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IN THE UNITED STATES DISTRICT COURT
DISTRICT OF NEW JERSEY

JOAN MAERTIN, et al.,	)	
	)	
Plaintiffs,	)	
	)	
v.	)	No. L-95-CV-2849
	)	
ARMSTRONG WORLD INDUSTRIES, INC.,	)	
	)	
Defendant,	)	
	)	
v.	)	
	)	
MONSANTO COMPANY and AMERICAN	)	
MINERAL SPIRITS CO.,	)	
	)	
Defendants.	)	

CERTIFIED COPY

DEPOSITION OF DR. MARTIN FARRAR
Taken by Craig F. Turet, Esq.
On Behalf of Defendant Armstrong
August 7, 1997

Stephanie K. Rennegarbe, CSR, RPR, RMR
of
RANKIN REPORTING & LEGAL VIDEO
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Defendant,	)	
	)	
v.	)	
	)	
MONSANTO COMPANY and AMERICAN	)	
MINERAL SPIRITS CO.,	)	
	)	
Defendants.	)	

DEPOSITION OF DR. MARTIN FARRAR, produced, sworn
and examined on the 7th day of August, 1997, between the
hours of 9:00 in the forenoon and 12:30 in the afternoon of
that day, at the offices of Gallop, Johnson & Neuman, 101
South Hanley, in the City of Clayton, State of Missouri,
before Stephanie K. Rennegarbe, Certified Shorthand Reporter
within and for the State of Illinois, Registered Professional
Reporter, Registered Merit Reporter, in a certain cause now
pending in the United States District Court, District of New
Jersey, between JOAN MAERTIN, et al., Plaintiffs, and
ARMSTRONG WORLD INDUSTRIES, INC., Defendant, and MONSANTO
COMPANY and AMERICAN MINERAL SPIRITS CO., Defendants.

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A P P E A R A N C E S

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S T I P U L A T I O N

IT IS HEREBY STIPULATED AND AGREED by and between
counsel for the parties that this deposition may be taken in
shorthand by Stephanie K. Rennegarbe, CSR, RPR, RMR, and
afterwards transcribed into printing, and signature by the
witness is not waived.

DR. MARTIN FARRAR

of lawful age, being first duly sworn to tell the truth, the
whole truth and nothing but the truth, deposes and says as
follows:

DIRECT EXAMINATION

By Mr. Turet:

Q. Good morning, Dr. Farrar.

A. Good morning. How are you?

Q. I'm fine, thank you. I introduced myself a few
moments ago. I'm Craig Turet. I'm here as an attorney for
Armstrong World Industries.

Have you before deposed before today, sir?

A. Yes.

Q. Civil case, as opposed to a criminal case?

A. Civil.

Q. And you are familiar with the drill, I'm sure.
I'm going to ask you a series of questions. You will be
expected to answer as completely as you can, not asking you
to guess or speculate. Just tell us as best you can recall

1 whatever the answers to the questions are. You recognize you
2 are under oath this morning?

3 A. Yes.

4 Q. And that's just as if you were in a court. You
5 also recognize if this case does come to a trial some day, if
6 for any reason you are not available for the trial that your
7 testimony today in writing could be introduced as if you were
8 there. Do you understand that?

9 A. Yes; yes.

10 Q. Just to remind you, we have had some deponents who
11 nodded their heads, which doesn't show up very clearly on a
12 transcript.

13 A. All right.

14 Q. Okay. Also, if you don't hear my question or you
15 don't understand it, just let me know. I will be happy to
16 repeat it or rephrase it. If you do answer a question, that
17 will indicate that you both heard the question and understood
18 it. Okay?

19 A. Yes.

20 Q. Okay. Dr. Farrar, just by way of background, can
21 you give us a quick thumbnail sketch of your educational
22 history, educational background?

23 A. Starting at college?

24 Q. Yes.

25 A. I have a Bachelor's degree in chemistry from

1 Mississippi College in 1943. I was in the Navy for three and
2 a half years, and went to the University of Pittsburgh in
3 1946, received a Ph.D. in organic chemistry in 1950.

4 Q. And did you receive a Master's degree as well?

5 A. I did not.

6 Q. Okay. Was there a further specialization within
7 organic chemistry, or was the Ph.D. in that discipline as a
8 whole?

9 A. Well, one of the majors that the University of
10 Pittsburgh granted was in the field of organic chemistry
11 broadly. So that's what my degree is in.

12 Q. Did you do a doctoral thesis?

13 A. Yes, I did.

14 Q. What was the subject of that?

15 A. The Friedel, F-R-I-E-D-E-L, Crafts, C-R-A-F-T-S
16 reaction with thiophene and certain derivatives.

17 Q. There is going to be a lot of spelling requests, I
18 suspect, today. Can you tell me generally what types of
19 materials those are that you just described, what types of
20 chemical substances?

21 A. Thiophene is a chemical occurring in coal tar, and
22 is a heterocyclic compound containing carbon, hydrogen and
23 sulfur.

24 Q. Now, have you also had occasion most of your
25 career to publish?

1 A. Yes.

2 Q. Okay. What are some of the subjects, if you could
3 describe them sort of in lay terms, that you have published
4 on?

5 A. As a result of my work at the University of
6 Pittsburgh, there were several publications in the field
7 describing my work of the Friedel Crafts reaction with
8 thiophene derivatives.

9 I have a number of publications in the
10 pharmaceutical field, including the total synthesis of
11 cortisone. I have a number of publications in the field of
12 reaction mechanisms, and some publications in the field of
13 plasticizers.

14 Q. And focusing on the publications in the field of
15 plasticizers, again, asking that you describe them in lay
16 terms, can you tell me what the subjects were?

17 A. In general, these are publications dealing with
18 new synthetic methods for the production of plasticizers.

19 Q. Do any of them relate to polychlorinated
20 biphenyls?

21 A. No.

22 Q. Now, also, before I get to your employment history
23 in general, what organizations have you belonged to in the
24 course of your career that you were in for more than, let's
25 say, five years?

1 A. The American Chemical Society, and the Society of
2 Plastics Engineers.

3 Q. And did you hold any offices within those
4 organizations?

5 A. No.

6 Q. Okay. Now, who's your first employer after you
7 graduated from college?

8 A. U.S. Navy.

9 Q. Ahh. Who was your first employer after your
10 service in the Navy?

11 A. University of Pittsburgh.

12 Q. You worked for the university?

13 A. I was a graduate student teaching assistant at the
14 University of Pittsburgh.

15 Q. And was that teaching in the area of organic
16 chemistry?

17 A. All fields of chemistry; organic, inorganic,
18 analytical and physical.

19 Q. Did you work for any other employers during the
20 time you were getting your Ph.D.?

21 A. No.

22 Q. Okay. Who was your first employer after you
23 received your Ph.D.?

24 A. Monsanto Chemical Company.

25 Q. And did that begin in 1950?

1 A. Yes.

2 Q. What was the first position you held with
3 Monsanto?

4 A. Senior research chemist.

5 Q. How long were you a senior research chemist?

6 A. Dates got a little fuzzy, but approximately four,
7 four and a half years.

8 Q. And were you a senior research chemist within a
9 particular division?

10 A. Yes.

11 Q. Okay. Which division was that?

12 A. Organic chemicals division.

13 Q. And was there a further breakdown into product
14 groups at that time?

15 A. During that time, no.

16 Q. Did you generally have a specialization in a
17 particular product line or group of products?

18 A. No. I worked on projects that were assigned to
19 me.

20 Q. Okay. And what position did you assume in -- in
21 or about 1954?

22 A. I resigned from Monsanto and went to work for the
23 Ethyl Corporation in Baton Rouge, Louisiana.

24 Q. And is Ethyl Corporation also a chemical
25 manufacturer?

1 A. Yes.

2 Q. And what was your position with Ethyl Corp. at the
3 time?

4 A. I was a project leader.

5 Q. As a project leader, did you have a specialization
6 in a particular product or group of products?

7 A. Well, the whole company was specialized for the
8 manufacture of tetraethyl lead. So I worked on at the time
9 tetraethyl, T-E-T-R-A-E-T-H-Y-L, all in word, tetraethyl
10 lead, L-E-A-D.

11 Q. And what was tetraethyl lead used for?

12 A. It's an antiknocking gasoline.

13 Q. Okay. How long did you remain with Ethyl Corp.?

14 A. Approximately one year.

15 Q. And what were the circumstances under which you
16 left Ethyl Corp.?

17 A. Ethyl had intended to have a major expansion
18 program in the field of agricultural chemicals. But, after
19 having some serious problems with a new plant, they decided
20 not to go into that field and to restrict their activities to
21 tetraethyl lead.

22 With that in view, which is a different
23 picture than the conditions under which I accepted employment
24 there, I did not feel that I wanted to remain in that
25 particular activity.

1 Q. And what company did you become employed with at
2 that point?

3 A. I was invited to return to Monsanto. And after
4 serious consideration of all of the factors, that's exactly
5 what I did.

6 Q. And when did you return to Monsanto?

7 A. 1955.

8 Q. And which position did you assume when you
9 returned to Monsanto?

10 A. Research group leader.

11 Q. How long were you a research group leader?

12 A. Until 1960.

13 Q. And as a result, a research group leader, how many
14 researchers worked under you?

15 A. Initially three, and 1957 I think I had a total of
16 12 people reporting to me.

17 Q. What caused the significant change from three
18 researchers to 12 researchers?

19 A. I added another assignment to my activities, and
20 that assignment was in the field of plasticizers.

21 Q. So, you assumed responsibility as a research group
22 leader for plasticizers in or about 1957?

23 A. January 1, 1957, yes.

24 Q. Okay. And who were the researchers specializing
25 in plasticizers that were under your supervision as of

1 January 1st, '57?

2 A. Names of people?

3 Q. Yeah, if you remember.

4 A. Mr. Robert H. Mills, Mr. Louis Raether,
5 R-A-E-T-H-E-R; Dr. Clarence Huffman, Dr. Constantine Emmanuel
6 Anagostopoulos, A-N-A-G-O-S-T-O-P-O-U-L-O-S, and several
7 others whose names I cannot remember at this point.

8 MR. DiMURO: I'm amazed you remember those.

9 Q. It's impressive.

10 MR. DiMURO: It is impressive.

11 Q. It's only 40 years ago.

12 MR. LIPSHUTZ: Off the record.

13 (Off-the-record discussion held.)

14 Proceedings continued as follows.)

15 Q. Okay. So from 1957 until 1960 you remained
16 research group leader with responsibility for plasticizer?

17 A. Yes.

18 Q. What position did you assume in 1960?

19 A. Assistant research director.

20 Q. And who was the research director at that time?

21 A. Dr. Ferdinand B. Zienty.

22 Q. Would you spell that?

23 A. Z-I-E-N-T-Y.

24 Q. And what were your responsibilities as assistant
25 research director?

1 A. I had several research group leaders reporting to
2 me covering different fields of activities.

3 Q. And who was the research group leader responsible
4 for the plasticizer area at that time?

5 A. There were two research group leaders responsible
6 for plasticizers. The person that replaced me was Dr.
7 Anagostopoulos as research group leader. The other research
8 group leader for plasticizer applications research was Mr.
9 Joseph Darby.

10 Q. And just to clarify, going back to your position
11 as -- as research group leader, did you have responsibility
12 for applications research of plasticizers?

13 A. As group leader?

14 Q. Yes.

15 A. No.

16 Q. Who was it at that time -- and we are talking '57
17 to 1960 who was the research group leader with applications
18 research?

19 A. Mr. Darby.

20 Q. And just in a nutshell, can you describe for me
21 the difference between applications research versus the type
22 of research that you had done or would have been responsible
23 for?

24 A. Yes. The group leadership that I had, say, from
25 1957 to 1960 was for new product synthesis and process

1 development of plasticizers.

2 Q. Okay. Can you expand a little bit on that?

3 A. From what standpoint?

4 Q. Can you explain it a little bit more fully? I'm
5 not sure I understand what that means.

6 A. Process development is involved in taking a
7 laboratory procedure and adapting it to a plant operation for
8 the manufacture on a plant scale. So I had that
9 responsibility. I also had the responsibility for the
10 synthesis of new materials that might be useful as
11 plasticizers.

12 Q. So, does that mean testing?

13 A. Yes.

14 Q. New materials as plasticizers?

15 A. Exactly. Not -- I did not do the testing. I
16 provided the materials to Mr. Darby and his group.

17 Q. So, Mr. Darby's group was the one that tested new
18 types of materials as plasticizers?

19 A. Correct.

20 Q. And which of the two groups would have taken
21 existing plasticizers to determine whether they were
22 appropriate in new applications?

23 A. Mr. Darby's group would do that.

24 Q. Now, did Mr. Darby have to report to you once you
25 had assumed the assistant research director position?

1 A. Yes, he reported to me.

2 Q. And what form of reporting did it take?

3 A. Well, he was the supervisor of a group of 10 or 12
4 people, and I was his immediate supervisor; line organization
5 reporting.

6 Q. And did that include, sir, written reports of the
7 activities of his group?

8 A. Yes.

9 Q. Okay. How frequently did he have to report to you
10 what his group was doing?

11 A. We held group meetings -- formal group meetings
12 once a month, but I probably had contact two or three times a
13 week with him.

14 Q. And was that the same for Dr. Anagostopoulos's
15 group?

16 A. Yes.

17 Q. And how long did you remain as assistant research
18 director?

19 A. This involves a title change, more than a
20 functional change, and I think it was about 1965. My title
21 was changed to manager of research.

22 Q. Did your responsibilities remain the same after
23 that, 1965?

24 A. Essentially the same around -- to about 1965,
25 yes.

1 Q. I'm sorry. Just to make sure I'm clear. When did
2 your title change to manager of research?

3 A. About 1965.

4 Q. And did your responsibilities change once you
5 became manager of research?

6 A. Basically the same responsibilities at that point.

7 Q. Okay. When did your responsibilities next change?

8 A. I can give you my best estimate of dates here. I
9 think it was about 1966 or 1967.

10 Q. And what happened in 1966 or '67 to change your
11 responsibilities?

12 A. Prior to this change that I'm referring to, I had
13 responsibility for two other major product groups; the R & D
14 effort of two other major product groups. One of these,
15 paper chemicals, was growing substantially, and then the
16 plasticizer business was growing very substantially. And it
17 became necessary to reach a decision which way I would go
18 when part of this was spun away from me. I elected to remain
19 with plasticizers.

20 Q. And as to the plasticizers, did your
21 responsibilities remain the same as they had been as
22 assistant research director and manager of research?

23 A. Basically the same, except that the -- the amount
24 of work increased over the years very substantially, due to
25 new capital investments that were being installed and new

1 products that were being introduced to the marketplace.

2 Q. And how long did you remain as manager of research
3 plasticizers?

4 A. Well, I think it was in 1974 that the plasticizer
5 business in Monsanto had grown to a sufficient size that it
6 was established as a separate operating division. And when
7 that occurred, my position then was director of research and
8 development for the plasticizers division.

9 Q. And just to clarify, up until 1974, was
10 plasticizers still a part of the organic chemicals division?

11 A. Now, the dates are getting a little fuzzy again.
12 Somewhere around the turn of the decade, around the 1970 time
13 frame, Monsanto Company reorganized into different company
14 units, and I was in the industrial chemicals company, and
15 then the different business units were called business
16 groups. Until somewhere in the early '70's, there was more
17 of a conventional divisional structure established within the
18 framework of the industrial chemicals company. So that in
19 1974, the plasticizer division was established as part of the
20 industrial chemicals company of Monsanto.

21 Q. And during that time period around the '70's when
22 there were different companies of Monsanto, do you remember
23 what the companies were?

24 A. Not all of them. There was a petro chemicals
25 company, there was a synthetic fibers company, there was an

1 agricultural chemicals company. That's about all I can
2 remember.

3 Q. And the industrial chemicals company was the
4 fourth?

5 A. Yes.

6 Q. Was there a plasticizer business group within any
7 of the other companies?

8 A. No.

9 Q. So, as of 1974, you were director of research and
10 development of the plasticizer division?

11 A. Correct.

12 Q. Within the industrial chemicals company?

13 A. Correct.

14 Q. How long did you remain in that position?

15 A. Until 1982. There was another reorganization of
16 Monsanto Company, and the plasticizers division was
17 transferred from the industrial chemicals company to a newly
18 formed company unit called Monsanto polymer products
19 company.

20 Q. And what was your position with the Monsanto
21 polymer products company?

22 A. Director of research and development for
23 plasticizers.

24 Q. And as director of research and development -- let
25 me withdraw that.

1 Going back to your time as director of
2 research and development within the plasticizer division, I
3 guess up until 1974, did Mr. Darby remain as the individual
4 with supervisory responsibility for the plasticizers
5 research?

6 MR. DiMURO: I'm going to object to the
7 question. I think he said he was the manager of research up
8 until 1974. I think you said director.

9 Q. I'm sorry. My notes reflect that you were
10 director of research and development plasticizer division
11 from 1974 until 1982.

12 A. Correct.

13 Q. Is that right?

14 A. Correct.

15 Q. Okay. Maybe I used the wrong here. During that
16 time period of 1974 to 1982, did Mr. Darby remain under you
17 with responsibility for plasticizer applications research?

18 A. Mr. Darby retired in August of 1976 from Monsanto
19 at age 65.

20 Q. And who took Mr. Darby's place at the head of
21 applications research of plasticizers?

22 A. Mr. Norman Touchette, T-O-U-C-H-E-T-T-E.

23 Q. And what was Mr. Touchette's title?

24 A. Director of the Galt Laboratories.

25 Q. G-O-L-F?

1 A. G-A-L-T, Galt.

2 Q. Oh, Galt. What was Galt Laboratories?

3 A. It was an off-site building off the main campus of
4 Monsanto Company; building where all of the functions of
5 applications research and marketing technical service were
6 carried out for plasticizers.

7 Q. Had that been true even under Mr. Darby?

8 A. Yes.

9 Q. When did plasticizer applications research get
10 moved off to the Galt Laboratories?

11 A. Oh, boy.

12 Q. Approximately.

13 A. Somewhere in the mid '70's, I would guess. But I
14 can't recall specifically.

15 Q. Was that Galt Laboratories still part of Monsanto?

16 A. Oh, yes, yes. Located only two miles away from
17 the Lindbergh and Olive campus.

18 Q. Now, how long had Mr. Touchette been working under
19 you in the research area before he assumed that position in
20 1976?

21 A. Well, he had been a research group leader
22 reporting to Mr. Darby for a good number of years. I can't
23 remember how many.

24 Q. Is it your understanding that Mr. Touchette's
25 background was in applications research?

1 A. Yes.

2 Q. Okay. What position did you assume in 1982?

3 A. I was -- I think I said this earlier, I was
4 director of research and development for the plasticizers,
5 but in a different company unit of Monsanto, the polymer
6 products company.

7 Q. I'm sorry. You did say that. How long did you
8 remain with the Monsanto polymer products company?

9 A. Well, I remained with the polymer products company
10 until I retired on June 1, 1985, but, approximately a year
11 earlier than that I assumed a new position.

12 Q. And what position was that?

13 A. I was director of venture research for the polymer
14 products company.

15 Q. And what did that position entail?

16 A. It entailed venture research jointly with outside
17 companies.

18 Q. And have you worked for any other employer since
19 June 1st of 1985?

20 A. I have -- well, I was on a retainer by Monsanto
21 for a year, and I have done consulting for a number of
22 companies.

23 Q. And is your consulting work related to
24 plasticizers?

25 A. Primarily related to plasticizers, yes.

1 Q. Going back a couple of steps. As assistant
2 research director, who was your immediate boss? I asked you
3 who the research director was.

4 Did your -- taken so many notes already I'm
5 having trouble finding it. You had told me who the research
6 director was, and I can't seem to find it in my notes. Who
7 was that while you were assistant research director?

8 A. I don't think I told you who the research director
9 was when I was research -- assistant research director.

10 Q. Okay. And who was it?

11 A. I told you who the director of research was when I
12 was a group leader.

13 Q. I see. Okay. And who was the research director
14 when you were assistant research director?

15 A. Mr. Monte Throdahl. M-O-N-T-E, T-H-R-O-D-A-H-L.

16 Q. Okay. And who was your immediate boss when you
17 were manager of research of plasticizers in or about 1974?

18 A. Mr. Jim Springgate, S-P-R-I-N-G-G-A-T-E.

19 Q. What was Mr. Springgate's position at that time?

20 A. He was business group director. This is prior to
21 1974. He was business group director for plasticizers.

22 Q. Do you recall when he became business group
23 director of plasticizers?

24 A. In the late 1960's. I would say '68 or '69,
25 something like that.

1 Q. What was Mr. Springgate's background? Was he a
2 researcher or something different?

3 A. He came out of manufacturing, and immediately
4 before becoming business group director of plasticizers he
5 was plant manager at Monsanto's Nitro, N-I-T-R-O, West
6 Virginia.

7 Q. Okay. How about the period during which you were
8 director -- I'm sorry. The period during 1974 and 1982, when
9 you were director of research and development, who was your
10 immediate boss then?

11 A. Oh, I had lots of them, literally. First was Dr.
12 Samuel Heininger, H-E-I-N-I-N-G-E-R, then Mr. Earl Harbison,
13 Mr. Tom Gossage, G-O-S-S-A-G-E, and Mr. David Sliney,
14 S-L-I-N-E-Y. That brings us up to 1982.

15 Q. Okay. And did those people each hold the same
16 position?

17 A. They were general managers of the plasticizer
18 division, yes, that's correct.

19 Q. Now, during the course of the various positions
20 this you held, did you ever have responsibility for drafting
21 portions of technical bulletins relating to plasticizer
22 products?

23 A. No.

24 Q. Did you ever have responsibility for testing and
25 compiling data that were incorporated into technical

1 bulletins?

2 A. Indirectly, yes, in that the collecting of data
3 and compiling it to be used by the marketing department and
4 then ultimately the printing department, that was done by Mr.
5 Darby's group. And since he reported to me, I had, then,
6 that responsibility, as part of my total area, yes.

7 Q. And in your supervisory capacity, did you review
8 the data that Mr. Darby was forwarding in for use in
9 technical bulletins?

10 A. I did not.

11 Q. Same questions as to the plasticizer Blue Book.
12 Did any of your responsibilities include assembling data to
13 be used in the plasticizer Blue Book?

14 A. The same answer as what we just talked about.

15 Q. Okay. So that was information that Mr. Darby
16 assembled?

17 A. Right.

18 Q. Now, as -- also in the various positions that you
19 have described, did you ever have responsibility for
20 monitoring research results that were being produced outside
21 of Monsanto, specifically with regard to plasticizers?

22 A. I don't understand. Research results being
23 produced outside Monsanto?

24 Q. Okay. Studies being published, results of tests
25 being conducted by others.

1 MR. DiMURO: On plasticizers?

2 MR. TURET: On plasticizers.

3 MR. LIPSHUTZ: I'm going to object. Could you
4 clarify what aspect of testing, what aspect of research?

5 MR. TURET: No, I'm asking a general
6 question.

7 MR. LIPSHUTZ: Fine.

8 MR. DiMURO: Can you repeat the question
9 again?

10 A. Please do.

11 Q. All right. In the various positions that you have
12 described up till now, did you ever have responsibility for
13 monitoring the results of tests being conducted on other
14 entities on plasticizers?

15 MR. DiMURO: I will object to the form. You
16 can answer the question if you can.

17 MR. LIPSHUTZ: Same objection.

18 MR. RADITZ: Same objection.

19 A. Since I am still unclear as to what you had in
20 mind, I guess I really don't know.

21 Q. Okay. Is it the case that plasticizer research
22 was reported in some industry publications during the '60's
23 or the '70's?

24 A. Then did I read those publications?

25 MR. DiMURO: Listen and answer his question.

1 Q. I want to take it one step at a time.

2 MR. DiMURO: Take it one step at a time.

3 Q. I'm not sure where the confusion is, but I will
4 try to break it down.

5 Did people who were performing tests, research
6 tests, on different plasticizer products publish their
7 results in any industry publications?

8 A. Yes.

9 Q. Okay. Did any of your positions at Monsanto
10 involve responsibility for monitoring those publications to
11 see what results were being published by others?

12 A. I had a responsibility for keeping current with
13 the literature in the field that I was working in, yes. So I
14 read most of those publications.

15 Q. And did others who were working under you also
16 have a responsibility to keep current on industry
17 publications?

18 A. Absolutely.

19 Q. Okay. What were some of the industry publications
20 that related specifically to the plasticizer industry?

21 A. Society of Plastics Engineers, SPE Journal,
22 Industrial & Engineering Chemistry, Modern Plastics. That's
23 all I can recall at this time.

24 Q. What was the second one? I missed it. It was
25 three letters.

1 A. Society of Plastics Engineers Journal. SPE
2 Journal.

3 Q. And did you or any of the people working under you
4 contribute articles to any of those journals during the time
5 when you were with Monsanto?

6 A. I did not, but numerous articles were published by
7 people in my department in these journals, yes.

8 Q. Who is Kearn Sears?

9 A. Dr. Sears was a member of Mr. Darby's group and
10 then a day or two Mr. Touchette's organization.

11 Q. In the course of the positions that you have
12 described -- let me withdraw the question.

13 Are there any university programs that by
14 reputation are known for specializing in plasticizer work?

15 A. I'm not aware of any university programs of
16 prominence in the plasticizer field.

17 Q. Are there any doctoral degrees or Master's degrees
18 that focus specifically on plasticizer work?

19 A. I really don't know.

20 Q. Other than Monsanto, who were the leading, you
21 know, few other companies in the area of plasticizers,
22 domestically?

23 MR. DiMURO: I will object to the form. You
24 can answer the question.

25 A. Union Carbide, who later withdrew in the early

1 1970 time frame. They withdrew from that field; Rohm and
2 Haas; R-O-H-M and H-A-A-S. W.R. Grace, Exxon. Those are the
3 major players, in addition to Monsanto.

4 Q. Those were the major players in the 1960's?

5 A. Yes; yes.

6 Q. Just so I'm clear, are there multiple locations
7 within the Monsanto organization, let's say as of the mid
8 '60's, where research was being conducted?

9 A. Yes.

10 Q. Okay. We have talked about plasticizer research.
11 Where else would one find groups of researchers within
12 Monsanto?

13 MR. DiMURO: For research other than
14 plastics?

15 MR. TURET: For research other than
16 plasticizers, yes.

17 MR. DiMURO: You can answer.

18 A. Springfield, Massachusetts; Anniston, Alabama;
19 Seattle, Washington; Dayton, Ohio; Texas City, Texas. That's
20 all I can think of at the time.

21 Q. And what was -- what type of research by subject
22 area would Springfield, Massachusetts have related to?

23 A. Plastics.

24 Q. How about Anniston, Alabama?

25 A. Biphenyls, terphenyls, PCBs.

1 Q. And what types of research were being done with
2 biphenyls and terphenyls and PCBs?

3 A. Process research.

4 Q. How about in Dayton, Ohio?

5 A. Dayton, Ohio was the location of the corporate
6 central research laboratories.

7 Q. And what types of research were conducted at the
8 corporate central research lab?

9 A. Very broad range of subjects were under study at
10 the Dayton laboratories.

11 Q. Did they, to your knowledge, include research that
12 was done on polychlorinated biphenyls?

13 A. No.

14 Q. And how is it that you know that PCB research was
15 not done at the corporate central research?

16 A. Because their main charter was pioneering
17 long-range research for the whole corporation.

18 Q. Now, you mentioned two other locations. One was
19 Texas City, and there was one more that I didn't get down
20 fast enough.

21 A. Texas City was -- and Seattle, Washington, I think
22 might be what you are --

23 Q. Okay. What types of substantive types of research
24 was done in Texas City?

25 A. Petro chemicals research.

1 Q. How about Seattle, Washington?

2 A. Seattle was in the field of adhesives and certain
3 other natural products.

4 Q. To your knowledge, other than the research that
5 was being done in St. Louis on plasticizers, and that was
6 being done in Anniston, Alabama on biphenyls and terphenyls
7 and PCBs, was there any other research location where
8 research was conducted on PCBs in the mid '60's?

9 A. No.

10 Q. Dr. Farrar, what was the Plasticizer Council?

11 A. That was a group of people comprising marketing
12 people and marketing technical service people and
13 applications research people for the purpose of advising
14 customers on the utility of plasticizers.

15 Q. When you say advising them on the utility of
16 various plasticizers, what do you mean?

17 A. Well, if a customer had a problem that required a
18 plasticizer, he would come to a member of this Plasticizer
19 Council and ask for a recommended product.

20 Q. And was this a formal -- when you refer to -- when
21 Plasticizer Council is referred to, is that an actual formal
22 structure?

23 A. Not terribly formal, no.

24 Q. How would a customer get a request to the
25 Plasticizer Council?

1 A. Probably through the field salesman that calls on
2 the customer regularly.

3 Q. And was there one person who was sort of
4 designated as the recipient of requests for the Plasticizer
5 Council?

6 A. Yes. This would have been the plasticizer product
7 manager in marketing.

8 Q. And who was that person as of, let's say, 1964?

9 A. I really can't remember.

10 Q. Okay. Do you remember anybody who held that
11 position between '64 and '70, let's say?

12 A. Yes. Mr. Walter Waychoff.

13 Q. And what was Mr. -- I'm sorry. Mr. Waychoff, you
14 said, was plasticizer product manager in marketing?

15 A. Yes.

16 Q. Did Mr. Waychoff hold that position throughout the
17 '60's, as far as you know?

18 A. I can't remember how long his tenure was there in
19 that position.

20 Q. Do you remember anybody who came after Mr.
21 Waychoff in that position?

22 A. Well, Bob Brell was in that position at one time,
23 Fred Sutton was in that position at one time. I can't
24 remember any other names at this time.

25 Q. Okay. Do you know what ever became of Walter

1 Waychoff?

2 A. I really don't know where he is currently. He did
3 resign from Monsanto sometime in the early '70's.

4 Q. Why did he resign, if you know?

5 A. I really don't know.

6 Q. Do you know where he went after leaving Monsanto?

7 A. No, I don't. I had heard that he was in the
8 greater Houston area, but I really don't know.

9 Q. Was there, to your knowledge, any document that
10 would summarize the Plasticizer Council's recommendations in
11 response to a customer request?

12 A. I'm not aware of any documents. I just don't
13 remember that.

14 Q. Was there any kind of a logbook, to your
15 knowledge, that would record requests that would come into
16 the Plasticizer Council?

17 A. I really don't know.

18 Q. Okay. Now, Dr. Farrar, in the course of your
19 employment with Monsanto, have you ever had occasion to meet
20 with representatives of Armstrong Cork or Armstrong World
21 Industries?

22 A. Yes.

23 Q. When is the earliest that you can remember having
24 met with representatives of Armstrong?

25 A. I would say -- I can't be precise, but somewhere

1 in the mid '60's, probably.

2 Q. And what were the circumstances under which you
3 met people at Armstrong?

4 A. Well, it was probably in conjunction with a
5 get-to-know-you-type meeting, due to the position that I
6 held.

7 Q. Which position was that at the time?

8 A. At that time it was manager of research and
9 development; or manager of research.

10 Q. Do you remember any of the people you met with at
11 Armstrong?

12 A. Yes. Dr. David Zentmeyer, Z-E-N-T-M-E-Y-E-R.

13 Q. And who -- I'm sorry. Go -- please finish your
14 answer.

15 A. Mr. Bert Hofferth, H-O-F-F-E-R-T-H, and Mr. Dwight
16 Browning.

17 Q. Who was Dr. Dave Zentmeyer?

18 A. He was general manager of floor products research
19 at that time.

20 Q. How about Bert Hofferth?

21 A. I don't remember at that time exactly what his
22 title was, but he reported to Dave Zentmeyer in floor
23 products research.

24 Q. And how about Dwight Browning?

25 A. He was vice president of research and development

1 for Armstrong Cork at that time.

2 Q. And to your knowledge was Mr. Browning vice
3 president of research and development for a particular area
4 or for the entire company?

5 A. The entire company.

6 MR. DiMURO: Craig, could we take a two-minute
7 break?

8 MR. TURET: Sure; no problem.

9 (A short break was taken).

10 Q. (By Mr. Turet) Dr. Farrar, when we broke we were
11 talking about the gentlemen from Armstrong with whom you met
12 sometime in the mid '60's, and you described that as a sort
13 of a get-to-know meeting.

14 A. Right.

15 Q. Who else was at that meeting from Monsanto, if you
16 remember?

17 A. I'm sure that the local salesman covering that
18 area, and I don't know who that was at that time. I suspect
19 Joe Darby was probably there.

20 Q. Anyone else you can remember?

21 A. I really don't remember.

22 Q. How about Roy Sullivan?

23 A. He may have, but Roy was at one time, I know, the
24 district manager of the office in Wilmington, which is the
25 one that had responsibility for Armstrong, and I don't know

1 if he was there or not.

2 Q. Okay. Other than just generally getting to know
3 one another, was there any discussion of specific products or
4 product needs during that meeting?

5 A. Not at that first meeting, no.

6 Q. Before I ask you to take you through one by one,
7 how many meetings during the course of your employment -- let
8 me withdraw that.

9 How many meetings do you recall attending with
10 representatives of Armstrong between this first meeting and,
11 let's say, 1971?

12 A. I don't recall how many.

13 Q. Okay. More than five?

14 MR. DiMURO: Between the time of the first
15 meeting which we haven't established until 1971?

16 MR. TURET: Mid 1960's? Would you prefer I
17 say early 1970's?

18 MR. DiMURO: Ask it any way you want. I'm
19 just trying to get a clarification.

20 A. Could you state the question again?

21 Q. My question was: Do you remember meeting with
22 people from Armstrong on more than five occasions during this
23 first meeting 1960's and 1971?

24 A. I don't remember how many times I might have met.
25 I can only say there were probably several times.

1 Q. And do you remember anything specific about the
2 other meetings with Armstrong, or who was present or what was
3 discussed?

4 A. I can't remember specifically who was present,
5 other than, I guess, almost certainly Dave Zentmeyer was
6 present until he retired, and then Bert Hofferth was promoted
7 to that position after Dave retired, and the subject matter
8 related to plasticizers for floor products, broadly
9 speaking.

10 Q. Do you recall any discussions during any of those
11 meetings with Armstrong representatives of the use of a
12 PCB-containing product as a plasticizer for floor products?

13 A. No, I don't remember any discussion of that.

14 Q. Do you remember any discussion of the use of
15 PCB-containing products in general in any of Armstrong
16 products?

17 A. I do not recall any discussion with Armstrong
18 about PCBs, no, in their products.

19 Q. In any of these other meetings that you remember
20 with Armstrong, do you remember if Joe Darby was present?

21 A. Joe was frequently present, yes.

22 Q. Do you remember any meetings at which William
23 Coaker was present?

24 A. I do not remember being at any meeting with
25 Armstrong where Bill Coaker attended. I know, of course,

1 that Bill Coaker did contact Armstrong Cork from time to
2 time.

3 Q. Other than Joe Darby and Bill Coaker, do you know
4 of any others from Monsanto who contacted Armstrong
5 representatives for meetings from time to time?

6 A. The local field salesman was always present, and
7 that changed frequently.

8 Q. Do you remember Robert Brell ever being present at
9 any of the meetings you attended with Armstrong?

10 A. I don't have specific memory of his being present,
11 but I would guess he probably was at some kinds of meetings
12 with Armstrong.

13 Q. Do you remember any meetings with Armstrong that
14 -- representatives that you attended at which there was a
15 discussion of ceiling tiles?

16 A. No.

17 Q. Do you remember having any other kinds of
18 communications, other than face-to-face meetings, with
19 individuals at Armstrong that related to ceiling -- to
20 ceiling tiles?

21 A. I'm not aware of any.

22 Q. Do you remember any other communications with
23 representatives of Armstrong, other than a face-to-face
24 meeting, at which there were discussions about the use of an
25 Aroclor product as a plasticizer?

1 A. No. I don't recall any such meetings.

2 Q. Okay. I think the question was relating to any
3 communications, even if not a face-to-face meeting, that
4 related to the use of Aroclor products by Armstrong.

5 A. I'm not aware of any.

6 Q. Do you know of any meetings or communications by
7 others at Monsanto with representatives of Armstrong that
8 relate to manufacture of ceiling tiles by Armstrong?

9 A. No, I have no knowledge of that.

10 Q. Okay. Do you have any knowledge about
11 communications by anyone at Monsanto that relate to the use
12 of Aroclor products by Armstrong?

13 MR. DiMURO: Object to the form. But you can
14 answer.

15 MR. LIPSHUTZ: Same objection.

16 MR. RADITZ: Same objection.

17 MR. DiMURO: You can answer, Dr. Farrar.

18 MR. TURET: Can you read back the question
19 before you answer?

20 (The Reporter read back the requested portion.)

21 Q. Let me rephrase the question.

22 Do you have any knowledge about any
23 communications by people at Monsanto with people at Armstrong
24 that relate to the use of Aroclor products by Armstrong?

25 A. I know that at the time the corporate decision was

1 made by Monsanto to discontinue the manufacture and sale of
2 plasticizer Aroclors, I know that all customers were
3 notified, and I'm confident Armstrong was also notified.

4 Q. Okay. Other than the general knowledge that
5 letters were sent out to customers advising them that
6 Aroclors would be withdrawn from the market, do you have any
7 specific knowledge about any communications between Monsanto
8 and Armstrong that relate to the use of Aroclors?

9 A. No, no.

10 MR. LIPSHUTZ: Objection.

11 MR. RADITZ: Join in the objection.

12 Q. Okay. Dr. Farrar, do you know of any research
13 products -- research projects involving plasticizers that
14 were undertaken by Monsanto on behalf of Armstrong?

15 A. Yes.

16 Q. Okay. Can you tell me about those research
17 projects?

18 A. We had a project with Armstrong due to their
19 interest in improved stain-resistant plasticizers for vinyl
20 sheet flooring.

21 Q. And that was undertaken at Armstrong's request?

22 A. Yes, I suppose so. From time to time they told us
23 what they needed in terms of products of improved
24 performance. That was one of those.

25 Q. And was that request forwarded to the Plasticizer

1 Council?

2 A. I don't know whether it was or not, specifically.
3 Certainly members of that council were aware of it.

4 Q. You are referring to Mr. Darby?

5 A. Yes, as one of them, right.

6 Q. Who else -- let me start the other way.

7 Who was involved directly in the project that
8 you have just described?

9 A. Who within Monsanto?

10 Q. Yes.

11 A. Mr. Darby and his people, and the plasticizer
12 synthesis people, the marketing product management. That's
13 all I can recall.

14 Q. Who was the plasticizer synthesis people?

15 A. Would you give me the time frame again now that
16 you are speaking of?

17 MR. DiMURO: I don't think there is a time
18 frame for the project. I don't think anybody's established
19 that.

20 Q. Yeah, I don't know. Do you know when the project
21 was undertaken with regard to improving stain resistance?

22 A. It was something that went on for a good number of
23 years, and I don't recall specific people in the plasticizer
24 synthesis group. It varied from time to time.

25 Q. Is the plasticizer synthesis group one that you

1 already described to me?

2 A. Yes.

3 Q. Okay. And which -- who was the head of that
4 group?

5 A. Well, as of January 1, 1957, I was the head of
6 that group.

7 Q. Okay.

8 A. Then Dr. Anagostopoulos.

9 Q. Okay.

10 A. And Mr. Mills. I lose track of time.

11 Q. So when you described before there were two
12 groups, and one related to plasticizer applications and there
13 was another group, you are talking about the other group?

14 A. That's right.

15 Q. Okay. And who was the marketing product project
16 manager that you referred to a moment ago? Do you know?

17 A. I can't remember specifically because that changed
18 a good number of times.

19 Q. Was this project to increase -- improve stain
20 resistance one that resulted in a formal research report from
21 Monsanto?

22 A. Within Monsanto?

23 Q. Yes.

24 A. It certainly was the subject of progress reports
25 that were written on a regular basis within the research

1 department.

2 Q. And is it usually the case, that in addition to
3 progress reports there is ultimately a final research report?

4 A. Ultimately.

5 Q. Do you know if there was one in this case?

6 A. I really don't remember.

7 Q. Are progress reports the same as interim research
8 reports?

9 A. Well, maybe not quite. Progress reports were
10 written either on a monthly or quarterly basis. An interim
11 report would be written, say, when a major milestone had been
12 reached in a program or that kind of thing; not quite ready
13 to close it down completely.

14 Q. Do you know if there were any interim reports
15 prepared on this project?

16 A. No, I really don't remember.

17 Q. Okay. Are progress reports, going back to the
18 1960's, maintained in the archives of Monsanto?

19 A. That, I do not remember.

20 Q. Okay. Do you know whether interim research
21 reports are maintained in the archives of Monsanto?

22 MR. DiMURO: Your questions are all currently
23 maintained?

24 Q. Currently maintained, based on the time period of
25 the '60's when they would have been prepared.

1 A. I don't know about today, but at the time I
2 retired they were still in the archives of Monsanto, yes.

3 Q. How about final research reports?

4 A. Yes.

5 Q. Where are those types of research reports
6 maintained as of the time you retired?

7 A. I have no idea now.

8 Q. There was testimony at one point in this case in a
9 deposition that they were maintained in Monsanto library in
10 St. Louis. Do you know one way or the other whether that's
11 true?

12 A. Well, that's where they were in 1985, but, there
13 are more -- there's more than one library in Monsanto in the
14 St. Louis area.

15 Q. Have you ever done a search to find a particular
16 research report within the archives of Monsanto?

17 A. Yes.

18 Q. And what was the latest time in your career when
19 you had occasion to do that, approximately? I'm not looking
20 for a specific year.

21 A. Probably 1959.

22 Q. Oh, my. I suspect procedures have changed a
23 little bit.

24 A. Well, from that point on, I could ask someone to
25 find a report for me and they did.

1 Q. Other than the project that related to improving
2 stain resistance, are you aware of any other projects that
3 were undertaken by Monsanto on plasticizers on behalf of
4 Armstrong?

5 A. Yes, we had an ongoing project for improving the
6 fusion rate of PVC compounds, polyvinyl chloride.

7 Q. And how did that research project originate, if
8 you know?

9 A. The need for faster fusion plasticizers in the
10 vinyl tile industry.

11 Q. And who was involved in that research project from
12 Monsanto, if you know?

13 A. Mr. Darby and his group.

14 Q. And do you know whether it was requested by
15 Armstrong, or done by Monsanto on its own initiative?

16 A. I don't know specifically whether it was requested
17 by Armstrong. I know that they were vitally interested in
18 it.

19 Q. And how long did that research project last, if
20 you know?

21 A. It was ongoing over a period of a number of
22 years.

23 Q. Do you know whether it was the 1960's versus the
24 1970's?

25 A. Probably largely in the 1960's.

1 Q. How about the first one, the stain resistance
2 project? Is that 1960's or 1970's, if you know?

3 A. Probably both.

4 Q. And, again, on this project relating to fusion
5 rate of PVC compounds, do you know whether there were interim
6 research reports prepared?

7 A. There undoubtedly were. I can't remember
8 specifically one.

9 Q. How about final research report?

10 A. Same answer.

11 Q. Okay. Now, other than the stain resistance
12 project and the fusion rate on PVC compounds project, were
13 there any other projects that you know of that were
14 undertaken by Monsanto with regard to plasticizers on behalf
15 of Armstrong?

16 A. Yes.

17 Q. Can you tell me about that project?

18 A. In my role as director of venture research for
19 Monsanto Polymer Products Company beginning in about 1984,
20 there was a joint project with Armstrong for new floor
21 compositions.

22 Q. And what was the -- what was the duration of that
23 project?

24 A. Well, I really don't know, but I left it, of
25 course, at the time I retired June 1, 1985.

1 Q. It was still going on as of that date?

2 A. Yes.

3 Q. And who was involved in that project on behalf --
4 from Monsanto?

5 A. I can't remember specific individuals, because I
6 was -- I was drawing on the background and experience of
7 people across the whole corporation.

8 Q. And do you know whether there were interim reports
9 or a final research report on that project?

10 A. I really don't know.

11 Q. Okay. Other than those three projects, do you
12 know of any others?

13 A. That's all that I'm aware of.

14 Q. Do you know of any other -- I will use the word
15 project. But do you know of any other projects that were
16 undertaken to determine the suitability of a particular
17 plasticizer for a particular product that Armstrong needed?

18 A. Could you restate the question?

19 Q. Sure. Do you know of any projects undertaken by
20 Monsanto, specifically by its research department, to
21 determine the suitability of a particular plasticizer for any
22 particular application for Armstrong, other than the three
23 that you have mentioned?

24 A. I'm not aware of any others, no; can't remember.

25 Q. Okay.

1 MR. DiMURO: Craig, I have got to take another
2 two-minute break.

3 MR. TURET: Sure.

4 (A short break was taken).

5 Q. Dr. Farrar, my vocabulary is particularly weak in
6 the area of research, as I'm sure you have gathered already.
7 If I described generally some types of research, can you tell
8 me how they would be described within Monsanto, like what
9 would the term be for it? What would you call it if it's
10 research to determine the better characteristics of a
11 plasticizer product?

12 MR. DiMURO: Can I have that read back,
13 please? I didn't catch all of it.

14 (The Reporter read back the requested portion.)

15 MR. DiMURO: I will object to the form. You
16 can answer it.

17 A. Could I ask a question?

18 MR. DiMURO: No, unless it clarifies.

19 A. Just to clarify this question.

20 Q. Sure.

21 MR. DiMURO: He can give you any substantive
22 response.

23 A. Okay. Are you asking about physical properties of
24 plasticizers, or are you asking about performance products of
25 plasticizers?

1 Q. Why don't we break them into -- First let's talk
2 about physical properties of plasticizer.

3 A. Just what it says. It's measuring physical
4 properties of plasticizers. And if you want a project name,
5 I guess that's what it would be.

6 Q. Okay. And you distinguish from that research into
7 performance?

8 A. Yes.

9 Q. How about research to determine toxicity of a
10 plasticizer product?

11 A. Just what it says.

12 Q. There's no more formal name for that kind of
13 research?

14 MR. DiMURO: It presumes that that research
15 was done, also. But, you can answer it.

16 A. Well, there are different degrees of toxicity
17 testing. Are you familiar -- short-term acute toxicity
18 testing is the starting point.

19 Q. And what is acute toxicity testing?

20 A. Generally the determination of LD 50 in rat or
21 rabbit or whatever.

22 Q. And what is LD 50?

23 A. The dose at which 50 percent of the population
24 being tested is killed. Lethal dose, 50 percent.

25 Q. Okay. And what is the next level up? You

1 described acute toxicity as being one.

2 A. For more extensive studies, probably the next
3 thing that would be done would be 90-day feeding studies.

4 Q. I take it that's where you feed a substance to a
5 rat or some other --

6 A. That's right.

7 Q. -- animal?

8 What other type of testing, other than acute
9 and 90-day feeding studies?

10 A. Two-year feeding studies.

11 Q. Okay. Other than those three, are there other
12 types of toxicity testing?

13 A. There's a whole myriad of tests that the
14 toxicologists go through, vapor inhalation toxicity, skin
15 absorption toxicity, teratogenic testing, mutagenic testing,
16 depends on how far you want to go.

17 Q. And what is teratogenic testing?

18 A. Teratology is the study of birth defects.

19 Q. How about mutagenic testing?

20 A. Mutagenic testing is a particular generation
21 that's being tested, whereas teratology is the next
22 generation. Otherwise they are fairly similar.

23 Q. These are all types of research that relate to
24 toxicity, correct?

25 A. Yes.

1 Q. How about research to determine the presence or
2 absence of contaminants in a product?

3 MR. DiMURO: I will object to the form. You
4 can answer it.

5 A. That's generally done by analytical chemists with
6 moderate high power analytical instruments.

7 Q. Is there a generic name for that type of testing?

8 A. Not that I'm aware of.

9 Q. Okay. How about research to determine the
10 suitability of a particular product for an application? Is
11 that performance testing or is that something else?

12 A. That's performance testing or applications
13 testing, yes.

14 Q. How does applications testing differ from
15 performance testing, if at all?

16 A. Same thing.

17 Q. How about testing to determine the extent to which
18 vapors are emitted by a product?

19 MR. DiMURO: I will object to the form.

20 A. Once again, that's the type of analytical
21 testing.

22 MR. LIPSHUTZ: Same objection, note, please,
23 to that question.

24 MR. TURAT: Can we state for the record that
25 an objection by one is sufficient as an objection for all,

1 rather than having to -- Does anybody have a problem with
2 that?

3 MR. DiMURO: I think they should place their
4 own objections.

5 MR. LIPSHUTZ: I agree. We should place --

6 MR. DiMURO: It may be for a different
7 reason.

8 Q. Now, of the types of research we have just gone
9 through, Dr. Farrar, let me go through them one by one. Can
10 you tell me which ones that you personally have participated
11 in while at Monsanto? Have you personally participated in
12 research regarding physical properties of plasticizers?

13 A. No.

14 Q. How about performance of plasticizers?

15 A. No.

16 Q. And toxicity testing?

17 A. No.

18 Q. Any of the types you described?

19 A. No. You are asking that I have done myself?

20 Q. Correct.

21 A. Okay.

22 Q. How about research regarding the presence or
23 absence of contaminants?

24 A. No.

25 MR. DiMURO: This is all for plasticizers,

1 Craig?

2 Q. All for plasticizers, yes.

3 And how about the type of testing that relates
4 to vapors that might be emitted by a plasticizer?

5 A. No.

6 Q. Now, I want to go through the same list and just
7 ask for which you had supervisory responsibility over others
8 that did these type of testing. Did you have supervisory
9 responsibility over anyone who performed research on physical
10 properties of plasticizers?

11 A. Yes.

12 Q. Did you have supervisory responsibility over
13 others who had -- who performed research on the performance
14 of plasticizers?

15 A. Yes.

16 Q. Did you have supervisory responsibility over
17 others who performed research on toxicity of plasticizers?

18 A. No.

19 Q. Did you have supervisory responsibility over
20 others who performed research regarding the presence or
21 absence of contaminants in a plasticizer?

22 A. Yes.

23 Q. Did you have a supervisory responsibility over
24 others who performed research regarding the extent to which
25 vapors were emitted from plasticizers?

1 A. Yes.

2 Q. Okay. I think earlier we talked about the
3 research regarding performance of plasticizers. Is that Joe
4 Darby's group?

5 A. Yes.

6 Q. Which group under you had responsibility for
7 research regarding physical properties of plasticizers?

8 A. The plasticizer synthesis and process development
9 group.

10 Q. That was the same group that you were a group
11 leader of at one time?

12 A. Yes.

13 Q. How about research regarding the presence or
14 absence of contaminants in a plasticizer?

15 A. Yes.

16 Q. Which group would that have been the
17 responsibility of?

18 A. The synthesis and process development group.

19 Q. How about -- which group would have had
20 responsibility for research regarding the extent to which
21 vapors would be emitted from a particular plasticizer?

22 A. The synthesis process development group.

23 Q. How does one measure the extent to which vapors
24 are emitted from a plasticizer?

25 A. By sampling the air above the liquid and

1 conducting analysis of those vapors.

2 Q. To your knowledge, was that something which could
3 be conducted in-house at Monsanto?

4 A. Yes.

5 Q. What type of equipment is used to analyze an air
6 sample that's taken?

7 A. GCMS.

8 Q. What is a GCMS?

9 A. Gas chromatography, C-H-R-O-M-A-T-O --
10 C-H-R-O-M-A-T-O-G-R-A-P-H-Y, and mass spectrometry,
11 S-P-E-C-T-R-O-M-E-T-R-Y.

12 Q. Now, within the synthesis and process development
13 group, do you know any specific individuals who conducted air
14 sampling tests related to PCBs?

15 MR. DiMURO: I'll object to the form.

16 A. Answer?

17 MR. DiMURO: You can answer, sure.

18 A. I don't remember the names of specific
19 individuals, no.

20 Q. Okay. I'm going to move on to some questions
21 about plasticizer applications research in particular, and
22 specifically with regard to the Aroclor PCB products as
23 plasticizers.

24 I guess -- I have a long list of applications
25 for plasticizer -- for the Aroclor PCB plasticizers that I

1 would like to go through, and with regard to each just ask
2 you if you are aware of anybody over whom you had supervisory
3 responsibility that had done research work on those
4 applications.

5 Are you aware of anybody under you who did
6 research work on the use of an Aroclor product as an
7 ingredient in paint?

8 A. No.

9 Q. And does your answer also include specifically
10 paint that was used for marine applications, like on ships?

11 A. Yes.

12 Q. Are you aware of anyone over whom you had
13 supervisory responsibility that conducted research on the use
14 of Aroclors as an ingredient in lacquers?

15 A. No.

16 Q. Are you aware of anyone under you, over whom you
17 had supervisory responsibility, who performed applications
18 research on the use of Aroclors as an ingredient in the
19 polyurethane mix?

20 A. No.

21 Q. How about the use of an Aroclor product, PCB
22 product, as a sealant?

23 A. Yes.

24 Q. And what were those applications that were being
25 tested as a sealant?

1 A. Polysulfide sealants.

2 Q. And where might one find a polysulfide sealant
3 used?

4 A. In sealing double-pane windows, for example, and
5 in sealants requiring unusual exterior durability.

6 Q. Can you think of any instances where that
7 situation is presented?

8 A. You mean a particular end use?

9 Q. Yes.

10 A. One would be sealing aluminum gutters, for
11 example.

12 Q. And do you know what the results of the
13 applications research were on using the Aroclors as a
14 polysulfide sealant?

15 A. Our testing was principally what we would call the
16 first level of testing to determine the compatibility and the
17 properties of the resulting polymeric compound. Normally
18 under those conditions we would not go further than just
19 determining basic compatibility and properties of the
20 resulting compound.

21 Q. And what was done with the results of the research
22 project?

23 A. Well, in this case, our results were relayed to
24 the potential customer, Thiokol, T-H-I-O-C-O-L, or K-O-L.

25 MR. DiMURO: K-O-L is right.

1 Q. You mentioned using sealing double-pane windows.

2 MR. DiMURO: S-E-A.

3 Q. S-E-A-L-I-N-G?

4 A. Right, right.

5 Q. Where would the sealant around the double-pane
6 windows be found?

7 A. You have a glass sliding door to a deck or patio
8 at your home?

9 Q. Yes.

10 A. That's double glazed, two thicknesses of glass,
11 and there is a sealant between the two thicknesses of glass
12 to basically form an air-tight system.

13 Q. Okay. Are there any other end-use applications
14 you can think of for polysulfide sealants?

15 A. I think at one time polysulfides were probably
16 used for the installation of windshields in automobiles, but
17 I'm not sure if that's still the case.

18 Q. Okay. Going back to the original set of
19 questions, are you aware if anyone, over whom you had
20 supervisory responsibility, had performed research on the use
21 of Aroclors as fire-retardant coatings for fabrics or
22 textiles?

23 A. No.

24 Q. Are you aware of anyone over whom you had
25 supervisory responsibility who conducted research on the use

1 of Aroclors as a coating for swimming pools?

2 A. No.

3 Q. Are you aware of anyone over whom you had
4 supervisory responsibility who performed research on the use
5 of Aroclors as a coating for stucco homes?

6 A. No.

7 Q. Same question as regarding the use of Aroclors as
8 a coating on paper.

9 A. Yes.

10 Q. And what was the nature of the research project,
11 as best you can recall?

12 A. Had to do with the no carbon, carbonless carbon
13 paper system of NCR.

14 Q. Do you know offhand which Aroclor product was used
15 in carbonless product paper?

16 A. Yes.

17 Q. Which product was that?

18 A. Aroclor 1242.

19 Q. What types of research were done by those who were
20 under your supervisory, authority or responsibility?

21 A. Once again, it's -- it occurred as a result of the
22 corporate decision to stop the manufacture and sale of
23 Aroclor 1242 to the carbonless carbon paper application, and
24 our research was for the purpose of finding a replacement
25 product.

1 Q. That project lasted quite a while, didn't it?

2 MR. DiMURO: Objection. You can answer.

3 Q. How long did that project last, if you can recall?

4 A. It was a relatively short duration because it was
5 an exceedingly high-priority project. Lasted less than a
6 year.

7 Q. Now, what was the product that ultimately was
8 found as a replacement for Aroclor 1242?

9 A. The initial product -- well, there were two. One
10 for the system in Europe, and one for the system for NCR U.S.
11 In the U.S. it was mono isopropyl biphenyl, abbreviated MIPB;
12 and in Europe it was HB-40, B as in boy.

13 Q. Why was a different product proposed for Europe
14 than the U.S.?

15 A. The construction of the NCR paper was totally
16 different in Europe.

17 Q. Do you know whether MIPB was ultimately removed
18 from the market?

19 A. I do not know the eventual status of the products
20 that were used in NCR application, because that
21 responsibility was transferred to a different division.

22 Q. Okay. Did anyone over whom you had supervisory
23 responsibility ever perform research on the use of an Aroclor
24 product as a moisture-proofing coating for wood or paper or
25 brick?

1 A. Not that I know of.

2 Q. Same question as to the use of Aroclors as part of
3 a Plastisol formulation to be applied to ceiling tiles.

4 A. Not that I'm aware of.

5 MR. LIPSHUTZ: Just to clarify, these are
6 Monsanto people?

7 MR. TURET: Yes.

8 MR. LIPSHUTZ: Okay.

9 Q. Is there anyone over whom you had supervisory
10 responsibility who performed research on the use of Aroclors
11 as a Plastisol formulation to be applied to floor tiles or
12 sheet goods?

13 A. No.

14 Q. Same question as to the use of Aroclors as part of
15 a Plastisol formulation to be applied to a building product,
16 such as wallboard.

17 A. No.

18 Q. Anyone over whom you had supervisory
19 responsibility ever perform research on the use of Aroclors
20 as an ingredient in medical and dental products?

21 A. No.

22 Q. Anyone over whom you had supervisory
23 responsibility ever perform research on the use of Aroclors
24 as an ingredient in pesticides?

25 A. No.

1 Q. Are there any other applications that you can
2 think of, other than the ones that I have just gone through,
3 which someone over whom you had supervisory responsibility
4 performed research on the use of an Aroclor as a plasticizer?

5 A. No.

6 Q. Okay. Dr. Farrar, what -- as best you can recall,
7 what were the characteristics of the Aroclor products that
8 were advertised as desirable?

9 MR. RADITZ: Objection to form.

10 MR. DiMURO: I object to the form, also.

11 Q. What were the characteristics listed in
12 promotional materials from Monsanto as performance
13 characteristics of the Aroclors?

14 A. I really don't remember the information contained
15 in the product bulletin on Aroclors.

16 Q. Do you have any understanding generally as to why
17 someone would have selected an Aroclor product as a
18 plasticizer?

19 MR. DiMURO: Object to the form. You can
20 answer it.

21 MR. RADITZ: Same objection.

22 A. I would say because of the extreme chemical and
23 thermal stability of the products.

24 Q. By extreme thermal stability, do you mean that it
25 was able to withstand extremely high temperatures?

1 A. Yes.

2 Q. And, in fact, it was a flame-retardant
3 plasticizer, was it not?

4 A. No.

5 MR. DiMURO: Objection.

6 MR. LIPSHUTZ: Same objection.

7 MR. RADITZ: Same objection.

8 Q. Was Aroclor 1254, to your knowledge, a
9 flame-retardant plasticizer?

10 MR. DiMURO: You can answer.

11 A. Not to my knowledge, because the Aroclors are not
12 really very good flame retardants. In and of themselves they
13 don't burn, but they are not flame retardants for other
14 materials.

15 Q. Do you have any recollection as to how the
16 vaporization rate of Aroclor products generally,
17 PCB-containing Aroclor products, compared with other
18 plasticizer products?

19 A. Generally it follows in accordance with molecular
20 weight, and the higher the number of the Aroclor, the higher
21 the molecular weight, the more chlorine in the Aroclor. So
22 that some of the very high chlorine-containing Aroclors are
23 quite low in volatility.

24 Q. And is Aroclor 1254 considered one of the higher
25 chlorine plasticizers?

1 A. It is in the upper half, I guess I would describe
2 it, yes.

3 Q. And specifically how did Aroclor 1254 compare, if
4 you remember, to the vaporization rates of other
5 plasticizers?

6 A. Which other plasticizers?

7 Q. Did you understand my question? I think I left a
8 word out.

9 MR. DiMURO: Let him --

10 Q. How does the vaporization rate of Aroclor 1254
11 compare with the vaporization rates of other plasticizers
12 that were available back in the late 1960's?

13 MR. DiMURO: Object to the form. You can
14 answer it.

15 A. I don't have any recollection of specific data on
16 that thing, but, you would also need to say which plasticizer
17 you are talking about. You know, there are some plasticizers
18 that are quite high in volatility, and then at the other end
19 of the scale there are plasticizers that are exceedingly low
20 in volatility.

21 Q. Okay. Let's shift gears a bit, Dr. Farrar, and
22 let's talk about the phaseout of PCBs.

23 A. Okay.

24 Q. And hopefully specifically your involvement in
25 that whole process.

1 Had did you first learn that there was a
2 potential problem with PCB products in terms of environmental
3 pollution?

4 MR. DiMURO: Objection to the form. You can
5 answer. The question's assuming a lot of things, but --

6 A. First indication that I had must have been
7 somewhere in the late '60's, maybe mid to late '60's.

8 Q. Do you remember whether there was a specific
9 incident or event that came to your attention that related to
10 PCBs and the environment?

11 MR. DiMURO: Objection to form, but you can
12 answer.

13 A. I recall when one of the very early publications
14 from workers in Denmark appeared, Witmark and Yensen.

15 Q. And what was the issue that was raised in the
16 Witmark and Yensen report, as you remember hearing about it?

17 A. Well, they had discovered some things. I guess
18 they were looking at pesticides. I don't know if it was DDT
19 or exactly what it was. But they were getting some strange
20 blips in the GC in their laboratories, which later proved to
21 be PCBs.

22 Q. Do you remember when in time you learned that this
23 blip had proved to be PCBs?

24 A. Not specifically.

25 Q. Okay.

1 A. In the same general time frame.

2 Q. Where did you learn about the Witmark and Yensen
3 work?

4 A. From my colleague, Dr. William Richard.

5 Q. And who was William Richard?

6 A. He was the director of research for the functional
7 fluids unit in Monsanto.

8 Q. Functional fluids is transformer fluids and
9 dielectrics and so forth?

10 A. Exactly.

11 Q. Now, ultimately you served as a member of the ad
12 hoc committee; right?

13 A. Yes.

14 Q. Okay. When did you first learn that there was
15 contemplation -- Let me withdraw that.

16 When did you first learn that there was to be
17 created a committee that came to be called the ad hoc
18 committee?

19 A. I don't specifically recall when the date was.

20 Q. Do you remember how you came to be a member of the
21 ad hoc committee?

22 A. Yes.

23 Q. Okay. How did that happen?

24 A. My immediate supervisor, Mr. Jim Springgate,
25 called me in one day and told me that this committee was

1 going to be formed, and that I was to represent the
2 plasticizer group on this committee.

3 Q. Is there any reason why Mr. Springgate didn't
4 serve on the committee?

5 A. Makeup of the committee was at one level lower
6 than Jim was.

7 Q. And who were the members of that committee?

8 A. I don't know if I can remember them all. Bill
9 Richard was, Ed John from the public relations department,
10 Elmer Wheeler from the medical department, Paul Hodges from
11 the manufacturing department, and I may have missed someone.
12 I don't know. That's all I can remember at this point.

13 Q. Looks like you have got them all.

14 Did Mr. Springgate explain to you why that
15 cross-section of people had been selected?

16 A. Yes.

17 Q. Okay. Why was Bill Richard chosen?

18 A. Because, as I say, he was my counterpart for the
19 functional fluids business group, and most of the
20 environmental contamination really was coming from the fluids
21 end-use applications, rather than plasticizers.

22 Q. And who was the equivalent of Jim Springgate as
23 the boss to Bill Richard?

24 A. Oh, boy. I think that was Howard Bergen.

25 Q. And why was Ed John selected?

1 A. Well, he was from the public relations department
2 and would be the principal interface with the outside world.

3 Q. Did Mr. John have any substantive knowledge
4 concerning PCBs?

5 MR. DiMURO: Object to the form. You can
6 answer.

7 A. You mean technical knowledge?

8 Q. Well, what did he bring to the committee other
9 than this public relations background?

10 A. Well, that's basically what he brought, his
11 expertise in public relations.

12 Q. Why was Elmer Wheeler selected?

13 A. Well, he was from the medical department and very
14 experienced in toxicology.

15 Q. And he was the chair of the committee?

16 A. I don't remember who the chair of the committee
17 was initially.

18 Q. Was Dr. Keller Mr. Wheeler's boss?

19 A. Yes.

20 Q. So, was Mr. Wheeler also that one level below that
21 you described?

22 A. Yeah, I think so.

23 Q. Now, why was Paul Hodges selected to the
24 committee?

25 A. He had background and experience in the

1 manufacturing operations for Aroclors.

2 Q. Do you know what his position was at the time?

3 A. I don't remember his title exactly.

4 Q. Had he headed up manufacturing operations at one
5 of the plants where PCB products were manufactured?

6 A. He may have. I just don't remember.

7 Q. Do you know who decided that an ad hoc committee
8 should be formed?

9 A. No, I don't.

10 Q. Now, how many times did the committee meet all
11 told, do you remember?

12 A. I can't remember how many times. It was on a
13 regular basis, but I don't remember the number of times.

14 Q. Was it more than twice?

15 A. Oh, yes.

16 Q. Was it more than five times, do you know?

17 A. It's only a guess, but I can't remember exactly.

18 Q. I don't want you to guess, okay? And did the
19 committee ultimately prepare a final report of some sort?

20 A. Yes.

21 Q. And what was done with the final report, if you
22 know?

23 A. I think it consisted of certain recommended
24 actions that should be taken, and I think it ultimately got
25 to the top level of executives in the corporation.

1 MR. TURAT: Let me ask the Court Reporter to
2 mark a document as Exhibit -- I guess we are Exhibit 1,
3 aren't we?

4 (Exhibit No. 1 marked for identification.)

5 Q. Back on the record.

6 I have asked you to mark as Exhibit Farrar 1 a
7 document that's -- states minutes of Aroclor ad hoc
8 committee, first meeting. It's Bates numbered MAE 021976
9 through 79.

10 MR. DiMURO: Take your time to look at it.

11 (A short break was taken.)

12 Q. Okay. Back on the record.

13 Dr. Farrar, were you and the others on the ad
14 hoc committee given a set of objectives within which to work
15 by your superiors?

16 A. I don't recall. I suspect not. I think we
17 probably set our own objectives representing the interest of
18 the different functions involved.

19 Q. And the objectives that are listed, it says in
20 parenthesis, "agreed to by the committee," I take it they
21 were discussed and you all --

22 A. Yes, among ourselves, right.

23 Q. Briefly, in that objective number one there's a
24 reference to Aroclors and terphenyls. Was part of the ad hoc
25 committee's purview to look into the issue of polychlorinated

1 terphenyls as well?

2 A. Certainly not initially. And I don't know if this
3 is referring to terphenyls, per se, or chlorinated
4 terphenyls, because the Aroclor name included both
5 chlorinated biphenyls and chlorinated terphenyls.

6 Q. Now, the environmental pollution issue that had
7 come up, that had been raised by professors in Denmark, did
8 that also relate to polychlorinated terphenyls, to your
9 knowledge?

10 A. I don't believe it did, no. I think it was PCBs.

11 Q. Can you flip to the second page of the document
12 that was marked as Farrar 1? By the way, have you seen this
13 document before, sir?

14 A. Well, I see my name on it. Years ago I probably
15 saw it.

16 Q. Did the ad hoc committee customarily have meeting
17 minutes after each of its meetings?

18 A. Yes.

19 Q. Where -- I take it from the fact that P. B. Hodges
20 is the secretary, that he put together the meeting minutes?

21 A. That's correct, yes.

22 Q. Okay. In paragraph four, there's some reference
23 to sample acceptance from the numerous researchers was
24 discussed. Can you look at that paragraph and tell me more
25 about what that means?

1 A. I think it relates to the fact that we were being
2 asked to corroborate some analytical information from outside
3 research laboratories, which we were more than willing to
4 do.

5 Q. What type of analytical information?

6 A. The technology for the analysis of trace
7 quantities of PCBs is generally GCMS.

8 Q. And that's the equipment that you described
9 before?

10 A. Gas chromatography, mass spectrometry.

11 Q. And is that same equipment used for trace
12 quantities in water as in air?

13 A. Any -- anyplace, yes.

14 Q. So, were these samples that researchers had
15 gathered at various locations in the country or in the world
16 that were being submitted to Monsanto for testing?

17 A. I really don't know that that's the case, but I
18 suspect that's it.

19 Q. Okay. What is your understanding of -- if any, of
20 what the phrase means that, "It also tightens any possible
21 legal cases against us," dash, dash, "it rules out
22 possibilities that Aroclors are not involved"?

23 A. I don't know what that's intended to convey.

24 Q. Okay. Do you recall as of the time of the first
25 ad hoc committee meeting there being any legal cases

1 contemplated against Monsanto that related to PCBs?

2 MR. DiMURO: I'm going to object. I'm just
3 going to caution the witness not to discuss any matters you
4 might have discussed with in-house attorneys or outside
5 counsel of Monsanto relating to other legal matters or to any
6 legal matters. But subject to that objection, you may
7 answer.

8 Q. The fact that there may exist a legal matter out
9 there, or it may have been communicated to the company is not
10 a privileged matter. So if there was a contemplation in the
11 sense that Monsanto was aware that a local action was being
12 commenced against it, I believe Mr. DiMuro would agree that a
13 fact that exists is not one that gets protected by any kind
14 of attorney/client privilege.

15 MR. DiMURO: Might not consider it a fact, but
16 subject to that, you can answer the question.

17 A. I'm not aware of any at that time. My memory
18 doesn't tell me anything on that.

19 Q. Okay. In paragraph six there's a reference to the
20 Escambia River problem. Can you tell me what the Escambia
21 River is and what that problem was?

22 A. Monsanto had then and still has a very large
23 textiles manufacturer -- or synthetic fiber manufacturing
24 operation in Pensacola, Florida, which is located on the
25 Escambia River. For some reason PCBs were found in the

1 Escambia River, and I guess they were concerned about the
2 source.

3 Q. Okay. At the very end of this set of minutes,
4 where it talks about action planned, the minutes state that
5 each member of the group will submit to the other members for
6 consideration possible ideas and programs to help accomplish
7 the overall objectives set by the committee.

8 Do you recall submitting any ideas and
9 programs to the committee for the consideration of others?

10 A. I have no specific recollection what I might have
11 done at that time.

12 Q. Do you have any specific recollection of proposals
13 that came from Elmer Wheeler following that first meeting?

14 A. No.

15 Q. Do you have any specific recollection of any
16 proposals that came from any of the other members of the ad
17 hoc committee?

18 A. No, I really don't.

19 Q. That's all I have on that document.

20 By the way, to the best of your recollection,
21 did anyone on the committee ever ask that meeting minutes be
22 modified or revised once they came out?

23 A. I don't remember the specific practice at that
24 time. I would guess that --

25 MR. DiMURO: I don't want you to guess.

1 Q. We don't want you to guess. I'm asking if you
2 know of any instances where --

3 A. I do not know of any specific instances.

4 Q. In connection with your work on the ad hoc
5 committee, did you ever have occasion to appear before the
6 corporate development committee of the company?

7 A. Not I, no.

8 Q. Okay. What was the corporate development
9 committee as of November of '69?

10 A. That was the top management committee in the
11 corporation, made up of a few of the inside members of the
12 board of directors.

13 Q. How is it separate from the board of directors at
14 Monsanto?

15 A. Well, the board of directors is a much larger
16 group, and up to about 50 percent of directors are not
17 Monsanto employees; weren't then and still aren't today.

18 Q. But the corporate development committee, if I
19 understood you correctly, consisted of solely Monsanto
20 employees?

21 A. Yes; yes. That's the highest in-house authority
22 in the corporation at that time.

23 Q. Did you ever have occasion to review minutes of
24 the meetings of the corporate development committee while you
25 were on the ad hoc committee?

1 A. No.

2 Q. Do you know if anyone from the ad hoc committee
3 appeared before the corporate development committee to report
4 the ad hoc committee's findings and recommendations?

5 A. I can't remember. We got an official chairman
6 later, Bill Papageorge, and he may have had that
7 responsibility at some time.

8 Q. By the way, who is J. Mason; J as in letter J?

9 A. John Mason was an assistant general manager of the
10 organic chemicals division at that time, I think.

11 Q. Is he senior to -- on the hierarchy of Mr.
12 Springgate?

13 A. Senior to, yes. One step immediately below the
14 general manager.

15 Q. Okay. Let me show you a document I will ask the
16 Court Reporter to mark as Farrar 2 --

17 (Exhibit No. 2 marked for identification.)

18 Q. -- which is a November 17th, 1969 PCB presentation
19 to the corporate development committee.

20 MR. DiMURO: Craig, do you want him to read
21 the whole thing?

22 MR. TURET: No, I have a feeling he may want
23 to skim it briefly. I promise I will refer you to specific
24 parts. I'm going to ask you about them.

25 Q. You might want to take a look at pages 9, 10 and

1 11. I will ask some questions about that.

2 A. Page numbers at the top?

3 Q. Yes, at the top. Bates numbered 58603, 604 and
4 605.

5 A. Okay. Okay.

6 Q. And, actually, one other place, too. 58598 at the
7 bottom. I think it's page three, although it's a little
8 blurry at the top. It starts by way of introduction.

9 A. Right, I got it.

10 Q. Okay.

11 A. Okay.

12 Q. Now, I recognize this has Mr. Springgate's name at
13 the top, not yours?

14 A. Right.

15 Q. Have you ever seen this document before?

16 A. I don't remember seeing it, no.

17 Q. Do you know -- let me withdraw that.

18 On the third page of this, which was Bates
19 numbered 58598, whoever is addressing the committee is saying
20 that -- that the organic division and the medical department
21 has been actively engaged for the last 18 months in
22 developing facts and knowledge by personal visits to
23 universities, industrial test laboratories, etcetera.

24 I just want to ask you briefly: Were you
25 personally involved at all in personal visits to universities

1 or industrial test labs?

2 A. No.

3 Q. Were you personally involved in visits to
4 worldwide producers of PCB products?

5 A. No.

6 Q. Okay. Were you personally involved in any visits
7 to industrial collaborators as they are referred to here?

8 A. No.

9 Q. Were you personally involved in keeping abreast of
10 all literature and news sources on the subject of PCBs?

11 A. No.

12 Q. And when it refers in the next sentence to the
13 establishment of an ad hoc committee of both business groups
14 and medical which recently issued a report, is that the same
15 ad hoc committee on which you served?

16 A. Yes.

17 Q. Okay. Now, flipping ahead to pages 9, 10 and 11,
18 Bates numbered 58603 --

19 A. Okay.

20 Q. -- and on, there are four alternatives that appear
21 to have been considered as to how to proceed with PCB
22 products. Do you recall the ad hoc committee considering
23 those four alternatives?

24 A. In a general sense, yes. Framed in this
25 particular format, I do not recall seeing this format.

1 Q. Okay.

2 A. Personally.

3 Q. Well, the shortened format on page 10, do you
4 remember the members of the ad hoc committee considering
5 doing nothing, essentially letting the matter run its course,
6 but doing nothing to remove any of the products from the
7 market?

8 A. That was not seriously considered as an
9 alternative.

10 Q. Did anyone on the committee advocate the approach
11 of doing nothing?

12 A. No.

13 Q. The second alternative that appears to have been
14 proposed was to get out of the Aroclor business entirely. Do
15 you have a recollection of that being considered as an
16 alternative?

17 A. That certainly was not the -- a serious
18 alternative by members of the ad hoc committee.

19 Q. And why was it not a serious alternative?

20 A. Because it was considered entirely possible that
21 certain of the Aroclor products were not environmental
22 contaminants, and that by appropriate measures it could
23 likely be that the systems could be totally closed up and
24 that the business in certain critical applications could
25 continue.

1 Q. Do you recall whether any of the members of the ad
2 hoc committee advocated getting out of the Aroclor business
3 entirely?

4 A. No one was ready to do that at this particular
5 time, for sure.

6 Q. And this particular time, this was November of
7 1969?

8 A. '69, yeah.

9 Q. And whoever was making these remarks to the
10 committee, the corporate development committee, stated on
11 page 7 that "since then the market," referring to Aroclors,
12 "has grown to one of Monsanto's most profitable
13 franchises." Is that your recollection of the circumstances
14 that existed in November of 1969? It's page --

15 MR. DiMURO: What's the Bates number?

16 Q. Bates number 58601. And it's the second
17 paragraph.

18 MR. DiMURO: And your question is?

19 Q. The question is: Is it your recollection as of
20 November of 1969, based on your activities on the ad hoc
21 committee, that the Aroclor line had become one of Monsanto's
22 most profitable franchises?

23 A. I was aware then that the Aroclor family was a
24 very profitable business, yes.

25 Q. In fact, one of the most profitable of the

1 company?

2 A. I can't quantify it any further than that.

3 Q. Jumping -- I realize I'm jumping you back and
4 forth a little bit, but on Bates number 58604, which is the
5 list of the alternatives --

6 MR. DiMURO: Page 10.

7 Q. Page 10 at the top.

8 A. Right.

9 Q. The third alternative that appears to have been
10 under consideration was to go out of Aroclor 1254 and 1260
11 production.

12 Do you remember that being discussed as an
13 alternative?

14 A. Not specifically, no.

15 Q. And the fourth alternative that's listed there is
16 to develop specific action plans tailored to each business
17 group and each customer/market situation to, quote, clean up,
18 close quote, the mess.

19 Do you remember discussing that alternative on
20 the ad hoc committee?

21 A. Yes.

22 Q. Okay. And in fact, on the following page, page
23 11, there's a paragraph that expands upon it a little bit.

24 A. Right.

25 Q. Is that consistent with your recollection of what

1 was considered by the committee?

2 A. Yes.

3 Q. And is that the alternative that was recommended
4 by the committee?

5 A. Well, that's what it says here.

6 Q. Okay. Well, it says here that it's --

7 MR. DiMURO: Where are you reading from,
8 Craig?

9 Q. I'm reading from page 11.

10 So when it says "was the alternative
11 selected," that was in reference to the ad hoc committee
12 alternative?

13 A. That's correct, yes.

14 Q. Flip ahead to page number 58613. Page number 17
15 at the top; okay.

16 MR. RADITZ: I'm sorry. What page?

17 Q. Page 17 at the top. You see there's a listing for
18 some of the various markets for Aroclor products in the 1968
19 sales?

20 A. Right.

21 Q. Now, we had -- I had asked you some questions
22 before about the research that was done, either by you or
23 under you, as to specific applications. Had you been aware
24 that --

25 MR. DiMURO: I'm going to object. I don't

1 think he said he had ever done any research personally.

2 MR. TURET: No, no. I asked him about it. I
3 didn't say that any had been done.

4 MR. DiMURO: That's fine.

5 Q. (By Mr. Turet) Were you aware that as of the time
6 you were on the ad hoc committee that the Aroclor products
7 were being used as swimming pool paints?

8 A. Yes.

9 Q. Were you aware that they were being used as
10 protective coatings?

11 A. I can't say that I was, but that's a very broad
12 category. I'm not aware of that.

13 Q. Okay. What are emulsion adhesives?

14 A. What are emulsion adhesives?

15 Q. Yeah.

16 A. Elmer's Glue, for example.

17 Q. Were you aware that Aroclor 1254 was being used in
18 emulsion adhesives at that time?

19 A. No, I was not.

20 Q. Were you aware that Aroclor 1254 was being used as
21 a sealant?

22 A. Polysulfide sealant, yes.

23 Q. What is a wax modification as a market?

24 A. I'm not sure exactly what that means here.

25 Q. Now, if you would flip ahead to Bates number

1 58616.

2 MR. RADITZ: Which one? I'm sorry.

3 MR. TURET: 58616.

4 MR. RADITZ: Thank you.

5 Q. It says Recommended Action Plan. Can you look it
6 over and let me know if you recall this being the action plan
7 recommended by the ad hoc committee?

8 A. Yes, it seems to be consistent with my memory.

9 Q. And the first recommendation, appoint a project
10 manager, is that Bill Papageorge?

11 A. That was Bill Papageorge, yes.

12 Q. Now, what was Bill Papageorge's position as of the
13 time that you were on the ad hoc committee before this
14 recommendation was made?

15 A. He was plant manager at the Anniston plant.

16 Q. Did he have a science or technical background, to
17 your knowledge?

18 A. I'm sure he did.

19 Q. Did you have any role in actually selecting Mr.
20 Papageorge for the position?

21 A. I did not.

22 Q. Who chose him? Do you know?

23 A. I do not know specifically who chose him.

24 Q. Okay. The second paragraph, recommended action
25 plan, is to notify all Aroclor customers of PCB problem, and

1 relabel containers within 60 days.

2 What was the, quote, PCB problem, closed
3 quote, as of the time that you were on the ad hoc committee?

4 A. Just what we have been talking about here this
5 morning, environmental contamination as the principal concern
6 at this time.

7 Q. Was there a concern, yet, with toxicity in
8 humans?

9 MR. LIPSHUTZ: I'm going to object and just
10 ask you, are you asking for the committee's concern or his
11 personal concern?

12 Q. The committee's concern. We are talking about his
13 role on the committee and the concerns that were articulated
14 within that committee.

15 A. It was generally recognized at that time that
16 Aroclors were of a low level of toxicity to humans:
17 Chloracne being the principal manifestation of toxicity;
18 repeated exposure.

19 Q. Was there any discussion on the committee about
20 the concern that the Aroclor PCB products might be
21 carcinogenic to humans?

22 MR. DiMURO: Objection. You can answer.

23 A. I'm not aware of concern being expressed at that
24 time.

25 Q. What is your recollection of the need to relabel

1 containers as it was discussed in November of 1969?

2 A. It related to the fact that due to the persistence
3 of the products in the environment, there was some special
4 handling characteristics required.

5 Q. And do you remember specifically what kinds of
6 special handling were required?

7 A. I do not know what was on the recommended label.

8 Q. Do you remember the -- that issue being discussed
9 by the ad hoc committee?

10 A. Yes.

11 Q. Okay. Moving on to the next page, where it talks
12 about continue and expand biodegradation test program with
13 Aroclor series, --

14 A. Yes.

15 Q. -- what was the nature of the testing that was
16 being done as of November of 1969, as best you can recall?

17 A. It was a laboratory test called semi-continuous
18 activated sludge testing.

19 Q. What did that involve?

20 A. Taking a sludge from sewage treatment plant, small
21 amount, and treating it with the different Aroclor products
22 and analyzing for biodegradation of the product.

23 Q. And number 8, for the recommended action plan, it
24 says continued toxicological test program.

25 What toxicological test program was then

1 underway that was to be continued, if you know?

2 A. I really don't remember.

3 Q. And with regard to paragraph 9, accelerate present
4 analytical test program, what is your recollection of the
5 analytical test program that was then in place that was to
6 continue and accelerate?

7 A. This was just to continue to improve our expertise
8 in analytical capability for smaller and smaller quantities.

9 Q. So was this an issue of developing the expertise
10 to be able to -- to lower the detection rate so that
11 smaller --

12 A. Yes.

13 Q. -- trace quantities could be detected?

14 A. Yes.

15 Q. On page -- it's Bates numbered 58619. Page 21 at
16 the top.

17 A. Excuse me. My numbers at the top -- I have got
18 three different numbers here.

19 Q. Me, too.

20 A. So I'm looking at the bottom.

21 MR. DiMURO: Look at the bottom.

22 Q. It starts at the top, it says, "the program
23 would," colon.

24 A. Right.

25 Q. I recognize these are not your words. Do you

1 recall on the ad hoc committee discussing the possibility
2 that its recommendations would expose Monsanto to continue to
3 adverse publicity and possible lawsuits?

4 MR. DiMURO: I will object to the form.

5 MR. RADITZ: Same objection.

6 A. I don't recall anything of that nature.

7 Q. Now, was it your understanding, Dr. Farrar, that
8 Monsanto was the sole producer and supplier of PCBs in the
9 United States and Great Britain as of November of 1969?

10 A. I can't speak for Great Britain, but clearly
11 Monsanto was the sole producer in the U.S.A.

12 Q. Who is Bud French?

13 A. I don't know.

14 Q. Who is Dwight Miller?

15 A. I don't know that, either.

16 Q. Okay. I think I'm done with that document.

17 MR. TURET: I would like the Court Reporter to
18 mark this next document as Farrar 3.

19 (Exhibit No. 3 marked for identification.)

20 Q. Have you had a chance to look at the document, Dr.
21 Farrar?

22 A. Yes.

23 Q. Have you ever seen this document before that's
24 been marked as Farrar 3?

25 A. I see I'm recipient of a copy. I probably saw it

1 back in April of 1970.

2 Q. Okay. The -- up at the top there's a reference to
3 P.S. Park. Do you know who that is?

4 A. Yes.

5 Q. And who is P.S. Park?

6 A. He was a member of the Monsanto law department.

7 Q. And who is Cumming Paton?

8 A. Paton?

9 Q. Or Paton.

10 A. Cumming Paton was, at this time, the product
11 manager in marketing for the PCB products.

12 Q. How about J.R. Savage?

13 A. Jim Savage was in manufacturing at one of the
14 plants. I'm not sure which one.

15 Q. And D.A. Olson?

16 A. Don Olson was a product manager in the fluids
17 marketing department.

18 Q. Is that functional fluids?

19 A. Functional fluids. I'm sorry.

20 Q. Okay. Now, in this memorandum from Mr.

21 Papageorge, the opening sentence says, "during our April 3rd
22 meeting." And I believe this is -- had you mentioned before
23 that there were meetings of the ad hoc committee even after
24 Mr. Papageorge was hired?

25 A. Oh, yes, yes.

1 Q. How frequently did the ad hoc meeting meet when
2 Mr. Papageorge assumed the role as chairman?

3 A. I don't remember the frequency, but it was on a
4 regular basis.

5 Q. Do you recall whether there were continued meeting
6 minutes for the ad hoc committee after the recommendation and
7 the report of the ad hoc committee was issued?

8 A. I don't recall specifically, no.

9 Q. The last sentence Mr. Papageorge states, "We are
10 anxious to make this change in labeling quickly." Do you
11 recall hearing why there was some anxiety about changing it
12 quickly?

13 A. If you look back at one of the recommended actions
14 from this committee to the CDC, it was that this was going to
15 be done within 60 days.

16 Q. And that was from November of '69?

17 A. Whenever it was, yes. Yes, that's right.

18 Q. I'm done with that document.

19 Let me have the Court Reporter mark this.
20 This is the April 20th, 1970 minutes of the meeting of the
21 corporate management committee.

22 (Exhibit No. 4 marked for identification.)

23 MR. DiMURO: Do you want to direct his
24 attention to any specific paragraph?

25 MR. TURET: No. I was just giving him an

1 opportunity to flip through it. I will do that as we go
2 through. Are you ready to do that?

3 MR. DiMURO: Yes. Just ask your questions and
4 point to the specific page.

5 Q. Dr. Farrar, there's a reference in that very first
6 page to the fact the organic division has maintained an
7 aggressive program of customer education and cooperative
8 efforts with research organizations, governmental agencies
9 and wildfire groups to identify the scope of the problem.

10 MR. DiMURO: There's more to that sentence.
11 If you just indicate -- if you are going to cut it off, just
12 indicate it to the Court Reporter.

13 Q. Comma, eliminate discharges, comma, improve
14 analytical methods and conduct toxicity studies.

15 MR. DiMURO: Thank you.

16 Q. My apologies. I thought there was a period
17 there.

18 Dr. Farrar, did you have any personal
19 involvement in this aggressive program of -- pardon me -- in
20 the cooperative efforts with research organizations in or
21 about April of 1970?

22 A. Yes, I had a direct responsibility with NCR,
23 Aroclor 1242 and carbonless carbon paper. I don't remember
24 the exact time frame, but it must have been about this time
25 frame.

1 Q. Okay. And is that -- do you consider that a
2 cooperative effort with the research organization?

3 A. Yes.

4 Q. What was the research organization?

5 A. The research organization of National Cash
6 Register, NCR.

7 Q. Was NCR working, through its in-house research
8 department or division, on a substitute product for Aroclor
9 1242?

10 A. Jointly with us.

11 Q. Were you involved, other than the NCR project, in
12 any other cooperative efforts with NCR research
13 organizations?

14 A. No.

15 Q. How about efforts with government agencies?

16 A. No.

17 Q. How about wildfire groups?

18 A. No.

19 Q. If that said wildlife groups, would that change
20 your answer any?

21 A. Same answer.

22 Q. Now, on the next page, Bates numbered 58639, I had
23 asked you long ago, just generally, about whether you
24 remembered any research efforts as to specific Aroclor
25 applications. Were you aware that Aroclor products were

1 being used as pesticide extenders as of the time you were on
2 the ad hoc committee?

3 MR. DiMURO: Were you reading from a specific
4 portion of the Bates number 058639?

5 MR. TURET: Yes. The paragraph that begins,
6 "Sales are being terminated to a number of industrial
7 users."

8 MR. DiMURO: Okay.

9 A. Now, what's the question?

10 Q. Were you aware, as of the time that you served on
11 the ad hoc committee, that Aroclor PCB products were being
12 used as pesticide extenders?

13 A. No.

14 Q. Were you aware as of that same time that Aroclor
15 products were being used for medicinal purposes?

16 A. No.

17 Q. Were you aware that Aroclor products were being
18 used for dental and cosmetic purposes?

19 A. No.

20 Q. Were you aware that they were being used for
21 cutting oils?

22 A. Yes.

23 Q. What is a cutting oil?

24 A. It is an oil with excellent thermal stability
25 that's used to cool the bit, you know, the thing that's doing

1 the cutting of metal. You have to have something to take the
2 heat away.

3 Q. Now, did you personally participate -- I'm going
4 to refer you to Bates number 58642. Down at the bottom in
5 March -- also in March. It refers to a meeting in Duluth,
6 Minnesota with various state, federal and other
7 representatives.

8 A. No.

9 Q. Did you participate in that meeting?

10 A. I did not.

11 Q. On the next page there's a reference to
12 communications with a Dr. Hill from Ohio State Health
13 Department regarding PCBs found in milk. Were you at all
14 involved in communications with that doctor, or the
15 investigation that may have followed?

16 A. No.

17 Q. How about in -- down at the bottom of that same
18 page, their references to discussions that the FDA was
19 considering establishing a PCB limit in food.

20 Did you have any personal involvement in the
21 discussions with the FDA, if any, that related to levels of
22 PCBs in food?

23 A. No.

24 Q. On the following page, 58644, there are references
25 to meetings or communications with the United Kingdom,

1 various ministries. Did you have any personal involvement in
2 those meetings or communications?

3 A. No.

4 Q. At the bottom of the page there are references to
5 Monsanto's worldwide leadership in contacting the
6 representatives of European producers of PCB products. Were
7 you involved in --

8 MR. DiMURO: It didn't say that. At least my
9 copy just says, quote, "In Europe, we have assumed worldwide
10 leadership and contacted the representatives of the European
11 producers." If you want to say it's for PCBs, that's fine;
12 but it doesn't say that in the document.

13 MR. TURET: Okay. That's fine.

14 MR. DiMURO: Okay.

15 Q. Assuming that producers refers to producers of
16 PCBs, did you have any involvement in or about April of 1970
17 in communicating with the producers of PCBs in Europe?

18 A. No.

19 Q. Okay. I have no further questions about that
20 document.

21 (Off-the-record discussion held.

22 Proceedings continued as follows.)

23 (Exhibit No. 5 marked for identification.)

24 Q. I ask that this document be marked as Exhibit
25 Farrar 5. This is a rough draft of a management plan,

1 polychlorinated biphenyl environmental problem. Let me pass
2 it on to you, Dr. Farrar.

3 MR. TURET: And I have a copy for you, Chris.

4 MR. DiMURO: Okay. Thank you.

5 Q. I'm going to only ask you about a couple of
6 specific pieces, Doctor, but have you ever seen this document
7 before?

8 A. I don't recognize this, no.

9 Q. Okay. Flipping ahead to the -- I guess it's page
10 3, top, where it talks about objectives -- I'm sorry.
11 Flipping ahead to the next page where it talks about action
12 plan, there are specific objectives, action items, and
13 responsibilities that appear to be assigned. I would like to
14 direct your attention to the third of those, which is on page
15 6. And it talks about developing products to replace
16 Aroclors, etcetera.

17 Now, in there there's a specific reference to
18 -- under status to work on product substitutes, including
19 NCR paper coating.

20 A. Yes.

21 Q. Is that the project on which you had testified
22 earlier?

23 A. Yes.

24 Q. Now, are any of the other items in this paragraph
25 ones which you had personal responsibility?

1 A. The items under status?

2 Q. Yes.

3 A. Only the NCR paper application that I was
4 associated with.

5 Q. Okay. Flipping ahead to the following page, just
6 briefly there is a reference to section manager, applied
7 sciences. Do you know who that was as of the --

8 A. Yes, Dr. Robert E. Keller.

9 Q. And what was the section manager for applied
10 sciences responsible for doing?

11 A. That's where the analytical capability resided for
12 detecting and -- very low levels PCBs and a lot of other
13 things.

14 Q. Okay. Now, the objective number 5, developing
15 methods for effective disposal of waste containing PCB
16 without contaminating the environment, was that a task that
17 was assigned to you at all?

18 A. No.

19 Q. And flipping ahead to page 11, which is number --
20 objective number 8 --

21 A. Uh-huh.

22 Q. -- there's a reference to establishing and
23 maintaining favorable relationships with the press,
24 governmental agencies, the public and the universities. And
25 you will note just at the end of that the responsibility, it

1 says all personnel.

2 Do you recall specifically receiving any
3 assignments that would fit into the objective number 8?

4 A. I did not have any specific assignments there,
5 no.

6 Q. Okay. I'm done with that one. Let me ask the
7 Court Reporter to mark this.

8 (Exhibit No. 6 marked for identification.)

9 Q. Actually, this is a document that says at the top
10 September 8, 1970, PCB environmental problem, August status
11 report.

12 MR. RADITZ: What number are we up to?

13 Q. This should be Farrar 6.

14 All right. Dr. Farrar, have you ever seen the
15 document you have just been shown as Farrar 6 before?

16 A. I probably did, but I don't remember
17 specifically. But I'm on the distribution list.

18 Q. Do you remember generally receiving PCB
19 environmental problem status reports from Mr. Papageorge?

20 A. Yes.

21 Q. Do you remember with what frequency you received
22 them?

23 A. No, I don't recall the specific frequency.

24 Q. Now, as you flip through this document, when you
25 get to the third page, there appears to be a gap between the

1 part that says Japan and medical. Do you have any idea what
2 that might be?

3 A. No, I don't.

4 Q. Oh, I meant to ask you a question on the first
5 page. There's a reference here from Mr. Papageorge to the
6 fact that the withdrawal from the market of PCB-containing
7 Aroclors for plasticizer applications is completed, and that
8 all orders received up through noon on August 31st, 1970 were
9 shipped.

10 Now, was it your understanding, as a member of
11 the ad hoc committee, that there was to be a cutoff date up
12 to which orders for Aroclor products would be accepted and
13 filled, and that after that date no further orders would be
14 accepted or filled?

15 A. That was true as far as plasticizer's concerned.
16 I really can't speak for the functional fluids area.

17 Q. Fair enough. Okay. That's -- No further
18 questions on that document.

19 (Exhibit No. 7 marked for identification.)

20 Q. Dr. Farrar, you are being shown a document that's
21 been marked as Farrar 7, which is a memorandum dated
22 September 11th, 1970, from E. S. Tucker to E. P. Wheeler. Do
23 you recall ever seeing this document before?

24 A. I don't have specific memory, but I was listed as
25 a recipient.

1 Q. At the top there's a reference to R. H. Munch.

2 A. Yes.

3 Q. Who is he?

4 A. Ralph Munch. Dr. Munch headed this group prior to
5 Dr. Keller. Dr. Munch was a pioneer of the development of
6 GCMS technology, had a lot to do with building this
7 capability within Monsanto, as well as throughout the world,
8 as a matter of fact. I think at this point in time he was
9 serving as a consultant of Monsanto, having retired as an
10 active employee.

11 Q. And who is E. S. Tucker?

12 A. Scott Tucker was in Dr. Keller's group, and he was
13 probably the premier expert in trace analytical
14 determinations of PCBs and a lot of other things, too. He
15 was the focus of the analytical capability.

16 Q. Now, there's a reference in this memo to Ralph
17 Munch's approach to producing a more degradable Aroclor
18 product for controlled usage. Do you know what that phrase
19 may refer to?

20 MR. DiMURO: The second paragraph.

21 A. Yeah, I see that. And it was found in the earlier
22 biodegradation studies that the lower level content Aroclors
23 were at least partially and even significantly
24 biodegradable. And I think that with that as a clue, the
25 intent was to find specific materials that would be

1 biodegradable, but would still have the functional
2 properties.

3 Q. And what is, quote, fractionated, closed quote,
4 Aroclor?

5 A. Well, one way of getting these lower level and
6 potentially biodegradable Aroclors is to separate by
7 distillation the products from the chlorination of biphenyl.
8 That process is called fractionation.

9 Q. Say that again. It separates out which products?

10 A. Separate by distillation specific Aroclors that
11 might be biodegradable by fractionation.

12 MR. TURAT: Mark that as Farrar 8.

13 (Exhibit No. 8 marked for identification.)

14 MR. DiMURO: You need him to read the whole
15 thing?

16 Q. No. I will direct you to specific parts.

17 A. Okay.

18 Q. First, Dr. Farrar, do you remember receiving this
19 status report from Mr. Papageorge?

20 A. I don't remember specifically receiving it, but I
21 see I'm listed on the distribution list.

22 Q. Was that distribution list a common way of
23 circulating interoffice memoranda within Monsanto back at the
24 time period?

25 A. Well, if I received a copy, it wasn't one that was

1 to be circulated. That was my own copy.

2 Q. No. My question is: When you see a listing like
3 this of recipients of a memorandum, does that indicate that a
4 memorandum was distributed to those people through Monsanto's
5 interoffice mail?

6 A. Right; yes.

7 Q. Directing you ahead to the second page, Bates
8 numbered 28453, the portion under marketing, was it your
9 understanding at the time of this status report, which would
10 be October of 1970, that although Monsanto may have ceased
11 sales of Aroclor PCB products, that distributors of Monsanto
12 might still have had inventories that were being sold to
13 customers?

14 A. I really don't know what arrangements were made
15 with distributors regarding the Monsanto withdrawal of the --
16 I don't know what happened to the distributors.

17 Q. Do you remember any discussions while you were on
18 the ad hoc committee about this issue of products that were
19 being sold through distributors?

20 A. Not specifically, no.

21 Q. Do you remember any discussions, while you were on
22 the ad hoc committee or afterwards, that related to Monsanto
23 customers' inventories of the Aroclor products that had been
24 discontinued?

25 A. I don't remember any specific discussions, no.

1 MR. TURAT: Let's mark that as Farrar 9.
2 (Exhibit No. 9 marked for identification.)
3 MR. DiMURO: Questions?
4 MR. TURAT: Yeah, I think he's still reading.
5 MR. DiMURO: He can -- He's a pretty quick
6 read.
7 A. Yeah, go ahead. I'm sorry.
8 Q. Okay. First, let me just ask you about the names
9 that appear up at the top. Who is M. W. Dietrich?
10 A. Dr. Dietrich was a research group leader reporting
11 to Dr. Keller.
12 Q. What is the difference, by the way -- I notice
13 there is a Res. 1, Research 1, that you are listed as being.
14 A. Yes.
15 Q. And there is Res. 2, research 2.
16 A. First floor, second floor of the research building
17 at South 2nd Street.
18 Q. Okay. Were E. M. Emery, Scott Tucker and J. P.
19 Mieure --
20 A. Mieure.
21 Q. -- Mieure, all within the same group?
22 A. Yes.
23 Q. Now, also at the bottom where it says -- there's a
24 handwritten notation that says, Bob, colon, of greater
25 interest to us than A-5442 is A-5460, etcetera. And it ends

1 with MWF.

2 A. That's me.

3 Q. That's you. Is that your handwriting?

4 A. Sure looks like it, what it used to look like
5 anyway.

6 Q. Now, the body of this memorandum appears to
7 reflect that there was testing done to determine whether
8 there were dibensofurans contained in certain of the Aroclor
9 products.

10 A. Right.

11 Q. Are you aware of any prior tests that were done to
12 determine the presence of furans in Aroclor PCB products?

13 A. No.

14 Q. There's also a reference at the bottom to the fact
15 that no dioxins were found. Are you aware of any prior tests
16 to determine whether dioxins were contained in Aroclor
17 products?

18 A. No.

19 Q. Now, in your handwritten notes, it seems to
20 suggest that Aroclor 5460 was of greater interest than
21 Aroclor 5442 was. Why is that?

22 MR. DiMURO: You are assuming the A is for
23 Aroclor?

24 Q. Was the A for Aroclor?

25 A. Yes.

1 Q. What was the reason 5460 was of greater interest
2 that 5442?

3 A. Of considerably greater commercial importance.

4 Q. Meaning volume of sales?

5 A. Yes.

6 Q. What was 5460 used for at that time?

7 A. As a tackifier (ph) in hot-melt adhesives.

8 Q. What was 5442 used for?

9 A. I really don't know.

10 Q. What was Dr. Mieure's position with the company at
11 the time?

12 A. I don't know if he was group leader at this time
13 or not. But he was another one of the high-power analytical
14 people in Dr. Keller's group.

15 MR. TURAT: Okay. Dr. Farrar, thank you. I
16 have no further questions at this time.

17 THE WITNESS: Thank you.

18

19 CROSS EXAMINATION

20 By Mr. Raditz:

21 Q. Good afternoon, Dr. Farrar.

22 A. Good afternoon.

23 Q. I introduced myself earlier. My name is Adam
24 Raditz, I'm with the law office of Gary Ginsberg, and we
25 represent the plaintiffs in an action brought against

1 Armstrong. Armstrong has subsequently brought in Monsanto
2 and American Mineral Spirits into this lawsuit. Is that your
3 understanding of this lawsuit?

4 A. Yes.

5 Q. Have you reviewed any documents prior to today's
6 deposition?

7 A. No.

8 Q. I don't know if this question was asked already.
9 Did there come a time at which you became aware that
10 Armstrong was utilizing Aroclor 1254 as a component of a
11 plasticizer for use on ceiling tiles?

12 MR. DiMURO: Objection. You can answer it. I
13 think it's been asked and answered, but you can answer it
14 again.

15 Q. Yes.

16 A. I do not ever recall hearing that information.

17 Q. As an employee of Monsanto, have you ever seen
18 literature generated by the company that would suggest that
19 Aroclor 1254 could be used on ceiling tiles?

20 A. No.

21 Q. In fact, did Monsanto ever advertise Aroclor 1254
22 for purposes of being a plasticizer for application on
23 ceiling tiles?

24 A. I am certainly not aware of it, because we don't
25 feel that Aroclor 1254 is a primary plasticizer for PVC.

1 Q. Why is that, sir?

2 A. It is basically incompatible with PVC.

3 Q. In what way is it incompatible with PVCs?

4 A. It's not a solvent for PVC.

5 Q. Dr. Farrar, you have seen a lot of documents
6 today. In the 1969, 1970 period, Monsanto undertook an
7 investigation into PCBs', is that correct?

8 MR. DiMURO: Object to the form, but you can
9 answer it.

10 A. Well, I guess the answer has to be yes, but that's
11 not specific to what kind of investigation.

12 Q. Can you describe the investigation that was
13 undertaken during that time period, 1969, 1970?

14 A. That's what we have been talking about all
15 morning. The environmental problem caused by the persistence
16 of PCBs prompted these investigations regarding their safety,
17 regarding the development of alternate products, and
18 regarding whether or not they truly should be continued and
19 manufactured and sold to customers.

20 Q. How would you describe Monsanto's efforts in
21 investigating the four mentioned areas of PCBs?

22 MR. TURET: Objection.

23 MR. DiMURO: You can answer it.

24 A. Monsanto did then and still does today take pride
25 in being a good corporate citizen. And at the loss of

1 substantial revenues, it was a corporate decision to
2 discontinue the manufacture and sale of PCBs. There was no
3 government action that required that.

4 Q. Was there a withdrawal policy concerning the
5 Aroclors?

6 A. Withdrawal from customers?

7 Q. Yes.

8 A. Yes, that was the program that was outlined here
9 by the ad hoc committee and approved and ordered to be
10 implemented by the corporate development committee.

11 Q. Okay. What is the difference between an open-
12 system application versus a closed-system application with
13 regard to PCBs?

14 A. An open-system application is one that would allow
15 the PCB to be basically discharged in some way to the
16 environment after it had performed its useful function. A
17 closed system is one in which the PCB is enclosed in a
18 container, such as a transformer, where the loss of material
19 can be controlled, and hopefully totally eliminated
20 capacitors, transformers, and things of that nature.

21 Q. Would PCBs used as a plasticizer be an open-system
22 application?

23 A. I think generally you would have to say yes.
24 There may be exceptions to that; but, generally, such as, for
25 example, the NCR paper, Aroclor 1242, that paper, after it's

1 used, was thrown away or recycled but -- There was some
2 recycling, but not a whole lot. And you know, most papers, I
3 guess, it was incinerated.

4 Q. Now, the decision to cease manufacturing and
5 distributing products that contain PCBs was an order --
6 Strike that.

7 With regard to the -- With regard to Monsanto
8 ceasing to manufacture PCBs, was there an order of withdrawal
9 in terms of open-application systems and closed-application
10 systems?

11 A. There was a different timing.

12 Q. Can you explain that for me, sir?

13 A. Open applications were required to be ceased
14 earlier, instead of later. And the closed systems were
15 continued in order to allow the GEs and the Westinghouse and
16 the companies like that time for development of suitable
17 replacement products.

18 Q. Why were the -- why are open-system applications
19 of PCBs withdrawn first?

20 A. Because those are the ones that contributed
21 directly to pollution of the environment.

22 Q. As a result of Monsanto's decision to cease
23 utilizing PCB containing Aroclors for open applications, did
24 Monsanto, to your knowledge, take any actions to contact its
25 customers of the Aroclor products?

1 MR. DiMURO: Object to the form. You can
2 answer it, though.

3 A. Very early in the game, as we saw from some of the
4 papers we saw earlier, that was done. I think from the
5 official action plan, within 60 days.

6 Q. Okay. Doctor, I'm going to show you a document
7 which has been previously marked at a deposition as Coaker
8 Exhibit 8. Take your time and review that.

9 A. Okay.

10 Q. Dr. Farrar, have you ever seen this document
11 before?

12 A. No, I don't remember seeing this.

13 Q. I'm just going to -- have you ever heard -- you
14 mentioned that -- Strike that.

15 Do you know if Monsanto informed these
16 customers of Aroclor products in writing that they were
17 withdrawing those products from the market?

18 A. Yes, I'm confident the customers were notified in
19 writing.

20 Q. Was Armstrong Cork a customer of Monsanto at that
21 -- during that time period?

22 MR. TURET: Objection, customer of what
23 product?

24 MR. DiMURO: You can --

25 Q. I will rephrase the question.

1 MR. DiMURO: Okay.

2 Q. To your knowledge was Armstrong Cork a customer of
3 Aroclor products for Monsanto during that time period?

4 A. I do not know specifically that Armstrong was a
5 customer for Aroclors. I don't know that.

6 Q. But, again, you are certain that the customers of
7 Aroclor products for Monsanto were notified about the
8 withdrawal?

9 A. Yes, I'm confident they took the customer list and
10 went right down, and those who were buying Aroclors were
11 notified.

12 Q. Dr. Farrar, I'm going to show you one more
13 document. This is a document, again, that was shown in
14 another deposition. It's Coaker Exhibit 9. Just take a
15 moment to review that.

16 MR. LIPSHUTZ: Could you identify that by
17 Bates number?

18 Q. MAE 054455. And then the second page is -- MAE
19 054457, last page.

20 A. Okay.

21 Q. Doctor, have you ever seen that document before?

22 A. I don't recall seeing this, no.

23 Q. I believe you testified earlier that Monsanto was
24 -- Monsanto looked into replacement products for the Aroclor
25 line, is that correct?

1 A. In certain applications, yes.

2 Q. Do you know, to the best of your knowledge, did
3 Monsanto notify its customers of any replacement products
4 that it may have discovered?

5 A. Yes. We notified NCR of a replacement for Aroclor
6 1242 in the carbonless carbon paper application.

7 Q. Did Monsanto have -- Strike that.

8 Did Monsanto ever offer to purchase back
9 unused Aroclor from its customers?

10 A. I really don't know what the arrangements were
11 there. I had no contact with them.

12 Q. Had you ever heard of such a policy?

13 A. No, I haven't.

14 Q. If I could just direct your attention back to
15 Coaker Exhibit 8.

16 A. Right.

17 Q. I just want to read a -- the third paragraph. "As
18 your supplier of Aroclor 1254 and 1260, we wish to alert you
19 to the potential problem of environmental contamination as
20 referred to in the newspaper and magazine articles."

21 My question to you, Doctor, is: At that time
22 period, meaning at or around February of 1970, or expanding
23 it to 1969 and 1970, do you know what newspaper and magazine
24 articles this would be referring to?

25 A. No, I don't.

1 Q. Were you aware during that time period of any
2 newspaper or magazine articles dealing with the potential
3 problem of environmental contamination from Aroclor products
4 or PCBs?

5 A. I was aware that publicity on this issue was
6 mounting, but I can't recite a specific newspaper or
7 magazine.

8 Q. I just want to be clear. When publicity was
9 mounting, do you mean publicity within the Monsanto Company
10 or publicity from outside the Monsanto Company?

11 A. Both.

12 Q. With regard to publicity outside of the Monsanto
13 Company, were there any government agencies publishing any
14 articles with respect to PCBs?

15 A. I really don't know. Environmental activists were
16 the kinds of people who were certainly beating the drums
17 louder. I don't know what the government was doing at that
18 time.

19 Q. Did there come a time when the government began --
20 government agencies began publishing literature about PCBs?

21 A. I don't know. Possibly so.

22 Q. Earlier you discussed the Plasticizer Council. Do
23 you recall discussing the Plasticizer Council?

24 A. Yes; yes.

25 Q. I believe you mentioned that if a customer had a

1 problem he would come to the Plasticizer Council and ask for
2 recommendations, is that correct?

3 A. Yes.

4 Q. To your knowledge, was Armstrong aware of this
5 council?

6 A. Yes.

7 Q. At any time did anyone from Armstrong ever inquire
8 about potential plasticizers for any application?

9 MR. DiMURO: Object to the form. You can
10 answer it, Doctor.

11 A. Well, the answer is yes, because we had very
12 frequent discussions about plasticizers for vinyl floor tile
13 and vinyl sheet goods.

14 Q. Did anyone from Armstrong ever inquire about
15 potential plasticizers which contained PCBs?

16 A. Not that I'm aware of.

17 Q. Doctor, I'm going to go down a list of names for
18 you, Armstrong employees, and I would like you to tell me if
19 you recognize any of them.

20 A. Okay.

21 Q. M.J. McEvoy?

22 A. No.

23 Q. H.F. Buyers?

24 A. No.

25 Q. Ed Watson?

1 A. No.

2 Q. Dean Litch?

3 A. No.

4 Q. E.G. Rhoads?

5 A. No.

6 Q. T.P. Greenwald?

7 A. No.

8 Q. C.F. Wilson?

9 A. No.

10 Q. E.P. Kramer?

11 A. No.

12 Q. Ed Ball?

13 A. No.

14 Q. John Robinson?

15 A. No.

16 Q. Len Addie?

17 A. No.

18 Q. Earlier you testified about one Dwight Browning

19 who was Vice President of Research and Development for

20 Armstrong, --

21 A. Yes.

22 Q. -- is that correct? And I believe you testified

23 he was a vice president of the entire company with regard to

24 Research and Development.

25 A. That's correct.

1 Q. At any time did you ever have discussions with
2 Dwight Browning concerning any Aroclor products?

3 A. No.

4 Q. In your visits -- Strike that.

5 Now, you testified before you had meetings
6 with Armstrong people in the 1960's.

7 A. Yes.

8 Q. This may have been asked: Where were the meetings
9 -- Were the meetings held in Lancaster, Pennsylvania?

10 A. Most of the time in Lancaster, but sometimes in
11 St. Louis.

12 Q. When you were at the Lancaster plant, to your
13 knowledge was there a laboratory at that plant?

14 A. Well, I don't think I have ever been to Lancaster
15 to an Armstrong plant. I have been to their general offices
16 and research laboratories.

17 Q. Okay. Can you describe their research
18 laboratories for me?

19 MR. DiMURO: At what time, Adam?

20 Q. 19 -- mid 1960's, up until 1971.

21 MR. TURET: I'm going to object unless he can
22 clarify whether there have been changes in that period. I
23 think you have just asked for a 7-year period, and it may or
24 may not be the same facilities during the entire period.

25 MR. DiMURO: You can answer, Dr. Farrar.

1 Q. You can answer.

2 A. I can't pinpoint, you know, how long I knew where
3 Armstrong research facilities were. But, it was a separate
4 location in Lancaster from where the general offices were,
5 and it was sort of on the outskirts of Lancaster.

6 Q. Do you ever actually physically go into the
7 laboratories?

8 A. Yes.

9 Q. Can you describe the size of the laboratory for
10 me, please?

11 A. What, dimension, square feet, number of buildings,
12 number of people --

13 Q. In any manner you can, sir.

14 A. Well, it was a pretty substantial operation.

15 Q. Did you ever -- During that time period, we are
16 talking 1965 through 1971, did you ever actually see the
17 equipment they were using?

18 A. In the laboratory and pilot plant, yes.

19 Q. To your knowledge, during that time period did
20 they have a machine for gas chromatography?

21 A. I did not see it as a reputable scientific
22 organization. I'm confident they did have it, though.

23 Q. What about a mass spectrometer?

24 A. Yes. They were of such a size that they would
25 have had the mass spectrometer.

1 Q. I'm almost done. When the Aroclors were withdrawn
2 from the market in early 1971 period by Monsanto, how did
3 Monsanto's customers react?

4 MR. DiMURO: I will object to the form. You
5 can answer it, Doctor.

6 A. Let me speak to only plasticizer customers. Most
7 plasticizer customers recognized why we were doing this and
8 were in agreement that it should be done. There were a few
9 who were very much upset, and I would say generally those
10 were the ones for which we had no alternate product to
11 recommend.

12 Q. To your knowledge, was Armstrong one of the
13 customers that was upset?

14 A. I'm not aware that Armstrong Cork was buying
15 Aroclors, so I -- therefore, I have no knowledge on that
16 particular issue.

17 Q. During the mid 1960's, did you ever have any
18 dealings with any ceiling tile manufacturers?

19 A. No.

20 Q. Do we have Farrar 4 available?

21 A. I have it.

22 Q. Okay. I just want to direct your attention to the
23 bottom paragraph.

24 A. Which page?

25 Q. First page.

1 A. Okay.

2 Q. MAE 058638.

3 A. Got it.

4 Q. I'm going to read the first half of that
5 sentence. It says, "Division has maintained an aggressive
6 program of customer education."

7 Do you see where I'm reading from?

8 A. Yes.

9 Q. Doctor, can you tell me what that is referring to?

10 A. I think it's referring to the fact that we were
11 informing the customer of the environmental problems
12 associated with use of Aroclors.

13 Q. In your opinion, do you agree that it was an
14 aggressive program?

15 A. Yes.

16 MR. RADITZ: I have no further questions.
17 Thank you, Doctor.

18

19 CROSS EXAMINATION

20 By Mr. Lipshutz:

21 Q. Dr. Farrar.

22 A. Yes, hello there.

23 MR. DiMURO: We are working our way around
24 here.

25 (Off-the-record discussion held.)

1 Proceedings continued as follows.)

2 Q. Dr. Farrar, my name is Gary Lipshutz. I'm an
3 attorney at Wilson, Elser in New Jersey. We represent
4 third-party defendant, American Mineral Spirits Company. Are
5 you familiar with American Mineral Spirits Company?

6 A. Generally, yes.

7 Q. What is your understanding of that company?

8 A. Well, Monsanto had two or three major
9 distributors, and American Mineral Spirits was one of those;
10 distributors for plasticizers.

11 Q. You already testified in response to one of the
12 plaintiff counsel's questions that you were not aware that
13 Armstrong was a purchaser of Aroclors, is that correct?

14 A. Correct.

15 Q. Do you have any knowledge as to whether Armstrong
16 purchased Aroclors from American Mineral Spirits?

17 A. I do not.

18 MR. LIPSHUTZ: I have no other questions.

19 MR. DiMURO: Mr. Turet and Mr. Raditz get one
20 more shot at this.

21 MR. RADITZ: One more shot at the pie.

22 MR. TURET: Dr. Farrar, thank you for your
23 time. I have no further questions.

24 MR. RADITZ: Dr. Farrar, thank you for your
25 time.

1 THE WITNESS: My pleasure for both of you,
2 gentlemen, all three of you.

3 MR. DiMURO: We stand adjourned. Thank you
4 very much, Dr. Farrar.

1
2 I, MARTIN FARRAR, Ph.D., do hereby state that the
3 foregoing questions and answers appearing in this transcript
4 of my deposition are true and accurate (corrected) to the
5 best of my knowledge and belief.
6
7

8 Martin Farrar

9 MARTIN FARRAR, Ph.D.
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11
12

13 Subscribed and sworn to before me this 27 day of
14 August, 1997.
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18 Tracey D. Carlen.

19 NOTARY PUBLIC
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22 TRACEY D. CARLEN
23 NOTARY PUBLIC — STATE OF MISSOURI
24 ST. LOUIS COUNTY
25 MY COMMISSION EXPIRES AUG. 15, 1999

NAME OF DEPONENT
MARTIN FARRAR, Ph.D. 8/7/97

DEPOSITION CORRECTIONS SHEET

In re: MAERTIN v. ARMSTRONG WORLD INDUSTRIES
District of New Jersey; L-95-CV-2849

Reported By: SKR

Upon reading the deposition and before subscribing thereto, the deponent indicated the following changes should be made:

Page 13 Line 6 Should Read: ANAGNOSTOPOULOS

Reason assigned for Change: spelling

Page 28 Line Should Read: Delete "a day or two"

Reason assigned for Change: unnecessary

Page 65 Line 14 Should Read: WIDMARK AND JENSEN

Reason assigned for Change: spelling

Page 104 Line 8 Should Read: DIBENZOFURANS

Reason assigned for Change: spelling

Page 111 Line 21,22 Should Read:

Reason assigned for Change:

I did not see it. But as a reputable
To clarify content.

Page Line Should Read:

Reason assigned for Change:

Page Line Should Read:

Reason assigned for Change:

Martin Farrar
SIGNATURE OF DEPONENT

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16 IN WITNESS WHEREOF, I have hereunto subscribed my
17 name this_____ day of _____, 1997.

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