read me back the question.

(Question read)

MR. GERSON: I will object to the form of the question.

But if you feel you can answer it -- or, if not, I am sure Mr. Brownson will be happy to rephrase it.

A. I think I would appreciate it if you would rephrase it.

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1

2 BY MR. BROWNSON:

3

4 Q. Do you know if the actions of Union
5 Carbide in joining the AIANA and beginning the
6 air-monitoring program at customer locations were
7 related in any way to the OSHA asbestos standard
8 that was going into effect?

8

9 MR. WILL: It is a compound
10 question. I mean, just to move this along,
11 he already said he doesn't know why they
12 joined the AIANA.

12

13 Why don't you take that out of the
14 question and why don't you ask that
15 separately, rather than mixing up the AIANA
16 and the air monitoring with the OSHA
17 standards?

17

18 MR. BROWNSON: Let me ask this:

18

19 Q. I have already asked you about the
20 air-monitoring program.

20

21 Did Union Carbide take any steps in
22 the Calidria asbestos business which were related
23 to the OSHA asbestos standard that took place in
24 '72, if you can recall?

24

25 A. I can't answer that question, because
all those decisions came down from New York.

1

Rhodes

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2

Q. When you say "New York" you mean --

3

A. Headquarters.

4

Q. -- headquarters in New York City?

5

A. Yes.

6

Q. O.K. Regardless of who made the

7

decision, do you recall getting certain directives

8

or information from the Union Carbide headquarters

9

in New York City, around 1972, having to do with

10

steps you were to take or things you were to do in

11

the Calidria business because of the OSHA asbestos

12

standard that was taking effect at that time?

13

A. No.

14

Q. Now, do you recall any directives

15

coming to you from the headquarters in New York

16

City concerning industrial hygiene steps or

17

activities you were to take with respect to the

18

Calidria asbestos business?

19

A. No.

20

MR. WILL: Again, in '72?

21

MR. BROWNSON: Well, actually, the

22

question is broader than that. At any

23

time.

24

Q. Here is what I am getting at:

25

Were decisions as to industrial

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Rhodes

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2

hygiene activities in the Calidria asbestos

3

business made at the headquarters in New York

4

City, or were those made by you and/or Mr.

5

McDaniel?

6

MR. GERSON: Which decisions? All

7

decisions? Any decisions?

8

MR. BROWNSON: Any decisions

9

relating to industrial hygiene activities.

10

A. The industrial hygiene program at

11

King City was set up and in operation by Paul

12

McDaniel back when it was built. And the -- and

13

we also had good and proper handling procedures

14

for the laboratory activities in Niagara Falls.

15

And decisions on what they would do

16

in response to regulations and that sort of thing

17

came out of the management people in the New York

18

City office. We were not privy to those

19

decisions.

20

Q. Now let me ask you this question:

21

When the OSHA asbestos standard took

22

effect in '72, did you get any instructions or

23

directives from the corporate office in New York

24

City as to steps you should take or things you

25

should do in the Calidria business because the new

1

2 asbestos standard had been enacted?

3

A. No.

4

5 We were basically in compliance at
6 that time.

7

8 Q. When you say "We were basically in
9 compliance," you mean the operation in King City,
10 California?

11

A. And the laboratory.

12

13 Q. How about with respect to customers
14 out at their various plants?

15

16 You told us earlier that you don't
17 know what their particular asbestos exposures were
18 before that time; is that correct?

19

A. Yes.

20

21 Q. When you described the air monitoring
22 at customer locations, in addition to referring to
23 that as a ceiling check, you also referred to it
24 earlier as a limited spot-check.

25

What did you mean by that?

26

27 A. Depending on the operation, the
28 environment around the area where the asbestos is
29 being used was part of the determination.

30

31 Most of those operations involved
32 dumping asbestos at infrequent intervals. In some

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Rhodes

68

2 cases we would pick up, take the whole morning;
3 some we would just monitor ceilings while the man
4 was doing the dumping. We did not spend the whole
5 day getting -- eight hours, things of that
6 nature -- doing a comprehensive coverage of the
7 entire operation where asbestos might be released.

8 Q. Do you recall whether the customers
9 were told that these, the results of these
10 spot-checks, were not to be extrapolated out?

11 A. The customers were not told that
12 specifically in writing. But we always sent them
13 a copy of the OSHA standards, referred them to the
14 OSHA standards.

15 Q. You told us today you had reviewed
16 the air-monitoring tests done at Conwed; is that
17 correct?

18 A. Yes.

19 Q. How many visits were there to the
20 Conwed plant by Union Carbide personnel for air
21 monitoring? That you saw?

22 A. That I saw or know of, just that one
23 visit.

24 Q. That was in about October '72?

25 A. I think so, yes, or thereabouts.

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Rhodes

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MR. WILL: I think it was August.

MR. BROWNSON: Yes, the visit was
August. That is true.

Q. Before preparing for your deposition
here in the past few days, had you ever seen that
before?

A. I have no recollection of ever seeing
it before.

I would have no reason to look at it.

Q. Do you know why it was that Union
Carbide personnel did not go back to the Conwed
plant after '72 to do further air measuring?

MR. GERSON: I object to the form of
the question for lack of foundation.

I don't think the witness testified
that Carbide personnel, in fact, did not go
back. I think he just testified that he
does not know.

Q. Let me put the question to you this
way:

Assuming, Dr. Rhodes, that Union
Carbide personnel did not go back to the Conwed
plant after the one air test in '72, do you know
why that was?

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Rhodes

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2

MR. WILL: You mean they didn't go

3

back to do more air testing?

4

MR. BROWNSON: Right, to do more air

5

testing.

6

A. I have no idea. That is not what I

7

would call a house account. We didn't hear very

8

much about it.

9

Q. What do you mean by that?

10

A. It was handled by someone not at our

11

location. A manager. Something of that nature.

12

We had very little contact with

13

Conwed.

14

Q. When you say the account was handled

15

by someone else, you mean the day-to-day dealings

16

with Conwed were done by someone?

17

A. Other than anybody I had any contact

18

with.

19

Q. Do you know which Union Carbide

20

office had the responsibility for handling that

21

account?

22

A. I don't know.

23

Q. Are you aware that the Union Carbide

24

air monitoring at customer plants does not provide

25

a comprehensive picture of any possible exposure

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at the plant?

MR. GERSON: I object to the form.

THE WITNESS: I am sorry?

MR. GERSON: You want that read
back?

THE WITNESS: Yes.

(Question read)

MR. WILL: Comprehensive possible
exposure to what?

MR. BROWNSON: Exposure to asbestos
in the air.

A. Yes.

BY MR. BROWNSON:

Q. Is that why you refer to them as
spot-checks?

A. Basically, yes.

Q. In other words, what they show is air
levels at a particular time, during a particular
operation that is being monitored?

A. Yes.

MR. GERSON: Referring now to the
spot-checks.

MR. BROWNSON: Right.

MR. GERSON: All right.

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THE WITNESS: Yes.

MR. BROWNSON: O.K.

BY MR. BROWNSON:

Q. Now, were you familiar with something called the American Conference of Government Industrial Hygienists?

A. Yes.

Q. Are you aware of a threshold limit value that that group published for different particles of fibers over the years?

A. Yes.

Q. And as part of your duties beginning in '67, did you become acquainted with that, or did you learn about that some time after that?

A. No recollection of when I first became aware of it.

Q. Are you aware that the ACGIH published a special limit value for asbestos?

A. Yes.

Q. And, as you sit here today, do you have any recollection of when you became aware of that?

A. It was probably in the '70s or in the '70s somewhere. It began as the OSHA thing. OSHA

1

Rhodes

73

2 proposals came up.

3 Q. And do you recall the point in early
4 '70s when you became aware of the ACGIH special
5 limits for asbestos that you learned had been
6 published by the ACGIH since '46?

7 A. I was not aware of how long it had
8 been around.

9 Q. When you first became aware of the
10 ACGIH special limits value for asbestos, did you
11 make any inquiry or research to find out how long
12 it had been in effect?

13 A. No.

14 Q. Were you a member of the ACGIH at any
15 time?

16 A. No. American Conference of
17 Government Industrial Hygienists, and I have never
18 been a government industrial hygienist.

19 Q. When you first became aware of the
20 ACGIH special limits value for asbestos, did you
21 become aware that it had been published for some
22 period of time before the early 1970s?

23 A. I was not aware of how long it had
24 been around.

25 Q. Did you ever collect or obtain any of

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Rhodes

74

2 the booklets published by the ACGIH that contained
3 their threshold limit values?

4 A. Yes.

5 Q. You are aware of the fact they came
6 out with these little booklets? I think they are
7 about six or eight inches tall, three inches wide.

8 A. I am aware of them, yes.

9 Q. Were you aware of the fact that the
10 booklets were published annually?

11 A. Yes.

12 Q. And at some time, beginning in the
13 early 1970s, did you subscribe to them or collect
14 them?

15 A. No.

16 Q. Did you ever obtain a collection of
17 those booklets?

18 A. Some time after I got into
19 professional industrial hygiene, in the '80s.

20 Q. You got them at that point?

21 A. Somewhere in that time frame, I began
22 looking at them.

23 I got into threshold limit values for
24 other materials than asbestos.

25 Q. You told us, when you began working

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Rhodes

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2 in the Calidria asbestos business in '67, you
3 became aware that there had been some materials
4 published by Dr. Selikoff?

5 A. Yes.

6 MR. WILL: I think he said shortly
7 after that.

8 MR. BROWNSON: Right.

9 Q. Shortly after you got your job in
10 '67, you became aware of this material published
11 by Dr. Selikoff?

12 A. Yes.

13 Q. Do you recall if you read any of his
14 articles pertaining to asbestos?

15 A. I did, yes. I had read some of his
16 articles.

17 Q. Do you recall if you received any
18 information from the Union Carbide medical
19 director's office in New York City about the
20 Selikoff research around that time?

21 A. We received -- what did we call it --
22 toxicology, one or two sheets, discussion of the
23 toxicology of asbestos, written by the corporate
24 medical department. I am a little vague on just
25 when that first -- somewhere in '65-66, I think.

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Rhodes

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2

It was there when I got there; put it

3

that way.

4

Q. You recall the Union Carbide medical

5

department published a sheet or paper called

6

asbestos toxicology report?

7

A. Something with that title, yes.

8

Q. Do you remember that that was

9

authored by Dr. Carl Durnell? Does that ring a

10

bell?

11

A. Yes.

12

Q. And these asbestos toxicology

13

reports, that was the information you received

14

from the Union Carbide medical office --

15

A. Right.

16

Q. -- about asbestos and health?

17

A. Yes.

18

Q. Did you have any conversations with

19

Dr. Durnell about the topic of asbestos and health

20

after '67?

21

A. I don't recall any.

22

Q. How about any of the other medical

23

doctors in the Union Carbide medical department?

24

Did you have any discussions with them about the

25

topic of asbestos and health after '67?

1

2

A. Yes.

3

4

Q. Do you recall when that would have taken place?

5

6

7

A. Some time in the time frame after I was manager of occupational health with Dr. Fortney.

8

9

Q. That would be sometime between 1981 and '86?

10

11

12

13

14

15

16

17

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25

A. Yes.

Also with Dr. Lewinsohn.

Q. And those discussions with both Dr.

Lewinsohn and Dr. Fortney would have taken place sometime between '81 and '86?

A. Some time after I was involved with occupational health.

Q. Before '81, do I understand, then,

that you had no personal discussions with the medical doctors in Union Carbide medical department about asbestos and health?

A. None that I recall.

Q. Do you recall having any discussions with doctors elsewhere, medical doctors, before '81, on the topic of asbestos and health?

A. Yes.

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Rhodes

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Q. Can you describe for me what those

3

were.

4

A. Vaguely, with the -- I can't remember

5

the names -- the Johns-Manville corporate medical

6

director.

7

Q. Was that Dr. Kenneth Smith?

8

A. No.

9

Q. Do you remember who that was?

10

A. I don't.

11

Q. Do you recall when those discussions

12

took place?

13

A. Those would have been in the middle

14

'70s, middle to late '70s.

15

Q. Do you know if that would have been

16

after August '74?

17

A. Probably. I am not sure.

18

Q. Do you remember what the topic of

19

those discussions was?

20

A. The topic was basically health

21

effects. That is what you talk to them about.

22

Q. And other than the asbestos

23

toxicology reports authored by Dr. Carl Durnell,

24

did you receive any other documents or literature

25

or books or articles about asbestos and health

1

Rhodes

79

2 from the Union Carbide medical department before
3 '81?

4 A. I don't recall receiving any.

5 Q. Do you ever recall seeing any reports
6 about animal inhalation studies conducted by the
7 Mellon Institute with different types of asbestos?

8 A. I had heard about it, that it
9 existed. But the first time I saw it was the day
10 before an earlier deposition.

11 Q. That would be in the last couple of
12 years?

13 A. Last three or four years.

14 Q. When you say you heard about it, do
15 you remember when you first heard about that?

16 A. No.

17 Q. Do you know if it was before '81?

18 A. Possibly.

19 Q. But whenever you first heard about
20 it, you never actually saw it?

21 A. Never.

22 Q. Do you know in what context you first
23 heard about it?

24 A. No.

25 Q. Do you know who told you about it?

1

Rhodes

80

2

A. No.

3

Q. Were you aware that one of the types

4

of asbestos that was used in the experiment was

5

Calidria?

6

A. Yes.

7

Q. And do you know when you became aware

8

of that?

9

A. No.

10

Q. As I understand it, you didn't have

11

anything to do with actually conducting those

12

experiments?

13

A. Absolutely not.

14

Q. You became aware of it after the

15

fact?

16

A. Well after the fact.

17

Q. Do you remember becoming aware of

18

what the results of the experiments showed?

19

A. I had a vague understanding that

20

there was no difference between the two types of

21

asbestos, but it was vague.

22

Q. Do you know what the two types of

23

asbestos were that were used in those experiments?

24

A. Probably -- well, no. Calidria

25

and -- well, Calidria, a California and a

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Canadian.

Q. You told us a minute ago about discussions that you had with some medical director at Johns-Manville.

Do you know if those discussions were on the topic of the Johns-Manville mine out near King City?

A. I don't recall. I would doubt it.

Q. Were they probably about more general health effects of asbestos?

A. Yes.

Q. In terms of health effects of asbestos, do you hold any opinions today as to whether there are any differences in health effects between the fiber mined at the three different mines around King City, the Union Carbide, the Atlas and the Johns-Manville?

MR. WILL: He is not offered as a medical expert and I think this is outside of his area of expertise. But I am not going to tell him not to answer. I will simply put that on the record.

THE WITNESS: If you would read that back.

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Rhodes

82

2

(Question read)

3

MR. BROWNSON: Let me rephrase the

4

question.

5

BY MR. BROWNSON:

6

Q. Did you ever hear from anybody that

7

there was any difference in health effects between

8

the asbestos fiber mined in the three different

9

mines, Union Carbide, the Johns-Manville and the

10

Atlas mine?

11

A. No.

12

Q. Did you understand there were any

13

different physical or chemical properties between

14

the fibers mined in those three different mines?

15

A. No.

16

Q. As far as you knew, they were

17

basically the same deposits and the same type of

18

fiber?

19

A. Yes.

20

Q. Do you know why the Union Carbide

21

Calidria fiber was pelletized?

22

A. Yes.

23

Q. Why was that?

24

A. I was not privy to the decision, but

25

the processing came out of research, and they had

1

Rhodes

83

2 opted to do a wet processing. And once you have
3 got it in water, you are not going to ship it
4 around in buckets; you have to get it dry again.
5 And the only way to get it dry is to filter it,
6 pelletize it and run it through a drier.

7 Q. This was a decision made before '67?

8 A. This was a decision made well before
9 my time.

10 Q. By someone other than you?

11 A. Right.

12 Q. You are not saying, are you, that the
13 only way you could dry Calidria asbestos was to
14 pelletize it?

15 A. No.

16 Q. It was sold as open fiber as well as
17 pelletized fiber?

18 A. Yes.

19 Q. By "open" I mean loose or
20 nonpelletized fiber.

21 A. No. You must go through a pellet
22 stage. The open fiber was a pellet which had been
23 reopened.

24 Q. So the Union Carbide Calidria
25 asbestos fiber was sold in two forms, pelletized

1

Rhodes

84

2

form and nonpelletized form?

3

A. Yes.

4

Q. You are telling us all of the fiber

5

at the mill was pelletized, but then some of it

6

was --

7

A. Reopened.

8

Q. Or unpelletized, and sold that way?

9

A. Yes.

10

Q. When you say you know why the

11

decision was made to pelletize the fiber, that was

12

basically because the milling process was a wet

13

process?

14

THE WITNESS: Let me have that

15

question again.

16

(Question read)

17

A. Well, somewhere back when they were

18

doing the research, they decided they would go

19

with a wet process. So, in order to get product

20

which could be sold, or moved, they had to dry it,

21

and that was the way it was selected.

22

I am not quite sure I understand what

23

you are driving at.

24

BY MR. BROWNSON:

25

Q. Let me ask you this:

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1

Rhodes

85

18

2

Do you know why the wet process was

3

selected for the mill at King City?

4

A. No.

5

Q. Do you know if it had anything to do

6

with keeping dust down in the mill?

7

A. I don't know that.

8

Q. In your view, was Calidria pelletized

9

asbestos less dusty than other asbestos that was

10

nonpelletized?

11

A. Yes.

12

Q. In your view, did the form of the

13

asbestos as pellets provide a less dusty type of

14

asbestos for handling out at customer plants, as

15

compared to nonpelletized asbestos sold by

16

competitors?

17

A. Yes.

18

Q. As you think back, in the years after

19

1967, do you know if Union Carbide used that as

20

one of the factors in marketing the asbestos?

21

A. Yes.

22

Q. That it is less dusty because it is

23

pelletized?

24

A. Yes.

25

Q. In your view, as you look back on it,

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1

Rhodes

86

2 you believe that the pelletized Calidria was less
3 dusty when used in customer plants than the
4 open-fiber Calidria or the nonpelletized Calidria?

5 A. Yes.

6 Q. So there was a difference not only
7 between Calidria and competitors' asbestos but
8 there was a difference between pelletized and
9 nonpelletized Calidria, in terms of dustiness?

10 A. Yes.

11 Q. And if you could sum up that
12 difference, it basically was that the pelletized
13 Calidria is less dusty when used than
14 nonpelletized asbestos; would that be fair to say?

15 A. Yes.

16 Q. Do you recall, at some point along
17 the line in '71, that Johns-Manville introduced a
18 process at their mine out at California where they
19 were making briquettes of their asbestos?

20 A. Now that you mention it, I have a
21 very, very vague recollection of something like
22 that. But you asserted it.

23 Q. Now, the asbestos deposit in
24 California was known as the Coalinga deposit.

25 Are you familiar with that?

1

Rhodes

87

2

A. Yes.

3

Q. And as I understand it, there were

4

three operating mines in that deposit. Union

5

Carbide had one and Johns-Manville had one and

6

Atlas had one. Is that right?

7

A. Yes.

8

Q. And the Union Carbide fiber that came

9

out of that deposit was called Calidria?

10

A. Yes.

11

Q. Do you know what the trade name for

12

the Atlas asbestos was that came out of that

13

deposit?

14

A. I know they had one, but I don't

15

recall it.

16

Q. How about Johns-Manville? Do you

17

know what their trade name was of that asbestos

18

from that deposit?

19

A. The only recollection I have is I

20

think the material they sold was Lowsal. Whether

21

they sold others, in other industries, with other

22

names, I don't recall.

23

Q. And getting to this business about

24

the briquettes, was it your understanding that

25

both Atlas and Johns-Manville essentially sold

1

Rhodes

88

2 their asbestos from that deposit in California in
3 bags of fiber? In other words, it wasn't
4 pelletized, like Union Carbide's was?

5 A. Yes.

6 Q. And --

7 MR. GERSON: "Yes," it was not
8 pelletized like Union --

9 THE WITNESS: Yes, it was not
10 pelletized like Union Carbide.

11 Q. In going back to the time period '67
12 up through '81, when you were working with the
13 Calidria asbestos, did you consider that Calidria
14 had a competitive advantage over those two
15 competitors because Calidria had the pelletized
16 asbestos and they did not?

17 A. In the area where pelletized asbestos
18 could be used, they had a clear advantage.

19 Q. Do you remember that Union Carbide
20 had some concern in about '71 that Johns-Manville
21 was going to sell a pelletized form of this
22 asbestos from California by making it into these
23 briquettes?

24 A. I don't remember any concern.

25 Q. What is it that you recall about

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Rhodes

89

2 Johns-Manville making these asbestos briquettes?

3

A. I really have very little

4

recollection.

5

Somewhere I have an impression that

6

they tried it and it didn't work; it didn't work

7

out. I don't think they ever got out on the

8

market in any sizable amount. I don't know that.

9

Q. Let me just finish up on this topic.

10

You told us that it was your belief

11

that the pelletized Calidria was less dusty than

12

nonpelletized asbestos?

13

A. Yes.

14

Q. O.K. What I would like to do is ask

15

you a couple of questions about the use of the

16

pelletized asbestos.

17

First of all, was it less dusty when

18

it was shipped?

19

MR. GERSON: Comparing it generally

20

to nonpelletized?

21

MR. BROWNSON: Right, nonpelletized

22

asbestos.

23

Q. As far as you recall, was it less

24

dusty during shipping than nonpelletized asbestos?

25

A. Yes.

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Rhodes

90

2

Q. Why was that?

3

A. The amount of -- there were always some broken pellets around. But there just wasn't enough -- as much loose asbestos that could get loose. And if it got loose, it would be pellets.

7

Q. And as you recall, during shipping, both pelletized and nonpelletized, Calidria pelletized and nonpelletized asbestos from your competitors and even from Calidria, were shipped in bags?

12

A. Yes. As far as I know, Calidria was. I am not real sure what the other competitors' was.

15

Q. Were you aware back in those years, after '67, up through '81, that during shipping bags could break open?

18

A. Yes.

19

Q. Are you telling us that in instances where bags would break open, the pelletized Calidria would be less dusty than the nonpelletized types of asbestos?

23

A. To the best of my knowledge, yes.

24

Q. What would happen when the bag would break open? Pellets would fall out instead of

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loose asbestos?

A. Yes.

Q. Is it also your view that the pelletized asbestos was less dusty when dumped out of bags at the customer's plant --

A. Yes.

Q. -- than nonpelletized?

A. Yes.

Q. Was that your view back from '67 to '81?

A. Yes.

Q. Did you have any view during those years, '67 to '81, that the pelletized asbestos was less dusty in finishing processes in customers' plants once it had been dumped into the mix?

A. What do you mean by "finishing processes"?

MR. GERSON: I was going to ask him that.

MR. WILL: You mean incorporated into the product?

MR. BROWNSON: Let me do this:

I will use the Conwed plant as an

1

2

example.

3

BY MR. BROWNSON:

4

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A. I have some vague understanding. But

I have never been there.

Q. And did you understand that the

Calidria was dumped into a slurry, a mixer?

A. Yes.

Q. Have you ever heard the term

"hydropulper"?

A. Yes.

Q. Did you understand that in the

ceiling tile process, the Calidria pelletized

asbestos would be dumped into a slurry and a

hydropulper and mixed up with other ingredients?

A. Yes.

Q. Did you also understand that once

that was done, this wet slurry would be conveyed

along and put through a drier?

A. As of yesterday, when I went over the

1

Rhodes

93

2 process.

3 But I really had no familiarity with
4 how you make ceiling tile.

5 Q. Assuming that Calidria pelletized
6 asbestos was used in the Conwed ceiling tile
7 process, once that ceiling tile was dried and cut
8 and sanded and otherwise processed, do you have
9 any view as to whether the pelletized form of the
10 asbestos would be less dusty than if they had used
11 nonpelletized asbestos?

12 A. Nonpelletized Calidria asbestos?

13 Q. Nonpelletized asbestos of any kind.

14 A. Speaking first of Calidria asbestos,
15 the hydropulper will open it, disperse it. And
16 Calidria was used because, from what I read, it
17 improved starch retention, which meant that it had
18 more starch on it than you might suspect from
19 another asbestos. On that basis, I would
20 hypothesize that it would still be better bound to
21 get less of it out, break less of it loose, than
22 an asbestos that was not as well tied up in
23 starch.

24 MR. GERSON: You say "less loose."
25 Is that the same thing as less dusty?

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Rhodes

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THE WITNESS: Less dusty, yes.

Q. Do you have any data which would indicate whether that is true or not?

A. No.

You asked my opinion.

Q. Right.

MR. WILL: After the hydropulper, if it was all Calidria, it wouldn't make any difference; is that right?

THE WITNESS: It should not make any difference.

Q. Whether it was pelletized or not?

A. Pelletized or not.

Assuming the hydropulper did a good opening job, if you understand my term.

Q. Broke up the pellets?

A. Broke up the pellets into the fibers, yes.

MR. WILL: At that point, either form of Calidria would be equivalent?

THE WITNESS: Would be equivalent, yes.

Q. In terms of dustiness?

A. In terms of dustiness, yes.

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Rhodes

95

2

MR. BROWNSON: A couple of more

3

questions, to follow up, and we can break.

4

Q. You are hypothesizing that the

5

Calidria might be less dusty than other types of

6

asbestos because you think it might retain starch

7

better?

8

MR. GERSON: He was just stating his

9

opinion. I don't think he was

10

hypothesizing.

11

A. Yes. Basically, that's correct.

12

Q. Where did you get that information,

13

that it would retain more --

14

A. From the call reports and the

15

information on the Conwed file.

16

I understand there was some

17

discussion, disagreement, within Conwed, about

18

what the conditions were.

19

Q. But you have no actual information of

20

your own research or from seeing data as to how

21

well different types of asbestos retained starch?

22

A. That's correct.

23

Q. And from the call reports or other

24

information that you have seen, do you know why

25

Conwed made the decision to switch from amosite

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asbestos to Calidria asbestos?

A. The call reports said starch retention, and I think there was mention of better sag. Whether these two are connected -- I would suspect those two might be connected. But my information comes entirely from the Conwed call reports.

MR. BROWNSON: Why don't we take our break now.

(Luncheon recess: 12:25 p.m.)

ooo

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AFTERNOON SESSION

3

1:30 P.M.

4

HARRISON B. RHODES,

5

previously sworn, resumed:

6

MR. BROWNSON: Let's premark these

7

documents, Exhibits 2 through 6.

8

(Various documents were marked as

9

Plaintiff's Exhibits 2 through 6,

10

inclusive, for identification, as of this

11

date)

12

MR. BROWNSON: Back on the record.

13

14

EXAMINATION (Continued)

15

BY MR. BROWNSON:

16

Q. Dr. Rhodes, let me ask you some more

17

questions.

18

Do you know Robert Woolery?

19

A. Yes.

20

Q. Did you do any work with him in

21

connection with the Calidria asbestos?

22

A. What do you mean by "with"?

23

Q. Did you ever participate in any of

24

his research projects?

25

A. No.

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Q. Are you familiar with a paper that Dr. Woolery wrote called "Asbestos in the Papermaking Process"?

A. I recall it, yes.

Q. Is that something you used in your work or just something that you came to hear about?

A. I think I probably read it. But that was it.

Q. Do you know Dr. Fred Mumpton?

A. Yes.

Q. Did you work with Dr. Mumpton in connection with the Calidria asbestos business?

A. No.

Q. Did you ever consult with Dr. Mumpton in terms of analytical techniques for analyzing asbestos samples?

A. I have no recollection of it.

Q. Now, Union Carbide's lawyers have provided to us and I have reviewed many asbestos air samples taken by various Union Carbide personnel, both in customer plants and in Union Carbide facilities. We are going to look at some of those.

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But before we start, as a general

matter, as I have looked at all these, I have

noticed that they all are reported using the

analytical technique of polarized microscopy?

A. No, phase contrast microscopy.

Q. Would I be correct in stating the air

measurement taken by Union Carbide personnel, both

in the customer plants and Union Carbide

facilities, were used, were done, with phase

contrast microscopy?

A. Yes.

Q. Do you recall, at any time from '67

to '81, whether you did any research or inquiry

into using electron microscopy to analyze these

samples?

A. No.

Q. Do you have any recollection of

speaking to Fred Mumpton about the use of

electromicroscopy to analyze asbestos samples?

A. No.

Q. Do you recall anytime in those years,

from '67 to '81, hearing that OSHA, NIOSH or the

ACGIH was considering changing their analytical

techniques for asbestos measurements from phase

1

Rhodes

100

2

contrast to electromicroscopy?

3

A. No.

4

Q. Were you familiar in those years,

5

from '67 to '81, with the techniques of

6

electromicroscopy?

7

A. I had a -- some familiarity with it.

8

Q. Were you aware if Union Carbide, in

9

the corporation, had an electron microscope?

10

A. Yes.

11

Q. Where was that?

12

A. The only one I know of was in Niagara

13

Falls.

14

Q. Do you know what kind it was?

15

A. What make?

16

Q. Well, do you know if it was a

17

transmission electro or a scanning

18

electromicroscope?

19

A. To the best of my recollection, it

20

was a transmission scope.

21

Q. Do you know when Union Carbide

22

obtained that electron microscope?

23

A. No.

24

Q. As far as you know, was that ever

25

used to analyze any asbestos air samples from any

1

2 source?

3

A. Not that I am aware of.

4

Q. I also noticed, in reviewing the
5 asbestos air samples that have been provided to us
6 from both the customer plants and from Union
7 Carbide facilities, that the fibers reported are
8 only fibers greater than five microns in length;
9 is that correct?

10

A. That's correct.

11

Q. Do you know why they were reported
12 that way?

13

A. That was the OSHA standard for
14 reporting them.

15

Q. Would it be fair, then, to say that
16 Union Carbide looked to the OSHA standard in terms
17 of deciding what should be measured?

18

A. Yes.

19

Q. I think we covered this before, but,
20 as far as you can recall, none of these air
21 measurements at customer plants were done before
22 OSHA; were they?

23

A. The OSHA -- I am going hazy on this.
24 I think the OSHA emergency standard in December
25 1971 preceded them. I think. It was right in

1

Rhodes

102

2 that time frame.

3 Q. Let me ask you this:

4 With respect to the air measurements
5 done at the King City mine and mill, I understand
6 those had been done going back to about 1963?

7 A. To whenever the inception was. I do
8 not know exactly when that was.

9 Q. And when you took over this new job,
10 in '67, did you obtain copies of the air
11 measurements from the King City mine and mill
12 before that time?

13 A. No.

14 Q. Do you know where those were kept?

15 A. No.

16 Not kept at Niagara Falls.

17 Q. From '67 until about 1971, as far as
18 you know, air measurements continued to be done
19 out of King City, at the mine and mill?

20 A. Yes.

21 Q. Do you know where those were kept
22 during that time period?

23 A. Kept at King City.

24 Q. Did you ever go back and review the
25 pre-1967 air measurements from the King City

1

Rhodes

103

2 facility?

3 A. No.

4 Q. So do you have any information as to
5 what air levels were found before 1967 in the King
6 City mine and mill?

7 A. Only in very general terms.

8 Q. How did you get that information?

9 A. Talking to the people at King City.

10 Q. What did you learn about those air
11 levels from the time period before 1967?

12 A. That, by and large, the -- other than
13 the baggers, they were half to one, something in
14 that general range. The baggers, in isolated
15 areas, could be up to three, four and five range.
16 They were equipped with respirators.

17 Q. When you said the half to one range,
18 you meant half a fiber?

2

19 A. Yes. Fibers per cc weighted in five
20 microns.

21 Q. And were those eight-hour
22 time-weighted averages?

23 A. Yes.

24 Q. You understand that the actual
25 measurements taken at King City before '67 were

1

Rhodes

104

2 air samples of less than eight hours in duration?

3 A. No.

4 Q. O.K. Would you expect that those air
5 samples done before '67 were an air sampling for
6 less than eight hours?

7 A. I am sorry, would you repeat.

8 Q. Yes.

9 Based upon what you learned and what
10 you know now, would you expect that the air
11 samples done at King City before '67 had a
12 sampling time of less than eight hours?

13 MR. WILL: Once again, I mean, this
14 is sort of a silly question. Either it
15 says on there or it doesn't say on there
16 how long they were.

17 Why are you asking him to guess
18 whether or not it was longer?

19 MR. BROWNSON: Actually, I don't
20 have those pre-1967 ones. That is why I am
21 asking.

22 A. I would expect, although the original
23 samples were less than eight hours, that they
24 would total seven or eight hours for the time that
25 the men were actually in the plant.

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Rhodes

105

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3

I don't know that, but I would expect that they would sample that way.

4

5

Q. First of all, how often were the air samplings done in King City during those years?

6

MR. WILL: '66 through '67?

7

MR. BROWNSON: Right.

8

A. I don't know.

9

Q. Was this done annually?

10

11

A. My vague recollection is it was a couple of times a year.

12

13

14

15

16

Q. Let's take as an example air sampling done around the baggers. In those years, from '63 to '67, let's say, for example, Union Carbide was sampling twice a year near where the baggers were working.

17

18

19

Are you saying that on each of those occasions when they would sample, they would run their pump for eight hours?

20

A. I just don't know.

21

22

23

24

25

Q. Well, if you look at the more recent air samples -- we have got some of them here -- after 1971, most of them are of relatively short duration, half hour, that sort of thing; is that your recollection?

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Rhodes

106

2

MR. WILL: Why don't you look at one
3 of them.

4

MR. BROWNSON: You can look at some
5 of the exhibits down through the bottom.

6

MR. WILL: Let's identify for the
7 record what you are looking at.

8

THE WITNESS: This is Exhibit 4.

9

A. These are listed as ceiling counts
10 performed at the Niagara Falls laboratories on
11 short-term samples at King City.

12

This particular --

13

MR. WILL: The date is May 10, 1978.

14

THE WITNESS: Yes.

15

A. These particular samples were aimed
16 at getting ceiling samples on the baggers. So
17 that they would not be run for eight hours. They
18 would be run only the time period when the baggers
19 were physically bagging.

20

BY MR. BROWNSON:

21

Q. Now let's use these samples you are
22 looking at, which you have identified as Exhibit
23 4, as contained in Exhibit 4. This is the report
24 of May 10, 1978.

25

What you are telling us is that

1

Rhodes

107

2 actual sampling was for a period ranging from 49
3 to about 72 minutes, usually about an hour; does
4 that sound right?

5 A. Yes.

6 Q. But then the results are reported --
7 and I am looking at page number 3 -- the results
8 are reported as chrysotile asbestos.

9 Do you see that?

10 A. Yes.

11 Q. And a figure is then given there. I
12 am looking at the first results; for example, page
13 3, 3.4.

14 Do you see that?

15 A. Yes.

16 Q. Now, I assume that reference to
17 fibers per cubic centimeter of air --

18 A. Yes.

19 Q. -- those are fibers greater than five
20 microns in length?

21 A. That is the way the column is headed.

22 Q. Is that an eight-hour time-weighted
23 average?

24 A. No. That is a ceiling for that time
25 period.

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Rhodes

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Q. So that is based upon 60 minutes of sampling?

4

A. On that one, yes.

5

6

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8

9

Q. During the time Union Carbide measured asbestos levels in the air at either its own facilities or at customer facilities, do you know if any measurements were made of fibers less than five microns in length?

10

11

A. I do not know of any measurements less than five microns.

12

13

14

Q. You said that the measurement length of five microns was chosen because that is the OSHA standard?

15

A. Yes.

16

17

18

19

20

Q. But in terms of those measurements that were done at King City before OSHA, from '63 to about '71, '72, would you agree with me that those were also measured and reported only as fibers greater than five microns in length?

21

22

A. I don't know. I have not looked at those reports.

23

24

25

Q. Do you know if those reports exist?

A. I do not know if they exist.

Q. So, as far as you know, those reports

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Rhodes

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2 may or may not have measured fibers less than five
3 microns in length?

4 A. As far as I know. I do not know
5 whether that is so.

6 Q. You don't know one way or another?

7 A. I don't know one way or another.

8 Q. You are aware of the fact, of course,
9 that in terms of physical size, Calidria asbestos
10 fiber is mostly less than five microns in length?

11 A. By fiber number or by weight?

12 Q. By fiber number.

13 A. The number of fibers smaller than
14 five is considerably more than the number of
15 fibers larger.

16 Q. Have you seen size distribution
17 measurements or data for Calidria asbestos fiber
18 that shows, on a percentage basis, how many fibers
19 are of different sizes of lengths?

20 A. Yes.

21 Q. As you sit here today, can you recall
22 what that data showed?

23 A. The only thing I can recall is that
24 there were a fairly substantial percentage by
25 weight that were not only longer than five microns

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Rhodes

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2 but much longer.

3 Q. Well, in terms of number of fibers,
4 do you recall what the percentages were that were
5 greater than five microns?

6 A. No.

7 Q. Would you agree with me that,
8 measuring by weight, a greater percentage were
9 greater than five microns in length than if you
10 just measure by total number?

11 A. To the best of my recollection, I
12 can't say more, but a very substantial percentage
13 were using larger fibers.

14 Q. That is because larger fibers are
15 heavier?

16 A. Bigger and heavier.

17 Q. Now, do you know what the unit --
18 let's go again --

19 A. Are we done with this exhibit?

20 Q. You can look at it if you want to.
21 We will get back to it.

22 But using the phase contrast
23 microscope technique, do you know what the limit
24 of detection was for fiber diameter? In other
25 words, what is the thinnest fiber that could be

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Rhodes

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2 detected with that technique?

3

A. That is a function of the microscope
4 and the observer's eyeball. And if some were to
5 go to a quarter of a micron, I think, that is the
6 best recollection I have.

7

Q. Do you have any recollection as to
8 how much could be detected by the microscopes used
9 in the laboratory at Niagara Falls?

10

You said it is a function of the
11 instrument. But let me ask you about the
12 particular instrument that you had in Niagara
13 Falls. Do you know what their limit was for fiber
14 diameter?

15

A. I do not know specifically.

16

Q. O.K. Going back to the air
17 measurements taken at the King City mine and mill
18 over the years -- I am asking you to rely on your
19 recollection here -- do you have a recollection
20 that the highest levels that were detected were
21 generally found around the baggers?

22

A. Yes.

23

Q. To get ourselves acquainted with the
24 operation, have you been to the mill at King City?

25

A. Yes.

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Rhodes

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Q. Physically, where would the baggers
3 be located in that process in the mill?

4

A. One setup was towards the south
5 front, and the 244 baggers' setup was west, about
6 the middle of the mill.

7

Q. Was the bagging the final step in the
8 milling process?

9

A. Yes.

10

Q. In other words, the pellets were now
11 coming off and they were being put in bags.

12

Was that physically going on?

13

A. Yes.

14

Q. The pellets that were being bagged,
15 were they wet or dry?

16

A. Dry.

17

Q. And were there any other dry
18 processes in the mill, other than the bagging?

19

A. The drying opening. There was going
20 to be an open part around the mill and then into
21 the bag.

22

Q. In terms of the pelletized asbestos,
23 were there any other dry processes in the mill,
24 other than the bagging?

25

A. The drying.

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Rhodes

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2

Q. They were sent to the drier?

3

A. Yes, sent through a rotary drier.

4

Q. Was the drier enclosed?

5

A. It was enclosed enough so that you
6 didn't get emissions out into the atmosphere in
7 any significant amount.

8

Q. Did it have some ducts put on it that
9 would pull dust out of it, or was it just an
10 enclosed drier?

11

MR. WILL: What time are you asking?

12

A. What time frame are we talking about?

13

Q. Did that change over time?

14

A. I -- to the best of my recollection,
15 it was -- it had very little leakage. It had an
16 air sweep through it and it was filtered.

17

But as environmental regulations
18 became more severe in California, up into the
19 '80s, I think they did add some additional control
20 on that. I am not sure.

21

Q. After the pellets came out of the
22 drier, how were they physically conveyed to the
23 bagging area?

24

A. I am not sure. They went into a
25 hopper.

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Rhodes

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Q. Do you know whether there were any air measurements taken of operations between the drier and the bagging area?

MR. WILL: You mean in the transportation area? There aren't any operations between these two areas to talk about.

MR. BROWNSON: I guess that is what my prior question went to.

Q. In other words, the pellets come out of the drier and then at some point they get put in bags?

A. They get conveyed into a hopper and then down into a bagger area.

Q. So would it be fair to say that the first operation after the drier where air measurements were done on a routine basis was the bagging area?

A. No, it would not be fair.

Q. Where else was it done between the drier and the bag?

A. Various people working in the plants, other than the baggers, had routine air monitoring done on them.

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Q. Were those people engaged in some operation between the driers and the baggers?

A. Yes. Driers and baggers. They would be passing through the area, going about their duties, running the extruder, running a filter presser. This was a mill. And there were screens, there were wet drying equipment, these sorts of things, that people had to operate.

Q. I understand that.

Let me ask you this question:

This was what is known as a wet process --

A. Yes.

Q. -- in this mill; correct?

A. Yes.

Q. The Calidria asbestos would come in in a wet slurry form?

A. Yes.

Q. And it would be milled in a wet form?

A. Yes.

Q. After the milling, it then would be pelletized and dried or dried and pelletized?

A. It would be pelletized and dried.

Q. O.K. And after it was dried, it then

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Rhodes

116

2 would be bagged?

3 A. Yes.

4 Q. And it was during the bagging
5 operation or in the bagging area that the highest
6 air levels were reported, generally, over time, in
7 the mill?

8 A. Yes.

9 Q. And after the material was bagged, as
10 I understand, the bags were then put on pallets;
11 is that correct?

12 A. That's correct.

13 Q. Was that done in the mill or outside?

14 A. That would be stacked in the mill and
15 then moved to cover in outside storage.

16 Q. Those pallets, as I understand, were
17 placed on railroad cars for shipment?

18 A. Yes.

19 Q. And do you know if any air
20 measurements were taken at or near the railroad
21 cars as the pallets were bagged and loaded?

22 A. I don't know for a fact that they
23 were.

24 Q. I had shown you a little while ago
25 and you have had a chance to look at a couple of

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Rhodes

117

2 exhibits which have been premarked Exhibits 2 and
3 3.

4 MR. BROWNSON: Exhibit 2 -- for the
5 record, these were reports which were
6 included in the reports produced by Union
7 Carbide in this case.

8 Q. Exhibit 2 is marked "UCC plenum test
9 10903 dust count, King City, California," May 12th
10 and July 26th, 1982.

11 Do you see that?

12 A. Yes.

13 Q. Before I showed you these today, had
14 you ever seen these before?

15 A. No.

16 Q. Do you know if any tests of this sort
17 were ever run before 1982?

18 A. All I remember is that Blair Engels
19 and I at one time messed around with it a little
20 bit and gave it up as a dead end.

21 Q. When you say you and Blair Engels
22 "messed around with it," you attempted to do tests
23 of the type we see here?

24 A. In general, yes.

25 Q. Do you recall when you attempted to

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Rhodes

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2 do such a test?

3 A. I don't recall.

4 Q. Do you know if it was before '81?

5 A. It would be before '81.

6 Q. Sometime between '67 and '81?

7 A. Yes. More towards '81 than '67.

8 Q. Do you recall what the tests were
9 that you considered doing or attempted to do?

10 A. We were looking for an easy way to
11 compare dust containment potentials.

12 Q. And that would be of the Calidria
13 fiber?

14 A. That would be Calidria products.

15 Q. If you look at Exhibit 2 here, the
16 test that was done in 1982 -- I am looking at the
17 first page of the report -- it shows -- and I am
18 paraphrasing -- where a closed chamber was
19 prepared and some asbestos dust from the ceiling
20 materials was placed on a pan vibrator and stirred
21 up in the chamber, and then air samples were
22 taken.

23 Is that your understanding of
24 generally what was done?

25 A. Yes.

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Q. Is this the same general sort of test that you and Blair Engels considered some time before 1981?

A. In very broad terms, yes.

Q. Did you ever actually set up any test apparatus to do a test of this general type before 1981?

A. Nothing of any real significance. Structure. We literally were just playing in the laboratory to see if we could get something that was worth pursuing.

Q. This was the laboratory where?

A. Niagara Falls.

Q. Do you remember, was the reason why you were working at such a test before '81 to determine how much dust would be generated from Calidria asbestos fiber in an enclosed experimental chamber?

A. No.

Q. What was the reason for it?

A. We were looking for a way to compare, rather than an absolute, how much dust we had in there.

Q. Well, would it be fair to say that

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2 what you were trying to do was stir up some dust
3 from Calidria fiber within an enclosed chamber and
4 measure the dust --

5 A. Yes.

6 Q. -- and then compare it with
7 something?

8 A. With the dust from other Calidria
9 products.

10 Q. What were the different types of
11 material you thought you would compare for
12 dustiness?

13 A. I don't recall.

14 Q. Do you recall if you used pellets in
15 any of these experiments that you did?

16 A. I don't recall.

17 Q. Do you recall if you got any actual
18 measurements from any of these experiments?

19 A. No.

20 Q. Do you recall if you proposed to do
21 these experiments before 1981 because you were
22 trying to determine if pelletized Calidria was
23 less dusty or more dusty than other types of
24 asbestos?

25 A. No.

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Rhodes

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We already knew that.

3

Q. You believed it was less dusty?

4

A. That's correct.

5

This was a very minor, day-or-so type

6

of thing.

7

But you asked the question and I

8

answered it.

9

Q. So would it be fair to say that the

10

only laboratory test before 1981 to determine the

11

relative dustiness of Calidria asbestos was this

12

day-or-so thing that you and Mr. Engels were

13

playing around with?

14

A. That would describe it.

15

MR. WILL: He wants to know if that

16

was the only one. Are you aware of any

17

others?

18

THE WITNESS: That was the only one

19

that I was aware of.

20

MR. BROWNSON: O.K.

21

BY MR. BROWNSON:

22

Q. And what we are seeing in Exhibits 2

23

and 3, which I have shown you, are laboratory

24

tests done in 1982; correct?

25

A. Yes.

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Rhodes

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Q. These were both done in Niagara

3

Falls; is that right?

4

A. Yes.

5

Q. You were not involved in either one

6

of them; is that correct?

7

A. That's correct.

8

Q. Do you know why it was that you would

9

not have been involved in either one of these?

10

A. At that time -- this is testing, I

11

believe, in connection with reclamation at the

12

mill, and I should have been copied, as the

13

manager of occupational health, but was not. I do

14

not know why I was not copied.

15

Q. Let me refer you to Exhibit 4.

16

Exhibit 4 is, again, a copy of a test provided by

17

Union Carbide in this case.

18

It is titled "UCC Dust Count, King

19

City, California, 5/2/89." Right?

20

A. Yes.

21

Q. The actual report is dated May 10,

22

'78; correct?

23

A. Yes.

24

Q. It says:

25

"Subject: Airborne asbestos count

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2 for Union Carbide Corporation in King City,
3 California."

4 Is that right?

5 A. Yes.

6

6 Q. These were samples done in the mill,
7 the Calidria asbestos mill?

8 A. Yes.

9 Q. Exhibit 4, the May 10, 1978 report
10 and test results, was this part of the or was this
11 one of the program of tests that were being done
12 out at King City and the mill?

13 A. No.

14 Q. What was this test?

15 A. This was a specific examination of a
16 fairly detailed look at the bagger operation.

17 Q. In May 1978, was a detailed work of
18 the bagger operation, the asbestos levels in that
19 operation, being done because that historically
20 had been the area where the highest dust levels
21 were gotten in the King City mill?

22 A. I don't recall why it was done
23 specifically.

24 Q. Do you know whose idea it was?

25 A. No.

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Rhodes

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Q. Now, the report is addressed to Mr.

3

Shortridge at Union Carbide metals division, King

4

City, California?

5

A. Yes.

6

Q. What was his role at that time?

7

A. He was plant manager.

8

Q. And the samples were collected out at

9

the King City mill, as I understand it?

10

A. Yes.

11

Q. And they were then sent to the

12

laboratory in Niagara Falls, New York?

13

A. They were carried to the laboratory

14

by the lady that collected them.

15

Q. And they were analyzed by Glenda

16

Spencer?

17

A. Yes.

18

Q. She was a microscopist?

19

A. She had the proper training to

20

collect and count samples.

21

Q. And she then issued this report,

22

Exhibit 3; correct?

23

A. Yes.

24

Q. Then she sent a copy to a number of

25

people, including you --

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A. Yes.

Q. -- and a number of other people.

Can you just tell us who the other people are and what their role was in getting a copy?

A. Bill Thurber was the manager in New York City of the whole asbestos operation.

Q. He was at the Union Carbide corporate headquarters in New York City?

A. Yes.

McDaniel was the corporate industrial hygienist under whose wing we were operating this.

John Meyers I believe at that time was manager of marketing in King City -- or, I am sorry, in Niagara Falls.

Byrne was marketing manager, area marketing manager, Niagara Falls.

And Blair Engels was one of my group.

Q. And Meyers and Byrne --

A. Meyers was marketing manager and Byrne reported to him.

Q. Both in marketing asbestos?

A. Yes.

Q. As marketing people, do you know why

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Rhodes

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2 they would be interested in the results of air
3 sampling at the King City mill?

4 A. This, what you see here, is basically
5 the main group, and we had some fairly standard
6 distributions. I don't see any reason that they
7 would not receive this. We were a very small
8 group, and we passed information around.

9 Q. That was Exhibit 4. Let's look at
10 Exhibit 5, another dust count, done March 15, '79,
11 at the mill in King City; is that correct?

12 A. Yes.

13 Q. And it is entitled, "Replicate
14 sampling tests of airborne fiber emissions at King
15 City, California"; right?

16 A. Yes.

17 Q. What do they mean by "replicate"?

18 A. We took samples on each side of the
19 breathing zone, two samples simultaneously, one on
20 each side, and analyzed one set at King City and
21 one set at Niagara Falls.

22 Q. Was that done because by that time,
23 in 1979, it had historically been noticed that
24 there was a difference, for whatever reason, in
25 the results that were gotten at King City compared

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Rhodes

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2 to Niagara Falls?

3 A. No.

4 Q. Are you aware of the fact that it was
5 noticed at some point in time that tests done at
6 King City were 3 to 4 percent different than those
7 done at Niagara Falls?

8 A. 3 to 4 percent different would be
9 totally irrelevant.

10 Q. Are you aware of the fact that it was
11 noticed that the tests done at King City were
12 different than the tests on the same samples done
13 at Niagara Falls?

14 A. I don't recall that.

15 Q. You don't recall ever preparing memos
16 or letters about that?

17 A. Air samples you are talking about?

18 Q. Right.

19 A. It's possible, but I don't recall it.

20 Q. Let's look at this particular

21 exhibit, and I am looking at the first page. In
22 the third paragraph it says, it reads:

23 "Comparisons of the fiber counts
24 performed by the two labs are shown in table 1.
25 Niagara Falls fiber counts of main bagging and

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Rhodes

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2 personnel tended to be, with fewer exceptions, 40
3 to 60 percent higher than the corresponding King
4 City baggers."

5 Do you know what Mr. Engels is
6 talking about there when he makes that statement?

7 A. Yes.

8 Q. What is that?

9 A. Well, what he is saying is, when you
10 put them side by side, the ones counted at Niagara
11 Falls were 40 to 60 percent higher than those at
12 King City.

13 Q. Do you know why that is?

14 A. There is an explanation on the next
15 page. There is a reason for that.

16 Q. O.K. As reported by Mr. Engels?

17 A. As reported by Mr. Engels.

18 Q. What explanation does he give?

19 A. Basically, they switched -- they
20 calibrated the pump with a 25-millimeter filter,
21 and somewhere partway through they switched to a
22 37-millimeter and they didn't recalibrate the pump
23 for the resistance of the 37-millimeter filter, so
24 that they got additional air flow, resulting in
25 higher loading on the filter, on the larger

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Rhodes

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2 filter.

3 Q. That was because they had not
4 recalibrated the pump for the different air flow?

5 A. Correct.

6 Q. The final paragraph:

7 "There was some variance between the
8 two labs in the test procedures, which he
9 attributed to microscope equipment and
10 procedures."

11 Q. Do you see that?

12 A. I am looking at it again. Yes. I
13 see it.

14 Q. As you sit here today, do you recall
15 that there was historically some variance between
16 those two labs and their measurements?

17 A. I still don't recall any differences
18 that would cause great concern.

19 Q. You are aware of the fact that you
20 can get different results depending on who is
21 doing the measuring and what equipment is being
22 used?

23 A. Yes, I am well aware of that.

24 Q. And what is being reported here in
25 Exhibit 5 is an example of that, although one that

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Rhodes

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2 you say didn't cause great concern; is that
3 correct?

4 A. That's correct.

5 Q. Now, Exhibit 6 is the next exhibit I
6 would like to have you look at.

7 A. The cover letter explains this, and I
8 don't have the cover letter here now. You have
9 the only copy of the cover letter.

10 Q. This isn't a cover letter. This is a
11 report from NIOSH.

12 A. That was relative to this.

13 Q. Exhibit 6 is entitled "King City
14 NIOSH samples dust count, January 25-27, 1983";
15 correct?

16 A. All I have is asbestos --

17 Q. I am looking at the cover.

18 A. I am sorry. Yes.

19 Q. Do you recall this testing that was
20 done in connection with NIOSH in '83?

21 A. When I saw this, I remembered that it
22 was done, yes.

23 Q. And before I showed it to you today,
24 had you seen this before, in recent years,
25 anywhere?

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A. Not that I recall.

Q. In any event, having looked at it, it brings back some recollection as to this particular testing?

A. Yes.

Q. Just to summarize it, was this particular test a test being done at the request of NIOSH, to determine various fiber levels in the King City mill?

A. No.

Q. What was it?

A. The test was primarily -- I can't remember whether it was the NIOSH that initiated it or the manufacturer of the bagger and ventilation system.

NIOSH was very much interested in collecting the information on how controls worked. And, again, I am not exactly sure who approached us. I think it was probably NIOSH. I had some fairly good friends at NIOSH at the time. And they asked us if we would cooperate in running this test. And the answer was yes, obviously.

Q. You say that "the answer was yes, obviously."

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Do you recall having some concern at Union Carbide about whether you should let NIOSH run this test or not?

A. No. There was no concern.

Q. You actually recall that there was no concern about that?

A. Yes.

Q. In any event, was the test done by NIOSH personnel or was it done by Union Carbide personnel, the actual sampling?

A. The sampling was done -- does it show on the cover letter who did the sampling? This is a Union Carbide industrial hygiene summary, so it was done by Union Carbide. Sample by Blair Engels, I think. I can't make out the initials.

Q. Was that information then turned over to NIOSH for whatever purpose they were going to make of it?

A. Fred Smith. Yes.

Q. Did NIOSH ever issue a report concerning what they --

A. I have no recollection of receiving a report. I should have, if they had sent one.

MR. WILL: Should have remembered it

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or should have received it?

THE WITNESS: Should have received it. If I received it, I would probably recall it.

Q. If you want to take a break at any time, let me know.

A. Yes.

(Recess taken)

MR. BROWNSON: Let's premark Plaintiff's Exhibits 7 through 16 for identification.

(Various documents were marked as Plaintiff's Exhibits 7 through 16, inclusive, for identification, as of this date)

MR. BROWNSON: Can we have an agreement that documents produced by Union Carbide in this case are authentic and you will not object to their authenticity?

MR. WILL: We said dust counts for the King City plants or for customer plants that we produced in this case we will agree are authentic Union Carbide documents, assuming what you have produced is a true

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copy of them.

MR. BROWNSON: I don't need to authenticate those documents through Dr. Rhodes, the dust counts? If we at trial introduce them as evidence, whatever objections you may have on other grounds, you won't dispute that they are authentic and there is an adequate foundation for me to establish authenticity?

MR. WILL: The documents that were produced in this case, that's correct.

MR. BROWNSON: O.K.

BY MR. BROWNSON:

Q. Dr. Rhodes, from about '71 to '81, Union Carbide technicians were going out to a number of different customer plants, doing these dust counts that we have talked about this morning; correct?

A. Yes.

Q. Were you the person in general charge of that program?

A. Yes.

Q. Did you generally keep yourself abreast of what Union Carbide technicians were

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Rhodes

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2 finding at customer plants?

3 A. Yes.

4 Q. Was this data tabulated or summarized
5 or correlated --

6 A. Yes.

7 Q. -- or --

8 MR. WILL: Let him finish.

9 THE WITNESS: I am sorry. I thought
10 he was finished.

11 MR. BROWNSON: O.K. I am finished.

12 A. Yes.

13 BY MR. BROWNSON:

14 Q. Did Union Carbide attempt to draw any
15 general conclusions from the data?

16 MR. GERSON: I object to the form.

17 A. Union Carbide did assemble the data
18 by application, by the application, by type of
19 asbestos operation, as something to something.
20 And we summarized it and prepared summaries for
21 potential customers.

22 Q. Do you know when this summarization
23 of the data that was prepared by Union Carbide
24 occurred?

25 A. No.

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Q. Do you know if the summaries of the data from dust counts at different customer plants were also provided to existing Union Carbide customers, or was that just given to prospective new customers?

7

A. I don't recall. We may have done that.

9

Q. Do you recall if the summarization of the data of these air tests at customer locations was ever used by Union Carbide in connection with any government regulatory proceedings?

13

A. I don't know of any case that it was.

14

Q. I want to show you what has been marked as the next exhibit. This is Exhibit 7. What it is is a collection of letters that have been provided to us by Union Carbide, all in 1985.

18

I will just have you take a look at them, familiarize yourself with them, and then I will ask you some questions about them.

21

(Pause in the proceedings)

22

Q. Exhibit 7 is actually clipped together, 21 different letters sent out to different people, all of whom appear to be -- first of all, you have had a chance to look at

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Rhodes

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2 those generally and familiarize yourself with what
3 they are?

4 MR. WILL: He has had a chance to
5 glance at them. Do you want him to read
6 every single one in its entirety or just
7 accept your representation?

8 Q. Do you recognize those letters?

9 A. Yes.

10 Q. And generally, do you know what they
11 are?

12 A. Yes.

13 Q. What are they? How would you
14 describe them?

15 A. These are all people who are bagger
16 operators whose exposure exceeded two fibers;
17 eight-hour time, exceeded two fibers.

18 And under regulations, Title 8,
19 Section 5208, subparagraph A, "Employee
20 Notification," these are -- we were required to
21 notify them of the certain time period that they
22 had been overexposed and what we are going to do
23 about it.

24 Q. Now --

25 A. May I add?

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Overexposed without -- if they were not using the respirator, they would have been overexposed.

They were all wearing respirators and the proper protective clothing, changes, that sort of thing.

Q. What Exhibit 7 shows, if I can summarize, is a collection of letters sent to different people who worked in the bagging operations at the mill and is basically notifying them under the California OSHA law, the OSHA standard in effect at that time, that exposure exceeded the standard if they weren't wearing respiratory protection.

Is that a fair summarization?

A. That is not what the letter says.

The letter was sent because we were required to. It notifies them that they were -- the exposure was over two fibers per cc.

Q. Which was the California OSHA standard at the time?

A. Yes.

"During the time of exposure, you were using an improved respirator," M-E-S-A --

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that is not right.

Q. Should be M-E-S-H-A?

A. I am drawing a blank. But that is not the right word.

NIOSH number 2C-21C-170. And it tells what we are doing about it, as required by law.

Q. Would it be fair to say that in 1984 and '85, the California OSHA regulation requires you to send out a letter like this to employees where testing air monitoring revealed that those employees were exposed to more than two fibers per cc of the substance?

A. I do not recall exactly when the California OSHA -- there may have been some revisions in California OSHA. I don't know when they occurred. I don't know how far back this started.

But I would be sure we were sending them out whenever it was required.

Q. Well, whenever it started, by '84 and '85 --

A. I am sorry, '84, yes.

Q. -- by '84 and '85, the California

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Rhodes

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2 OSHA required that the letter be sent out?

3 A. Yes.

4 Q. And what Exhibit 7 shows, just to
5 summarize, is a collection of 21 such letters that
6 were sent out --

7 A. Yes.

8 Q. -- to bagging employees.

9 Now, the letters were actually sent
10 by whom? Who is the person? E. J. Garcia.

11 A. Safety and health supervisor.

12 Q. Actually, I guess they were sent by
13 different people. Some were Garcia; some were Mr.
14 Cronkite.

15 A. Safety engineer.

16 Q. Now, if we look at the letters sent
17 to employees, some are on Calidria Corporation
18 letterhead and some Union Carbide Corporation
19 letterhead.

20 Do you know why that was?

21 A. I don't know. I don't know. I
22 haven't the vaguest idea.

23 Q. Do you remember there actually being
24 a company called Calidria Corporation?

25 A. Not in that time frame.

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Rhodes

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Q. Do you remember there being a company
3 by that name at any time frame?

4

A. No.

5

Q. In any event, all of the letters in
6 Exhibit 7 show that copies were received by a
7 number of people, including you; correct?

8

A. Correct.

9

Q. Can you just describe for us -- go
10 down that list and tell me who those other people
11 are and what their role was?

12

A. Most of them -- DeLeon, I am drawing
13 a blank. He may have been at King City.

14

Jack Frost was at Grand Junction,
15 Colorado, in what was basically the main office at
16 that time.

17

Q. Main office of what?

18

A. Of -- in '84 -- let me retract that.

19

The main people other than those who
20 were in Danbury at this time, in the asbestos
21 operation -- or in the metals operation, I am
22 sorry -- were gathered at King City -- I am sorry,
23 at Grand Junction. It was a major office.

24

And Jack Frost was one of the senior
25 people at that office. I don't really know why he

10

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2 got a copy, because he was not that much involved
3 in the asbestos.

4 Marsten was one of the senior men at
5 the King City operation.

6 Q. Was he a Union Carbide employee?

7 A. These are all Union Carbide
8 employees.

9 Q. O.K.

10 A. Myers, I don't know where he was at
11 that point in time. I know who he is.

12 Ernie Piersall was corporate director
13 of safety.

14 Q. Where was he located?

15 A. In Grand Junction.

16 Ron Beethe was industrial hygienist
17 who worked for me in Grand Junction.

18 Jim Settlemoir was the technician
19 that did all the asbestos counting work in King
20 City. He was the lab man in King City for a long
21 time.

22 Bill Thurber was head man in the
23 asbestos projects located in, I believe, Danbury
24 at this time.

25 And Usrey was a shifter, shift

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leader, at King City.

Q. Do you know if Union Carbide ever communicated to customers what the air levels of asbestos were in the bagging area of the King City mill?

MR. GERSON: Ever, to any customer?

MR. BROWNSON: To customers of Calidria.

MR. GERSON: Any customer?

MR. BROWNSON: Right.

A. I do not know if they ever discussed it.

BY MR. BROWNSON:

Q. Do you recall any discussion at Union Carbide as to whether the air levels found in the bagging area of the King City mill ought to be communicated to customers?

A. No.

Q. Do you remember any discussion in Union Carbide as to whether the air level found at King City mill had any relevance to what might be going on in customer plants?

A. No.

Q. Let me show you the next exhibit,

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Rhodes

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2

which is Exhibit 8, June 3, '75 letter to Dr. J.

3

J. Welsh, from Mr. Thurber, which shows a copy

4

sent to you.

5

My question when you are ready to

6

answer is:

7

Do you recognize that letter?

8

(Pause in the proceedings)

9

Q. Now that you have looked at the

10

Exhibit 8, do you recall if you have ever seen it

11

before?

12

A. I don't deny it, but I don't recall

13

it.

14

Q. As you sit here today, you don't

15

recall that?

16

A. I don't recall that particular

17

letter.

18

Q. First of all, do you know who Mr. W.

19

C. Thurber is?

20

A. Yes.

21

Q. What was his job at that time?

22

A. He was the head man in the asbestos

23

operation in the whole affair.

24

Q. And his office was where?

25

A. In 1975 it would have been in New

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Rhodes

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2 York City, on the next block.

3 Q. 270 Park Avenue, New York, New York?

4 A. Yes.

5 Q. And he is writing to Dr. J. J. Welsh
6 at the fourth floor.

7 Who was Dr. J. J. Welsh?

8 A. He was a medical -- I don't know
9 whether he was the head corporate medical doctor
10 or one of the top corporate medical doctors.

11 Q. Of Union Carbide Corporation?

12 A. Union Carbide Corporation.

13 Q. New York City?

14 A. New York City.

15 Q. And then he sent copies to Mr. Myers,
16 who is the man --

17 A. That I reported to basically.

18 Q. And to you?

19 A. Yes.

20 Q. Do you have any recollection as you
21 sit here today about information coming from
22 Europe, either in the 1960s or 1970s, about any
23 hazards that could be associated with the use of
24 Calidria asbestos?

25 A. At the time, in this time frame, I

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2 have no recollection.

3

But I have been reminded that some --
4 one of our people in Europe was saying that the
5 thing caused some questions. I can't recall his
6 name.

7

Q. When you say you have been reminded,
8 is that in connection with preparing for this
9 deposition?

10

A. One of the previous depositions.

11

Q. In connection with some previous
12 deposition, you were shown some documents by Union
13 Carbide people in Europe?

14

A. I don't recall whether I was shown
15 them or it was discussed, what was, in general
16 terms, what he had been saying.

11

17

Q. Did you see a report by Sayers?

18

A. I don't remember seeing it, but it
19 was discussed. I may have seen it.

20

Q. That would be in connection with some
21 deposition in the past?

22

A. Three or four years.

23

Q. As long as we are on that topic, have
24 you given other depositions in cases where people,
25 plaintiffs, have been alleging some sort of

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2 asbestos-related injury from exposure to Calidria
3 asbestos?

4 A. Yes.

5 Q. Was it in connection with one of
6 those depositions that you saw this or heard about
7 this material from England?

8 A. Yes.

9 Q. How many depositions have you given
10 in cases of that type?

11 A. Prior to this one, two.

12 Q. And which cases were those, do you
13 remember?

14 A. I can tell you the subject.

15 One was a drilling mud case in
16 Houston.

17 The other was an RG244 case in
18 Athens, Georgia.

19 Q. When you say "RG244," Calidria
20 asbestos fiber?

21 A. Yes.

22 Q. Was the case located in Athens,
23 Georgia, or that was where you gave the
24 deposition?

25 A. That was where I gave the deposition.

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Rhodes

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Q. Do you remember that was a case involving a man who worked at, I think, a Georgia Pacific wallboard plant in Texas?

5

A. It was not --

6

Q. What was it?

7

A. -- not a lab man.

8

9

Salesman, basically, from Whittaker Chemical.

10

Q. O.K. And the salesman was alleging some sort of asbestos-related disease --

12

A. Yes.

13

Q. -- from being exposed to RG244?

14

A. Yes.

15

Q. Your deposition was taken, in connection with that case, in Athens, Georgia?

17

A. Yes.

18

Q. What was your particular role in that case? Were you being asked to be a witness by Union Carbide?

21

A. Yes.

22

Q. Did you ever have any role in any cases arising out of a plant in Quanah, Texas, where some people were claiming they were exposed to Calidria asbestos and got various diseases?

25

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Rhodes

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A. No.

3

Q. You mentioned a second case.

4

5 another one where you gave a deposition?

6

7 A. One was -- the first one was in
8 Beaumont, Texas, relative to asbestos. Drilling
9 mud.

9

10 Q. That deposition took place where, in
11 Beaumont?

11

A. Beaumont.

12

13 Q. The third deposition in connection
14 with asbestos lawsuits would be today?

14

A. Today.

15

16 Q. Just to cover this, it was in
17 connection with one of those prior two depositions
18 you told us about where you saw or heard about
19 this information from England?

19

A. Yes.

20

21 Q. Before you were shown that in
22 connection with one of those depositions, you had
23 not seen that before, or was it something that you
24 saw and forgot?

24

A. I had not seen it before.

25

Q. While you were working for Union

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Rhodes

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2 Carbide, had it ever come to your attention that
3 certain unions over in England or elsewhere in
4 Europe were raising doubts about handling Union
5 Carbide asbestos?

6 A. I don't know.

7 Q. Did you ever hear anything about dock
8 workers in England not wanting to unload it off
9 ships because they thought it might be dangerous?

10 A. That rings a very, very faint bell.

11 Q. Do you know if that is information
12 that came to your attention while you were working
13 for Union Carbide or something you learned in
14 connection with these lawsuits?

15 A. It was not in connection with a
16 lawsuit.

17 Q. In any event, do you have any
18 recollection, back when you were working for Union
19 Carbide, of doing any work in connection with
20 asbestos health issues over in Europe?

21 A. No.

22 Q. Do you have any recollection, as you
23 sit here today, that during the 1960s and 1970s,
24 you heard about various asbestos health research
25 that was going on in Europe?

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THE WITNESS: Could I have that
question.

(Question read)

A. Yes.

BY MR. BROWNSON:

Q. Do you recall where you got that
information?

A. By and large, either through the
AIANA or by seeing it in meetings, publications,
things of that nature.

I was not trying to read the
literature exhaustively but did, during that time
period, read articles that I came across and saw
independently.

Q. Back during the time period when you
worked for Union Carbide, beginning in '67, when
you were selling Calidria asbestos, if you had
questions or needed information concerning health
issues, would you direct those to the Union
Carbide medical department in New York or where
would you go for that?

A. I don't recall doing it. But if I
had done it, it would have been to the New York --
the medical people that were here in New York.

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Q. When you say "medical people in New York," those would be at the Union Carbide medical department?

A. I am sorry?

Q. Those would be at the Union Carbide medical department?

A. Yes, corporate medical.

Q. Let me show you what has been marked as Exhibit 9 and ask if you have ever seen that before. I am showing you Exhibit 9. Is this something you have seen before today?

A. Yes.

Q. It is indicated that it is the internal Union Carbide correspondence of February 12, 1976 --

A. Yes.

Q. -- from Mr. Thurber, at the office in New York City --

A. Yes.

Q. -- and it is directed to Mr. J. W. Rawlings at the metals division, on the 30th floor, at the same office, in New York City?

A. Yes.

Q. Who is he?

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A. He was the level up above Thurber.
I don't recall.

Q. He was on a higher floor in the
building?

A. He was on a higher floor.

Q. And he was also higher?

A. A higher official. Thurber reported
to him.

MR. GERSON: The two often go hand
in hand.

Q. A copy is indicated as being sent to
Mr. Kroft.

Who is he?

A. He was the president of metals.

Q. Metals division of Union Carbide?

A. Yes.

Q. It doesn't indicate that any copy of
it was actually sent to you at the time; does it?

A. No.

Q. So you do recall seeing this?

A. A copy went to John Myers. And I
have -- again, we were a small organization and
circulated things like this.

Q. Who are these other two people who

1

2 got copies?

3

4 A. R. L. Folkman -- and I am drawing a
5 blank. I think Folkman may have been the division
6 president.

7

8 And Kroft a step above him. I just
9 don't recall.

10

11 Folkman reported to Kroft.

12

13 Q. Would it be fair to say that all of
14 these people, with the exception of Mr. Meyers,
15 who are shown getting a copy of this report, were
16 Union Carbide headquarters people in New York?

17

18 A. Senior headquarters people.

19

20 Q. Do you know who WCT is?

21

22 A. William C. Thurber.

23

24 Q. O.K. Do you know why Mr. Thurber was
25 giving this summary of the Calidria asbestos
26 business to the senior corporate Union Carbide
27 people at that time, in 1976?

28

29 A. Yes.

30

31 Q. Why was that?

32

33 A. Carbide was involved in
34 across-the-corporation strategic planning. And
35 this was our particular business.

36

37 Q. And when you say "strategic

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Rhodes

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2 planning," what does that mean, in practical
3 terms, with respect to what you were doing in
4 1976?

5 A. In practical terms, it just gave us
6 some information down the ladder on what the
7 thinking was and the direction and the planning
8 for the asbestos business.

9 In corporate terms, they were
10 reviewing all the businesses and deciding what to
11 do about them at that point in time.

12 Q. Was a decision made, after this
13 review, that Union Carbide ought to keep the
14 asbestos going at least for some period of time?

15 A. I was not party to what their
16 decision was.

17 Q. At least they did keep it going?

18 A. They did keep it, but they eventually
19 sold it.

20 Q. So, if we could summarize what is
21 going on here, in 1976, the Union Carbide
22 corporate headquarters people in New York were
23 reviewing all the different businesses that Union
24 Carbide owned, and this is a summary of the
25 Calidria asbestos business.

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Rhodes

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Is that fair to say?

3

A. That is a reasonable summary.

4

Q. You don't know the details of the

5

Union Carbide corporate decision, but you do know

6

that they decided to keep the asbestos business at

7

least until about 1985, at which point it was

8

sold?

9

MR. WILL: I will object.

10

He said they, in fact, kept it. He

11

doesn't know when a decision was made.

12

MR. BROWNSON: I understand.

13

MR. WILL: That is not the way you

14

phrased the question.

15

A. The fact that they kept it does not

16

mean that they decided to keep it.

17

BY MR. BROWNSON:

18

Q. Let me ask you this question:

19

Whatever the decision was, Union

20

Carbide corporation management did, in fact, keep

21

the asbestos business until about 1985 --

22

A. Yes.

23

Q. -- at which point it was sold?

24

A. Yes.

25

Q. And when it was sold, do you know to

13

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Rhodes

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whom it was sold?

3

A. Sold to a company, I believe the name was Vermont Asbestos Group, VAG.

5

Q. Are you familiar with that company?

6

A. The only thing I knew about them or know about them is they had an asbestos operation in Vermont somewhere, which makes sense. And they also had a -- had one in Copperopolis, California.

10

Q. At?

11

A. Your spelling is as good as mine.

12

Q. At some point after '85, we have been told by Union Carbide, the asbestos operation came to be owned by KCAC, King City Asbestos Company.

15

Have you ever heard of that company?

16

A. Yes.

17

Q. That is the company that owns the mine?

19

A. I believe they are owned by VAG. VAG just continued the King City Asbestos Corporation name. For business continuity or for whatever reason, they didn't change it.

23

Q. Have you done any work for the new owners of the Calidria asbestos operation after Union Carbide sold it?

1

2

A. No.

3

4

Q. Have they ever consulted you or asked you to do anything for them?

5

A. No.

6

7

Q. Next I would like to show you another exhibit, which is Exhibit 10.

8

9

I will ask you if you have ever seen that before.

10

11

12

A. In answer to one of your earlier questions, we used the most efficient dust collectors on a product.

13

14

Q. You are reading from a speech given by Mr. Myers on the exhibit.

15

16

17

Let me ask you, before we get to that, have you ever seen this particular document before, Exhibit 10.

18

19

A. I don't remember, but I have undoubtedly seen it.

20

21

22

Q. What do you mean?

A. I am on the distribution.

23

24

25

Q. A copy of it --

A. Was sent to me, at least to look at.

Q. Look at a couple of things.

Basically, what this is is a text or

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Rhodes

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2 a script of a speech given by Mr. Myers to who?
3 Can you tell?

4 A. Made at the state cancer education
5 programs on June 13th in Los Angeles and June 18th
6 in San Jose.

7 Q. What year was that?

8 A. 1977.

9 And this is presented at California's
10 one-day programs, quote, "preventing on-the-job
11 cancer", end quote.

12 Q. It looks like it is a slide show,
13 with narration by Mr. Myers?

14 A. Yes.

15 Q. He lists a number of slides
16 presented, and what I want to do is just refer you
17 to a couple of these.

18 Slide number 21 indicates it is of a
19 "No smoking" sign "at the entrance of our plant."
20 Do you understand that to be the King
21 City mill?

22 A. Yes.

23 Q. And Mr. Myers says in his text to
24 that slide:

25 "Smoking has been prohibited on plant

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Rhodes

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property since January of this year," which I

3

guess would be 1977.

4

A. Yes.

5

Q. "As you all know, smoking and

6

asbestos exposure do not mix."

7

Did you have any understanding back

8

in 1977 that hazards related to asbestos exposure

9

could be increased or compounded amongst smokers?

10

A. Yes.

11

MR. WILL: Can you be more specific

12

as to what you mean by "hazards"?

13

MR. BROWNSON: Health hazards.

14

Q. Do you know when you obtained that

15

information?

16

MR. GERSON: You are not asking for

17

medical opinion at this point?

18

MR. BROWNSON: No.

19

Q. What I am asking is:

20

Mr. Myers recites in his piece here,

21

in connection with slide 20, that statement, that

22

"Smoking and asbestos exposure do not mix," and

23

what I am asking, Dr. Rhodes, is if you understood

24

that to be true back at this time, in 1976.

25

A. Yes.

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Q. Do you know when you first obtained that information?

A. Some time after Dr. Selikoff's paper came out.

Q. In about?

A. '70-ish, somewhere in that time frame.

Q. Do you know where you got the information?

A. From Selikoff and the literature, general asbestos hazards literature, that was coming out in the early '70s.

Q. Do you know whether customers of Calidria asbestos were advised by Union Carbide that smoking and asbestos do not mix?

MR. GERSON: At any time period?

MR. BROWNSON: Right.

A. Could you repeat.

Q. Do you know whether customers of Union Carbide Calidria asbestos were advised that smoking and asbestos do not mix?

A. Yes.

Q. What do you know about that?

A. We included that in general

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2 information that we sent out to customers with
3 some publications from the AIANA. It was fairly
4 prominent in our customer discussions from
5 sometime, I would estimate, in the mid-'70s. I
6 don't know specifically when.

7 Q. Do you know if it was before or after
8 1974?

9 A. No.

10 Q. Did Union Carbide provide to
11 customers various handouts from the AIANA?

12 A. Yes.

13 Q. And do you know when those handouts
14 began to be provided to customers by Union
15 Carbide?

16 A. Sometime in the early to middle '70s
17 is my best estimate.

18 Q. Would it be fair to say that the
19 Asbestos Information Association of North America,
20 in the early to mid-'70s, was very skeptical of
21 Dr. Selikoff's research and pronouncements about
22 asbestos and health?

23 MR. WILL: I will object to asking
24 him to characterize something like that.

25 A. I don't know that I could define

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Rhodes

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2 whether they were or not.

3

Q. Would it be fair to say that the
4 AIANA was a trade association of asbestos mining
5 companies in North America?

6

A. No.

7

Q. It was not?

8

A. It included them, but it was -- also
9 had a large number of asbestos-containing product
10 manufacturers that were involved.

11

Q. Slide number 30 presented in this
12 speech by Mr. Myers is entitled "Monitoring," and
13 he writes and presented in his speech:

14

"We have collected dust samples since
15 our plant opened, in 1963. Considerable effort is
16 expended to remain in compliance with changing
17 regulations."

18

Do you see that?

19

A. What was the slide number?

20

Q. 30.

21

A. Yes.

22

Q. As far as you know, is that correct?

23

A. As far as I know, that is correct.

24

Q. But, again, as you sit here today,
25 you can't recall seeing any of those before 1971?

1

Rhodes

164

2

MR. WILL: Any of what?

3

MR. BROWNSON: Dust measurements

4

from King City.

5

A. No, I don't know of any before then.

6

There is no reason for me to see

7

them.

8

Q. Next exhibit I would like you to look

9

at is Exhibit 11. This is a July 14th, 1977

10

letter from you to a number of different people at

11

Union Carbide.

12

I will ask you if you recognize that.

13

A. I recognize it.

14

Q. Can you describe for us what that

15

exhibit is?

16

A. At this point in time, the Consumer

17

Product Safety Commission --

18

MR. WILL: Wait. Tell him what the

19

thing is. There are several different

20

documents, apparently, stapled together.

21

Q. Just give us a physical description

22

of what this exhibit is.

23

A. This is a letter on proposed CPSC ban

24

of asbestos in tape joint compounds, dated July

25

14, 1977.

1

Rhodes

165

2

Q. And CPSC is Consumer Product Safety

3

Commission?

4

A. Yes.

5

Q. That is a federal government group?

6

A. Yes.

7

Q. At the time this was written, was the

8

Calidria asbestos being used in tape joint

9

compound?

10

A. Yes.

11

MR. WILL: The first page of the

12

exhibit is this internal correspondence

13

from Dr. Rhodes dated July 14, 1977.

14

Second, third, fourth and fifth

15

pages of the exhibit are a copy of a letter

16

dated July 14, 1977, to The Honorable S.

17

John Byington, chairman of the Consumer

18

Product Safety Commission, also from Dr.

19

Rhodes.

20

And the last --

21

MR. BROWNSON: And the last three

22

pages of the exhibit are something else.

23

THE WITNESS: Apparently from Barry

24

L. Castleman, environmental consultant,

25

commenting on the Carbide 7/14/77 letter to

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UCAREF00019071

1

Rhodes

166

2

CPSC, dated from the dry well repair job.

3

BY MR. BROWNSON:

4

Q. Do you know if that is something that

5

was actually attached to your letter, or is that

6

something --

7

A. This looks like my writing on it.

8

This was probably July 14th.

9

MR. WILL: That refers to your

10

letter, the day of your letter.

11

You say "attached." You mean

12

attached in Carbide's files.

13

Q. What I am trying to figure out is:

14

I have received these three items

15

that Trevor Will has just identified, attached

16

together, from Union Carbide. I am just wondering

17

if your internal cover memo which is on the front

18

included as attachments the two attachments that

19

we have here on the exhibit.

20

A. I recognize the letter, obviously.

21

Q. The first of the two attachments you

22

recognize?

23

A. Let me look here just a moment.

24

Q. Let's see if we can clear this up.

25

The exhibit you are looking at,

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UCAREF00019072

1

2 Exhibit 11 --

3

A. Exhibit 11.

4

Q. -- consists of three parts.

5

The first is your internal

6

memorandum, meaning Union Carbide memorandum;

7

correct?

8

A. Yes.

9

Q. Then the next part is a letter you

10

wrote on July 14, 1977, to the chairman of the

11

Consumer Product Safety Commission; correct?

12

A. Yes.

13

Q. You recognize that?

14

A. Yes.

15

Q. And the third part of this exhibit is

16

three pages of typewritten commentary by Barry L.

17

Castleman, environmental consultant --

18

MR. WILL: It is on his letterhead.

19

Q. -- on his letterhead, basically

20

commenting on your letter; right?

21

A. Yes.

22

Q. And then Mr. Castleman's typewritten

23

material contains some handwritten comments made

24

by you?

25

A. Yes, probably. They look like my

1

Rhodes

168

2 handwriting.

3 Q. You are commenting on his comments?

4 A. Yes.

5 Q. O.K. The next exhibit I have got is
6 Exhibit 12.

7 I will ask you if you recognize that.

8 A. Yes.

9 Q. For the record, will you identify for
10 us what Exhibit 12 is.

11 A. It is a -- subject is asbestos
12 product label, October 29, 1984.

13 Q. And that is a memorandum by you?

14 A. By me, to J. L. Myers.

15 Q. Of?

16 A. UMETCO Minerals Corporation, King
17 City, California.

18 Q. UMETCO Minerals Corporation is the
19 same King City Calidria asbestos business we have
20 been talking about?

21 A. Yes.

22 Q. And at some point its name was
23 changed to UMETCO Minerals Corporation?

24 A. The whole metals division at some
25 time was changed to UMETCO Minerals Corporation.

1

Rhodes

169

2

Q. It still was a Union carbide --

3

A. Still was a Union Carbide business.

4

Q. O.K. And what you are doing in this particular letter in '84, as I understand it, is you are commenting on an asbestos product label; right?

8

A. Yes.

9

Q. And this is the label that would go on what, bags of Calidria asbestos?

11

A. Yes.

12

Q. Would this label be used anywhere else, other than on bags?

14

A. It could be used as a warning label where warning labels are required, in other places.

17

Q. Do you know if Union Carbide used it anywhere other than on the bags of Calidria asbestos?

20

A. I don't believe Union Carbide ever used this.

22

Q. Do you know if it ever --

23

A. This label was being put together to give John something to take with him when they changed, when they sold the business. It is a

25

1

Rhodes

170

2 U.S. international label with the "A" sign on it.

3

Q. At the time you drafted this memo,
4 Union Carbide was already in the process of
5 selling the Calidria asbestos business?

6

A. Yes.

7

Q. And John Myers, who was the former
8 Union Carbide plant manager, was going to work for
9 the new owners?

10

A. Go with it, yes.

11

Q. And you were preparing or helping him
12 prepare a label to be used on the Calidria
13 asbestos bag under the new ownership?

14

A. Yes, Calidria Corporation.

15

They changed that.

16

Q. Here is why I am confused:

17

Earlier, when we were looking at
18 those letters sent to the bagging employees at
19 King City, some of them were on the Calidria
20 Corporation letterhead but they were copies to
21 you. I asked you at that point who this Calidria
22 Corporation was, and I got the impression they
23 were still owned by Union Carbide at that point.

24

MR. WILL: The operation or the

25

Calidria Corporation?

1
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9
10
11
12
13
14
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18
19
20
21
22
23
24
25

Rhodes

171

MR. BROWNSON: Both.

MR. WILL: I think he said he never
heard of Calidria Corporation.

A. I will admit to being confused.

In October '84, they were still part
of the new UMETCO Minerals Corporation, which was
a Union Carbide wholly-owned subsidiary in that
structure.

BY MR. BROWNSON:

Q. The particular label for the Calidria
asbestos bags, which is attached to your memo
here -- as I understand it, that label was never
used on the bags while Union Carbide owned the
company; is that correct?

A. That is my understanding, yes.

Q. Union Carbide did have a label on the
bags at some point; correct?

A. Yes.

Q. And at some point Union Carbide put a
warning label on the bag dealing with health
hazards of inhaling asbestos; correct?

A. Yes.

Q. Do you remember when that was?

A. I looked at both labels yesterday. I

1

Rhodes

172

2 am trying to remember. I think the first one was
3 in 1968.

4 Q. Do you remember when the first change
5 to that was made?

6 A. The first change was made in '76 or
7 thereabouts, when the new OSHA standard came out.

8 MR. WILL: I think '72.

9 THE WITNESS: I am sorry.

10 A. I am sorry. '72.

11 Q. O.K.

12 Q. By '84, the label you were suggesting
13 to Mr. Myers was that attached to your letter,
14 Exhibit 12?

15 A. Yes.

16 Q. Are you aware of any other revisions
17 of the label on the asbestos between '72 and '84?

18 A. No.

19 Q. Next exhibit I want to show you is
20 Exhibit 13.

21 I will ask you, first of all, do you
22 recognize that.

23 A. Yes, I recognize it.

24 Q. Can you describe for us what this
25 exhibit is.

1
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25

MR. WILL: Read the title.

A. "Occurrence of Ultra Fine Fibers in
Calidria RG244 asbestos," August 24, 1978.

Q. Is it a memorandum or a report?

A. Informal report.

Q. Addressed to Mr. Myers, who is the
manager of the King City plant?

A. Yes.

Q. It is written by you?

A. Yes.

Q. And the work done by Mr. Engels and
Glenda J. Spencer. August 24, 1978.

Do you remember why this report was
prepared?

A. Yes.

Q. Why was that?

A. In our customer sampling program, we
had suddenly picked up a couple of high fiber
counts in the RG244 product, which normally
gave -- routinely gave very, very low fiber
counts. And we also had had a report from a
customer, it states here, that their fiber counts
were now one to two; and I think, from what I read
here, also, an OSHA inspection got a very high

1

2 fiber count.

3

Q. At that customer's plant?

4

A. At the customer's plant.

5

6 So we went back and looked at the
7 filters. We had saved all the filters from the
8 customer counts over the years and stored them, so
9 we had them available to go back and look at them.
10 And we went back and looked at them and, in
11 general, found that there were -- in some of the
12 filters, there were fibers longer than five
13 microns that were also very fine. They were at
14 the limit of detection.

14

Q. By the polarized --

15

A. By the phase contrast microscopy.

16

17 If you had a microscope that was on
18 the good side, you could see them, and if you
19 didn't, you didn't.

19

20 And we had also been making -- had
21 made a couple of increases in capacity. The RG244
22 was manufactured in a separate circuit, and we had
23 made capacity increases and some processing
24 changes in that time frame. And these sections,
25 identifiable times when you could -- when you
found these marginally detectable fibers, seemed

1

Rhodes

175

2 to -- could represent the times these changes had
3 been made.

4 Q. O.K. And you drew some conclusions
5 from them, which you set out in the report. And
6 we don't need to belabor them in detail. But my
7 question is:

8 Do you know whether the information
9 contained in this report or the conclusions
10 contained in this report were then given to the
11 customers, or was this retained for Union
12 Carbide's internal use?

13 A. I don't know whether it was given to
14 customers or not.

15 I believe it caused us to start
16 running internal QC and adjust our processing
17 conditions so that we were not doing this.

18 Q. The report has the heading 'on it
19 "Business confidential."

20 Do you know what was meant by that?

21 A. That was meant to -- basically, to go
22 to a very small distribution, that you see there.

23 Q. Why did you place that heading on the
24 report?

25 A. Because we wanted, basically, to

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1

Rhodes

176

2 limit the information until we decided what to do
3 about it.

4

(Discussion off the record)

5

BY MR. BROWNSON:

6

Q. Dr. Rhodes, I want to show you the
7 next exhibit, which is marked Exhibit 14.

8

I ask you if you can identify for us
9 what that is.

10

A. It is entitled, "Testimony regarding
11 16 CFR, 1304, 1305, respirable free-form asbestos
12 proposal to ban certain patching compounds and
13 artificial emberizing materials," paren, ampersand
14 "ash," close paren.

15

Q. "Presented by Harrison B. Rhodes,
16 Union Carbide Corp."

17

That is you, yes?

18

A. Yes.

19

Q. August 15, '77?

20

A. Yes.

21

Q. Now, is this written testimony that
22 you submitted, or did you actually sit in front of
23 somebody and testify?

24

A. This was oral testimony before the
25 CPSC.

1

Rhodes

177

2

Q. The same Consumer Product Safety

3

Commission proposal to ban the joint compounds

4

containing asbestos that we talked about a minute

5

ago?

6

A. I think so. Let me review it here.

7

Yes, I believe it is.

8

Q. And you traveled somewhere to testify

9

in opposition to the ban?

10

A. Yes.

11

Q. Where did you go to present that

12

testimony?

13

A. Washington, D.C.

14

Q. The next exhibit is Exhibit 15.

15

I will ask you if you recognize this.

16

A. Yes.

17

Q. This is dated April 18, 1975, and it

18

is an internal Union Carbide correspondence from

19

you to Mr. Thurber, at the Union Carbide office on

20

the 38th floor, 270 Park Avenue, New York, New

21

York. Right?

22

A. Yes.

23

Q. And it says, "Subject: Backup

24

discussion, Marks" --

25

A. Backup information, Marks bill

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UCAREF00019083

1

Rhodes

178

2 discussion.

3 Q. What is Marks bill discussion?

4 A. This is a California law, Marks bill,
5 banning the spraying of anything containing
6 asbestos. And the original bill had gone through,
7 literally doing that. You couldn't spray water
8 from your house with asbestos in it, in
9 California.

10 And we had a number of products that
11 were used in maintenance coatings, things of that
12 nature, that had a small amount of asbestos
13 already mixed in, and our data showed that the
14 release of asbestos from the spraying was
15 basically nil, already wet, and that the release
16 of asbestos from the sandblasting or the removal
17 of the coatings was there, but very, very low.
18 And we were lobbying, talking, preparing to talk,
19 to the legislators relative to amending the Marks
20 bill.

21 Q. Did you, in fact, talk to the
22 legislators in California?

23 A. Yes.

24 Q. Was the Marks bill amended --

25 A. Was ultimately amended --

1

Rhodes

179

2

Q. -- as a result of your effort?

3

A. We were not alone. Our efforts and
4 those of others.

5

Q. If you'd look at the second paragraph
6 of your memorandum, you say:

7

"Our case is going to have to stand
8 or fall on the OSHA procedure."

9

Are you talking there about the fact
10 that the measurements Union Carbide had done on
11 asbestos air levels were all done according to the
12 OSHA method, using phase contrast microscopy?

13

A. Let me read the paragraph before I
14 answer that question.

15

Q. O.K.

16

(Pause in the proceedings)

17

THE WITNESS: Would you read the
18 question again, please.

19

(Question read)

20

A. The answer is yes.

21

BY MR. BROWNSON:

22

Q. Just before that, you make reference
23 to "EM."

18

24

Are you talking there about
25 electromicroscopy?

1

Rhodes

180

2

A. Yes.

3

Q. Now, in that context, you say:

4

"You also know we did not pursue the

5

EM work."

6

What EM work are you talking about

7

there?

8

A. Well, the issue here is that there

9

were in our samples, particularly if you had

10

fiberglass, also, in the composite that you were

11

sanding or grinding, you got glass fibers and

12

things like that that were counted as fibers if

13

they had the right dimensions, unless you had good

14

reason to exclude them.

15

And what we had done is, for want of

16

better information, had included a fair amount of

17

stuff in those counts that in all probability were

18

not asbestos, and we had to go to

19

electromicroscopy to redo the counting. And that,

20

in itself, is a messy correlation. It really is

21

not that good.

22

Q. Why did you not go to the

23

electromicroscopy to get a more accurate film, a

24

more accurate count?

25

A. You don't necessarily get a more

2 accurate count. You can identify some of the
3 things that were not asbestos, which would help.
4 But comparison counting between electron
5 microscopy and the same or filtered from the same
6 kind by the EM -- there have been varying levels
7 of correlation, none of them real good.

8 Q. Have you ever done such comparisons?

9 A. We have never done such comparisons,
10 but I have read about them.

11 Q. You say one of the problems with
12 using electromicroscopy or one of the things you
13 could do with electromicroscopy is identify the
14 nonasbestos particles?

15 A. You could begin to positively
16 identify some of the things you had been counting
17 which, in reality, were not asbestos.

18 Q. The other thing you would also do,
19 you would detect smaller asbestos particles that
20 you didn't see before, smaller and thinner
21 particles?

22 A. You would detect smaller and possibly
23 thinner, yes, that you didn't see before.

24 So it was more of a mess than a
25 research project to try to do that. So we just

1

2 didn't do it.

3

Q. In any event, it sounds like this was
4 some work that was considered but you decided not
5 to pursue it?

6

A. Yes.

7

We decided to stand on our OSHA.

8

Q. O.K. Then, when you say "We did not
9 pursue it anymore," that seems to indicate that
10 you started it.

11

Did you start it at all?

12

A. No.

13

Q. You just didn't do any of it?

14

A. No.

15

Q. Here is what I wanted to ask you
16 about:

17

On the second page of your memo, you
18 talk about "Yale report." Do you know what you
19 were talking about here?

20

A. I think a gentleman named Sawyer did
21 some work at Yale on asbestos. It is hazy. He
22 came up with some unusually high numbers.

23

Q. At the time you wrote this report, it
24 had apparently come to your attention that Dr.
25 Sawyer had generated some asbestos air level

1

Rhodes

183

2 numbers that you were commenting on; is that fair
3 to say?

4 A. Yes.

5 Q. And do you know how Dr. Sawyer's
6 result had come to your attention before that
7 time?

8 A. It appeared in the literature
9 somewhere.

10 Q. And, maybe to jog your memory, do you
11 recall that what Dr. Sawyer did was took some
12 measurements of airborne asbestos levels in the
13 Yale architectural library at Yale University?

14 A. Now that you say that, I think that
15 is the report.

16 My comment was if he took an unbound
17 asbestos and rubbed it hard enough, there is no
18 reason to disbelieve a count this high could be
19 obtained.

20 Q. Are you aware that Dr. Sawyer's
21 results from the Yale architectural library were
22 adopted by OSHA as some of the data upon which
23 they based the OSHA standards after 1973?

24 A. I was not aware of it.

25 Q. The next exhibit, Number 16, April

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1

Rhodes

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2 22, 1974 report, authored by you and Mr. Kleber,
3 entitled "Airborne asbestos dust levels for
4 intermittent batch dumping operations for open
5 chrysotile fiber"; is that correct?

6 A. Yes.

7 Q. Is this a report that you authored?

8 A. Yes.

9 Q. Do you remember why this report was
10 written and what purpose you intended to use it
11 for?

12 A. We were assembling data that we
13 had gotten from the various -- variety of
14 customer monitoring, to get an overview of the
15 kind of fiber levels that were expected, for
16 our own information and for discussing with
17 customers.

18 Q. And the compilation or the summary of
19 the customer air level data that you talked about
20 earlier, that you put together?

21 A. This is one of them, anyway. I was
22 curious. I notice this is 1974, and I think that
23 probably we updated it and published others as
24 we got more information. But this is the first
25 one.

1

Rhodes

185

2

Q. Do you know if any report of this

3

type, summarizing the data at customer plants, was

4

prepared considering the Calidria pelletized

5

asbestos?

6

A. I believe it was.

7

Q. Do you recall what the date was?

8

A. After this one.

9

Q. Do you know if there was a report

10

similar to this, summarizing airborne asbestos

11

dust measurements at the King City plant, where

12

those were compiled and put together in a

13

report?

14

A. I don't recall ever doing that.

15

Q. Do you know if this report, Exhibit

16

16, was ever used by you or submitted by you in

17

connection with any government regulatory

18

proceedings?

19

A. No.

20

Q. Does that mean you don't know or it

21

wasn't?

22

A. I don't know.

23

MR. BROWNSON: Thank you.

24

EXAMINATION

25

BY MR. WILL:

1

Rhodes

186

2

Q. Doctor, by way of clarification, if
3 you are looking at fibers that are longer than
4 five microns, talking only about that type of
5 fiber, would you expect to be able to see all
6 of the fibers longer than five microns with
7 PCM, if you are properly trained in that
8 microscope?

9

A. No.

10

Q. Do you have any sense of what the
11 percentage is?

12

A. No.

13

Q. All right. Doctor, am I correct, do
14 I understand correctly from your last answer, that
15 you don't have any sense of what percentage of the
16 fibers over five microns you would be able to see
17 with PCM?

18

MR. BROWNSON: I will object to the
19 form of the question.

20

MR. WILL: I will rephrase it.

21

Q. Do you have any sense, Doctor --
22 let's talk about Calidria asbestos -- of what
23 percentage of the fibers over five microns that
24 exist in a sample you would be able to see with
25 PCM, the way you did it -- the way it was done

1

Rhodes

187

2 when you were at Union Carbide?

3 A. I would think you would be able to
4 see a substantial proportion of them.

5 Q. Are you able to say with any more
6 specificity than that?

7 A. I can't say with any more
8 specificity.

9 MR. WILL: O.K.

10 FURTHER EXAMINATION

11 BY MR. BROWNSON:

12 Q. Have you seen any Calidria asbestos
13 fiber size distribution data that actually tells
14 you what portion of them are detectable by PCM and
15 what are not?

16 A. No.

17 MR. WILL: We are talking about
18 fibers over five microns?

19 MR. BROWNSON: Over five microns.

20 A. I have not seen any data of that
21 type.

22 FURTHER EXAMINATION

23 BY MR. WILL:

24 Q. Doctor, did you do any studies
25 actually comparing asbestos fiber from the Union

1

Rhodes

188

2 Carbide mine with fiber from the Johns-Manville
3 mine or fiber from the Atlas mine in the Calidria
4 deposit?

5 A. I did not.

6 Q. Are you aware of any such
7 studies being done by other people at Union
8 Carbide?

9 A. There may have been work in that area
10 done by Dr. Mumpton and another gentleman whose
11 name escapes me, back in the early days of the
12 project. Dr. Shwatzdiak.

13 Q. If there was such work, we should ask
14 Mumpton and Shwatzdiak?

15 A. Yes.

16 Q. They would be the ones that know
17 about it if there was any such work?

18 A. Yes.

19 MR. WILL: All right.

20 MR. WILL: That is all I've got.

21 MR. BROWNSON: Just for the record,
22 you will put the exhibits with the original
23 and then copy exhibits for the copies. The
24 reporter can send me the original for later
25 filing with the court.

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25

MR. WILL: Right.

And he does want to read it and sign

it.

MR. BROWNSON: Thank you.

(Time noted: 4:20 p.m.)

Subscribed and sworn to before me

this_____day of_____1994

C E R T I F I C A T E

STATE OF NEW YORK)
) ss.:
COUNTY OF NEW YORK)

I, PAUL KIRSCHEN, a Certified
Shorthand Reporter and Notary Public within
and for the State of New York, do hereby
certify:

That I reported the proceedings in
the within-entitled matter, and that the
within transcript is a true record of such
proceedings.

I further certify that I am not
related, by blood or marriage, to any of
the parties in this matter and that I am in
no way interested in the outcome of this
matter.

IN WITNESS WHEREOF, I have hereunto
set my hand this 19th day of October, 1994.



PAUL KIRSCHEN, CSR

1

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2

I N D E X

3

WITNESSEXAMINATION BYPAGE

4

Harrison B. Rhodes

Mr. Brownson

4

5

187

6

Mr. Will

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FOR IDENT.

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Dr. Rhodes' curriculum vitae,
through 1986

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UCC plenum test, 10903, dust
count, King City, California,
May 12, 1982 and July 26, 1982

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UCC dust count, King City,
California, May 2, 1989

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Replicate sampling of airborne
fiber emissions at King City,
California, done March 15, 1979

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King City NIOSH samples, dust
count, January 25-27, 1983

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21 1985 letters from Union
Carbide to baggers

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Letter dated June 3, 1975, from
W. C. Thurber to Dr. J. J.
Welsh

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Correspondence dated February
12, 1976, from Mr. Thurber to
J. W. Rawlings

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