

STATE OF MICHIGAN

IN THE CIRCUIT COURT FOR THE COUNTY OF HURON

ROGER A. HALEY and VALERIE J. HALEY,)
Husband and Wife; and DONALD L.)
HALEY and FLORENCE S. HALEY, Husband)
and Wife,)

Plaintiffs,)

-vs-)

MICHIGAN SILO COMPANY, a Michigan)
Corporation; C & B SILO COMPANY, a)
Michigan Corporation; MONSANTO)
COMPANY, a Corporation; and CONCRETE)
SILO COMPANY, INCORPORATED, a)
Corporation, Jointly and Severally,)

Defendants.)

No. 77 002593 NP

VOLUME XXXIII

Excerpt of the proceedings had and testimony
taken in the above-entitled matter on Tuesday, May 22, 1984,
at 9:00 o'clock A.M., at the Huron County Courthouse, Bad Axe,
Michigan, before the Honorable M. Richard Knoblock.

1 APPEARANCES:

2 MC GRAW & BORCHARD,
3 BY: PATRICK MC GRAW, Esq.,

4 and

5 JAMES N. WOODWORTH, Esq.,

6 and

7 CUBITT, CUBITT & TROWHILL,
8 BY: H. DALE CUBITT, Esq.,

9 Appearing on behalf of Plaintiffs.

10 CHAKLOS, JUNGERHELD & DELLA SANTINA,
11 BY: WILLIAM E. JUNGERHELD, Esq.,

12 and

13 ROBERT A. HAHN, Esq.,

14 and

15 DAVID F. MOORE, Esq.,

16 Appearing on behalf of Defendant
17 Monsanto.

18 DAVIDSON, BREEN & DOUD,
19 BY: JOHN DAVIDSON, Esq.,

20 Appearing on behalf of Defendant
21 C & B Silo.
22
23
24
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(Whereupon at 9:05 o'clock A.M., on Tuesday,
May 22, 1984, the Hearing was reconvened as
follows:)

THE COURT: Good morning members of the Jury.

THE JURY: Good morning.

THE COURT: Mr. Woodworth?

MR. WOODWORTH: Thank you, Your Honor.

WILLIAM B. PAPAGEORGE,

a witness herein, produced by and on behalf of the

Defendants, having been previously duly sworn, testified

1 further on his oath as follows:

2 CROSS-EXAMINATION, Continuing

3 BY MR. WOODWORTH:

4 Q Mr. Papageorge, when we left off yesterday we were dis-
5 cussing this Aroclor plasticizer bulletin in conjunction
6 with the hygienic guide series on chlorodiphenyls. I'd
7 like to leave that for a moment and go to something else
8 and then we'll return to this.

9 A All right.

10 Q I'm going to show you what's been marked as Plaintiff's
11 Proposed Exhibit No. 328, that was marked about a month
12 ago, and ask you to read that to yourself.

13 And can you identify that, Mr. Papageorge?

14 A This is a letter from a Mr. Jenkins of the Ohio Department
15 of Agriculture, addressed to a Dr. Tucker of Monsanto
16 Company.

17 Q And did you receive a copy of that letter?

18 A Yes, I did.

19 Q And besides your name being referred to at the bottom of
20 this letter, as having received a copy, it is also referred
21 to within the body of this letter, is it not?

22 A That is correct.

23 MR. WOODWORTH: Your Honor, I'd move for
24 admission of Plaintiff's 328, please.

25 THE COURT: Objection, Mr. Jungerheld?

1 MR. JONGERHELD: Your honor, it apparently
2 would be hearsay as to this witness. It is from a
3 Jenkins to Tucker.

4 Also, the last couple of paragraphs I would suggest
5 to the Court are argumentative in tone and probative of
6 no issues in the case. And the objections would be on
7 those grounds.

8 MR. DAVIDSON: Objection, Your Honor.

9 THE COURT: I'll allow its admission over
10 objections. It goes to notice.

11 Q Mr. Papageorge, would you please read this letter to the
12 Jury?

13 A The heading is:

14 "Ohio Department of Agriculture, Foods, Dairies and
15 Drugs, Ohio Departments Building, Columbus, Ohio,
16 43218. February 2nd, 1972, Dr. E.S. Tucker, Monsanto
17 Company, 1700 South Second Street, St. Louis Missouri
18 63177.

19 Dear Dr. Tucker: In October of 1971 I was appointed
20 as Chief of the Division of the Foods, Dairies and
21 Drug Division, Department of Agriculture, State of
22 Ohio. I am a replacement for Dr. David A. Hill who
23 is no longer with this department.

24 I am writing to you in regards to the PCB problem
25 which we have encountered in the silos in the State of

1 "Ohio, and if possible, would like to obtain from you
2 or Mr. Papageorge the following information:

- 3 1. In what way can the silos be treated which have
4 been coated with the Aroclor 1254 base product
5 so that they can be recoated and used for
6 storage of silage?
- 7 2. Are there any types of silos that can be used
8 to recoat the silos which could prevent PCB
9 from migrating through said coating?
- 10 3. If there is no way to recoat, seal, or otherwise
11 treat the contaminated silos, what is your
12 suggestion of how this problem should be
13 handled?

14 For two years now the PCB problem has been with
15 us and no answers have been forthcoming from anyone
16 in regards to how, when, or where the silos can be
17 used.

18 Inasmuch as Monsanto has been implicated in the
19 problem, I feel it is a responsibility of the Monsanto
20 Company to advise us as a regulatory agency of the
21 steps that should be taken so that the food supply of
22 the consumers of the State of Ohio is protected from
23 further chemical residue contamination. Any help
24 you can give me in regards to this matter will be
25 greatly appreciated.

1 "Very truly yours, Ohio Department of Agriculture,
2 Rowland E. Jenkins, Chief of Division."

3 Q And the notation down in the lower left corner that we
4 referred to, Mr. Papageorge, shows a copy going to you?

5 A That's right.

6 Q And a copy to Jacob F. Hess, Jr.?

7 A That is correct.

8 Q And that's the attorney of Canton, Ohio, that's been
9 referred to?

10 A That is correct.

11 Q That has represented Monsanto in the State of Ohio?

12 A Yes.

13 Q Thank you, Mr. Papageorge.

14 Mr. Papageorge, this letter to me seems to create the
15 impression, contrary to your testimony yesterday, that
16 on February 2nd, 1972, the State of Ohio is still saying
17 or asking Monsanto, give us some help, what can you do
18 for us, and it seems to create the impression with me that
19 none had been given to the State of Ohio or to Dr. Hill's
20 Division.

21 Is that correct?

22 MR. JUNGHERELD: Excuse me. Is Counsel
23 asking if his understanding is correct?

24 THE COURT: Technically it's objectionable.
25 Whether or not --

1 MR. WOODWORTH: I will rephrase the question,
2 Your Honor.

3 THE COURT: Go ahead.

4 MR. WOODWORTH: That covers a lot of terri-
5 tory, I realize that.

6 Q It appears to me as of February 2nd, 1972, from this
7 letter, Mr. Jenkins, the Chief of the Division of the
8 Foods, Dairies and Drugs for the Ohio Department of
9 Agriculture, is still looking to Monsanto for some
10 assistance, is that correct?

11 A Yes.

12 Q And it seems to me that Mr. Jenkins says that in over the
13 period of two years with the PCB problem in Ohio, that
14 they are seeking assistance from Monsanto to protect the
15 people of Ohio and the State of Ohio from further chemical
16 residue contamination.

17 Is that a fair interpretation?

18 A Well, that is your interpretation. I have a different
19 one.

20 Q Nevertheless, may we assume that when you testified yester-
21 day of this information and assistance that you shared
22 with the State of Ohio and their Department of Agriculture,
23 at least insofar as it seems Mr. Jenkins is concerned, it
24 wasn't successful?

25 A Mr. Jenkins was a newly appointed member of the Department

1 in October following an election in the State of Ohio.
2 The man arrived totally unprepared for the job. He did
3 not know what had transpired and he wrote this letter
4 indicating his understanding of the situation at that
5 moment, which was not totally correct.

6 After conversations with Mr. Jenkins, through Mr.
7 Hess and Dr. Tucker and myself, we, I believe, at least I
8 was left the understanding that Mr. Jenkins had a clearer
9 understanding of what had transpired and what information
10 had been relayed to his predecessor.

11 Q I see. Thank you, Mr. Papageorge.

12 Let's refer back, if we will, to the hygienic guide
13 series, and this we went through in some detail.

14 And that just to restate that for the purpose of
15 today, this hygienic guide series on chlorodiphenyls was
16 appended to the service manual.

17 Is that the proper terminology for it?

18 A You mean the service manual terminology?

19 Q Yes.

20 A That's the standard manufacturing procedure for the manu-
21 facture of chlorodiphenyls.

22 Q Now, when we left yesterday, we had discussed a Monsanto
23 bulletin and I believe we had concluded that. And it was
24 based off of the references on the last page of that, Mr.
25 Papageorge.

1 Look at the last page of the hygienic series. I'm
2 sorry, the first and last page.

3 Now, that was one of the references, was it not, the
4 reference for the authority for writing the article?

5 A Yes.

6 Q Now, the second reference is to what?

7 A It's Reference No. 2, is the American Conference of
8 Governmental Industrial Hygienists Threshold Limit Values
9 for 1964, AMA, and environ health, 9545, parenthesis,
10 1964, close parenthesis.

11 Q And the standards set forth within the threshold limit
12 values, 1964, is the amount basically of permissible
13 inhalation in the work place, is that correct?

14 A Yes.

15 Q When we talk about threshold limit values, TLV --

16 A Yes, sir.

17 Q -- and the third reference within this, within this
18 hygienic guide series, is to Dr. Treon and others article
19 regarding toxicity of vapors of Aroclor 1242 and Aroclor
20 1254, is that correct?

21 A That is correct.

22 Q And that was published in what year?

23 A The year shown here is 1956.

24 Q Are you familiar with that publication?

25 A I don't remember it.

1 Q During the course that you were taking care of environ-
2 mental matters regarding PCB's, do you know whether or
3 not you had occasion to review this particular article?

4 A I don't recall that particular article, no.

5 Q Do you know who Dr. Treon is?

6 A No, I don't.

7 Q No. 4, the reference is to whom?

8 A Dr. Elkins.

9 Q And that's to a publication by him in Chemistry of Industrial
10 Toxicology?

11 A Yes.

12 Q And that was published when?

13 A 1959.

14 Q And are you familiar with that book?

15 A Yes.

16 Q And that discusses chlorinated biphenyls within the book,
17 does it not?

18 A Within the book, yes.

19 Q And does it not contain within that book a reference as
20 to industrial toxicology relating to chlorinated biphenyls?

21 A That's what the whole book is about, not only for biphenyls
22 but many chemicals.

23 Q And did he discuss liver damage resulting to exposure of
24 chlorinated biphenyls within that textbook?

25 A I don't remember that specific. I'd have to look it up

1 again.

2 Q The next reference is to -- is No. 5 and that is a
3 reference to Dr. Drinker and others.

4 And what is the caption of that or the title of that
5 article?

6 A The problem of possible systemic effects from certain
7 chlorinated hydrocarbons.

8 Q And that was published when?

9 A 1937.

10 Q Were you present when I asked Dr. Kelly about Dr. Drinker
11 and his publications?

12 A No.

13 Q Are you familiar with this particular article?

14 A No.

15 Q It does refer to chlorinated hydrocarbons in the title,
16 does it not?

17 A Yes, it does.

18 Q And is polychlorinated biphenyl, PCB, a chlorinated
19 hydrocarbon?

20 A Yes.

21 Q And the next article that they're using for authority,
22 No. 6.

23 A Yes.

24 Q And that is again by Dr. Drinker only this is by Dr.

25 Drinker alone. And what is the title of that article?

1 A. Further observations on the possible systemic toxicity
2 of certain of the chlorinated hydrocarbons.
3 Q. And what was the year of the publication for that article?
4 A. 1939.
5 Q. And are you familiar with that article?
6 A. No.
7 Q. And the next reference is to what?
8 A. It's to a personal communication from Monsanto Company,
9 Mr. Elmer Wheeler.
10 Q. And I believe you testified yesterday he was an employee of
11 Monsanto within the Medical Department?
12 A. Yes.
13 Q. And the last reference is to whom or what?
14 A. The authors are Greenburg, Mayers and Smith. The title
15 is The Systemic Effects Resulting From Exposure To Certain
16 Chlorinated Hydrocarbons, dated 1939.
17 Q. and are you familiar with that article?
18 A. No.
19 Q. Have you ever had occasion to review any of these
20 articles?
21 A. Yes, some of them.
22 Q. This hygienic guide series is dated what year?
23 A. I believe it's -- it's 1965.
24 Q. And it appears to me that the hygienic guide series people,
25 in writing this industrial standard, used authorities and

1 citations and research and publications from the 1930's
2 and from the 1950's, didn't they?

3 A. It appears so, yes.

4 Q. In scientific research, don't you think it's sometimes
5 important to go back into scientific literature and as-
6 certain what it provides or says as to effects of certain
7 chemicals?

8 A. Yes, sometimes.

9 Q. And in this particular case we have a lot of references
10 within this hygienic guide series to inhalation or skin
11 contact of these particular chemicals.

12 A. That is correct.

13 Q. And in the article it says, as to ingestion, it isn't
14 a problem in the work place.

15 Is that correct?

16 A. That's what it says, yes.

17 Q. Now, from that plasticizer guide, that exhibit that was
18 marked yesterday and we referred to, Plaintiff's Exhibit
19 No. 52, we have references within that of recommendations
20 by Monsanto of use of Aroclor 1254 and a plasticizer.

21 Is that correct?

22 A. As a plasticizer, yes.

23 Q. And it is recommended as a concrete plasticizer of coating
24 or sealant in a certain sense?

25 A. Yes.

1 Q Now, when Aroclor 1254 is mixed with other resins or
2 compounds to be used in a sealer or plasticizer, when
3 it's properly formulated, it is not expected to break-
4 down, is it?

5 A That is correct.

6 Q Now, we've had testimony from Dr. Willett in this case
7 that in fact the Cumar coating inside silos did in fact
8 either flake off the walls or the Aroclor 1254 leached
9 from the coating into the silage.

10 Are you familiar with that testimony?

11 A Yes. I heard it.

12 Q So in that case the coating was not effective. Would that
13 be a fair statement?

14 A In which case?

15 Q In the case of the silos where it either flaked off the
16 walls or, in particular, where it leached into the silage,
17 it was not an effective coating, is that correct?

18 A That is correct.

19 Q And when we encounter that situation with animals eating
20 the silage from the silos, and particularly cows, and these
21 cows giving milk, and the cows being butchered, and the
22 people eating their meat, what we are having, is it fair
23 to say, Aroclor 1254, among other chemicals, going into
24 the human food chain?

25 Is that correct?

1 A Yes.

2 Q When we encountered that situation, there is no literature
3 immediately available as to ingestion, as to possible
4 health effects of ingestion of PCB's, is that correct?

5 A Well, that is not correct.

6 Q Okay. We do have literature from the 1930's, from the
7 1940's, from the 1950's regarding Aroclor 1254 and
8 toxicity effects of Aroclor 1254, don't we?

9 A Yes.

10 Q And a lot of these articles from the 1930's, from the
11 1940's, and the 1950's, show that typical target organ
12 of Aroclor 1254 is in fact liver, is that correct?

13 MR. JUNGERHELD: Your Honor, for the record,
14 I'm going to object to this because the literature from
15 the '30's and '40's and '50's all deals with industrial
16 exposures, all deals with that type of a situation.
17 We're talking different routes of exposure by inhalation
18 and dermal contact. We're talking about much greater
19 quantities of exposure. We're not talking about any kind
20 of a situation that resembles the minuscule quantities,
21 the parts per million quantities that we're talking about
22 in the case that is before this Court.

23 THE COURT: I'll allow it. Can you answer the
24 question?

25 Q The documentation, before Mr. Jungerheld made his objection,

1 the question was the documentation and the scientific
2 experiments from the 1930's from Dr. Drinker, from Dr.
3 Greenburg, from Dr. Swartz, from Dr. Elkins, the 1930's,
4 '40's and '50's, those showed that the target organs for
5 PCB was the liver, is that correct?

6 A. It depended on dose level. At high doses, yes.

7 Q Just as Mr. Jungerheld got up and gave his objection,
8 is that correct?

9 MR. JUNGERHELD: Oh, now, Your Honor, just
10 a moment. Now I'm going to object to the editorializing
11 and these comments. Now, I've put up with for three
12 months.

13 THE COURT: Okay. I will sustain the objec-
14 tion. I think we got an answer. Go ahead.

15 Q There is also a lot of references or numerous references
16 throughout this literature in the '30's, '40's and '50's
17 and into the '60's about chloracne resulting from contact
18 with PCB's, is that correct?

19 A. Again, at high doses.

20 Q So when it is ascertained that a human being is, in fact,
21 ingesting this material, would that cause Monsanto or
22 cause you, as an official with Monsanto, any concern
23 knowing this literature from the '30's, '40's and '50's,
24 that it causes these problems?

25 A. It would cause concern if that knowledge was coupled with

1 an awareness of high dosages in the food ingested by the
2 person.

3 Q So when you found out that people were eating milk --
4 or eating meat and drinking milk from contaminated silos,
5 immediate response is unless it's a high dose, let's for-
6 get about it, or let's not be concerned?

7 A That is not quite the way it happens, Mr. Woodworth.
8 Responsible medical people are consulted and in their
9 opinion -- considered opinion, not just off the top of
10 the head, there was no evidence, no reason to have deep
11 concern for what was going on. This does not mean that
12 we stop thinking about it and pursuing it.

13 Q While we're on the topic, Mr. Papageorge, what I'd like
14 to do is go through some of this history of Monsanto in
15 manufacturing of PCB's from the earlier years.

16 Can you tell the Jury, as being a former, I guess,
17 what was it, plant manager of the Anniston, Alabama
18 plant?

19 A That is correct.

20 Q When that plant was acquired by Monsanto?

21 A As best I recall, about 1934.

22 Q And prior to Monsanto's acquisition of that Anniston,
23 Alabama, plant, did Swan Chemical make PCB's there?

24 A That is correct.

25 Q And what year did they start making them there, to your

1 understanding?

2 A. 1929.

3 Q Are you familiar with the document or the study done by
4 Drs. Jack Jones and Herbert Alden that was published in
5 1936 regarding PCB exposure in the Anniston, Alabama,
6 plant up to 1935?

7 A. I'm not familiar with that article, no.

8 Q Are you familiar whether or not there were any complaints
9 of chloracne, or anything within that plant prior to
10 Monsanto's acquisition?

11 A. I was aware of an incident that occurred prior to Monsanto's
12 acquisition. And this is why we included precautions in
13 our safety instructions.

14 Q What incident are you aware of?

15 MR. JUNGERHELD: Wait a minute, Your Honor.
16 It would seem to me that it would be hearsay as to this
17 witness. As I understand him, he indicated that this
18 was before Monsanto even took over the plant. I don't
19 know how in the world he'd know about it other
20 than by hearsay.

21 THE COURT: It goes to his knowledge. I'll
22 allow it.

23 Q What incidents are we referring to?

24 A. I don't recall any specific incidents other than there
25 was apparently an exposure, at very high levels, and the

1 employees -- some of the employees exhibited chloracne
2 skin conditions and following that, better housekeeping
3 and safety precautions were instituted to prevent the
4 reoccurrence.

5 Q Are you familiar with the product Halowax?

6 A I have heard of Halowax.

7 Q Do you know what it is or was?

8 A Yes.

9 Q And what was it?

10 A Halowax is -- my understanding is a tradename for
11 chlorinated parafins.

12 Q And were they used in conjunction with the Aroclors during
13 the 1940's?

14 A In some applications they were, yes.

15 Q And were there problems resulting in the combination of
16 these products or with workers from one or the other or
17 the combination of the two?

18 A I'm aware of articles reporting some problems associated
19 with a coating of electrical wiring.

20 Q Would one of those articles been by Von Weidel, Halla
21 and Denton, reported in 1943 in Rubber Age?

22 A I just don't remember the names.

23 Q The problems that were associated with the contact, with
24 that combination of the Aroclors and Halowax, were they
25 -- did they show chloracne?

1 A Chloracne, yes.

2 Q And did they show degeneration in the process of the

3 liver?

4 A I don't remember that.

5 Q Were you aware of any industrial exposure to Aroclor 1254

6 either alone or in combination with other products wherein

7 a death resulted?

8 A No.

9 Q Did you have an opportunity to review the testimony of

10 Mr. Zimmerman -- Dr. Zimmerman?

11 A I saw his summary, yes.

12 Q And was there any reference within that particular summary

13 as to his testimony and the history of PCB's in the in-

14 dustry?

15 A I'm not sure if it was his summary or someone else's, but

16 I recall reading it recently.

17 Q Do you -- perhaps I'm mistaken and perhaps it was Dr.

18 Hansen, I'm not quite sure at this point, but do you

19 recollect or did you see within the summaries of testimony

20 a reference to an industrial death or deaths relating to

21 contact or exposure to PCB's either alone or in combination

22 with another product?

23 A I think I read that recently, but I don't recall the

24 specifics or whose testimony it was.

25 Q Were you aware of that prior to your reading it?

1 A. No.

2 Q Would another one of these articles referring to the
3 combination of Halowax and PCB's have been by Dr. Miller
4 in the Public Health reports in the 1940's?

5 A I don't know Dr. Miller.

6 Q Are you familiar with the publication of Drs. Flynn and
7 Jarvic in 1936 at the proceedings of the Society of
8 Experimental Biology regarding PCB's?

9 A No, I'm not.

10 Q Are you familiar with Dr. Swartz's publication in 1936
11 in the American Journal of Public Health?

12 A No.

13 Q How about Dr. Swartz in Barlow's publication, in 1942,
14 in the United States Public Health reports?

15 A No.

16 Q How about Dr. Swartz again in 1943, Journal of American
17 Medical Association?

18 A No.

19 Q How about Drs. Niggs, Albom and Cardon in 1954 in the
20 Journal of American Medical Association?

21 A No.

22 Q Mr. Papageorge, are you cognizant of the Walsh-Healy
23 Act of 1952?

24 A Yes.

25 Q And what was that?

1 A. That was a federal statute that was designed to protect
2 the worker in the work place and the precursor of the
3 current OSHA.
4 Q One of the provisions within that 1952 Walsh-Healy Act
5 was a limitation as to threshold limit value inhalation
6 of PCB's in the work place, wasn't it?
7 A. Yes, sir.
8 Q So in 1952 at least the federal government is concerned
9 about the amount of PCB's which may be inhaled in the
10 work place?
11 A. That is right.
12 Q And I would assume Monsanto is likewise concerned?
13 A. The government got the numbers from Monsanto.
14 Q And I would assume that those numbers were obeyed and
15 followed at the Monsanto plants?
16 A. Yes, they were.
17 Q Was that threshold limit value lowered in 1957 by the
18 American Conference of Industrial Hygiene?
19 A. Yes.
20 Q And what was it lowered to?
21 A. I think -- let me think of it. I think it was one milli-
22 gram per cubic meter for 1252 and half a milligram per
23 cubic meter for Aroclor 1254.
24 Q So that would be, as far as Aroclor 1254 is concerned,
25 would you understand it to be a lowering by 50 percent of

1 the threshold limit value?

2 A. Yes.

3 Q. Over a period of five years we have 50 percent reduction
4 in the threshold limit value in the work place of inhala-
5 tions of PCB's of 1254?

6 A. That is what happened, yes.

7 Q. Mr. Papageorge, to your knowledge were there amendments
8 to the Federal Food and Drug Act in 1958 regarding the
9 presence of chemicals in foods?

10 A. I'm not that intimately familiar with the revisions in the
11 Food and Drug Act. I just don't know.

12 Q. Mr. Papageorge, when you assumed your position at
13 Monsanto in January 1st, 1970, you came into position at
14 Monsanto as environmental officer, manager, in a time,
15 may we take it, where there were high environmental
16 concerns?

17 Is that true?

18 A. Depends on which sector of society you are thinking of.

19 Q. How about the public?

20 A. There were elements in the public that were concerned,
21 yes.

22 Q. How about congress?

23 A. Congress was becoming more concerned, yes.

24 Q. Do you know when this increased concern began? Can you
25 hallmark it?

1 A. I have a personal opinion that it was probably started
2 with a publication of a book by -- I think it's Rachel
3 Carlson, Silent Spring, and seemed to reach its emotional
4 peak with Earth Day in 1970 or thereabouts.

5 Q. Rachel Carlson's book, Silent Spring, was published in
6 1962. Would that be fair to say or, to your knowledge, is
7 that a fair approximation?

8 A. Sometime in the '60's.

9 Q. And that dealt primarily with pesticides, organophosphates,
10 organo -- chlorinated hydrocarbon pesticides, but primarily
11 DDT, did it not?

12 A. That is correct.

13 Q. And we have already established that at that time poly-
14 chlorinated biphenyl, PCB's, the Aroclors, and Aroclor
15 1254, was in fact recommended by Monsanto as an insecti-
16 cide extender by that bulletin.

17 A. The bulletin referred to a possible use. The government,
18 through the Department of Agriculture, the Federal Depart-
19 ment, is the agency that recommended this application.

20 Q. And if someone picked up that bulletin that you have be-
21 fore you, Exhibit 52, I think, back at the time that it
22 was published and was looking through that and if they
23 were in the insecticide manufacturing business, they
24 would note there that one particular paragraph, they could
25 use 1254 in their insecticide preparations as an extender,

1 wouldn't they?

2 A Well, you used the words "they could". They can't use it
3 until they submit their formulation to the agency and at
4 that time the Department of Agriculture for the approval.

5 Q And if that formulation contained Aroclor 1254, and if
6 that were the primary ingredient, or assuming all other
7 ingredients were approvable, they wouldn't have any prob-
8 lem with Aroclor 1254 because at that particular time,
9 say, 1962, Aroclor 1254 was in fact approved by the USDA
10 as a pesticide or insecticide extender, wasn't it?

11 A That is my understanding, yes.

12 Q In 1962 Monsanto had some laboratory tests conducted by
13 an outside lab, the Younger Lab, right?

14 A Yes, sir.

15 Q And those Younger Lab studies included what would be
16 called an oral LD-50 test?

17 A Yes.

18 Q And there's been testimony by Dr. Kelly and others regard-
19 ing what LD-50 tests are.

20 Did those tests show, upon autopsy of the animals,
21 gastric problems or gastric necrosis upset, poor pulmonary
22 hypolipemia, and liver discoloration?

23 A I don't know those details, no.

24 Q Let's take 1962 as a jump-off point as to this Rachel
25 Carlson book or Rachel Carlson's book at that particular

1 time of when it was published.

2 After that were there other events during the '60's
3 which caused an increasingly consciousness, so to say?

4 A I don't recall any specific events but there was an
5 evolving and growing sensitivity to environmental issues.

6 Q Are you aware of the publication by McLaughlin, Marliac,
7 Barrett and Michler and Fitzhugh, from 1953 as to PCB's
8 effects upon eggs?

9 A I haven't heard of that article, no.

10 Q Also in the early 1960's congress passed the Clean Air Act,
11 1963.

12 Are you familiar with that?

13 A Yes.

14 Q And what, just capsulized, did that act provide, to your
15 awareness?

16 A It provided or enabled the federal government to establish
17 regulations regarding the emissions of pollutants into
18 the air, into the atmosphere.

19 Q And I didn't mean to cut you off --

20 A That's it.

21 Q And in 1965 the federal government also passed the
22 Motor Vehicle Air Pollution Control Act, didn't they?

23 Are you aware of that?

24 A It's about that period. I don't remember the date.

25 Q And that dealt with auto emissions?

1 Q And are part of auto emissions, hydrocarbons?

2 A Yes.

3 Q Also passed in 1965, by the federal government, was a
4 Water Pollution Control Act in 1965.

5 Are you aware of that?

6 A I'm aware of that, yes.

7 Q Now, during the trial, Mr. Papageorge, we've had a lot
8 of testimony as to Dr. Jensen of Sweden, whom I understand
9 you met his associate.

10 A Yes.

11 Q And his article in 1966, in New Scientist, regarding the
12 widespread environmental contamination of PCB's?

13 Are you familiar with that article from the New
14 Scientist?

15 A Yes.

16 Q Did you ascertain that Dr. Jensen had started his testing
17 and investigation some years before the actual publication
18 in 1966 of the statement of environmental presence of
19 PCB's?

20 A Yes.

21 Q And what year, to your knowledge, did he begin his testing?

22 A That I don't know.

23 Q Also in 1966, the same year of Dr. Jensen's article, the
24 congress passed the Clean Water Restoration Act.

25 Are you aware of that act?

1 A. Yes, sir.

2 Q And what, basically, did that do?

3 A. That enabled the federal agencies to have the authority
4 to promulgate regulations and rules regarding -- that had
5 actions that had an effect on the quality of water.

6 Q And in 1967 Congress passed the Air Quality Act of 1967.

7 Are you aware of that?

8 A. Yes.

9 Q 1968 Dr. Risebrough published his findings as to the
10 PCB's being found in the what, seals and pelicans off the
11 shore of California?

12 A. That is correct.

13 Q And you subsequently met with Dr. Risebrough?

14 A. Yes.

15 Q And what year did you meet with him?

16 A. 1970.

17 Q In 1968 the same year that Dr. Risebrough published his
18 findings as to the presence of PCB's in seals and pelicans,
19 Yusho occurred, is that correct, to your understanding?

20 A. That is my understanding.

21 Q And for a number of years after, Yusho was published as
22 being solely a PCB incident, was it not?

23 A. That is what the reports indicated, yes.

24 Q Now, did you subsequently develop an understanding that
25 there was more than PCB involved in the Yusho incident?

1 A. Yes, I did, definitely.

2 Q. And what else was there?

3 A. There was another chemical that was a polychlorinated
4 dibenzofuran.

5 Q. And did I --

6 A. That's it.

7 Q. You said on direct testimony that it took -- I'm not sure
8 if I understand this properly, Mr. Papageorge, that this
9 took oxygen during the manufacture of PCB in order to make
10 those PCDF's?

11 A. Yes.

12 Q. And if you use oxygen during the manufacture and -- of the
13 process, it would explode?

14 A. Well, oxygen occurs in different forms. Oxygen is an
15 ingredient, say, in air. With benzene at the right
16 temperatures, would make a -- create an explosive mixture.
17 Oxygen as present in another form, another chemical, would
18 not be the same.

19 Q. Are PCDF's, according to your scientific knowledge and
20 understanding, actually a by-product of the manufacture
21 of PCB's?

22 A. Yes, they are inadvertently produced in the process under
23 the right set of conditions.

24 Q. And to your understanding, during the 1970's when you
25 were looking into methods of disposal of PCB's

1 in the environment, did you understand that also Aroclors
2 or PCB's can have, while they're sitting, that PCDF's
3 can occur through some chemical changes of PCB's?

4 A. Furans are not found that easily.

5 Q. Not that easily. But -- not just by sitting there, but
6 is a chemical process that can occur with PCB's wherein
7 PCDF's may occur, is that correct?

8 A. At high temperatures in the presence of oxygen, yes.

9 Q. And in 1969, NEPA, is that what it's called, NEPA or NEPA?

10 A. NEPA is all right.

11 Q. NEPA was passed. And that was a rather landmark legis-
12 lation, wouldn't that be fair to say?

13 A. Yes.

14 Q. And NEPA provided for the Natural Environmental Protection
15 Act, and progeny, that would be the Environmental Protec-
16 tion Agency itself?

17 A. That is correct.

18 Q. And in 1969 another piece of important legislation
19 was passed and I think you'd be familiar with it, the
20 Occupational Safety and Health Act?

21 A. That is correct.

22 Q. And that dealt with what?

23 A. Safety in the work place.

24 Q. Would that be an extension of the Walsh-Healy Act and a
25 number of other work place acts that had been passed in

1 earlier years?

2 A. Yes, it replaced all of those previous acts.

3 Q. Now, these pieces of legislation, the National Environ-
4 mental Protection Act and the OSHA legislation, had been
5 in works in Congress for a few years prior to their
6 passage.

7 Would that be true?

8 A. That's correct.

9 Q. And while they're in the works, and while they're being
10 debated and formulated, different people will make
11 recommendations as to the contents of that legislation?

12 A. Yes.

13 Q. And did Monsanto make recommendations as to the contents
14 of the EPA or NEPA legislation?

15 A. I don't know. I was not involved personally.

16 Q. Did Monsanto make recommendations as to the contents of
17 the OSHA legislation?

18 A. I don't know.

19 Q. Then we come to January 1, 1970, when you assume your
20 position as the environmental control manager of Monsanto.

21 Is that the proper term?

22 A. Yes, that's close.

23 Q. You testified in your deposition, Mr. Papageorge, that
24 Monsanto has a full-time lobbyist in Washington, D.C.,
25 is that correct?

- 1 A Yes.
- 2 Q And how long has Monsanto had a full-time lobbyist?
- 3 A I don't know the exact date, but it's certainly prior to
- 4 the 1960's when I became aware.
- 5 Q What is the purpose or function of that lobbyist?
- 6 A He is to be, in essence, the eyes and ears of Monsanto
- 7 in the nation's capital to keep informed of developing
- 8 legislation, to inform the managers of Monsanto of what
- 9 might be in Congress and be considered in Congress and
- 10 how it might impact the company; and where he can, to try
- 11 to provide information that might help influence the type
- 12 of legislation that is finally passed.
- 13 Q And, Mr. Papageorge, when there is legislation that
- 14 is pending that may have an adverse effect upon Monsanto,
- 15 you might call upon your lobbyist, as other organizations
- 16 do call upon their lobbyists, to discuss alternatives
- 17 or possible other legislation or modification of the
- 18 legislation, is that correct?
- 19 A That is correct.
- 20 Q Do you know whether that occurred in the instance of the
- 21 National Environmental Protection Act?
- 22 A No, I do not.
- 23 Q Do you know whether that occurred insofar as OSHA?
- 24 A I do not.
- 25 Q Mr. Papageorge, I'm going to show you Plaintiff's Proposed

1 Exhibit No. 48, which was marked some time ago, and ask
2 you if you can identify that.

3 A This is a copy of a Monsanto bulletin on Aroclors.

4 Q Okay.

5 MR. WOODWORTH: Your Honor, I'd move for this
6 bulletin's admission, please.

7 THE COURT: Let's take a 10 minute recess.

8 (Whereupon a recess was taken.)

9 THE COURT: Go ahead, Mr. Woodworth.

10 MR. WOODWORTH: Thank you, Your Honor.

11 Q (By Mr. Woodworth, continuing:) Mr. Papageorge, is this
12 bulletin used for the same purpose as the other bulletin
13 that was previously introduced, generally speaking?

14 A Generally speaking, this preceded the previous copy we
15 saw.

16 Q Can you tell us whatdate this bulletin is?

17 THE COURT: You offering that?

18 MR. WOODWORTH: I thought I did. Yes, I did,
19 in fact.

20 THE COURT: Any objection to the bulletin?
21 This is Exhibit 48, is it?

22 MR. JUNGERHELD: 48, I think. Your Honor, to
23 shorten things up, 48, 87, 88, 156 and 86 have all been
24 shown to us and they're all copies of documents which we
25 have provided to Counsel some time ago. And so I don't

1 have objections to any of those exhibits.

2 MR. DAVIDSON: Nor I.

3 THE COURT: Are you offering all of those?

4 MR. WOODWORTH: Yes.

5 THE COURT: What are the numbers again; 48
6 and what are the others?

7 MR. JUNGERHELD: 87, 88, 156, and 86.

8 THE COURT: Is that correct, Mr. Woodworth?

9 MR. WOODWORTH: That is correct, Your Honor.

10 THE COURT: Very well. If there is no objec-
11 tion to Plaintiff's 48, 87, 88, 86, and 156 are admitted
12 without objection.

13 Go ahead.

14 MR. WOODWORTH: For the record -- well, I'll
15 go ahead with it.

16 Q Can you tell us an approximate date of this document?

17 A 1949.

18 Q Okay. And how can you tell that, Mr. Papageorge, just out
19 of curiosity?

20 A On the last page are the initials of the author and the
21 4-49, that is April, '49, and 71 is the catalog number
22 for this particular document.

23 Q Mr. Papageorge, I'd like to direct your attention within
24 that document, the first page entitled "Forward." And
25 the first paragraph, does it not state that -- and I'm

1 paraphrasing, without reading the entire paragraph, that
2 Aroclors have won a prominent place for applications
3 such as -- and going down to the bottom of the paragraph,
4 sealing compounds, adhesives, protective coatings, including
5 plastics, pigments, lacquers, paints, varnishes?

6 A. Yes, it says that.

7 Q. And the Page 15, please, Mr. Papageorge. And on Page
8 15 is entitled "Applications."

9 A. I see that, yes.

10 Q. And the first application referred to is adhesives.

11 A. That is correct.

12 Q. And the end of that paragraph, the end of one sentence, and
13 the next one refers to that, this is recommended as addi-
14 tives in protective coatings to improve adhesion.

15 Does that mean that it can be mixed in coatings and
16 it would help the coating stick to a wall or stick to the
17 floor or ceiling or wherever it's supposed to adhere to?

18 A. I don't see that statement, but that's the way I would
19 interpret that phrase.

20 Q. And the last sentence of that first paragraph under
21 adhesives states that this quality of the Aroclors is
22 related to their plasticizing action on the plastics
23 materials commonly used in adhesives and coatings.

24 A. Would you show me that? I'm having a difficult time
25 finding that.

1 Q Sure. This is where I referred to in an additive.
2 Protective coating to improve adhesion. And then this
3 sentence here: The quality of Aroclors is related.
4 A It says that, yes.
5 Q Thank you, Mr. Papageorge.
6 I'd like to direct your attention to Plaintiff's
7 Exhibit No. 156 and ask you to identify that, please?
8 That's the one right there on top.
9 A This is a copy of a Monsanto technical bulletin on
10 the subject of Aroclors.
11 Q And is this for Aroclors in relation to resins and plasti-
12 cizers for chlorinated rubber?
13 A Yes.
14 Q And we touched about mixtures of Aroclors and chlorinated
15 rubber yesterday.
16 A We did, yes.
17 Q And was one of the purposes of this bulletin to promote
18 the use of Aroclors in combination with chlorinated rubbers?
19 A Yes.
20 Q And one of the chlorinated rubbers or the chlorinated
21 rubber referred to within this bulletin is Parlon, isn't
22 it?
23 A I haven't found it yet.
24 Q Page 4.
25 A I see it, yes.

- 1 Q And Parlon is an ingredient in the Cumar formula, I
2 take it. We established that yesterday?
- 3 A Yes.
- 4 Q The Cumar formula that is before you here?
- 5 A Yes. That's an ingredient only in what I have seen in
6 writing. I do not know -- no analysis has ever been made
7 of Cumar to establish the presence of Parlon.
- 8 Q Dr. Willett that testified in this case, he's done work
9 with Cumar, hasn't he?
- 10 A I understand he has, yes.
- 11 Q And did he publish an article regarding the composition of
12 Cumar and what was in it?
- 13 A Yes, he did.
- 14 Q And would you consider his publication accurate?
- 15 A I do not know the source of his information on the
16 formulation for Cumar, so I can't judge it.
- 17 Q You can't --
- 18 A I can't judge its validity or whether Parlon is in truth
19 in the coatings that we're talking about.
- 20 Q One of the publications where Mr. Willett stated -- or
21 Dr. Willett stated that Parlon was an ingredient of Cumar
22 was, in fact, the article co-authored by Jacob Hess, the
23 attorney that had worked for Monsanto, is that correct?
- 24 A That is my recollection, yes.
- 25 Q Now, if I could direct your attention to Page 6. At the

1 top of the page is reference to solvent compatibility.
2 And I take it to what solvent compatibility means is
3 a combination of the Aroclor and the Parlon. There are
4 certain solvents which are compatible with that to be
5 mixed in, is that correct?

6 A. That is what it implies, yes.

7 Q. And within this chart is, in fact, a reference to
8 Solvesso 100, is that correct? The right-hand column?

9 A. I see it, yes.

10 Q. And within that formula in front of you, for Cumar,
11 Solvesso 100 is an ingredient, isn't it?

12 A. Yes.

13 Q. And Page 8 of this bulletin, Mr. Papageorge.

14 A. I found it.

15 Q. And there are two formulations or applications recommended,
16 suggestions, so to say, for uses of combinations of
17 Aroclors and Parlon.

18 The top one would be for paint formulations for
19 alkaline surfaces, is that correct?

20 A. That is what says.

21 Q. And within that paint formulation for alkaline surfaces,
22 included within the proposed or suggested ingredients, are
23 Parlon, correct?

24 A. Yes.

25 Q. Aroclor 1254?

1 A Yes.

2 Q Aroclor 5460?

3 A For one of three formulations.

4 Q And for Xylene?

5 A For two of the three formulations.

6 Q And the table below that, Mr. Papageorge, there is a
7 reference to formulations for chemical resistant paints.

8 A I see that, yes.

9 Q And suggested ingredients within formulations for
10 chemical resistant paints we have Parlon again?

11 A Yes.

12 Q Aroclor 1254?

13 A For four of the five suggestions.

14 Q Aroclor 5460?

15 A For one of the five.

16 Q The one of the five is interior use acids and alkalis,
17 is that correct?

18 A Yes.

19 Q And the interior use acids and alkalis recommend Parlon
20 or suggests Parlon?

21 A Yes.

22 Q Aroclor 5460?

23 A Yes.

24 Q Aroclor 1254?

25 A Yes.

1 Q Xylene?

2 A Yes.

3 Q And all those ingredients are, in fact, Cumar, aren't
4 they?

5 A They are reflected in this formula that is typed on this
6 page, yes.

7 Q And the only other ingredient, the only other ingredient
8 on this table which is not in the particular Cumar formu-
9 lation, is iron oxide, is that correct?

10 A The only other ingredient in the suggested formulation is
11 -- yes, it is iron oxide. But there are ingredients on
12 the Cumar formulation that don't show up on the bulletin
13 page, either.

14 Q Such as China clay, is that correct?

15 A China clay.

16 Q China clay is a filler, isn't it?

17 A I don't know. I don't know why.

18 MR. JUNGERHELD: He was cut off.

19 MR. WOODWORTH: I'd just asked the answer be
20 stricken as non-responsive, anyway.

21 THE COURT: All right.

22 A There is Thinner 470, Paradene No. 2 flake, R16A Neville.
23 These ingredients are not in the Monsanto bulletin.

24 Q Thinner 470 is a solvent?

25 A I assume that.

1 Q And another ingredient, solvent, is Solvesso 100 and the
2 Xylol?

3 A That is correct.

4 Q And those materials basically, how should I put it,
5 evaporate or disappear after its appliation upon a wall
6 or a floor or a ceiling?

7 A This is dependent on the other ingredients present.

8 Q I have one other thing regarding this exhibit. Mr.
9 Papageorge I'd like to direct your attention to Page 3
10 of this exhibit and that shows in a simplistic manner
11 on how Aroclors are made, doesn't it?

12 A It shows in a very simple form how Aroclors were made.

13 Q And it shows here that it was -- first of all you start
14 with benzine?

15 A Yes.

16 Q And it's bubbled through molten lead, is that right?

17 A That was up until the 1950's.

18 Q Okay. I just, to make sure, then, from your testimony on
19 direct examination, it was not always in the method that
20 you particularly testified to, as to the methodology of
21 making PCB's, is that correct?

22 A The methodology I described was the modern method, not the
23 molten lead method.

24 Q Lead is, in fact, a toxic substance unto itself, is it
25 not?

1 A If vapors are breathed, if material is ingested at the
2 right levels, an effect will be noted, yes.

3 Q Next, Mr. Papageorge, within that stack before you, if
4 you'd pick up Exhibit 86.

5 A I have it.

6 Q And would you identify this, please?

7 A It's a copy of another Monsanto technical bulletin
8 entitled "Aroclor compounds in formulating high styrene
9 copolymer surface coatings."

10 Q And if you'd look at the introduction page, please, Mr.
11 Papageorge.

12 A I have it.

13 Q And the first paragraph, sir, the-second sentence.

14 A I see it.

15 Q Does it not recommend a formulation of Aroclor with
16 Pliolite for finishes, including exterior finishes, for
17 poured concrete, for concrete blocks and cinder blocks?

18 A Yes, for exterior finishes for all the whole list.

19 MR. JUNGERHELD: Your Honor, just for clari-
20 fication purposes, I think it should be -- the Jury should
21 be informed that this one is dated November 1st, 1953,
22 and the prior one was May of 1957. I don't think either
23 of that was brought out.

24 THE COURT: Well, now, this one, 86, this is

25 --

1 MR. WOODWORTH: 86, I'm on 54. I'm sorry.

2 THE COURT: Which exhibit you talking about
3 right now?

4 MR. WOODWORTH: 86.

5 THE COURT: That is dated --

6 MR. HAHN: November, '53.

7 Q What is the date of this, Mr. Papageorge?

8 THE COURT: That is not what this list says.
9 What do you have there?

10 MR. WOODWORTH: Your Honor, because these
11 were marked twice, there are two sets.

12 THE COURT: All right. We'll take his date.

13 A This bulletin replaced a bulletin dated November, '53.
14 So it's sometime after 1953.

15 Q December, 1957?

16 A There it is. On the title page is December, 1957.

17 MR. JUNGERHELD: How about the prior one?

18 THE COURT: All right. Well, why don't you
19 cover that during cross-examination.

20 MR. JUNGERHELD: All right, Your Honor.

21 Q And the Exhibit number, just for the record, Mr. Papageorge,
22 is No. 86?

23 A Yes.

24 Q Now, going back to the introduction page, Mr. Papageorge,
25 the last phrase within that first paragraph provides that

1 these coatings and paints and plasticizers, the resins
2 with Aroclor plasticizers, are relatively easy to formu-
3 late, is that correct?

4 A Well, it refers to a specific kind of resin, Mr. Woodworth.
5 It refers to styrene copolymers. Very specific resin.

6 Q Thank you. Mr. Papageorge, I'd like to next direct your
7 attention to Plaintiff's Exhibit No. 88 and ask you to
8 identify that along with the date if you're able to.

9 A This is a copy of a Monsanto technical bulletin entitled
10 "Plasticizers In Synthetic Resin Adhesives."

11 I cannot find any reference relating to its date of
12 publication.

13 Q Can you give us an approximation by the cover or the type
14 of printing or the address within it?

15 A I can't get any closer than the '50's, '60's.

16 Q Mr. Papageorge, would you please look at Page 2?

17 A I have it.

18 Q The last sentence.

19 A The part sentence on the page. The heart sentence?

20 Q The one before the last sentence, does not that say:
21 Lack of toxicity is especially important now in food
22 applications because of the 1958 amendment to the Federal
23 Pure Food and Drug and Cosmetic Act. Monsanto plasti-
24 cizers impart excellent grease resistance and heat
25 sealability to the adhesive.

1 Is that correct?

2 A. Yes.

3 Q. Apparently in 1958 there was some concern on the part of
4 Monsanto as to the toxicity effects and whether or not
5 a particular formulation or coating might be toxic in
6 contact with foods, is that correct?

7 A. We've always had that concern.

8 Q. And what did you do? What did Monsanto do in 1958 as a
9 result of this amendment to the FDA Act?

10 A. Well, it's obvious from that statement that they tried
11 to share that pot with the readers of this bulletin. That
12 has nothing to do with getting an end use of our materials
13 approved by the FDA. That is the second step, another
14 step.

15 Q. Now, if you look at Page 23. And on Page 23 there's a
16 paragraph entitled "Toxicological Characteristics," isn't
17 there?

18 A. Yes.

19 Q. And that states that the 1958 amendment to the Pure Food,
20 Drug and Cosmetic Act has caused some uncertainty about
21 the kind of materials that can be used in adhesives. The
22 Food and Drug Administration has ruled that it will approve
23 any material that does not migrate from the adhesive into
24 the food.

25 Migration is determined by the use of a suitable dye.

1 Monsanto offers six plasticizers that are approved by the
2 FDA as being non-toxic. These products are Santiciser
3 141, Santiciser B16, Santiciser E15, Diethyl Phthalate.
4 You are going to have to help me with these. What are the
5 last three?

6 A. Dioctyl Phthalate and Diisooctyl Phthlate.

7 Q And the last sentence is: Use of these materials as a
8 plasticizer in synthetic adhesive should greatly aid
9 acceptance of the adhesive.

10 Is that correct?

11 A. That is correct.

12 Q And there is no place within here that Aroclor 1254 is,
13 in fact, approved by the Food and Drug Administration as
14 being non-toxic?

15 A. That is correct. That claim has never been made.

16 Q Would you please look at Page 27.

17 A. I have it.

18 Q Okay. And at the bottom of the page there is the fourth
19 chemical from the bottom is a chemical referred to as
20 Coumarin Monsanto, C-o-u-m-a-r-i-n.

21 A. Coumarin, yes.

22 Q Now, that sounds an awful lot like Cumar.

23 Can you tell us what this Coumarin Monsanto is?

24 A. There's no relationship. Coumarin is a food flavoring
25 and it also acts as an odor-masking agent.

1 Q Where does the word Cumar or Coumarin come from?

2 A I don't know. Coumarin Monsanto is related to vanillin.
3 Vanilla flavor, they're related.

4 Q Next, Mr. Papageorge, I'd like to direct your attention to
5 Plaintiff's Exhibit 87 and ask you to identify that?

6 A This is a copy of a Monsanto technical bulletin entitled
7 "Aroclors, Resins and Plasticizers for Chlorinated Rubber."

8 Q And can you tell us the date of this bulletin?

9 A The only reference to a date I see on this document is a
10 date that appears to have been stamped on, not printed on
11 the document, April 1, 1971.

12 Q And do you know whose date stamp that is?

13 A I do not know.

14 Q Would you look at Page 4, please?

15 A I have it.

16 Q One of the -- it states: Aroclors, resins and plastici-
17 zers for chlorinated rubber. Again, one of the chlorinated
18 rubbers would be Parlon, is that correct?

19 A That is a tradename for one of them, yes.

20 Q And the first sentence appearing before that: Some im-
21 portant applications for protective and decorative
22 chlorinated rubber base coatings, plasticizer with Aroclor
23 compounds. Then that is a number of uses.

24 And the one first on the bottom of that paragraph is
25 food processing building, is that correct?

1 A. That's right.

2 Q. So we have from the prior building that there is some
3 concern at Monsanto about toxicity in relation to the
4 Food and Drug Act in 19 -- or subsequent to 1958, is that
5 correct?

6 A. That is correct.

7 Q. And that Monsanto has approved certain plasticizers for
8 use in relationship to foods?

9 A. Yes.

10 Q. And Aroclors are not one of them?

11 A. That is correct.

12 Q. And here we have this next bulletin, whatever date it is,
13 regarding Aroclor and recommending its usage together
14 with chlorinated rubber in food processing buildings?

15 A. That is not an inconsistency.

16 Q. And would it be fair to assume that if you have a food
17 processing building, it is perhaps possible that food is
18 going to come into contact with the building?

19 A. I don't know that. It certainly shouldn't be on the
20 walls, the floors, and the ceiling and the structural
21 steel. That is a poorly run plant if it does.

22 Q. Mr. Willett said a couple times that an ounce of preven-
23 tion is worth a pound of cure.

24 Would you agree with that?

25 A. That is a good simplistic statement, yes.

1 Q If you look at the next page, Page 5, where the introduc-
2 tion appears.

3 A Page 5, I have it.

4 Q And would you read the last paragraph of the introduction,
5 please?

6 A "The formulations suggested in this bulletin are com-
7 mon in commercial practices. They are given as start-
8 ing points or guides for development of new formul-
9 tions that capitalize on the outstanding qualities of
10 the compounds."

11 Q And what compounds are those, the chlorinated rubbers and
12 Aroclors, or just the Aroclors? Perhaps I should give you
13 a minute to read the introduction. I'm sorry.

14 A Yes, I'm trying to. The introduction refers to not only
15 Monsanto's Aroclors, but it also includes chlorinated
16 rubber, a reference to it. So I don't know that the
17 summary statement applies to either or both.

18 Q Certainly it would apply at least to Aroclors?

19 A Yes, I would believe that.

20 Q And Page 6, please?

21 A All right.

22 Q And it states a paragraph which is Monsanto's statement as
23 to properties of rubber.

24 Do you see that paragraph at the bottom?

25 A Properties of -- I don't see it.

1 Q Page 6.

2 A It starts with the word "properties"?

3 Q No. I'm sorry. It's a a caption right there.

4 A Oh.

5 Q Would you just read that first sentence which is a para-
6 graph unto itself, please?

7 A "Chlorinated rubber based coatings are used extensively
8 for resistance to corrosion, moisture, fungus, molds
9 and other destructive agents."

10 Q So it's being represented that chlorinated rubber and
11 Aroclor would be resistant to those types of things:
12 corrosion, moisture, fungus and mold?

13 A Well, the statement doesn't say Aroclors, it -- just
14 chlorinated rubber based coatings.

15 Q And Page 9, please, as to solvents compatibility, Table 3
16 at the bottom.

17 A I see it.

18 Q And this Table 3 is what? What is it entitled?

19 A It's entitled "Suggested Solvents for Compositions with
20 Aroclor and Parlon."

21 Q And looking through this table, Mr. Papageorge, we see in
22 the right-hand column about halfway down, Solvesso100.

23 A Yes.

24 Q Which appears in the formulation for Cumar before you?

25 A Yes.

1 Q And Xylene?

2 A Yes.

3 Q Mr. Papageorge, lastly, within this bulletin I'd ask you
4 to turn to Page 15.

5 A I have it.

6 Q And there is a reference paragraph entitled "Mastics."

7 A I see it, yes.

8 Q And the second sentence in that states: Mastics modified
9 with Aroclor compounds can effectively seal cracks in
10 concrete, smooth rough concrete surfaces for subsequent
11 glossy coatings and give excellent corrosion resistance
12 under severe conditions and retard fire.

13 Is that correct?

14 A That is what it says.

15 Q Mr. Papageorge, I'm going to show you Plaintiff's Exhibit
16 No. 44 and ask you if you can identify that.

17 A This appears to be a copy of the bulletin of the Barrett
18 Company on the subject Cumar.

19 Q Have you seen this before?

20 A No.

21 Q This was provided to us at one point in time in answers
22 to interrogatories as to a certain question. There has
23 been some answers, Mr. Papageorge, statements as to
24 Cumar being used within a formulation or as a formulation
25 before you. And also there's been some interrogatory

1 answers that Cumar was a product unto itself. Would you
2 agree with that?

3 A. That is my understanding.

4 Q. In fact, some interrogatories, and I'm not sure which
5 ones, though, Mr. Papageorge, were in fact answered by you.

6 A. Yes.

7 Q. In this case?

8 A. Yes.

9 MR. WOODWORTH: Your Honor, I'd move for
10 admission of Plaintiff's Exhibit 44, Proposed Exhibit.

11 MR. JUNGERHELD: Well, Your Honor, even though
12 they produced this for the attorneys, it is dealing with
13 the Cumar resin that is made by the Barrett Division of
14 the Allied Chemical & Die Corporation. I would say that
15 it is hearsay as to this witness.

16 MR. WOODWORTH: If I might ask a couple
17 questions.

18 Q. Mr. Papageorge, within the industry, within the chemical
19 industry, once they produce these bulletins, do other
20 manufacturers receive those or do they acquire them so
21 they can have information about Monsanto's products?

22 A. Yes, they have access to those bulletins.

23 Q. And apparently in this case Monsanto obtained access to
24 Barrett Chemical's bulletin on Cumar.

25 Would you agree that is true?

1 A. They must have.

2 Q. And for whatever reason, it could be for learning what
3 type of information Barrett processed as their coatings
4 or what they're testing their coatings for or for whatever
5 uses, but it would be used within Monsanto's business,
6 wouldn't it?

7 A. Yes.

8 MR. WOODWORTH: I'd ask that it be admitted
9 as a business record exception, Your Honor.

10 MR. JUNGHERHELD: Well, Your Honor, this
11 doesn't appear to be a record made by Monsanto and kept
12 in the normal course of Monsanto's business. This does not
13 seem to come within the ambit of business records exclu-
14 sions.

15 The formula for Cumar refers to Neville Cumar and
16 this talks about the Barrett Company and the Allied
17 Company.

18 So again it would appear to be hearsay as to this
19 witness.

20 MR. WOODWORTH: Your Honor, substantial
21 reference within the answers to interrogatories, which
22 I will be getting to, over the course of years in this
23 case as to our request to Defendants about Cumar and repeated
24 answers Cumar is this and Cumar is that. And I think
25 it's relevant in that sense and I only have one question

1 of this, basically.

2 THE COURT: Are you offering that exhibit as
3 substantive evidence for the truth of everything contained
4 in that?

5 MR. WOODWORTH: No, I am not. I have it for
6 one purpose, as to information -- one provision within
7 that which would be knowledgeable within the chemical
8 community.

9 MR. JUNGERHELD: Your Honor, it would appear
10 to be offered for the truth of the matter asserted and
11 we're not in a position to know whether what Barrett or
12 Allied says in this thing about their resin called Cumar
13 is correct or not. We don't know anything about their --
14 they have asked us in interrogatories did we know about
15 a product called Cumar. Well, sure we do. Allied Chemical
16 Company or Barrett made a resin that they call Cumar.
17 But we can't vouch for whether or not what they say about
18 their product is correct.

19 So it is not -- again it remains hearsay as to this
20 witness. I don't know what Mr. Woodworth wants to ask
21 this witness about Barrett's product, but certainly it's
22 hearsay as to Mr. Papageorge.

23 MR. WOODWORTH: Basically I don't want to ask
24 him anything about their product. The exhibit is for one
25 purpose, what type of knowledge is possessed by the

1 Barrett or Allied Chemical which they're publishing in
2 whatever year that bulletin is.

3 THE COURT: You are offering that to prove
4 the truth of what Barrett Chemical knew or what knowledge
5 is available to them?

6 MR. WOODWORTH: No.

7 THE COURT: And once again that is depriving
8 the Defendant of cross-examination of the witness who
9 prepared that document or the company that apparently pro-
10 duced it.

11 MR. WOODWORTH: I'm not putting it in for that
12 purpose. I'm putting it in for the purpose of what --
13 exemplary of what type of information was available in the
14 chemical community.

15 Mr. Papageorge stated that these bulletins are -- that
16 this was within Monsanto's possession.

17 If I might ask further questions.

18 THE COURT: Did he testify to that? But just
19 for example, he may have a library full of books on other
20 subjects and just because they're in his library doesn't
21 mean you can take one of those books out and bring it here
22 and put it in evidence and this is the truth. It doesn't
23 -- he doesn't necessarily vouch for everything in his
24 possession.

25 MR. WOODWORTH: That is the problem, Your

1 honor. I don't mean to put it in for that purpose. It's
2 a very lengthy bulletin. What it is, it's a bulletin
3 regarding Cumar and they make certain statements within
4 there, okay? It doesn't matter whether or not the state-
5 ment is true. It's the very fact that they make the
6 statement and which comes into the knowledge of the
7 chemical community at that particular time, whether or
8 not it's true.

9 MR. JUNGHERHELD: Well, Your Honor, he is
10 obviously trying to assert that whatever Barrett says
11 about the resin called Cumar is true, the resin called
12 Cumar by Barrett --

13 THE COURT: Excuse me. I don't believe that
14 is what he is saying. He is saying that he wants to
15 introduce portions of what that bulletin says, whether or
16 not it's true, to show that that was knowledge in the
17 community at the time that it was published.

18 MR. JUNGHERHELD: What is the relevance of
19 Cumar -- of this resin called Cumar made by Barrett or
20 Allied Chemical Company to this case? The formula, they
21 have introduced, refers to a resin called Cumar made by
22 -- or it says Neville, which apparently is another
23 chemical company. I think somebody said that. I think
24 Mr. Papageorge said that. Made by another chemical
25 company.

1 The Cumar we're talking about here is a silo coating
2 invented back in 1941 by the Concrete Silo Company.

3 THE COURT: I know all that.

4 MR. JUNGERHELD: It is not a resin by Cumar
5 or a resin by Barrett and this says effective October
6 1st, 1950. It doesn't appear to be -- there doesn't
7 appear to be any relevance whatsoever.

8 THE COURT: What is the relevance?

9 MR. WOODWORTH: The relevance is extremely
10 important to this case. And if the only objection is to
11 relevance, I would ask that I be permitted to ask the
12 question because if the objection is to relevance I can
13 show the relevance and I don't think with this Jury having
14 been here for substantial amount of time, they're going
15 to be easily -- they can easily be instructed if it's
16 irrelevant, to disregard it.

17 THE COURT: I'll allow it. Go ahead.

18 MR. WOODWORTH: Thank you.

19 MR. DAVIDSON: I'd place my objection on the
20 record, also, as it applies to my client. I believe he
21 is saying what's known in the chemical community, not
22 to silo people.

23 MR. WOODWORTH: I would also contend that
24 it's applicable to C & B Silo.

25 THE COURT: I'll allow it over objection.

1 What is the number on that?

2 MR. WOODWORTH: 44.

3 Q I'm going to mark this page here for you, Mr. Papageorge,
4 because it is a lengthy bulletin and the pages are not
5 numbered.

6 Near the back of this bulletin, within this Exhibit
7 44, would you please read that paragraph, including its
8 caption.

9 MR. JUNGERHELD: Your Honor, if the request
10 is going to be to read aloud, I'd ask that the Jury be
11 instructed that this is not for the truth of the matter
12 asserted by Barrett or Allied or whoever, about this resin
13 called Cumar.

14 MR. WOODWORTH: I would agree with that.

15 THE COURT: There is a stipulation of the
16 parties, members of the Jury. You understand that. Go
17 ahead.

18 Q If you'd read that, please, Mr. Papageorge.

19 A The caption reads:

20 "'Cumar', resin and chlorinated bodies. Useful blends
21 of Cumar resin with chlorinated organic compounds have
22 been made."

23 Q Okay. Excuse me for one moment. Polychlorinated
24 biphenyl is one of those chlorinated organic compounds, is
25 it not?

1 A Yes.

2 Q Okay. Fine. If you'd continue, then.

3 MR. JUNGERHELD: I'm sorry. We can't find
4 that in here.

5 THE COURT: See if you can help him. How
6 many pages back? How many pages is it back, Mr.
7 Papageorge?

8 A It's hard to tell.

9 THE COURT: About 10 pages from the back.

10 A At least.

11 THE COURT: Fifteen. Do you have the heading?

12 A Cumar resin and chlorinated bodies.

13 THE COURT: It would be over on the right-
14 hand margin, right-hand paragraph or column, about halfway
15 down.

16 A It's after Page 45 on the right-hand corner.

17 Q Now, if you'd continue reading, if you'd start over,
18 Mr. Papageorge.

19 A "Useful blends of Cumar resin with chlorinated
20 organic compounds have been made. The Cumar resin
21 functions as a resinous extender and in some cases as
22 a binder and film-forming agent. The chlorinated
23 bodies improve the fire retarding qualities of the
24 compound. Users should employ appropriate precau-
25 tions to avoid toxicity characteristics of chlorinated

1 products. "

2 Q Thank you. What is the date of this? I believe Counsel
3 stated that it was 1950 or something. If you'd look at
4 the next sheet I think there is some assistance there.

5 A There is a statement that says: Effective October 1,
6 1950.

7 Q Mr. Papageorge --

8 A Now, I should qualify that. That effective date is typed
9 on a price list, so that would tell me that the prices on
10 this page become effective October 1, 1950.

11 I see no connection between that and the bulletin,
12 although on the bulletin I see some references to copy-
13 rights. Copyrights 1938, 1948. Those are the only dates
14 that I can see.

15 Q So that bulletin, being circulated within the scientific
16 community or the industrial community or the chemical
17 community, does in fact -- does warn people about using
18 resins in contact with or combination with organic
19 chlorinates, to watch for toxicity, does it not?

20 A That supports our statement in our bulletins.

21 Q Mr. Papageorge, you are familiar with the Wall Street
22 Journal, aren't you?

23 A Yes, I am.

24 Q I would imagine that you have read it on occasion?

25 A I do.

1 Q And for business reports would you consider it fairly
2 reliable?

3 A Fairly so, yes.

4 Q I'm going to ask you to read to yourself in the second
5 column here, right here, beginning just that sentence.

6 A I have read it.

7 Q Okay.

8 MR. JUNGERHELD: Your Honor, if this witness
9 is going to be asked questions from this, I wonder if we
10 might be allowed to see it.

11 MR. WOODWORTH: Well, I hadn't intended upon
12 introducing it, Your Honor.

13 THE COURT: Well, let him have a right to
14 see it if you're going to ask the questions.

15 Q Does that not state --

16 MR. JUNGERHELD: Please, Your Honor, may we
17 read it?

18 THE COURT: Let him have a chance to read
19 it.

20 MR. WOODWORTH: I can indicate to them the
21 sentence I had --

22 THE COURT: Go ahead, show them.

23 MR. WOODWORTH: Right here.

24 MR. JUNGERHELD: Your Honor, I would object
25 to that. This is simply a newspaper article produced by

1 some fellow named Panenbaum which would be clearly hearsay
2 as to this witness. We have absolutely no opportunity to
3 cross-examine Mr. Panenbaum about wherever he may have
4 gotten the information that he purports to set forth in
5 this article.

6 MR. WOODWORTH: I have just two questions
7 regarding it, not the entire article, just one sentence
8 out of the article and it isn't for the truth of the
9 matter asserted, it's his opinion in regards to a response
10 to this I'm concerned with.

11 MR. JUNGERHELD: Well, we've gone through a
12 whole series of picking and choosing out of a lot of publi-
13 cations here, and it presents a different situation as
14 to scientific publications or Monsanto's bulletins or
15 something like this, but this is a newspaper article
16 written by a newspaper and I think that is outside the
17 ambit of the documents we've been talking about here as
18 to hearsay.

19 THE COURT: Show me the sentence you're
20 talking about here.

21 MR. JUNGERHELD: It's a two-page article,
22 too, apparently.

23 THE COURT: I guess I don't understand why
24 you have to use this, Mr. Woodworth. Can't you just
25 ask him that question?

1 MR. WOODWORTH: I would like to ask him in
2 context to this particular article, Your Honor.

3 MR. JUNGERHELD: Your Honor, the question, by
4 the way, has already been asked and answered of Mr.
5 Papageorge yesterday.

6 MR. WOODWORTH: And that is why I'd like to
7 ask him in context regarding that article. And I have
8 numerous others, too, if I might lay a foundation for
9 these then, first.

10 THE COURT: Go ahead. Lay a foundation.

11 Q Mr. Papageorge, do you consider the New York Times a
12 reliable publication?

13 A Generally so, yes.

14 Q Do you consider the publication of the Food and Drug
15 Administration, their magazine entitled Consumer, do you
16 consider that reliable and reputable?

17 A Generally so.

18 Q And do you consider -- I think we already asked about
19 Science magazine -- I'm sorry, not Science, Chemical and
20 Engineering News. You in fact receive this publication,
21 don't you?

22 A Yes, I do.

23 Q And Monsanto advertises in this publication or has in
24 the past?

25 A Yes.

1 Q And Monsanto, I believe the company itself, subscribes
2 to Chemical and Engineering News?

3 A Yes.

4 Q And we even had some reference to, I think, at one time,
5 Environmental Health Perspectives.

6 Did you testify to that on direct examination?

7 A I don't recall but I'm aware of the publication.

8 Q Something published after the conference at Quail Roost?

9 A Yes, that was the first volume, first issue of that journal.

10 Q Would you consider the materials contained within that
11 journal published by the -- who is this by, Department of
12 Health, Education and Welfare, would you consider it
13 reputable?

14 A Yes. They aren't without their flaws, however.

15 Q Now, without asking you any further questions, I'm going
16 to ask you also to read just a sentence out of each one
17 of these, okay?

18 THE COURT: To himself?

19 MR. WOODWORTH: Yes. I will ask one more
20 question.

21 Q Are you familiar with the Department of Health, Education
22 and Welfare statement of policies regarding polychlorinated
23 biphenyls in freshwater fish?

24 A I believe I recall that, yes.

25 Q Now, the first one I asked you is in regard to the Wall

1 Street Journal.

2 Do you remember that one?

3 A Yes.

4 Q The second one was the New York Times. I'm going to
5 direct your attention to one sentence here. This one.

6 MR. WOODWORTH: I'll show this to Counsel.

7 Q And then the next one from the FDA Consumer, just ask you
8 to read -- and this is a rather long sentence, but where
9 I just marked it with a red dot.

10 A You just want the one sentence?

11 Q Yes, just read it to yourself. I'll show this to Counsel
12 in a minute while you are looking -- out of Chemical
13 Engineering News, this part, that one paragraph. And
14 within the Environmental Health Perspectives the article
15 by Nisbet, and I have that marked with the yellow tab,
16 if you'd read that, the second sentence.

17 Have you had an opportunity to read that?

18 A Yes.

19 Q And lastly, Mr. Papageorge, this particular time, the
20 HEW policy statement on PCB's in fish. That sentence
21 there.

22 Mr. Papageorge, all those sentences or the sentence
23 out of each one of those particular articles all had one
24 prevailing theme, did they not?

25 A Yes.

1 Q Okay. I asked you yesterday whether or not Monsanto was
2 the sole manufacture of PCB's in the United States.

3 MR. JUNGERHELD: Your Honor, that question
4 was indeed asked and answered yesterday by this witness.
5 And we -- apparently he wants to go into these publications
6 from various newspapers with this witness on that point
7 regarding something he has already asked and answered.

8 Now, these publications remain hearsay as to this
9 witness. They're newspaper-type articles, general press-
10 type articles, and as I look through the hearsay questions,
11 I see no exception that applies to newspaper articles.
12 This question can be and was asked.

13 THE COURT: I'll let you finish in just a
14 second. We want to take a short recess, anyway.

15 So, members of the Jury, if you'd retire to the Jury
16 Room I'll clear this matter up and take a 10 minute
17 recess. Then we'll return.

18 (Whereupon a legal argument was held out of
19 the presence of the Jury.)

20 (Whereupon a recess was taken.)

21 THE COURT: Be seated please.

22 Go ahead.

23 MR. WOODWORTH: Thank you, Your Honor.

24 Q (By Mr. Woodworth, continuing:) Mr. Papageorge, when
25 you took this office within Monsanto in 1970, we covered

1 some legislation that led up to 1970. There was addi-
2 tional legislation that passed in 1970, was there not,
3 regarding environmental concerns?

4 A. (No response.)

5 Q One being, for example, FIFRA, which we already testified
6 to, Federal Insecticide, Fungicide Act?

7 A. I thought it was '69, but I could be wrong.

8 Q Okay. Also the Clean Air Act of 1970, another in a series
9 of Clean Air Acts passed?

10 A. Yes.

11 Q And the EPA having been created by the NEPA Act of '69.
12 The EPA came into existence in 1970?

13 A. That is correct.

14 Q And also there was a group formulated or brought into
15 existence entitled the Council on Environmental Quality?

16 A. Yes.

17 Q Are you familiar with that group?

18 A. I am.

19 Q And what was that group? What was its purpose?

20 A. It is, as best I understand, a part of the executive
21 office of the White House and it is the advisory group to
22 the president and his staff on environmental matters.

23 Q The first occurrence, or the first action under your
24 stewardship, so to say, within Monsanto in February 19,
25 1970, a letter was sent out, is that fair to say?

- 1 A That was the first document that left Monsanto after I
2 was assigned the job.
- 3 Q Apparently I pulled the wrong one. I pulled out the one
4 marked February 27 but there was one before that wasn't
5 there? Distributors?
- 6 A I'd have to see it to refresh my memory.
- 7 Q I have it right here.
- 8 410A and B, dated February 19, 1970, sent to dis-
9 tributors, and that was just to distributors, correct?
- 10 A Yes. This reads like a letter that I read yesterday.
- 11 Q Okay. And since it says distributors on it would that be
12 onle current distributors? There that were distributing
13 Monsanto's product in 1970, or perhaps tailing over from 1969?
- 14 A Yes.
- 15 Q I'd next like to direct your attention, Mr. Papageorge,
16 to this bulletin, Defendant's Exhibit No. 31, which you
17 testified to yesterday, and this is dated March of 1970,
18 correct?
- 19 A Yes.
- 20 Q Okay. That bulletin was the product of a number of
21 people or departments within Monsanto, wasn't it?
- 22 A Yes.
- 23 Q For example, of people from the plasticizers group. In
24 fact that's primarily their bulletin?
- 25 A Yes. Their principal contributors, yes.

1 Q At that time who was the head of the plasticizers group?
2 Plasticizers sales group?
3 A Sales group?
4 Q Sales group. Yes.
5 A Walter Schalk.
6 Q Who is Cummings Payton?
7 A Cummings Payton reported into the organization headed by
8 Mr. Schalk.
9 Q Was he under Mr. Schalk then?
10 A Yes. And he was assigned the marketing of plasticizers.
11 Q And also contributing to that bulletin was a Research
12 Department, Legal Department, Medical Department, correct?
13 A Yes.
14 Q And you yourself -- you reviewed that publication?
15 A Yes.
16 Q And that last paragraph on the last content page of the
17 bulletin states that it's -- to paraphrase it, Mr.
18 Papageorge, basically it's to be avoided as a waterproof-
19 ing agent in silos?
20 A Yes. It's paraphrased, but it's in essence correct.
21 Q Mr. Papageorge, I'm going to direct your attention, now,
22 to Plaintiff's Exhibit 179A. You have seen this
23 before lately?
24 A Yes.
25 Q And when was it -- do you want to take a moment to

1 familiarize yourself with it if you haven't read it?

2 A. I remember the contents.

3 Q. Okay. Now, you received this memorandum from Dr. Kelly
4 on or about March 30th?

5 A. Yes.

6 Q. Of 1970?

7 A. Yes.

8 Q. And does not Dr. Kelly express to you the fact that
9 Aroclor, or PCB's in the form -- in the specific form of
10 Aroclor 1254, were found in at least three herds in Ohio?

11 A. Dr. Kelly was relaying to me what Dr. Hill had reported
12 to him, yes.

13 Q. Okay. I understand that. And this is -- what I'm asking,
14 Mr. Papageorge, is what's being relayed to you.

15 A. Yes.

16 Q. Now, it says three herds. Can you tell us who those are?

17 A. I would only be speculating on two of those herds because
18 at that time I was not aware of any herds by dairy name.

19 Q. You subsequently became aware of, you said, at least two
20 names?

21 A. Yes.

22 Q. And what names are those?

23 A. The Humphreys and Schwarzwalders farms.

24 Q. Did you ever ascertain or become aware of the third name?

25 A. I did not.

1 Q Within that first paragraph, Mr. Papageorge, Dr. Kelly
2 states that the -- quoting, he says -- he says, "He has
3 traces of contamination back to three silos. Traces back
4 to three different silos." That would be referring to
5 Aroclor 1254 in the milk, is that right?

6 A I would assume so, yes.

7 Q Do you have any problems with the word contamination? Is
8 that clear to you what that is referring to?

9 A Knowing Dr. Kelly and understanding from previous en-
10 counters with the gentleman I understood what he was
11 telling me that the presence of PCB's in milk.

12 Q Okay. When he says in fact that word "contamination" he's
13 talking about PCB's, or the Aroclor in the milk?

14 A In the milk, yes.

15 Q What impression -- you talked quite a bit on testifying
16 yesterday on direct examination of impressions that you
17 developed over the course of your -- what impressions
18 did you develop as a result of reading the first sentence
19 of this, that there were PCB's being found in -- the first
20 and second sentence, PCB's identified or particularly
21 Aroclor 1254 being found in samples of milk in three Ohio
22 dairy herds?

23 A The impression I had that this warranted further study.

24 Q Okay. The very end of that paragraph, Mr. Papageorge,
25 says the words that some of the milk had to be destroyed.

1 Would that lead you -- or did that leave you with the
2 impression that as a result of a milk being destroyed that
3 perhaps these three herds, or these farmers owning the
4 three herds would have suffered some type of economic
5 loss?

6 A. Certainly.

7 Q. Going to the next paragraph, Mr. Papageorge, it states
8 that after -- in the second line, it states that the silos,
9 using a formulation that contained 1254. Did you take
10 that to mean Aroclor 1254?

11 A. I'm trying to find the -- okay. I see it.

12 Yes. That's what it meant to me.

13 Q. Okay. And going further down in that paragraph, Mr.
14 Papageorge, at the present they will have to destroy about
15 150 tons of silage which is valued at about \$30 per ton.

16 Do you see that part?

17 A. I see it, yes.

18 Q. Does that not leave you with the impression that again
19 these farmers are suffering some type of economic loss as
20 a result of having to destroy silage?

21 A. Yes.

22 Q. And that a hundred and fifty times thirty would be at
23 least \$4500 economic loss, if this silage was destroyed?

24 A. Yes.

25 Q. And then after that it says there may be as many as 50

1 other silos involved in Ohio?

2 A. That's what --

3 Q. Did you attempt to locate those silos?

4 A. Through Dr. Hill, yes.

5 Q. Did you yourself attempt to locate those silos?

6 A. Well, there was no other way but to go to the person who
7 stated there are 50 silos.

8 Q. Okay. And the person who informed you was Dr. Kelly and
9 he's saying Dr. Hill informed him, correct?

10 A. But I was aware of all of this before Dr. Kelly's memoran-
11 dum arrived at my desk.

12 If you will remember I talked to Dr. Hill first. This
13 is a repeat in terms of my knowledge of information.

14 Q. Dr. Kelly expresses in the last sentence of that second
15 paragraph that they, referring to, I assume, Dr. Hill and
16 the Department of Agriculture, are also looking into the
17 fat contamination in the cows themselves.

18 Did that give you any type of concern, or did -- what
19 type of impression did that leave you with? Fat contamina-
20 tion?

21 A. I was aware that the PCB's do accumulate in fat. This
22 seemed like a very logical place to look for more informa-
23 tion.

24 Q. When were you aware of the fact that PCB's accumulate in
25 the fat?

1 A. Oh, within the -- just before this. The first three months
2 of 1970.

3 Q And when it says fat contamination, you had no problem
4 understanding what was meant? I would assume -- were you
5 left with the impression that it was PCB's they were
6 talking about?

7 A. Yes.

8 Q Or Aroclor 1254?

9 A. Well, in this case PCB's. But any other material they
10 might find when they analyze the fat.

11 Q Okay. And then Dr. Kelly says all in all this could be
12 quite a serious problem having legal and publicity over-
13 tones.

14 Did you agree with that?

15 A. I didn't have enough information to personally arrive at
16 those conclusions.

17 Q And then the next paragraph, the second sentence says,
18 "When are we going to tell our customers not to use any
19 Aroclor in any paint formulation that contains food, feed,
20 or water for animals or humans." Correct?

21 A. That is right.

22 Q Monsanto never went back and told it's direct sales
23 customers about this did they? These letters that went
24 out did not go to these direct sales customers? I believe
25 you testified yesterday?

- 1 A. On that list that is -- you are correct.
- 2 Q. Nor did Monsanto go out and tell silo owners about this?
- 3 A. No. That would not be normal.
- 4 Q. Nor did Monsanto run any advertisements within any trade
- 5 journals and dairy journals?
- 6 A. That would be abnormal also.
- 7 Q. Nor did Monsanto run any advertisements or notices with
- 8 any farming journals?
- 9 A. No.
- 10 Q. And this was in consideration of the fact that you were
- 11 aware at that particular time that there were at least
- 12 two dairy herds and their owners faced economic losses as
- 13 a result of this stuff being in their milk or silos,
- 14 correct?
- 15 A. As a result of one individual deciding to embargo the
- 16 milk supply, an action that was unique in this country
- 17 and remains so to this day. No other milk has ever been
- 18 embargoed because of PCB's in this country.
- 19 Q. Nevertheless, Mr. Papageorge, these people did, and you
- 20 were aware at that particular time there were -- people
- 21 were going to suffer economic damage, or at least three
- 22 people had, or at least three groups of people?
- 23 A. I was aware their milk was embargoed, yes, and I could
- 24 speculate they were suffering some economic harm, yes.
- 25 Q. Speculate they were suffering from economic loss from the

1 milk being destroyed, or having to destroy the silage at
2 that point?

3 A. The silage had not been destroyed yet.

4 Q. Did it occur to you, or were you left an impression that
5 these people who owned the 50 other silos might sustain
6 the same type of economic damage?

7 A. Only if their milk analyzed at a level that Dr. Hill would
8 consider inappropriate and it was up to Dr. Hill to take
9 whatever action he thought appropriate at the time. I
10 could not know and would not know what he would do in the
11 future.

12 Q. Mr. Papageorge, I'm going to show you what's been admitted
13 as Plaintiff's Exhibit No. 180B and identified as a
14 memorandum from Dr. Tucker to yourself dated April 16,
15 1970.

16 Have you seen that lately?

17 A. Yes, I have.

18 Q. And when was the last time you looked it over?

19 A. A couple of weeks ago.

20 Q. Now, this is shortly after, or 16 days after you received
21 the memorandum from Dr. Kelly, is that correct?

22 A. That is correct.

23 Q. Would you please read the -- I'll just ask you questions.
24 I believe it's been read to the Jury already, Mr.
25 Papageorge.

1 In the second paragraph of this does it not state that,
2 "Unaltered Aroclor 1254 was found in the silo scrapings."

3 Is that correct?

4 A. It does say that.

5 Q. Okay. And Aroclor 1254 is Monsanto's product?

6 A. Yes.

7 Q. And Dr. Tucker is who? Or I'm sorry, E.S. Tucker is who?

8 A. E.S. Tucker is the analytical chemist at that time who
9 was responsible for PCB analysis.

10 Q. Okay. And you testified yesterday in direct examination
11 that over sometime in the early '70's Monsanto worked
12 on methodology or identification of PCB's, is that correct?

13 A. That's correct.

14 Q. And was Dr. Tucker the man in charge of that?

15 A. Yes.

16 Q. Okay. So when he's reporting here he's finding unaltered
17 1254 in the silo scrapings and where the raw milk extrac-
18 tion contains an estimated PCB level of .6 to .7 parts
19 per million, now, the isomer distribution of polychlori-
20 nated biphenyls, that's referring to the different types
21 of isomers contained within the PCB itself?

22 A. That is right. That is right.

23 Q. Within the raw milk extract it was altered with respect to
24 the Aroclor 1254 standard, is that correct?

25 A. Yes. That's analytical chemistry talk. What he is

1 saying that in looking at his samples the material
2 found in the silo scrapings had a pattern identical to
3 a standard of Aroclor 1254.

4 Q It seems to me, Mr. Papageorge, that Dr. Tucker is saying
5 unaltered Aroclor 1254 was found in the silo scrapings.
6 Not anything like it but in fact unaltered Aroclor 1254.

7 A Well, you don't understand industrial analytical chemists'
8 jargon. He was communicating clearly to anyone who
9 understands this business that it matched his pattern of
10 his standard. It's an unaltered material he was observing.

11 Q And where does it say that it matches the pattern?

12 A It's understood if you know anything about gas liquid
13 chromatography, that's the way it's reported.

14 Q And what he says in the fourth paragraph -- what does
15 qualitatively correct mean? Down here. There's no doubt
16 that the ODA results are qualitatively correct.

17 A That means that the peaks and valleys of the chart
18 produced during the analysis matched the peaks and valleys
19 of the standard PCB material used.

20 Q Doesn't it in fact mean from the language of that letter
21 that the material was in fact qualified and identified as
22 Aroclor 1254?

23 A No, it doesn't.

24 Q Okay. You're saying that Mr. Tucker -- or Dr. Tucker means
25 that it's something like Aroclor 1254? Is that correct?

1 A: Qualitatively, yes.

2 Q Okay. Dr. Tucker goes on to say that interestingly,
3 this is probably the first clear-cut chance we have had
4 to observe which PCB homologues are most resistant to
5 metabolism, et cetera, in mammal, is that correct?

6 A: That is correct.

7 Q And he in fact did label the peaks in the Aroclor 1254
8 electronic capture chromatogram according to the homologues
9 they represent, is that correct?

10 A: He is referring to an attachment to this letter.

11 Q Okay. And in what he's labeled the peaks and valleys
12 of Aroclor 1254, he's not saying like Aroclor 1254. He's
13 saying Aroclor 1254.

14 A: That is his standard. That is his standard he's using
15 to measure the unknown against.

16 Q Let's look at this last paragraph, Mr. Papageorge.
17 There's another interesting sidelight is that we have
18 observed strikingly similar isomer alterations in the
19 electron capture chromatograms of an extract of human fat
20 biopsy fat sample supplied to us by the WARF Institute.

21 Who's fat was this and what was this fat for?

22 A: I don't remember.

23 Q That would seem to indicate that Mr. Tucker had knowledge
24 of the presence of similar isomers to these presences in
25 human fat, is that correct?

- 1 A. That is true.
- 2 Q And also similar extraction in raw milk samples supplied
3 by the Maryland Co-op Milk Producers?
- 4 A. Yes.
- 5 Q And both of these organizations had suspicion of PCB
6 contamination. Unfortunately they couldn't get the results
7 because the limited amount of the sample? The low levels?
- 8 A. That is right. Could not be confirmed.
- 9 Q So there were even suspicions in Maryland about PCB's
10 in humans, would that be fair to assume, from this letter?
- 11 A. Well, it's my understanding this is related to the spray-
12 ing for weed control and cattle grazing in the area.
- 13 Q That PCB's were being used as an extender in herbicides then?
- 14 A. No. Just along with used oils of all kinds to blend the
15 pesticide into and spray.
- 16 Q What impression did you develop about the presence of
17 PCB's in human fat in April of 1970? Did that cause you
18 any concern?
- 19 A. No. You can't make an impression on only one sample with
20 one unconfirmed analysis.
- 21 Q In May of 1970 Monsanto sent out another letter, didn't
22 they, you testified to yesterday?
- 23 A. I think I recall one, yes.
- 24 Q This is an example of one that went to Mr. Giloth at
25 Central Solvents in Chicago?

1 You state within the second page, top paragraph,
2 after the comments, "And being a concerned and responsible
3 member of the world community."

4 Do you think a responsible and concerned member of
5 the world community would investigate the presence of
6 PCB's in humans in April of 1970?

7 A. There was no reason in that point in time -- there was
8 no reason at that point in time to make any broad
9 assumptions regarding the presence of an industrial chemi-
10 cal in the human body. There's just not enough informa-
11 tion.

12 Q. Mr. Papageorge, I asked you a question yesterday why you
13 just didn't stop the sales of this stuff. You said that
14 wouldn't be fair to your customers. Is that correct?

15 A. That's one factor to consider, yes.

16 Q. Yet you were aware that the stuff was getting into the
17 environment in a fairly substantial manner? Was getting
18 into cows, silage, milk, and one verified instance in a
19 human being, and yet you felt it would not be fair to
20 your customers to discontinue -- immediately discontinue
21 the sales of this material, is that correct?

22 A. That is not correct. You made some broad assumptions,
23 sir. There was only one unconfirmed human fat analysis.

24 Q. Okay.

25 A. More were planned to be done if we could get the samples.

1 You said that was why -- you implied it was widespread in
2 cattle, cows and dairies. At that point in time there
3 was only two dairies, one state, and it seemed a very
4 special kind of situation.

5 Q Let's go back to Dr. Kelly's letter, Doctor.

6 MR. JUNGERHELD: Excuse me, Your Honor. I'm
7 not certain the witness was done with his answer.

8 THE COURT: Are you finished?

9 A I have forgotten what I was going to say now.

10 Q Dr. Kelly's letter states that there is three silos in
11 this situation, maybe another 50, is that correct?

12 A That's what the letter says, yes, sir.

13 Q And it says these PCB's are getting into the milk, right?
14 In these three instances?

15 A Yes. He's reporting what Dr. Hill told him. Yes.

16 Q It says they're also investigating this material getting
17 into the fat of the animals?

18 A Yes.

19 Q Now, with your knowledge that this material was fat
20 soluble, did you understand that if a human being would
21 drink the milk of some of those contaminated cows, or eat
22 the meat of some of those contaminated cows that they
23 might be receiving some of that PCB themselves?

24 A Might, yes. This is why further study was called for and
25 this is what was done.

1 Q And in fact this particular letter back in March of
2 1970, besides these three instances, you were also made
3 aware of another 50 silos with another 50 potential
4 incidents, is that correct? Potential?

5 A That's right. That's why we continued the dialogue with
6 Dr. Hill.

7 Q And that's why you continued to sell this until August
8 30th letting customers know you're going to be pulling it
9 off the market, is that right? To be fair to your
10 customers?

11 A The implication is we sold it to the silo coating maker.
12 That is not --

13 Q No, I'm not saying that. I'm saying you're selling it
14 open-end. Selling it in open-ended uses. Open uses. Is
15 that correct?

16 A Those are the uses that were perceived to be the type that
17 would cause, or could cause environmental problems. Not
18 human health problems.

19 Q Okay.

20 A There is a difference in the amount of material involved.

21 Q Mr. Papageorge, how much did it cost Monsanto to make
22 a pound of PCB?

23 A I don't recall.

24 Q Okay. Did you recall at one time, for example, in
25 the Bethlehem Mink case in your deposition?

1 A. I used to know those numbers.

2 Q In the latter -- or through the '60's and into 1970 how
3 much did Monsanto sell, or what was the average price per
4 pound of PCB?

5 A. Oh, I would be guessing now.

6 Q Could you give us a percentage differential between the
7 cost of production and the sale price?

8 A. No, I can't.

9 Q Would you think your testimony in the Bethlehem Mink
10 case and your deposition in 1972 would have been
11 accurate?

12 A. It was a best guess in terms of my recall at that time.

13 Q If we might come back to that in a bit, Mr. Papageorge?
14 I don't have that before me immediately.

15 When you found out about the silo contamination in
16 Ohio didn't you go to Cummings Payton and try to find
17 out what sales had been made to silo companies?

18 A. Yes.

19 Q And when did you do that?

20 A. The same day. Right after I finished my conversation
21 with Dr. Hill on the first call.

22 Q Okay. So you got contact from Dr. Hill and you thought
23 you better check on silo companies, correct?

24 A. Correct.

25 Q Okay. And what did Mr. Payton tell you? What was the

1 result of your contact or your investigation to find out
2 the sales to silo companies?

3 A There were no silo companies listed on the documents
4 available to Dr. Payton in the discharge of his daily
5 duties. He then offered to search further and report back
6 to me if he found any indication that we did sell to silo
7 companies.

8 Several days later he came back and he said he has
9 not been able to locate any customer with the name "silo"
10 in it.

11 Q Mr. Papageorge, I'm going to show you what's been admitted
12 as Plaintiff's Exhibit No. 154 representing to be a sales
13 summary of -- sales of Aroclor 1254 -- yes.

14 A I don't know.

15 Q Sales summary search of all non-electrical customers of
16 Aroclor 1254, is that correct?

17 A That's what it says.

18 Q Now, going back to the front page of this, it states that
19 this summary is not complete for the years of 1950's and
20 early 1960's, correct?

21 A Yes.

22 Q Okay. And that there were more customers than shown in
23 those years but there's no surviving information that
24 would enable Monsanto to list the others?

25 A That is correct.

1 Q Okay. And that the note on this is that it's subject to
2 a confidentiality order, is that correct?

3 A That is correct.

4 Q Mr. Papageorge, that sales summary was produced in Court
5 pursuant to a court order that was obtained from His Honor
6 to produce the sales summary. That was produced in 1982.
7 Now, as a result of that production of that sales summary,
8 together with other information that we acquired from
9 answers to interrogatories, we were able to compile this
10 chart in 1982 of sales to silo companies. However, you're
11 saying that in 1970 you were unable to ascertain within
12 Monsanto 12 years earlier than we obtained this information
13 of any sales to silo companies, is that correct?

14 A That is correct.

15 Q Have you seen this chart before, Mr. Papageroge? Before
16 yesterday, I mean?

17 A No.

18 Q We did establish that -- I think we did, perhaps I should
19 ask you.

20 After 1965 there may have been additional sales to
21 silo companies, however, if there were they were through
22 distributors?

23 A That is my understanding, yes.

24 Q Do you in fact know as a result of your review of this
25 case, the materials supplied in this case, or your own

1 personal investigation whether or not there were sales
2 after 1965 by distributors to silo companies?

3 A. No, I do not.

4 Q Have you reviewed the pleadings in this case?

5 A. No.

6 Q Have you reviewed interrogatories and answers to interroga-
7 tories?

8 A. Some of them.

9 Q Mr. Jungerheld showed you and had you read some of these
10 letters, Mr. Papageorge. Here's another one. That was
11 sent out by Monsanto in September 30, 1971.

12 Within those letters on up to the -- through all of
13 them that you read with Mr. Jungerheld, Mr. Papageorge,
14 they say that there is presence in the environment,
15 basically? I'm paraphrasing. Is that correct? Of
16 Aroclors in the environment?

17 A. That is right.

18 Q There may be some problems?

19 A. That is correct.

20 Q Doesn't say what problems might be, is that correct?

21 A. That is correct. They were unknown.

22 Q Doesn't say anything about keeping them away except for
23 the -- well, it doesn't say anything about keeping --
24 or not feeding them, or not allowing animals to eat them,
25 or humans to eat them, is that correct?

1 A. That depends on what point in time we're talking about.
2 Through 1970, as I recall, in 1970 we did send out letters to
3 individuals referring to presence in their food, animal
4 feed and the like.
5 Q. Those letters did not go to the silo companies, did they?
6 Those that are listed on that list?
7 A. I can't answer that. The distributor was to send them
8 on.
9 Q. You knew there were sales to silo companies in earlier
10 years though, did you not?
11 A. Which years?
12 Q. You know Rogers Malone?
13 A. I know the man, yes.
14 Q. He testified that he made direct sales to silo companies
15 in Indiana, at least one silo company in Indiana, from
16 the '50's for a period of years --
17 MR. JUNGERHELD: Your Honor, I'm going to
18 object to the characterization of the testimony of Rogers
19 Malone. Rogers Malone testified he was a customer re-
20 presented -- he did not make sales, rather he checked
21 with these people to see that they were happy with the
22 service that they were receiving. Mr. Malone did not
23 testify to making sales to silo companies.
24 THE COURT: I believe that's correct.
25 MR. WOODWORTH: I'll rephrase the question,

1 Your Honor.

2 Q Did you check with employees of Monsanto as to whether
3 or not they had ever serviced silo companies as to custo-
4 mers?

5 A That was my conversation with Dr. Payton.

6 Q And did you -- I believe some of your employees said
7 during their depositions that there were bulletin boards
8 available within Monsanto. Were there ever any bulletins
9 put up as to any customer service representatives about
10 sales to silo companies asking them to come forth --

11 A Bulletin board notices aren't used for such notices.

12 Q How about employees' newsletters?

13 A There are some.

14 Q And was there anything ever run within the employees'
15 newsletters, '70, '71, asking any employees if they had
16 any sales or contacts or services to any silo companies?

17 A No. That's not customary. It's never been done.

18 THE COURT: In light of the hour, Mr.
19 Woodworth, we'll break for lunch.

20 Members of the Jury we'll look you at 1:15. Until
21 then we stand recessed.

22 (Whereupon a recess was taken until 1:15
23 o'clock P.M., Tuesday, May 22, 1984.)
24

25 -o0o-

1 (Whereupon at 1:30 o'clock P.M., Tuesday,
2 May 22, 1984, the Hearing was continued as
3 follows:)

4 THE COURT: Be seated please.

5 Mr. Woodworth?

6 MR. WOODWORTH: Thank you, Your Honor.

7 Q (By Mr. Woodworth, continuing:) Mr. Papageorge, were you
8 familiar with or acquainted with any PCB or incident
9 alleged to be apparently caused or contributed by the
10 presence of PCB's in the midwest in Kansas, or Nebraska,
11 as a result of it coming in contact with beef cattle?

12 A I vaguely recall some incident that occurred in that
13 general area, yes.

14 Q In Kansas, would it have been?

15 A I don't recall the specific state, no.

16 Q Did you have cause to investigate that matter, or did you
17 form any impressions from that particular episode?

18 A If I'm thinking of the right situation that was an example
19 of another accident. A one time situation.

20 Q Okay.

21 A I personally did not get involved in the handling of that.
22 The government agencies did. And that's really all I
23 recall of the matter.

24 Q Did you come by this information in the course of your
25 position with Monsanto?

1 A. Yes.

2 Q And what information did you obtain other than the

3 fact it being an accidental exposure?

4 A. That's all I really remember.

5 Q Do you recall anything as to any health effects on

6 animals?

7 A. No.

8 Q Mr. Papageorge, did you have anything to do -- or do

9 you recall any information as to a -- let me rephrase it

10 another way.

11 Did Monsanto ever maintain a plant or facility in

12 Florida?

13 A. Yes.

14 Q And where was that?

15 A. Pensacola, Florida.

16 Q And did any health -- any type of animal health problems

17 result at or near or about that factory relating to

18 PCB's?

19 A. I'm not aware of any animal problem.

20 Q Well, if I -- I don't know because of my definition --

21 my nomenclature I put fish also into that category?

22 A. There was an incident that occurred, yes, and some of

23 the -- as I remember shrimp were alleged to have been

24 affected by the presence of PCB's, yes.

25 Q And what type of effect was there upon the shimp?

1 A There was no detectable effect on the shrimp in the
2 estuary in Pensacola but the government research labora-
3 tory in conducting tests later determined that young
4 shrimp were sensitive to the presence of PCB's.

5 Q In fact this government survey that you're referring to
6 did determine that not only were the shrimp sensitive to
7 PCB but that it was pretty toxic? It was fatal to a
8 number of them? A high percentage?

9 A Depending on the age of the shrimp, yes. What they
10 call juvenile shrimp were -- it killed them at some
11 low level which I have forgotten.

12 Q And was this 1254 that was involved?

13 A No.

14 Q At the plant where this incident occurred, how did this
15 exposure, the accidental -- or this exposure occur?
16 From heat transformers?

17 A No. This was a leak from an air compressor which used
18 as a lubricant fluid, a mixture which contained one of
19 Monsanto's Aroclors.

20 Q And do you know what Aroclor that was?

21 A As best I remember it was either Aroclor 1242, or Aroclor
22 1248.

23 Q Was there, to your knowledge, any sampling in -- or let
24 me go back.

25 What year did that occur?

1 A. 1969.

2 Q Okay. Was this particular event discussed at the --
3 you testified that you had participated, correct me if
4 I'm wrong, I thought you had testified you participated
5 in a interagency and HEW interagency meeting on poly-
6 chlorinated biphenyls. Did you?

7 A. At what time?

8 Q 1971?

9 A. Yes. The North Carolina meeting, I think you're refer-
10 ring to. Or are you talking about the interagency
11 task force group in Washington?

12 Q I'm just trying to find that.

13 August 5th, 1971. If that's of any assistance.

14 Assuming that's it, Mr. Papageorge, discussed at that
15 interagency task force, or the one you attended, would
16 be the effects of PCB's among other things?

17 A. Yes.

18 Q Effects upon the environment? Effects upon animal
19 life? And including within that birds and fish, true?

20 A. True. When we knew of these things, yes.

21 Q Okay. And effects, or any knowledge, or information
22 that was possessed as to human effects, is that correct?

23 A. That is correct.

24 Q Now, there was knowledge at Monsanto going back prior to
25 1970, the fact of an Aroclor leaking into -- what is the

1 name of the bay or area there?

2 A. Escambia Bay.

3 Q. And in fact having toxic effects with shrimp?

4 A. No. That's not correct.

5 Q. Okay.

6 A. All we had at that time was a presence of PCB's in the

7 sediment in the Escambia Bay. These were cleaned up and

8 the bay was restored.

9 Q. What were the levels of the presence in the sediment?

10 A. I don't remember them.

11 Q. Was there a report that was compiled as a result of the

12 interagency task force meeting?

13 A. There was a report of a PCB interagency task force, yes.

14 Q. Are you familiar with Thomas Duke of the EPA office who

15 used to be with the EPA office in research and monitor-

16 ing?

17 A. Well, he is currently with the EPA. When I first met

18 him he was with the Department of Commerce laboratory

19 just off Pensacola, Florida.

20 Q. And Gulf Press?

21 A. Gulf Press Laboratory. yes.

22 Q. And did he conduct an experiment or any research regard-

23 ing Arcolors in shrimp?

24 A. He directed the study in his laboratory. He was the

25 laboratory director.

1 Q And can you tell us just summarily what the results of
2 that research was?

3 A It's the summary that I previously mentioned. That was
4 determined that at low levels -- I just don't remember
5 the number, in parts per billion level in water, juvenile
6 shrimp just hatched are destroyed. They just cannot
7 tolerate it.

8 Q Did the interagency task force also discuss the presence
9 of PCB's in animal feeds?

10 A Yes, they did.

11 Q And what -- and we have already discussed Holly Farms
12 and some other incidents, but were there any other in-
13 cidents besides those that we haven't covered already?

14 A I don't think we have left any out. They referred to
15 all the poultry feed. Discussed the silo situation
16 reported at the time. These are all in that report.
17 Summarized quite well.

18 Q The silo situation was discussed? You're stating that?

19 A Yes.

20 Q When was this conference? Was this what we're referring
21 to as the Quail Roost conference?

22 A No. This was a different group. However, individuals
23 involved attended both sessions.

24 Q I see. When we refer to these task force meetings,
25 these -- I don't know what else to call them, you talked

1 about one that occurred in 1975 in Chicago that you
2 attended --

3 A. Yes.

4 Q. -- what would you call that? A symposium? A seminar?

5 A. That was a PCB symposium sponsored by the USEPA.

6 Q. Okay. And those were attended by a number of people,
7 weren't they?

8 A. Yes.

9 Q. And you would have been one among many in attendance

10 A. That's right.

11 Q. Mr. Papageorge, if I may, when we left off we were
12 talking, I think, about letters in 1970 and we had
13 already gone over Dr. Tucker's memorandum. I'd like
14 to go ahead, now, and go to this particular point in time
15 when I was talking to, November of 1970.

16 In November of 1970 you paid a visit to two farms
17 in Ohio?

18 A. That is correct.

19 Q. What was the purpose of the trip?

20 A. My intent and hope was that I would get an opportunity
21 to talk to the two farmers and become more knowledgeable
22 regarding silos, silage, cattle, silo coatings and the
23 fact that their milk was found to contain PCB's and I
24 was quite interested in just becoming more familiar with
25 this new situation.

1 Q Okay. And you went to the Schwarzwalders and Humphreys?
2 A That is correct.
3 Q And you went a day apart? You went to one place on one
4 day and one on the other day?
5 A That is correct.
6 Q And both of these places, the Schwarzwalders and
7 Humphreys, aren't too far from Massillon, Ohio, are they?
8 A That is correct.
9 Q You said in your deposition you flew into Cleveland and
10 then drove down to this area?
11 A All right. That's as close as my memory -- it's either
12 Cleveland or Akron. One of those two cities.
13 Q And do you recall the Schwarzwalders being located,
14 their farm. about, I don't know, 20, 25 miles southeast
15 of Massillon? In that general area? Southwest. I'm
16 sorry.
17 A I'd have to look at a map. I don't recall the relative
18 locations of the farms to Massillon.
19 Q And the Humphreys being about 30 miles east, due east
20 of Massillon?
21 A Could be. I don't remember.
22 Q Did you have to drive through Massillon to get to the
23 Humphreys, or get to the Schwarzwalders? That's right
24 on the interstate, isn't it?
25 A I'm trying to recall. I think what I did, I went into

1 Columbus, Ohio and visited with Dr. Hill and then went
2 to the one farm one day, back through Columbus, and
3 the next farm the next day. I believe that was the
4 pattern.

5 Q You never stopped at Massillon while you were there to
6 see Mr. Egan?

7 A No.

8 Q Mr. Papageorge, already introduced into evidence have
9 been your memorandum of your visits to the Schwarzwald
10 farm. I think they're Exhibits No. 153B and E, and I'd
11 like to go over those with you.

12 Since you visited the Schwarzwald farm first, do
13 you recognize this and have you had an opportunity to
14 review it prior to today?

15 A Yes.

16 Q You visited, then, on November 17, 1970 the Schwarzwald
17 farm and they had registered -- they had a dairy farm and
18 registered Holstein cattle?

19 A That is correct.

20 Q The first paragraph you make reference to the fact that
21 -- this is where you made reference in direct testimony
22 to the fact it is confidential and you said why you put
23 confidential on there?

24 A Yes.

25 Q The first paragraph, there was an extension in 1967.

1 He didn't know the old silo coating but the interior
2 surfaces appear to be bare.

3 The second paragraph, Mr. Papageorge, you said there
4 that the Cumar coating -- I would assume you were aware
5 at the time of Cumar by name, is that correct?

6 A. That's correct.

7 Q -- was applied to the block surfaces by Michigan Silo
8 Company?

9 A. Correct.

10 Q You were aware of Michigan Silo Company put it on?

11 A. That is right.

12 Q And then you go into as to the preparation of the
13 surface.

14 And then paragraph three is to the filling of the
15 silo.

16 Paragraph four, what the material was that was put in
17 the silo.

18 Paragraph five mentions that the silo is an open
19 type, which is filled from the top. Does that mean it
20 doesn't have a roof on it?

21 A. That is correct.

22 Q And there's a rotating conveyor and you go into the
23 method of the silage removal. Also, how it rides the
24 sidewall, semi-pneumatic tires, gear box, and how they
25 change the oil in that.

1 In paragraph six, Mr. Papageorge, we get into the
2 fact of the materials that were on the farm. Mr.
3 Schwarzwaldner informed you that he believed that the
4 coating was probably intact for at least the first year
5 in service.

6 A That's what he told me.

7 Q And he was informed in the spring of 1969 that DDT was
8 barely detectable in quantities found in his milk.
9 Since the quantities were small and because he doubted
10 strongly that DDT was present, no action was taken.
11 Shortly after this incident the cattle were put on
12 pasture and the presence of DDT was not detected.

13 Did you ascertain how much or what part of the year
14 he pastured his cattle?

15 A He said the summer months.

16 Q Did you assume that when the cattle were being pastured
17 they were not eating out of the silo?

18 A I assumed that, yes.

19 Q Going to Page 2 of this exhibit, and then you continue
20 on the same paragraph, number six, Mr. Papageorge, and
21 say, "The silage which was later found to be contaminated"
22 -- that would be contaminated pursuant to Mr. Kelly's
23 letter? The usage of that word contaminated?

24 A Yes.

25 Q -- "was stored in the silo in October, 1969. DDT was

1 detected in mid-February, 1970. This 'DDT' was finally
2 identified as PCB and the source was traced to the silage
3 by mid-March. At this time the cattle were quickly
4 converted to purchased hay."

5 Paragraph number seven you said, "The PCB content of
6 the milk was determined at .3, .4 ppm. One cow produced
7 milk as high as 1.4 ppm."

8 A That's what I was told.

9 Q Did you receive any records or any material from the
10 Ohio Department of Agriculture?

11 A He did not show me any of that.

12 Q He said during the period January, February, March, which
13 Mr. Schwarzwalders refers to as the high PCB period, he
14 claims he lost 20 newborn calves two to three days old
15 valued at \$100 each. He also claims that he had
16 unusually high incidence of false pregnancies.

17 Didn't that give you some concern, Mr. Papageorge,
18 about some animal health effects at that particular
19 time?

20 A It was a thought that I had to take into consideration,
21 yes.

22 Q And in fact in this particular case I'm sure your review
23 of this case there's likewise been claims by Roger
24 Haley for loss of newborn calves, is that correct?

25 A That's my understanding.

1 Q And there was in Mr. Schwarzwalders references, or
2 statements to you that he claimed that he has some
3 incidence of false pregnancies?

4 A Correct. That's what he informed me.

5 Q And does that lead you to believe that Mr. Schwarzwalders
6 was experiencing some economic loss for the death of
7 those newborn calves valued at a hundred dollars each?

8 A That's a natural conclusion, yes.

9 Q And if his cattle don't properly breed he's going to lose
10 the value of the young stock?

11 A That's an appropriate conclusion, yes.

12 Q Mr. Papageorge, you go on to state in paragraph number
13 nine that since March, the cows are producing normally.
14 The milk is acceptable but I could not find out the
15 current PCB content.

16 Correct?

17 A That is right.

18 MR. JUNGERHELD: Your Honor, I believe
19 Counsel misread that. He read it that -- of course,
20 the record would only reflect what Counsel has said,
21 not what is on the exhibit. It says the cows are re-
22 producing.

23 THE COURT: Pardon me?

24 MR. JUNGERHELD: I think he said the cows are
25 producing normally and the word on the exhibit is

1 reproducing normally.

2 THE COURT: The correction is noted.

3 MR. WOODWORTH: Fine.

4 Q Paragraph ten, Mr. Papageorge, says that the operation
5 appears to be back to normal with all silage fed to the
6 herd stored in a new silo.

7 To your understanding did Mr. Schwarzwaldner have to
8 build a new silo to put silage into?

9 A He had a new silo on his farm when I visited, yes.

10 Q Do you know whether he had to build that as a silo re-
11 placement for the other one?

12 A No, I do not know why he built it.

13 Q Do you know how long his milk was embargoed? For what
14 period of time?

15 A I used to know. Several months, but I don't know how
16 many.

17 Q Okay. Four months sound accurate? Do you dispute
18 that?

19 A I was going to say three or four months.

20 Q We go on in that paragraph ten to say that Mr.
21 Schwarzwaldner claims his herd's reputation has suffered.

22 He has registered Holstein, you said, in the first
23 paragraph, is that correct?

24 A That is correct.

25 Q He gave us an example of his recent experience at a

1 registered cattle auction. He was able to sell a first
2 generation cow for \$1200 and a second generation cow for
3 \$1400 but could only get \$500 for a heifer representing
4 the third generation.

5 And did you understand that to be as a result of the
6 contamination on his farm that his herd suffered? Damage
7 to reputation?

8 A I understood Mr. Schwarzwalders attributed to the con-
9 tamination.

10 Q Did you dispute that?

11 A I have no basis for accepting or disputing.

12 Q You have no basis to understand whatsoever why he would
13 get \$500 for a third generation cow as opposed to
14 1200 and 1400 for --

15 MR. JUNGERHELD: Just a minute, Your Honor.
16 I'm going to have to object. I think perhaps -- this,
17 of course, is all hearsay as to this witness. Perhaps
18 the Jury should be reminded this is not for the truth
19 of the matter asserted but goes to Mr. Papageorge's
20 background and impressions.

21 THE COURT: Is this an objection, Mr.
22 Jungerheld?

23 MR. JUNGERHELD: Yes, it is.

24 THE COURT: Why don't you state the objec-
25 tion?

1 MR. JUNGERHELD: He is asking this witness
2 now to speculate as to these numbers here for the costs
3 of these animals, as I understand it, and I don't think
4 this witness has any foundation to do that.

5 THE COURT: Well, he can answer the question
6 if he does or he doesn't. I think he answered the ques-
7 tion he does not so go ahead.

8 Q Paragraph eleven said that you inspected the old silo.
9 That's the one that we're referring to with the PCB in
10 it?

11 A That's the one that I was told had the PCB in it.

12 Q That the coating on the top unused 10 feet was intact.
13 The remaining surface had very little evidence of any
14 remaining coating.

15 What color -- how could you characterize what that
16 coating looked like at the top 10 feet?

17 A It was the color of the brown wall behind us.

18 Q And you took some samples, many sized samples of the sur-
19 face and a piece of the concrete framing, one of the
20 side openings were taken for analysis.

21 Did you take that?

22 A Yes.

23 Q What did you put the samples into?

24 A I had with me laboratory sample bottles.

25 Q So when you went to the farm you went with the intention

1 of taking samples, is that correct?

2 A I hoped to have an opportunity to take samples, yes.

3 Q You don't typically travel with sample bottles with

4 you?

5 A No, I don't.

6 Q You didn't come up here with sample bottles?

7 A Not this time.

8 Q And you go on to state that you also took samples --

9 this is within paragraph twelve, of the old silage near

10 the wall and at the center were taken for analysis,

11 correct?

12 A That is correct.

13 Q And then you asked in paragraph thirteen for samples

14 of current milk production several times. How long were

15 you there?

16 A Four to six hours. A good part of the day.

17 Q And how many times did they milk while you were there?

18 A I was never taken near the milking operation. I just

19 didn't see any.

20 Q Okay. That they simply told you, or you understood from

21 Mr. Schwarzwaldner each time you were told the truck had

22 just emptied the system and none was available?

23 A That's what I was told.

24 Q Then you went on, Mr. Papageorge, within paragraph

25 fourteen and you state you took another sample from the

1 silage from a new silo and why did you take one from the
2 new silo?

3 A. Well, I wanted to make certain that I had something
4 that I could compare between new and old and to make
5 certain that the PCB's weren't found throughout his
6 operation.

7 Q. You took it from the conveyor located at the bottom of
8 the silo, correct?

9 A. Yes.

10 Q. You didn't climb up on that new silo and go up on the
11 top and take any out, or go into one of the silo doors?

12 A. This was one of those new blue silos. It didn't seem
13 like there was a good way to get into it.

14 Q. Probably glass lined and sealed then?

15 A. Yes.

16 Q. Paragraph fifteen you state that you attempted to dis-
17 cuss with Mr. Schwarzwaldner possible ways in which he
18 felt he and others like him could be helped, is that
19 right?

20 A. That's correct.

21 Q. Mr. Schwarzwaldner expressed to you he had suffered
22 economic damages, is that right?

23 A. Well, he didn't use those words. He implied about his
24 loss of animals and --

25 Q. Did he express to you the best way to help him would be

1 to pay him for his losses?

2 A. That never came up.

3 MR. JUNGERHELD: Your Honor, may we approach
4 the bench for just a moment?

5 (Whereupon a discussion was held at the
6 Judge's bench.)

7 THE COURT: Members of the Jury, retire to
8 the Jury Room.

9 (Whereupon legal argument ensued out of the
10 presence of the Jury.)

11 (Whereupon the Jury was returned to the
12 Courtroom.)

13 THE COURT: Be seated please.
14 Go ahead.

15 MR. WOODWORTH: Thank you, Your Honor.

16 Q Mr. Papageorge, still referring to the Schwarzwald
17 matter, do you know what was done with his silage?

18 A. No, I don't.

19 Q The next day you visited the Humphrey farm, correct?

20 A. That is correct.

21 Q You told us a little bit about that on your direct
22 examination, and you also wrote a memorandum as a result
23 of that visit?

24 A. That is correct.

25 Q Mr. Papageorge, directing your attention to this one

1 that is dated November 20, but in the introduction you
2 state that your visit was 18th, correct?

3 A. That is correct.

4 Q The day after the Schwarzwaldler visit?

5 Paragraph one refers to the fact that there was PCB
6 content, and I would assume that it was in the milk, is
7 that right?

8 A. That is correct.

9 Q And we refer to levels there, and there's a herd involved
10 that the -- at the Humphrey's, of about 60 that are pro-
11 ducing milk free of PCB, is that correct?

12 I'm sorry. I misread that.

13 There are PCB levels have been reported from .26
14 parts per million to over one part per million from
15 that day to the present. Twenty-one cows of a herd of
16 about 60 are producing milk free of PCB; however, 16 of
17 these have never been fed silage.

18 That's what it says?

19 A. Yes.

20 Q So there's 39 then that were producing milk with PCB
21 in it of the producing herd, is that correct?

22 A. That's right.

23 Q The next paragraph, basically the last sentence, states.
24 "Silage has not been fed to the herd since March, 1970"?

25 A. That's right.

- 1 Q And it says in paragraph three that after testing the
2 water, hay and forage from pastures in which the cattle
3 graze, the source of PCB was isolated to the silage from
4 two concrete block silos which were coated about three
5 years -- it says age, I would imagine it means ago,
6 with Michigan Silos "Cumar" coating.
- 7 A That's what it says.
- 8 Q Why would you put the word Cumar in quotation marks?
- 9 A That represents a quote from someone else using that
10 expression, which didn't fit with my understanding,
11 my knowledge, of the trademark Cumar.
- 12 Q So when you used Cumar within quotation marks you're
13 not talking about the Barrett or Allied Chemical Cumar
14 tradename, is that fair to say?
- 15 A Well, in this case, no.
- 16 Q Talking about the formulation we have been talking about
17 in this trial, or something represented to be a formula-
18 tion something like that?
- 19 A In that formulation, yes.
- 20 Q Then you also referred to how the coating was applied?
- 21 A Yes.
- 22 Q There was no special curing, and the silos weren't filled
23 until after about six weeks?
- 24 A Correct.
- 25 Q Now, paragraph four, Mr. Papageorge, states that both

- 1 silos are -- the silos are both of open top construc-
2 tion, and that would be they don't have roofs on
3 them?
- 4 A. That is correct.
- 5 Q. There's no -- one is covered with a rain shield. There's
6 no mechanical devices in the silos. And then you go on
7 to discuss the methodology of unloading and the type of
8 silage that were in the silos?
- 9 A. Correct.
- 10 Q. Incidentally, would you go back to the beginning of this?
11 This is copied to J. Mason. Who is J. Mason?
- 12 A. Mr. Mason was the assistant general manager under whom
13 the plasti -- I'm sorry, the PCB, the Aroclor business
14 reported.
- 15 Q. And Mr. Bergen, or Bergen --
- 16 A. Mr. Bergen was the director of the business group which
17 sold Aroclors.
- 18 Q. And R.E. Kelly would be Dr. Kelly who's testified?
- 19 A. That's correct.
- 20 Q. And E. Wheeler would be Elmer Wheeler who we've referred
21 to as being in the Medical Department?
- 22 A. That is correct.
- 23 Q. And P. Park would be --
- 24 A. Environmental counsel. Attorney.
- 25 Q. Attorney? Okay.

1 Going on to the second page of this memorandum, Mr.
2 Papageorge, you state in paragraph five apparently there
3 were no unusual reproduction problems?
4 A That's correct.
5 Q Is that significant to you for you to point that out?
6 A Yes. They differed from my understanding of the pre-
7 vious day's visit.
8 Q Okay. And was it your understanding that PCB's could in
9 fact cause reproduction problems? -
10 A I -- at that point in time I did not know enough to make
11 a judgment.
12 Q Nevertheless you considered it significant enough that
13 there were no PCB problems or reproduction problems to
14 point that out in its own separate paragraph within your
15 memorandum?
16 A Because it differed from the Schwarzwalders information.
17 Q And the Humphreys -- how much of the year did they
18 pasture their cattle? Do you know?
19 A I do not know.
20 Q Did you discuss that with them?
21 A I don't remember discussing that, no.
22 Q And apparently in paragraph six you refer to the
23 Humphreys being very bitter about their losses, loss of
24 income in fact?
25 A Yes.

1 Q And so you were made aware in this particular instance
2 that there was economic damage to the Humphreys?
3 A That is right.
4 Q And the rest of the paragraph refers to Dr. Hill and
5 Mr. Smuck, and generally complications that they had
6 and problems with the state, is that correct?
7 A That's correct.
8 Q And in paragraph seven, the end of the first paragraph
9 it was indicated by the Humphreys and Mr. Smuck that
10 they wouldn't use an old silo regardless of the treatment
11 it might be given. And do you know why they stated
12 that? The first sentence of paragraph seven?
13 A No, I don't.
14 Q Paragraph eight you asked here to take some samples to
15 help study the total problem and they offered to provide
16 you samples only if you shared the analytical results
17 with them?
18 A That is correct.
19 Q And you already had taken samples from the Schwarzwalden
20 farm the previous day, is that correct?
21 A That's right.
22 Q And you go on to say here that this posed a question we
23 had not resolved for other similar requests.
24 Now, who are you referring to? We had not resolved
25 --

1 A I'm referring to the people at the top of the first
2 page of the memorandum.

3 Q Okay. But under the circumstances you decided to share
4 the data with them, is that right?

5 A That is correct.

6 Q Mr. Papageorge, isn't it correct that you never did share
7 the data with them?

8 A That's not true.

9 Q You're saying you did send the data to them? The test
10 results?

11 A Let me think.

12 Well, I thought we did but could well be that we
13 didn't. It's fuzzy at the moment.

14 Q And the Humphreys in paragraph ten are installing a
15 new glass-coated A.O. Smith Silo which will be placed
16 in service within a week?

17 A That is correct.

18 Q And may we understand that, or did you understand that
19 to be a replacement silo for one of those contaminated
20 silos?

21 A Yes.

22 Q Do you have any idea of the cost of that particular
23 silo?

24 A No, I didn't.

25 Q Mr. Papageorge, with the samples from the Schwarzwaldor

1 farm what did you do with those?

2 A. I gave them to Dr. Tucker in our analytical laboratory.

3 Q. And did he test them?

4 A. Yes.

5 Q. And did you supply Mr. Schwarzwaldner with the results

6 of the tests?

7 A. I don't think so.

8 Q. And with the Humphreys' samples, what did you do with

9 those?

10 A. They were sent to Dr. Tucker's laboratory.

11 Q. And to the best of your recollection, Mr. Papageorge,

12 did you in fact share the results of those tests with

13 the Humphreys?

14 A. As I said earlier I'm at the moment confused. I thought

15 I shared it with them but it could well be that I didn't.

16 Q. Do you possess as of this time those test results?

17 A. Personally, no.

18 Q. Does Monsanto?

19 A. I do not know.

20 Q. What types of claims did Humphreys make as a result of

21 the PCB's being in their silos?

22 I would assume loss of income for loss of produc-

23 tion of milk?

24 A. I was never informed of that. The claims.

25 Q. You were the environmental manager for Monsanto?

1 A. That is correct.

2 Q Are you informed whether or not they did in fact make
3 claims for their losses?

4 A I was aware they had made claims but I was never informed
5 of the details. The particulars.

6 Q That was not of your concern?

7 A That is correct.

8 Q Okay. Who's concern within Monsanto would that have
9 been?

10 A It's a legal matter.

11 Q So you were not concerned whether or not the Humphreys
12 or the Schwarzwalders made claim for any health effects?
13 Any animal --

14 A That's a different question, sir.

15 Q That's what I'm addressing. I'm talking, when I say
16 claims, the whole area.

17 A I'm not aware of any claims made by the Humphreys re-
18 garding animal or human health effects.

19 Q And the Schwarzwalders?

20 A Schwarzwalders, I'm only aware of what Mr. Schwarzwalders
21 told me, and I reflected that in the memorandum we
22 showed previously.

23 Q To your knowledge did these families consume their own
24 products off the farms? Meat and milk?

25 A I don't think we got into that discussion at all. I

1 don't remember that.

2 Q At that particular time when you were visiting these
3 farms were you under the impression that if people were
4 consuming those goods they would in fact be consuming
5 PCB's?

6 A Well, that's the straightforward conclusion, yes. If
7 they are, they are.

8 Q Did you say anything to those people, the Humphreys, or
9 the Schwarzwalders, that in fact if they were going to
10 be consuming their meat, or any dairy products, they
11 would be consuming the PCB's that were in them?

12 A No, I didn't say that.

13 Q Did you ever monitor either one of those families or
14 those farms for any subsequent economic problems, or
15 health problems, either human or animal?

16 A No.

17 Q Mr. Papageorge, can you tell me who a person is by the
18 name of J.R. Orteese?

19 A Yes, I can.

20 Q And who is he?

21 A He is an attorney that at one time was employed by
22 Monsanto Company.

23 Q And did you ever work with him?

24 A Yes.

25 Q And on what types of cases? Or what types -- not

1 necessarily cases. What matters did you work with him
2 on?

3 A Litigation matters.

4 Q Okay. Did any of those concern PCB's?

5 A Some of them, yes.

6 Q Did you ever see answers to interrogatories that he filed
7 in this particular case?

8 A It's been some time ago but as I remember I -- I have
9 seen some answers. But I don't claim to -- I don't
10 know if I saw them -- all answers.

11 Q The file would reflect, Mr. Papageorge, that in fact
12 he answered on his signature and upon his oath on
13 September 19, 1979 plaintiff's interrogatories which
14 I find in this matter on October 5th, 1978.

15 To your knowledge -- to the best of your knowledge
16 Mr. Orteese was authorized to in fact sign those inter-
17 rogatories?

18 A Yes.

19 Q And when he signed those interrogatories to the best of
20 your knowledge was he answering as a representative of
21 Monsanto?

22 A Yes.

23 Q Mr. Papageorge, I'll just read it to you.

24 Question No. 52 --

25 MR. JUNGERHELD: Just a moment, Your Honor.

1 Now, I'm going to object to this procedure. I would
2 assume what Counsel is attempting to do, without knowing
3 absolutely, of course, but I assume what he's going to
4 attempt to do is attempt to impeach Mr. Orteese through
5 Mr. Papageorge.

6 THE COURT: Here, let's wait until he does
7 that, then you can object. I don't think that's been
8 done yet.

9 So go ahead.

10 Q Mr. Papageorge, if you would lift that page there and
11 look at Question No. 53. Down at the bottom of the
12 next page.

13 Mr. Papageorge, if you will look along with me, this
14 questions states, "State whether your company received
15 subsequent to 1965 any complaints, correspondence, or
16 other communication concerning the application for use
17 of Aroclor 1254 and/or Cumar, and whether any injuries
18 or illnesses occurred therefrom."

19 Correct?

20 A That's what it reads.

21 Q Okay. And if you will turn the page, Mr. Papageorge,
22 and look at the answer and just read it to yourself
23 first.

24 Would you consider that answer accurate?

25 MR. JUNGERHELD: Well, I would still object to

1 the procedure, Your Honor. Whether or not it is accurate
2 would be something that I would think would be addressed
3 to Mr. Orteese. Again, it would be an effort, I suppose,
4 to impeach Mr. Orteese through Mr. Papageorge which I
5 don't think is proper procedure.

6 THE COURT: Well, these are answers that were
7 given according to his testimony by Mr. Orteese on be-
8 half of the Defendant Monsanto. So that was Monsanto.
9 That was Monsanto speaking. He's attempting to impeach
10 Monsanto by asking this witness, who is a representative
11 by his testimony in this trial of Monsanto, so I'll
12 allow it.

13 Q And is that answer accurate in your opinion?

14 A To the best of my knowledge it is accurate.

15 Q Okay. And we have four claims you mentioned with an
16 answer to the No. 53, is that correct?

17 A That's what I read here, yes.

18 Q Okay. And in fact there were more than four claims
19 filed subsequent to 1965 for injuries weren't there?

20 MR. JUNGERHELD: I'm sorry. Are we talking
21 about 55 or 53?

22 MR. WOODWORTH: Did I say '55? I meant '65.

23 THE COURT: '65.

24 MR. JUNGERHELD: '65? All right.

25 THE COURT: What does the question say?

1 MR. WOODWORTH: The question number is 53.

2 THE COURT: What is the question again? The
3 interrogatory?

4 MR. WOODWORTH: The question is state whether
5 your company received, subsequent to 1965, any complaints,
6 correspondence, or other communication concerning the
7 application or use of Aroclor 1254 and/or Cumar and
8 whether any injuries or illnesses occurred therefrom.

9 THE COURT: After 1965?

10 MR. WOODWORTH: Yes.

11 THE COURT: To the date of the interrogatories?

12 MR. WOODWORTH: Yes.

13 A I'm not aware of any personal injury or illnesses that
14 could be added to the list in this interrogatory response.

15 Q Mr. Papageorge, that's rather interesting. Because the
16 answer says personal injury, but the question doesn't
17 say a single thing about personal injury, does it?

18 A Well, sir, when you use the word injuries and illnesses
19 I don't associate that with test animals, birds. It's
20 an automatic thought in my mind that it deals with
21 human beings.

22 Q Mr. Papageorge, I'm going to show you Black's Law
23 Dictionary, the revised 4th edition, published by
24 West Company, Page 924, definition of the word "injury".
25 Would you read the first sentence to yourself please?

1 MR. DAVIDSON: Your Honor, are we expecting
2 him to answer on legal materials? This is a legal
3 dictionary. I don't know if there's a proper foundation
4 that he knows the legal description of what terms or
5 claims is. I don't think a proper foundation has
6 been supplied.

7 MR. WOODWORTH: He already knows what Mr.
8 Orteese said in the interrogatories. I'm asking this as
9 to what the word injury entails.

10 MR. JUNGHERELD: Your Honor, he is not giving
11 a dictionary -- or a definition out of Black's Law
12 Dictionary. I don't know that he knew any definition
13 out of Black's Law Dictionary, or is dispositive of
14 the issue. The interrogatory doesn't say as defined in
15 Black's Law Dictionary it asks about injuries, or ill-
16 nesses. He can answer to what he understood that
17 means. I object to this kind of procedure. I think
18 we are wandering once again far afield.

19 THE COURT: I'll sustain the objection. He
20 hasn't been qualified as an expert in the field of legal
21 terminology, or law for that matter. Perhaps the law
22 dictionary is not relevant to that inquiry. So I'll
23 sustain the objection.

24 Q When you look at this question when it says injury or
25 illness, Mr. Papageorge, then you interpret the word

1 injury just to mean to a human being, is that correct?

2 A. That is correct.

3 Q And that would exclude any type of injury to animals?

4 A. That is correct.

5 Q And any type of injury to property?

6 A. That is correct.

7 Q And any type of injury to reputation?

8 A. Right.

9 Q Okay.

10 A I just don't think that way with that word.

11 Q Apparently Mr. Orteese didn't think that way either,
12 would you agree?

13 A I can't speak for Mr. Orteese.

14 Q Mr. Papageorge, subsequently there was, on January 11,
15 1983, we submitted to you a notice to produce documents,
16 and this is my copy of it, but I'll just ask you to
17 look at Paragraph 5, would you please, in that notice?

18 A I have read it.

19 Q And I'm going to show you your answer to it. If you'll
20 read your answer to Paragraph 5 please.

21 A I have read it.

22 Q And now, I'll direct your attention, Mr. Papageorge, to
23 the attachment you referred to within your answer to
24 No. 5. It's longer paper. You'll have to go back this
25 way. A page before that.

1 Now, if you will glance over to those names?

2 MR. JUNGERHELD: Your Honor, we haven't yet
3 been able to locate these documents. There have been,
4 of course, a large number of interrogatories and answers
5 to them. I wonder if we might be permitted to see that
6 before the witness testified any further about it?

7 THE COURT: Why don't you let him see it?

8 MR. WOODWORTH: Questions, answers, or both?

9 MR. JUNGERHELD: Both. We don't have either
10 of them.

11 THE COURT: Both.

12 MR. WOODWORTH: Did you already look at it?

13 THE WITNESS: Yes.

14 THE COURT: No. 5.

15 MR. JUNGERHELD: Your Honor, for the record
16 it's my recollection that the responses here were pre-
17 pared during the course of Mr. Papageorge's deposition in
18 my office. This particular copy is not signed and I do
19 not recall if he signed a copy or not. So I'm not cer-
20 tain what the procedure here is. But if there's a
21 signed copy I suppose we should procedure on that one.

22 THE COURT: Ask him if that's his answer. If
23 he says it is not we'll have to find out if it is or
24 not.

25 Q Are these your answers to these questions?

1 THE COURT: In 5 specifically.

2 Q In 5. The answer there and the attachment.

3 A Well, the answers were drafted by Counsel for my review.
4 I recall looking it over and taking their advice and I
5 assumed that that was an accurate list. I don't have
6 all the information at my disposal to be able to provide
7 the answers personally.

8 Q May we consider that about the rest of your answers and
9 all the answers supplied in this case? They may not
10 be complete because there's no information at your
11 fingertips?

12 A That is not a good assumption, no.

13 Q All right. Now, which one should we consider otherwise,
14 Mr. Papageorge, in those answers? All of them, or No. 5?

15 A I haven't had a chance to look at the other answers. If
16 you wish I can.

17 Q And also the other interrogatory answers you supplied,
18 Mr. Papageorge, if they are not complete.

19 A I'm not saying they are not complete. And you're
20 assuming they aren't complete.

21 Q Yes, I am.

22 A Well, what was your question?

23 Q Looking at No. 5, that is what you're saying, the informa-
24 tion you gave at that time, and you believed it to be
25 accurate at the time you gave it?

1 A To the best of my knowledge that is accurate, yes.

2 Q If you will look at No. 5, Mr. Papageorge, the attach-

3 ment?

4 A All right.

5 Q And if you look through there do you see any claim written

6 written down there on behalf of Steven and Mary Skolosh?

7 S-k-o-l-o-s-h.

8 A I see no such name.

9 Q Are you aware of Mr. and Mrs. Skolosh?

10 A No.

11 Q Did you ever answer in a deposition, more precisely

12 the Bethlehem Mink case?

13 A I just do not remember that name at all.

14 Q Okay. You were given interrogatories in the Bethlehem

15 Mink case and answered some to the best of your re-

16 collection?

17 A To the best of my recollection, yes, sir.

18 Q Looking over that list today, that was dated, I assume,

19 January, 1983, your answers there, are there other claims

20 that you can think of now that aren't in that list?

21 A I do not know your definition of claims. It may well

22 be different than mine.

23 Q Let's say if someone gets ahold of Monsanto and says I

24 have had to pour out milk because of my contaminated silo,

25 I consider that a claim. Did you hear anything like

1 that?

2 A. Well, we had a reference here to the Humphreys' farm.

3 Q. But Humphreys are referred to within that aren't they?

4 A. Yes, they are.

5 Q. Would you look that over, Mr. Papageorge, and tell me if
6 you see any claim on behalf of Kenneth Baldwin listed
7 on that list?

8 A. I do not see the name Kenneth Baldwin.

9 Q. Please look at the rest and see if you have a claim on
10 behalf of Loren and/or William Dillman? D-i-l-l-m-a-n.

11 A. I do not see the name -- last name Dillman.

12 Q. Would you look the list over and see if you see a claim
13 by the name of Dean Speicer? S-p-e-i-c-e-r.

14 A. I do not see the name Speicer.

15 Q. Do you see a name therein Jones?

16 A. No.

17 Q. Do you see a name in there Barnes?

18 A. No.

19 Q. Mr. Egan testified as to claims made by Speicer and Jones.
20 Did you review the summary of his testimony wherein
21 those claims were referred to?

22 A. I saw those names in the summaries.

23 Q. There was also -- I think you made reference to either
24 Dillman, or Baldwin. He had Humphrey, Baldwin, Speicer,
25 Schwarzwalder and Jones.

1 A. I recall seeing those names in the summary.

2 Q Are you aware that those people did in fact make claims
3 against Monsanto for losses that they incurred as a re-
4 sult of having PCB silos?

5 A. No, I'm not.

6 MR. JUNGERHELD: Your Honor, I'm going to
7 object to the form of that question. That's Counsel
8 testifying. That is assuming that which I don't think
9 there's testimony to support.

10 MR. WOODWORTH: I think there is testimony.
11 There's testimony of Mr. Egan that claims were made and
12 Monsanto -- apart -- there is testimony from Dr.
13 Willett's deposition as to some of these claims. There's
14 testimony primarily from Mr. Egan as to these people, and
15 in these answers in his notes.

16 MR. JUNGERHELD: Your Honor, Mr. Egan testi-
17 fied he worked for the Michigan Silo Company in
18 Massillon, Ohio, not for Monsanto. Dr. Willett's deposi-
19 tion was not introduced as far as I know nor was he ask-
20 ed about anything like this. Mr. Egan did not testify
21 about claims against Monsanto. Maybe he did about
22 claims against Michigan Silo. But that's a different
23 question that was asked of this witness, and a different
24 question asked of these documents here.

25 THE COURT: Do you have a response to the

1 objection?

2 MR. WOODWORTH: Yes, Your Honor.

3 What I can do is --

4 Q (By Mr. Woodworth, continuing:) If claims are made
5 against Monsanto, Mr. Papageorge, who receives them?

6 A Would you define claims again?

7 Q I'll define claims as saying people who may have had
8 economic or animal losses, or milk losses, or silage
9 losses, or silo losses during the earlier 1970's on
10 their farms as a result of having PCB's in their silos.

11 Now, these people would have had losses and if they
12 contacted Monsanto with a claim, one man or another,
13 to whose attention would that be directed?

14 A It could go either to an attorney, or it could come to
15 my office, or it could go to Dr. Kelly's office, or it
16 could even go to the Marketing Department's offices.

17 Q No one place for sure, is that correct?

18 A That is correct.

19 Q But may we assume that it would also end up at one
20 place if there was in fact a claim for money? That
21 people wanted some money would it end up in the Legal
22 Department?

23 A If it went that far, yes, certainly.

24 Q Okay. And if it in fact turned into litigation it would
25 end up in the Legal Department, wouldn't it?

1 A Obviously, yes.

2 Q Okay. Now, if it was in fact someone had made a claim
3 in that sense against Monsanto asking for money for
4 losses would legal necessarily inform you of it, or would
5 they take care of it themselves?

6 A They may, or they may not inform me. And it would vary
7 from case to case.

8 Q So you, as environmental control officer of Monsanto,
9 would not necessarily be made aware of all those claims
10 that are coming in, is that correct?

11 A That is correct.

12 Q Okay. So when you sit here and testify, Mr. Papageorge,
13 about the lack of effects and the lack of claims and the
14 lack of problems out of Ohio, you don't really know
15 because you do not -- you are not cognizant about the
16 claims that were made, is that correct?

17 A I only know what I can see, hear, feel, touch and the
18 like.

19 Q Okay. Now, if we wanted to know about all the claims
20 that were made what would we have to do? Contact someone
21 from legal and put them on the witness stand, or what?
22 Is there some one person at Monsanto we could go to and
23 say tell us about every single claim that was made in
24 the early 1970's regarding PCB silos?

25 A I don't know that there's any one person. I suspect

1 you may have to talk to several. I would start with
2 legal. If that's a good starting point.

3 Q I'm going to show you Plaintiff's Proposed Exhibit No.
4 425 and ask you if you have ever seen that before?

5 A I don't recall this at all.

6 Q Can you identify it for the record, please?

7 MR. JUNGERHELD: Wait a minute. He does not
8 recall that. This can't be admitted, then, into evidence,
9 through this witness at least, and I would object to
10 that procedure.

11 MR. WOODWORTH: I think it's very relevant,
12 Your Honor. In fact it is a certified document and
13 it's relevant insofar as what this witness doesn't
14 know.

15 MR. JUNGERHELD: Well, I'm going to object
16 to the procedure into the statements of Counsel, Your
17 Honor. I think this witness can testify as to what he
18 knows. He either recognizes the name, or he does not
19 recognize the name. I object to this exhibit as being
20 irrelevant to any issues in this lawsuit and if Counsel
21 intends to pursue the matter then I would suggest that
22 we take up this issue with the Court.

23 MR. WOODWORTH: By way of response, Your
24 Honor, Mr. Papageorge testified yesterday that everything
25 was well in hand in Ohio.

1 THE COURT: Well, I think you have
2 adequately covered that area and as correctly stated his
3 testimony was that he hasn't seen that document before.
4 He was totally unaware of it. So I'll sustain the ob-
5 jection to its admission.

6 Q (By Mr. Woodworth, continuing:) I may have said this,
7 but may we, just to clarify it, Mr. Papageorge, may we
8 understand, then, there could have been a number of addi-
9 tional claims filed against Monsanto for a number of
10 types of losses that you may not be aware of?

11 MR. JUNGERHELD: Objection again. Asked and
12 answered. And certainly irrelevant as to a number of
13 types of losses. Of what, somebody slips on the --

14 THE COURT: Why don't you be more precise
15 as to specifically what? As a result of what? And I
16 will allow you to ask the question.

17 MR. WOODWORTH: I'll clarify the question,
18 Your Honor.

19 Q Talking about losses, Mr. Papageorge --

20 MR. JUNGERHELD: Your Honor, I'm going --
21 just a minute. I'm going to object to this procedure.
22 Now Counsel just took in an effort to prejudice the Jury,
23 he just took an exhibit, the admission of which --

24 THE COURT: Put that away, Mr. Woodworth.
25 We're not not going to allow that to come in.

1 Go ahead.

2 MR. WOODWORTH: Okay.

3 Q Mr. Papageorge, I'm talking about claims made by
4 farmers, first of all. Those are the class of people
5 we are talking about. Claims made as a result of having
6 PCB's within their silos. That's the route of the claim.
7 So we have the farmers as claimants, the route of the
8 claims being PCB in their silos, and the types of claims
9 being made are for economic losses as a result of those
10 PCB's being in their silos. Economic meaning loss of
11 income, loss of profit, loss of reputation, incurred
12 expenses as having to build substitute facilities.

13 Now, may we understand it, Mr. Papageorge, that you
14 in your position at Monsanto would not necessarily be
15 cognizant of all claims made for those purposes in the
16 early 1970's?

17 A That is correct.

18 Q Now, may I expand it. The same group of people, the
19 same route of the problem, PCB silos, and let's take it
20 into animal health effects. Not necessarily economic,
21 but although the damages may have -- or the claims may
22 have been for money. The route of the claim being health
23 effects of animals as a result of PCB silos. May we
24 understand it that you would not necessarily be cognizant
25 of all claims made against Monsanto from the 1970's for

1 PCB silos?

2 A If I understand your question correctly, and I'll try to
3 respond, if the claims were translated into monetary
4 numbers, dollars of value, the chances are that I would
5 not be informed, necessarily.

6 Q Okay.

7 A If the claims were an attempt to share with me some new
8 information and the discussion centered around the
9 observed effects on some animal, the chances are fairly
10 good that I would eventually hear about it. Perhaps
11 after our Medical Department heard about it.

12 Q Let's take the first of the two, Mr. Papageorge.

13 When someone filed a claim and said they wanted some
14 money for the loss in relation to animals, you're
15 saying you might not necessarily hear of that claim, is
16 that correct?

17 A That is correct.

18 Q Okay. And if someone filed a claim, Mr. Papageorge,
19 in the first two categories we already mentioned,
20 strictly economic, and if they appended to that a claim
21 for money for animal injury, and if they appended to
22 that additional the third factor of any human injury,
23 or ill health, or health effects, may we understand it
24 that you might not necessarily hear of that if the person
25 was requesting money for those health effects?

1 A That is correct.

2 Q I'm going to direct your attention back to these requests
3 to produce documentation, and this is your response to
4 Item No. 5 and the attachment to the response. Correct?

5 A It appears to be a copy of something that was put
6 together. I see no signature. No evidence that it was
7 the final draft.

8 Q Okay. There appears a place, although we don't have it
9 on there, on Page 4 there's a place for you to sign, and
10 in fact a notary clause?

11 A Yes.

12 Q In fact it has the name of the notary down there but it
13 isn't signed. An Ann Gorman of Saginaw?

14 A Yes.

15 Q Do you know who Ann Gorman is?

16 A Yes. I think I met the lady, yes.

17 Q Where?

18 A In Mr. Jungerheld's office.

19 Q Okay. And in answer to Question No. 5 you refer us to
20 an attachment. I don't know if those specific words --
21 yes. A list is attached.

22 A Yes, it says so.

23 Q Now, going to that list there are a number of claims
24 listed, correct?

25 A There are names and address listed.

- 1 Q Okay. Now, what there is, there is two -- I'd like to
2 direct your attention to this one, Bloomfield Silo,
3 on December 1970. Can you tell us of what that claim
4 amounted to?
- 5 A I know nothing about it.
- 6 Q Okay. And where does it have an address of Bloomfield
7 Silo?
- 8 A It has Bloomfield, Indiana, zip code, 47424.
- 9 Q Mr. Papageorge, would you agree there was a certain risk
10 involved in 1970 with having -- one having their silo
11 coated with Cumar containing Aroclor 1254?
- 12 A I don't know what you mean by certain risk?
- 13 Q Okay. Any type of risk?
- 14 A There seemed to be evidence that in some isolated cases
15 problems could occur, yes.
- 16 Q And didn't some of these claims that were coming in in-
17 dicate to you that there might be a risk of these people
18 having Cumar painted silos with Aroclor 1254 in the Cumar?
- 19 A You must remember, Mr. Woodworth, I was only aware of
20 two farms in Ohio and some reference to many more silos
21 are out there that could or could not contain the coating
22 called Cumar. So the information I had did not give
23 me any feeling or any understanding that this was a
24 widespread problem of great concern.
- 25 Q This claim made by Bloomfield Silo Company in December

1 of 1970, when you say you're only aware of two farms with
2 silos, that's excluding Bloomfield Silo Company?

3 A. That is correct.

4 Q. Could you tell us how many claims or how many farms or
5 how many silos the Legal Department was aware of in
6 1970?

7 A. Oh, I don't know.

8 Q. In 1971 can you tell us how many additional besides those
9 ones you stated within the motion to produce? Above and
10 beyond that that the Legal Department was aware of?

11 A. I don't know what the Legal Department was aware of in
12 '71. I had mentioned earlier our discussions with the
13 president of Monteagle Silo Company and his activities
14 in cleaning up silos that his company had erected, con-
15 structed, coated. That's the new piece of silo informa-
16 tion I had.

17 Q. And let's go back to the -- did you have any piece of
18 silo information from Bloomfield Silo Company?

19 A. I never heard of Bloomfield Silo Company until recently.

20 Q. Are you aware of the position of the State of Michigan
21 insofar as PCB silos are concerned?

22 A. I believe I have an understanding of some recent activities
23 in the State of Michigan, yes.

24 Q. Would you consider a silo in which PCB is painted, con-
25 taminated in any amount, regardless of what amount is in

1 the silo?

2 A If by contaminated you mean PCB's are present on the
3 silo wall?

4 Q Inside.

5 A Yes. I'd have to agree by definition it would be con-
6 taminated. I don't know if that's the meaning you had
7 intended.

8 Q I'm going to show you what's been marked as Defendant's
9 Exhibit 426, and asking not too much the first page, but
10 this particular page, have you seen this before? Or
11 are you aware of this?

12 A I was aware of some of the information that I have read
13 and read in this document, but I have not seen this par-
14 ticular document.

15 Q You're aware of some of the information within it?

16 A Yes.

17 Q And what does that -- and what is that to you?

18 MR. JUNGERHELD: Might we read it first,
19 Your Honor.

20 THE COURT: All right.

21 Why don't we take a 10 minute recess. We'll reconvene
22 at five after three.

23 (Whereupon at 2:55 o'clock P.M., a recess
24 was taken.)

25 (Whereupon legal argument ensued out of the

1 presence of the Jury.)

2 MR. WOODWORTH: May I ask the witness of what
3 matters within this document he is aware of?

4 THE COURT: Go ahead.

5 Q (By Mr. Woodworth, continuing:) Mr. Papageorge, showing
6 you this, you said before the break that you were aware
7 of a number -- or something along those lines, things
8 within that document.

9 Can you tell us which ones?

10 A I'll try to recall. My information came from trade
11 literature, newsletters, and the like, and then because
12 of the nature of my source, it was rather sketchy, but
13 I was aware of --

14 MR. JUNGERHELD: A further objection would be
15 that then as to this witness he is being asked to give
16 hearsay information that came to him from apparently
17 some newspapers or magazines or something like that.

18 THE COURT: I'll allow it. He said he is
19 aware of it. I'll allow it.

20 A I was aware of paragraph one, paragraph two, paragraph
21 three, paragraph five, and the final notes designated
22 here as rule one and rule two.

23 MR. WOODWORTH: Your Honor, I would again
24 move for its admission. I would think that is sufficient
25 basis for this witness to testify from.

1 MR. JUNGERHELD: We would still object.
2 It's got nothing to do with any issues in this lawsuit
3 as to what occurred sometime in 1983.

4 THE COURT: I still don't think it's admis-
5 sible because if it's to impeach him, it might be, but
6 it's not. Just because he is aware of something, it
7 doesn't make it admissible.

8 So I will sustain the objection.

9 Q Mr. Papageorge, at one point in time during your
10 examination did you state, and I'm not sure if I got it
11 right, that you were not aware or Monsanto was not aware
12 of any PCB's coming out of silo coatings.

13 Did I have that right or is that completely mixed up?

14 A Well, I'd have to know at what point in time.

15 Q I think it was, Mr. Papageorge, in response to Mr.
16 Jungerheld's last question to you on direct.

17 A Could you refresh my memory, please?

18 Q Well, that is what I'm trying to do. I think there was
19 a question along the line of was Monsanto ever aware
20 of any PCB's coming out of silos, I think, I'm not sure.

21 Do you recollect testimony along that line?

22 A Not that way, I don't, no.

23 Q Mr. Papageorge, you are aware that in 1973 there were
24 some federal rules and regulations enacted to the pre-
25 sence of PCB's in food?

1 A. Yes.

2 Q. And can you just briefly capsule or summarize what
3 those rules and regulations were?

4 A. These were rules promulgated by the Food and Drug Adminis-
5 tration and designated the tolerance levels for PCB's
6 in a list of food and animal feed items. I don't believe
7 I remember all of them, but I remember milk on a fat
8 basis was 2.5 parts per million; animal feed, .2 parts
9 per million; baby food, .2 parts per million.

10 There was reference to packaging materials. I have
11 forgotten the level permitted. Fish, if my memory
12 serves me right, 5 parts per million. I can't recall
13 any others, but it seems to me I've missed a couple
14 yet.

15 Q. In 1976 the Toxic Substance Control Act was passed. I
16 think we've established that throughout your testimony.

17 Are you familiar with this?

18 A. Yes, I am.

19 Q. And I think I even already asked you, I'm jumping ahead
20 a little bit, made for the phase-out of certain toxic
21 substances or the control of certain toxic substances
22 in our society and environment, is that correct?

23 A. That is correct.

24 Q. And was PCB referred to within that act?

25 A. Yes.

1 Q And it was referred to by name, polychlorinated biphenyls?

2 A Yes.

3 Q And subsequent to the passage of the 1976 Toxic Substance

4 Control Act, were there additional federal legislation

5 or federal rules or regulations enacting additional or

6 further tolerance levels of the presence of PCB's in

7 foods?

8 A Since I haven't been involved intimately with PCB's here

9 recently, I really don't recall if there is any changes

10 in those foods levels.

11 Q How about right now? Are you aware of any changes, for

12 example, in fish, that might have even occurred recently?

13 A No.

14 Q There was testimony, I believe, by one or more, perhaps,

15 of the Defendant's witnesses, that the level in fish

16 was 5 parts per million, correct?

17 A That has been that level all along, yes.

18 Q Are you aware of whether there was any application for

19 a reduction in that level?

20 A I don't know your use of the word "application." There

21 have been discussions addressed to the possible lowering

22 of that level back in prior to 1976.

23 Q Did you read a summary of testimony of Dr. Harbison who

24 testified for Monsanto?

25 A Yes, I did.

1 Q And did you read a summary of the testimony of Dr.
2 Zimmerman who testified for Plaintiffs?

3 A Yes.

4 Q And do you recall that both of them addressed the --
5 at one time in their past, they had both addressed the
6 matter of the levels of PCB's within Great Lakes fish?

7 A Yes.

8 Q And are you aware of their respective positions as to
9 the levels?

10 A Not specifically, no. In terms of numbers, no.

11 Q Would it be fair to say in general terms that Dr.
12 Harbison supported the 5 parts per million and Dr.
13 Zimmerman supported the lower?

14 A I don't remember the exact numbers but that's a proper
15 way to put it, yes.

16 Q Mr. Papageorge, in your direct examination in answer to
17 Mr. Jungerheld, and I might have been confused about your
18 answer, I had understood a question and answer being
19 along the lines of up to 1975 were there any federal
20 rules or regulations regarding PCB's.

21 Was there a question of that nature?

22 A I don't recall that question.

23 Q Then let me ask you, and I already -- I believe I just
24 did. There were rules and regulations regarding PCB's
25 prior to 1975, weren't there?

1 A. Yes, that is the one we just discussed.

2 Q. Would it be fair to say, Mr. Papageorge, that the
3 tolerance levels, the limitations enacted by the federal
4 government over the years from 1973 to present, have con-
5 sistently gone down?

6 A. I think most of the regulations in '73 are still in
7 place.

8 Q. Has milk gone down from 2.5 to 1.5?

9 A. There was some talk about lowering it to 1.5. I don't
10 know if that's ever been promulgated.

11 Q. Are you aware or have you ever had any contact or
12 communication with a Dr. Simon that was involved with
13 National Cash Register in the late 1960's. Dr. Sheldon
14 Simon.

15 A. I don't remember the name. I did talk to NCR people.

16 Q. Did NCR purchase from Monsanto carbonless carbon paper?

17 A. No.

18 Q. Did Monsanto make carbonless carbon paper?

19 A. No.

20 Q. Did Monsanto make or sell Aroclors as an ingredient to be
21 used in carbonless carbon paper?

22 A. That is correct.

23 Q. And did NCR, were they one of the companies that pur-
24 chased this material?

25 A. Yes.

1 Q And they used Aroclors in the manufacture of carbonless
2 carbon paper?

3 A Yes.

4 Q And did they ever have any problems with it or any
5 research or information that they conveyed to Monsanto
6 in the late 1960's?

7 A I'm not aware of any problems in that application. I'm
8 aware that they had a patent calling for the use of PCB's
9 in the manufacture of the coating that is applied to
10 carbonless copy paper, and they approached Monsanto
11 as a supplier of that PCB ingredient.

12 Q Was there ever a tolerance level for PCB's in carbonless
13 carbon paper enacted, to your knowledge?

14 A No.

15 Q Not one within the EPA regulations? As waste paper?

16 A EPA, no.

17 Q Are you aware that the EPA has a classification for
18 PCB's as to possible health effects?

19 A I'm not aware of it appearing on any list as a classifi-
20 cation, no.

21 Q Are you aware of the carcinogenic assessment group of
22 the EPA?

23 A Yes.

24 Q And what is their position on PCB's?

25 A If I remember correctly, it's a suspect animal

1 carcinogen.

2 Q Did you review Dr. Hartung's testimony?

3 A I saw his summary of it.

4 Q And within that he referred to certain water quality

5 data or information that he had in writing.

6 A Yes.

7 Q And do you recall my examination of him saying that there

8 was statements within there that the carcinogenic

9 assessment group of the EPA considered PCB's as a likely

10 human carcinogen?

11 A I think I recall those words, yes.

12 Q Would you consider that an accurate representation?

13 A Representation of what?

14 Q That the carcinogenic assessment group of the EPA con-

15 siderers PCB's a likely human carcinogen?

16 A I'm not aware that they have officially gone on record

17 with that assessment.

18 Q Did you participate in the NIOSH, what we would call

19 symposium, meeting, in 1976, '77?

20 A Oh, that was a review panel to critique a document

21 that NIOSH was preparing on PCB's, referred to as the

22 PCB criteria document.

23 Q And there was a fair amount of input into that document,

24 wasn't there?

25 A By whom?

- 1 Q By scientists and by industry and by the government?
- 2 A Oh, yes.
- 3 Q That is what I meant when I said a fair amount.
- 4 Was there other people?
- 5 A I think you've covered all the categories.
- 6 Q And was there a publication resulting from that?
- 7 A Eventually the document was published.
- 8 Q Was that a NIOSH criteria for recommended standard for
- 9 occupational exposure to polychlorinated biphenyls?
- 10 A That sounds right, yes.
- 11 Q Now, there's been some testimony throughout this case,
- 12 in the direct case, as to NIOSH's statements regarding
- 13 PCB's.
- 14 Did you read summaries or testimony regarding that?
- 15 A I believe I recall some reference, yes.
- 16 Q And there are references in the NIOSH background to
- 17 their standard of the possibilities of carcinogenicity
- 18 attributable to PCB, is that correct?
- 19 A Yes.
- 20 Q And mutagenicity?
- 21 A I don't recall mutagenicity.
- 22 Q Teratogenicity?
- 23 A I don't recall that, either.
- 24 Q Effect upon liver enzymes?
- 25 A Yes.

1 Q And effect upon reproduction?

2 A Yes, of some species.

3 Q Of some species.

4 Was there any reference to silos within the NIOSH
5 criteria or the NIOSH background information setting
6 forth the standards?

7 A I don't recall any reference to silos, no.

8 Q This was more oriented toward the work place, was it
9 not?

10 A That is correct.

11 Q But carcinogenicity, mutagenicity, and teratogenicity,
12 reproduction problems, those were all to be considered
13 when considering the worker in the work place and ex-
14 posure to PCB's?

15 A Yes, as they always are for their criteria documents.

16 Q Mr. Papageorge, have you seen the Defendant, Monsanto's
17 answers to our Plaintiff's request for admissions and
18 interrogatories?

19 A I have seen some documents. I don't know that I've seen
20 them all.

21 Q Dated June 24th, 1982.

22 A I don't remember that specifically.

23 Q There were contained within this document -- in fact,
24 I might even have the document itself.

25 This is the document I'm referring to, on the

1 right-hand side.

2 MR. JUNGERHELD: Your Honor, I'm sorry, could
3 we have again what that is?

4 MR. WOODWORTH: It's entitled Defendant
5 Monsanto's answers to Plaintiff's requests for admission
6 and interrogatories. The document itself is dated June
7 24, 1982.

8 A. Was there a question, Mr. Woodworth?

9 Q. I just wanted you to look at it, first of all, and
10 familiarize yourself.

11 Who responded to that request for admissions?

12 A. There is a space here for Mr. Jungerheld's signature,
13 although the document is not signed.

14 Q. If the original of that document were, in fact, signed
15 as the spaces are set forth to be signed, would you
16 presume then that it was Mr. Jungerheld who, in fact,
17 answered the requests?

18 A. Yes.

19 Q. And at that particular time was he, in fact, acting as
20 attorney on behalf of Monsanto?

21 A. In 1982, yes.

22 Q. And if we can look at this, first of all, on the left-
23 hand side, the requests themselves. That's the requests
24 that we set forth, Mr. Papageorge.

25 And it's directed to the three Defendants in this

1 action, and it's directed to Monsanto Company, is it
2 not?

3 A. Yes.

4 Q. And since it's directed to Monsanto Company and not
5 Mr. Jungerheld, may we suppose that Mr. Jungerheld
6 answered these as a representative for Monsanto Company
7 then?

8 A. Yes, you can suppose that.

9 Q. Mr. Papageorge, would you read just the introductory para-
10 graph as to what these documents are.

11 A. Which --

12 Q. This one here.

13 A. Yes.

14 MR. JUNGERHELD: Your Honor, I fail to see
15 the relevancy of this introductory paragraph or anything
16 else. If he has a question about them, ask the question.

17 THE COURT: Do you have a question?

18 MR. WOODWORTH: The introductory paragraph
19 states what in fact they are.

20 MR. JUNGERHELD: He just told the Jury what
21 they are.

22 MR. WOODWORTH: Well, is the Jury familiar
23 with what requests are to admit and what the nomenclature
24 is?

25 THE COURT: Well, I think this could be

1 speeded up a little bit, perhaps. Why don't you get
2 to the question that you have in mind.

3 MR. WOODWORTH: If I may lead the witness,
4 then, as to what the introductory paragraph is.

5 Q Mr. Papageorge, this introductory paragraph and these
6 requests to admit, would in fact state these are -- we
7 set forth a statement and we ask that it be -- to be
8 admitted or denied. And in the event it's denied, to
9 deny it or answer the questions in relation to it.

10 Is that what you understand from this?

11 A Since I haven't read the document, I have no way I can
12 respond to your question.

13 Q Let's look at Question No. 1. Question No. 1 is asking
14 for the admission that -- and it simply says, does it not,
15 and what we set forth is: Polychlorinated biphenyls
16 are a contaminant.

17 Correct?

18 A That is what it says, yes.

19 Q And would you read the answer, please?

20 MR. JUNGERHELD: Your Honor, I'm going to
21 object to the entire procedure. This witness did not
22 sign these. He is not familiar with these, he just
23 said he never saw these. He was asked on direct -- or
24 not on direct, but he was asked a little bit ago about
25 whether or not PCB's would be a contaminant in a silo

1 if it was on the walls. He answered that specific ques-
2 tion.

3 The question to him here or put here is polychlori-
4 nated biphenyls are a contaminant, period, without any
5 further elaboration whatsoever. And that is, in the
6 first place, an improper question. It doesn't take into
7 account in the electrical industry, for example, or in
8 certain other applications, it does not -- it is not
9 a contaminant.

10 Apparently it's an attempt to impeach this witness
11 with these documents that are not his and he is not
12 familiar with.

13 THE COURT: I'll allow it.

14 Q The question, again, or the admission being asked,
15 Mr. Papageorge --

16 THE COURT: That is all right. There is
17 already a question. The question was the answer.
18 Read the answer.

19 A The answer typed on this page goes as follows:

20 "Response. Denied as stated. This request for
21 admission is also objected to in that it is vague be-
22 cause of the lack of definition of the essential term
23 containment (sic). Plaintiffs are reminded that
24 several witnesses whose depositions had been taken,
25 also were unable to agree with that statement.

1 "Without definition of the term and more precision
2 regarding levels and substances, Monsanto must deny
3 the allegation."

4 Q Okay. Look at Page 2, please. No. 3, the admission
5 asked for is: Polychlorinated biphenyls as a contami-
6 nant have no use in foods, milk, or humans.

7 Correct?

8 A That is what it says.

9 Q Would you read the response, please?

10 A "The response. Denied. See answer to Admission No.
11 1 which we incorporate herein by reference."

12 Q If you will move ahead, Mr. Papageorge, to Admission
13 No. 11.

14 A I have it.

15 Q And the admission requested is that two Michigan silos
16 existed on the premises of the Plaintiff and that the
17 silos were sold and solely constructed by the Michigan
18 Silo Company and/or C & B Silo Company, and that such
19 silos contained Aroclor 1254 and manufactured by Monsanto
20 Company.

21 Correct?

22 A It says Monsanto Chemical Company.

23 Q I'm sorry, Monsanto Chemical Company.

24 Would you read the response, please?

25 A "Denied as stated. The records produced at the Roy

1 "Cole deposition and Plaintiffs' June 27, 1977,
2 answer to Michigan Silo's summary judgment motion,
3 and Plaintiffs' deposition at Pages 28 through 33,
4 inclusive, appear to indicate that one silo was built
5 and one was rebuilt on the Haley farm which con-
6 tained several other silos as well. Monsanto further
7 denies manufacturing the silo."

8 Q Would you then go to No. 13. The admission asked for is
9 that the two Michigan silos on the premises of the
10 Plaintiffs were rendered unusable because they were coat-
11 ed with a material containing Aroclor 1254 as manu-
12 factured by Monsanto Chemical Company.

13 Correct?

14 A That is the wording, yes.

15 Q And what is the response?

16 A Denied.

17 Q Okay. And if -- we'll go then because there is just
18 the denied, to the next -- to No. 14, the interrogatory.
19 The first, it asks for: State in detail the facts which
20 you base your denial and the reasons for such denial.

21 And would you state the response to that?

22 A "The silos on the Haley farm have been used from the
23 time of construction. Plaintiff continued to use the
24 silos even without recoating which was another
25 alternative available to Plaintiff."

1 Q No. 31, Mr. Papageorge. The admission asked for is
2 that Cumar contains as one of its ingredients Aroclor
3 1254. And the response?

4 A Denied.

5 Q And it goes on to ask in Interrogatory No. 32, Sub-A,
6 state in denial facts upon which you base the denial and
7 the reasons for such denial. And would you state the
8 response, please?

9 A The response is:

10 "Cumar is a registered tradename of either the Neville
11 Chemical Company or the Barrett Division of the
12 Allied Chemical Company and it does not contain
13 Aroclor 1254."

14 Q Going to No. 41, please?

15 A I have it.

16 Q The admission asked for is that said Cumar containing
17 Aroclor 1254 was in the Michigan Silos built on Clayton
18 Gemmell's farm. And the response is?

19 A Denied.

20 Q No. 45, please, that the admission asked for is that
21 the Aroclor 1254 discovered in the blood serums and
22 fat tissues in the cattle on the Haley farm came from
23 the Cumar sealant used on the silos sold by Michigan
24 Silo and C & B Silo Company.

25 The response?

1 A Denied.

2 Q No. 49, please?

3 A I have it.

4 Q The admission requested is that the silos sold to Haleys
5 from the Gemmells contained Cumar sealant which con-
6 tained Monsanto's Aroclor 1254.

7 Response?

8 A Denied.

9 Q And again No. 57, the admission, I take it, might even
10 be a repetitive one, is that Cumar contained polychlori-
11 nated biphenyls, otherwise known as Aroclor 1254.

12 And the response?

13 A Denied.

14 Q Thank you. Mr. Papageorge, are you aware of the IARC
15 monographs? First of all, maybe I should say, are you
16 aware of IARC?

17 A Yes, I am.

18 Q And what is IARC?

19 A I believe I have the right laboratory, I believe it's
20 a research laboratory that does animal toxicity work.

21 Q Would it be, IARC, the International Agency for Research
22 on Cancer?

23 A No, that is a different group. That is an international
24 group that considers the health effects of chemicals.

25 Q And do you know what IARC's position is insofar as PCB's

1 and their toxicity is concerned, toxicity to animals
2 and humans?

3 A I believe they take the position that it is a likely
4 carcinogen.

5 Q And do you know what position they take as to its effect
6 upon the immune-suppression system or immunology?

7 A I haven't studied that part of their reports, so I'm
8 not knowledgeable of their position.

9 Q Are you knowledgeable of their position insofar as
10 endocrine effects are concerned?

11 A No.

12 Q Reproductive?

13 A No.

14 Q Metabolism effects of PCB's?

15 A No.

16 Q Mr. Papageorge, are you aware of the National -- or the
17 United States Department of Commerce, National Technical
18 Information Service report on carcinogens in December of
19 1981?

20 A I have had occasional opportunity to be aware of it,
21 yes.

22 Q And have you encountered it or become partially aware of
23 it in your pursuance of their duties for Monsanto?

24 A Yes.

25 Q And do you know what their position is as to the toxicity

1 of PCB's in relation to animals?

2 MR. HAHN: I think I'm going to object. I
3 think this calls for hearsay. It calls for this witness
4 to bear a fact what some other organization may have
5 said and it's clearly hearsay.

6 THE COURT: Isn't it already in or is it --

7 MR. WOODWORTH: I think it is in on direct.

8 THE COURT: So I'll allow it.

9 Q Do you recall the question, sir?

10 A Yes, I do. I believe the proper expression is suspect
11 animal carcinogens.

12 Q And what is the purpose of this group, to your knowledge?

13 A Which group, sir?

14 Q The National Technical Information Service and their
15 National Toxicology Program. Is it to ascertain toxicological
16 effects of chemicals on humans?

17 A It's two-fold. One is to gather all available information
18 regarding carcinogenic effects on humans. The other
19 is to conduct any necessary studies to obtain further
20 information.

21 Q Do they deal only with carcinogenicity?

22 A At the moment, yes; currently.

23 Q Mr. Papageorge, during the pendency of this action, do
24 you recall getting some requests for production of
25 documents directed to Monsanto's Market Services

1 Department?

2 A I don't recall it as such.

3 Q I'll show you this, in my file here. That is what I am
4 talking about.

5 Is that your signature or did somebody sign it for you?

6 A That is my signature.

7 Q What are the initials next to it?

8 A They look like J.G.N. as best I can tell.

9 Q Do you know what that is?

10 MR. HAHN: Could we have the date of that
11 document?

12 Q Yes. What is the date there, Mr. Papageorge, of your
13 signature?

14 A There is no date to my signature. There is a date under
15 the notary public's signature.

16 Q I think that is when it expires.

17 A Oh, I'm sorry.

18 Q April 4 --

19 A April 4, 1983.

20 Q Mr. Papageorge, what was your connection to the Market
21 Services Department at that particular time in 1983?

22 A There is no direct connection. It's just that that
23 department provides a service to Monsanto and its
24 customers and also internally to anyone who requests
25 information.

1 Q Is that a separate department within Monsanto?
2 A Yes.
3 Q And do you work in that department?
4 A No.
5 Q Why would you be answering requests to admit directed
6 to that department?
7 A Because attorneys advised that I would be the appropriate
8 one to direct the preparation of this document and get
9 the necessary information put together --
10 Q Does that -- I'm sorry.
11 A -- for a proper response.
12 Q Mr. Papageorge, may I take it that each department within
13 Monsanto does, in fact, have a director, a manager, a
14 chief, a head person, within each department?
15 A Yes, they do.
16 Q And who would have been the head of that particular
17 department in 1983?
18 A I really don't know.
19 Q It was not you?
20 A That is correct.
21 Q And in April of 1983 who was the director of Monsanto's
22 Medical Department? Dr. Roush?
23 A Dr. George Roush.
24 Q And is Mr. Gaffey -- or Dr. Gaffey the director of that
25 department? What does he have to do with it?

1 A Dr. Gaffey is a member of that department and reports to
2 -- and works for Dr. Roush.

3 Q I'm going to ask you, there is in here a request as to
4 No. 8, correct?

5 MR. JUNGHERHELD: Which of these are we talking
6 about now?

7 MR. WOODWORTH: I'm sorry. To the Medical
8 Department. Response -- this is the response of Monsanto
9 Medical Department to motion to produce documents.

10 MR. JUNGHERHELD: Your Honor, I'll object to
11 this. This witness is not a member of the Medical De-
12 partment. And I don't know what this whole procedure
13 is, to read all these pleadings one after another, but
14 I'm going to object if it's an attempt to impeach this
15 witness because it was signed by Dr. Gaffey, who is a
16 member of the Medical Department, not by Mr. Papageorge
17 who is not.

18 MR. WOODWORTH: Your Honor, what we have is
19 a corporation. And when we send out a document, it seems
20 that we have different signatures appearing on documents,
21 and I think when Mr. Papageorge is sitting in this
22 trial testifying on behalf of Monsanto as to PCB's and
23 its effects, and that is specifically what this litigation
24 is about, I may ask him about documents that other people
25 have signed for on behalf of Monsanto.

1 THE COURT: I'll allow it. He's indicated
2 that he's answered for other departments in other cases,
3 so I'll allow it.

4 Q No. 8 states a request for any analytical research done
5 by the Monsanto Medical Laboratory Department during
6 the use of Aroclor 1254.

7 Correct?

8 A That is what it states.

9 Q And what is the response?

10 MR. JUNGERHELD: You said during the use of
11 it. I think it's "regarding".

12 MR. WOODWORTH: Regarding, I apologize. I
13 picked "during" from someplace.

14 Q To restate it, make sure we have it correct for the
15 record. No. 8, any analytical research done by the
16 Monsanto Medical Laboratory Department regarding the
17 use of Aroclor 1254.

18 And the response?

19 A None.

20 Q Would that be because you only had your research, the
21 medical research done by outside laboratories or that
22 the Medical Department never conducted any or hired any
23 outside research?

24 A Well, I suspect that this expression "analytical research"
25 and Monsanto Medical Laboratory resulted in the

1 non-response because there is no Monsanto Analytical
2 Medical Laboratory.

3 Q So rather than saying that, you just said "none" is
4 that right, or Mr. Gaffey -- Dr. Gaffey said none?

5 A Well, I don't know what went on in Mr. Gaffey's thinking,
6 but that is what the thought -- felt was the appropriate
7 response.

8 Q Mr. Papageorge, I'm going to show you Plaintiff's
9 Proposed Exhibit No. 424A and ask you if you can identify
10 that, please.

11 A This is a letter from Dr. Lynn Willett addressed to
12 me in which he is describing the status of his study
13 program, and it's dated December 27, 1972.

14 Q We've had testimony both from Dr. Willett and yourself
15 as to contacts back in 1972.

16 Is this an example or a representation of the con-
17 tacts, this letter?

18 A This is a representation, yes.

19 MR. WOODWORTH: I'd move for the admission,
20 Your Honor.

21 MR. JUNGERHELD: Your Honor, it would appear
22 to be hearsay. I think properly this would have been,
23 if there is some relevance to it, this would have been
24 brought up with Dr. Willett here. I think it's
25 hearsay as to this witness.

1 MR. DAVIDSON: Same objection, Your Honor.

2 MR. WOODWORTH: Your Honor, it clearly isn't
3 hearsay. It's a letter to Mr. Papageorge resulting as
4 a result of their telephone conversations and it starts
5 off saying that it's in response to their telephone
6 conversation.

7 THE COURT: Let me see the letter.

8 MR. WOODWORTH: Certainly.

9 MR. JUNGERHELD: Your Honor, in the interest
10 of order, I might mention that there are a series of
11 these 424A through H, and we would have the same objec-
12 tion to all of them. They are letters from and to
13 Dr. Willett, by, in some cases, I believe, Mr. Papageorge.
14 But in most cases other parties and in some cases they
15 are a letter by other parties to apparently the OARDC.

16 I think this should have been properly brought up
17 when Dr. Willett was here, but it wasn't, and con-
18 sequently it is hearsay as to this witness, a statement
19 allegedly made by Dr. Willett, certainly under
20 circumstances that would render it hearsay.

21 THE COURT: Well, I think at least this one,
22 I can't rule on the other exhibits, but this one con-
23 tains -- it refers to a telephone conversation and I
24 think it does suggest not just a statement of Dr.
25 Willett, but statements that were made to him by Mr.

1 Papageorge.

2 They're paraphrased by Dr. Willett but they are from
3 Mr. Papageorge, some of them are, so I will allow 424
4 over the objections.

5 MR. WOODWORTH: 424A.

6 THE COURT: A.

7 Q Mr. Papageorge, directing your attention to this, and
8 I'm not going to ask you to read it at this particular
9 time, but generally what is the gist of this letter?
10 Can you tell us that or would you prefer reading it?

11 A. Whatever you wish. I can try to paraphrase.

12 Q If you would, please.

13 A. He informed me by this letter --.

14 THE COURT: You might give the date there.

15 A. The letter is dated December 27th, 1972. And he con-
16 firmed a telephone conversation he had had with me the
17 previous week telling me that his project has progressed
18 well; however, adequate progress was no longer possible
19 because of a shortage of funds and he needed the funds for
20 supplies and labor.

21 It went on to say that it is costing him about a
22 thousand dollars each month to conduct this research
23 program and he was accumulating many samples until he
24 could get some money to pay for the analyses. And he
25 went on to suggest that with the coming year and Monsanto

1 doing it's planning, that we might wish to consider
2 funding his research program.

3 Q The research program into decontaminating silos, is
4 that correct?

5 A That was part of the proposal.

6 Q Thank you. I'm going to show you Proposed Exhibit No.
7 424B and ask you to identify that, please.

8 THE COURT: Are there several more of these,
9 Mr. Woodworth?

10 MR. WOODWORTH: Yes. Shall I just give them
11 to him?

12 THE COURT: Yes. We'll take a short recess.
13 You can take a look at them. We'll recess until ten
14 after four.

15 (Whereupon a recess was taken.)

16 Q (By Mr. Woodworth, continuing:) Mr. Papageorge, before
17 the break I asked if you could identify 424B.

18 Now, are you able to?

19 A Yes.

20 Q And what is that?

21 A It's a letter addressed by me to Dr. Willett, dated
22 March 2, 1973.

23 MR. WOODWORTH: And I'd move for the admission,
24 Your Honor.

25 THE COURT: Mr. Jungerheld?

1 MR. JUNGERHELD: No objection to that one,
2 Your Honor.

3 THE COURT: Mr. Davidson?

4 MR. DAVIDSON: No objection, Your Honor.

5 THE COURT: It is admitted, 424B, without
6 objection.

7 Q This is where you forward the sum of -- you forward a
8 check dated February 14th, 1973, payable to Ohio
9 Agricultural Research and Development Center in the
10 sum of \$5,000 but you sent it to Dr. Willett, correct?

11 A That is correct.

12 Q And the funds are offered to help him continue his
13 PCB studies?

14 A That is correct.

15 Q And the last paragraph, Mr. Papageorge, would you read
16 that, please?

17 A "We continue to be very interested in studies related
18 to PCB's and hope that you can share with us the re-
19 sults of your studies as they develop."

20 Q Thank you. I'll direct you to Proposed Exhibit 424D and
21 ask you to identify that, please.

22 A This is a letter signed or addressed by Dr. Willett,
23 addressed to me, dated March 13, 1973.

24 Q And what was this in regard to? How did this come
25 into -- is this in response to the donation or the funding?

1 A Yes. Dr. Willett is thanking me for the \$5,000 for
2 his studies.

3 MR. WOODWORTH: I'd move for its admission,
4 Your Honor.

5 MR. JUNGERHELD: Your Honor, the same objec-
6 tion as before, Your Honor. This is hearsay as to this
7 witness. It could have been presented to Dr. Willett
8 when he was here on the stand. Now he's gone and it's
9 hearsay as to this witness.

10 MR. DAVIDSON: I don't have any objection,
11 Your Honor, except that it's been testified to before
12 that he got the gift, so I think we're just going over
13 extraneous material now.

14 THE COURT: I'll allow it. I don't think
15 it's hearsay.

16 Q This letter, dated March 13, 1973, thanksyou for Monsanto
17 Industrial Chemical Company's direct gift of \$5,000
18 for studies to eliminate PCB's in silos, correct?

19 A Yes.

20 Q And he is saying this assistance will play a major role
21 in the research program and he further thanks you for
22 the funds?

23 A Yes.

24 Q And you apparently, in regard to the second paragraph,
25 provided some information to him on the PCB problem on

1 March 6th and 7th, is that correct?

2 A. That is correct.

3 Q. And that you met with Mr. -- Dr. Willett and his wife
4 at the Wooster Inn, is that correct?

5 A. That is correct.

6 Q. Now, I next direct your attention to 424E and ask you if
7 you can identify that.

8 A. This is a copy of a letter by Dr. Willett that's
9 addressed to Mr. John Craddock of Monsanto.

10 Q. And is this another continuation of the contact with
11 Dr. Willett at OSU?

12 A. This appears to be a continuation of that.

13 MR. WOODWORTH: I move for its admission,
14 Your Honor, please.

15 MR. DAVIDSON: I have no objection.

16 MR. JUNGERHELD: I do. Same objection, Your
17 Honor. This is hearsay as to this witness. It isn't
18 even written to him.

19 THE COURT: Did you have any knowledge of
20 this before today?

21 MR. WOODWORTH: Pardon?

22 THE COURT: Would you ask the witness if he
23 had any knowledge of this letter.

24 Q. Do you have any knowledge of this prior to today and
25 the work that Dr. Willett was doing that is referred to

1 within the letter?

2 A. This is the first time I seen this letter.

3 Q. But the information that he's referring to within the
4 letter, the research that Dr. Willett's conducting,
5 did you have knowledge of that?

6 A. I have knowledge in recent years.

7 THE COURT: Let me see the letter. Do you
8 have a response to the hearsay objection, Mr. Woodworth?

9 MR. WOODWORTH: As to this particular witness,
10 Your Honor?

11 THE COURT: As to this exhibit. You are
12 offering 424E. Mr. Jungerheld is objecting that it's
13 hearsay.

14 MR. WOODWORTH: Well, I think this witness --

15 Q. Do you have personal knowledge of the experiment that
16 Dr. Willett was conducting, the tests and research that
17 he was conducting?

18 A. At what point in time, sir?

19 Q. Prior to 1982?

20 A. Yes.

21 Q. And at one point in time Dr. Craddock took over your
22 position or was your position divided into two parts
23 and Dr. Craddock moved into one of them?

24 A. I don't recall the exact sequence, but there was a time
25 period between my involvement directly with PCB's and

1 Dr. Craddock's involvement.

2 Q And Dr. Craddock came after you, involved in the PCB's?

3 A Correct.

4 Q And was or is the director of Products and Environmental

5 Safety for Monsanto?

6 A Yes.

7 Q And he was in 1982?

8 A That is correct.

9 Q And is now?

10 A That is correct.

11 Q And this is Dr. Craddock sitting in the Courtroom?

12 A Yes.

13 Q Now, Mr. Papageorge, when Dr. Craddock took over that

14 position, what area did you go into? I'm not quite clear

15 on that myself.

16 A At the time Dr. Craddock was given his current assignment,

17 I was Director, Environmental Operations, for an

18 operating unit within Monsanto that had no relationship

19 whatever with PCB's.

20 Q Did you continue on with your contact in that area and

21 Dr. Craddock refer to you or have some communication with

22 you as to carrying over of prior matters?

23 A Not at that time, no.

24 Q You said that you did have knowledge of certain materials

25 within this letter at one time or in earlier years?

1 A In recent years.

2 Q In recent years. Okay.

3 What type of knowledge have you possessed?

4 A As of January, 1983, Dr. Craddock reported to me, so I
5 again became involved with PCB's in an indirect manner.
6 And Dr. Craddock would keep me informed of developments
7 in his area of responsibility.

8 Q And was that not a social-type thing, that was more a
9 professional relationship within the company?

10 A Yes.

11 Q And as a result of that did you have occasion to review
12 Dr. Willett's research or ongoing research?

13 A I don't know that I'd use the word "review" because that
14 implies an in-depth study. I was given a status report
15 and I relied on Dr. Craddock to manage that matter.

16 Q And, in fact, this letter preceded the time when Dr.
17 Craddock would have given you the status report, is that
18 correct?

19 A That is correct.

20 THE COURT: All right. I'll allow this letter
21 as part of the communications which evolved in the series
22 of communications between Dr. Willett and the Defendant.
23 I'll allow it. 424E.

24 Q This report in -- I guess it would be judgmental as to
25 what detail, but this does in fact report Dr. Willett's

1 research on silos, does it not?

2 MR. JUNGERHELD: Excuse me. I didn't mark
3 down a date for this, Your Honor. Could we have the
4 witness tell us what date it is?

5 Q What is the date, please?

6 A The letter is dated November 29, 1982, addressed to
7 Dr. -- to Mr. Craddock, and it does relate the status
8 of studies that are ongoing in Dr. Willett's laboratory.

9 Q The second page of that, please, Mr. Papageorge. The
10 first sentence states: I have determined that the cost
11 of these experiments will be approximately \$6,000.

12 Correct?

13 A Yes, that's correct.

14 Q And, Mr. Papageorge, I refer you to -- then to Plaintiff's
15 Proposed Exhibit 424F and ask if you can identify that.

16 A This is a letter dated December 13, 1982, signed by
17 Dr. Craddock, addressed to Dr. John Hibbs, who is with
18 the Ohio Agricultural Research and Development Center.

19 Q And was that anything to do with the exhibit we just
20 admitted, the prior exhibit?

21 A This appears to be a response to Dr. Willett's request
22 for funding of \$6,000 to continue his studies.

23 MR. WOODWORTH: Your Honor, I'd move for
24 admission of that exhibit.

25 THE COURT: Mr. Davidson?

1 MR. DAVIDSON: No objection.

2 THE COURT: Mr. Jungerheld?

3 MR. JUNGERHELD: Same as before, Your Honor,
4 these are all hearsay as to this witness.

5 THE COURT: I'll allow it, 424F. I'll allow
6 it over objection.

7 Q Just to capsulate that, Mr. Papageorge, may we assume
8 that in response to the prior letter Monsanto did in
9 fact convey to OARDC for Dr. Willett's research, the
10 \$6,000?

11 Is that correct?

12 A. That is correct.

13 Q Now, Mr. Papageorge, in 1983 are you aware whether or not
14 Monsanto created or funded or granted any money to
15 OARDC for any additional studies?

16 A. Yes.

17 Q For Dr. Willett?

18 A. Yes.

19 Q And what was that and when was it?

20 A. I don't recall the specific month, but, as I recall,
21 it was the latter half of 1983.

22 Q And how much money was it?

23 A. I don't remember the exact amount; over a thousand
24 dollars.

25 Q Dr. Willett testified, I believe, the amount he received

1 a grant or a gift or a funding, I'm not sure of the
2 proper terminology, in the amount of one hundred eleven
3 eight hundred eighty-eight thousand dollars.

4 Does that sound familiar?

5 A That is close from what I recall, yes.

6 THE COURT: Do you want to repeat that
7 number?

8 MR. WOODWORTH: One hundred eleven eight
9 hundred eighty-eight thousand. 111,888.

10 THE COURT: I think you had a thousand in
11 the wrong place.

12 MR. WOODWORTH: I'm sorry.

13 THE COURT: Say it again.

14 MR. WOODWORTH: A hundred eleven thousand
15 eight hundred eighty-eight dollars.

16 THE COURT: All right.

17 MR. WOODWORTH: Getting ahead of myself.
18 It's been a long day.

19 Q Did Dr. Willett have to submit to Monsanto a grant
20 proposal.

21 A Yes.

22 Q And when was that submitted?

23 A Early summer of 1983.

24 Q Do you know the amount of time between the grant pro-
25 posal was submitted to Monsanto and the time that he

1 actually received the money, the funding, or OARDC
2 received the funding?

3 A It was several months. Almost six months.

4 Q So we took Dr. Willett's deposition and there was some
5 testimony about that. Were you here for all of his
6 testimony?

7 A I don't know if I was here for all of it, no. Parts
8 of it.

9 Q If he would have submitted this proposal six months prior
10 to him receiving that money, it would have, according
11 to my calculations, roughly been prior -- he would have
12 submitted that proposal to Monsanto prior to the time
13 of his deposition.

14 Are you aware of whether or not that is true or
15 not?

16 A I don't recall the date of his deposition. And the
17 proposal was followed by a presentation on his part to
18 a group of Monsanto experts who critiqued his study
19 and made comments and he had to modify it and at that
20 time we still hadn't made the decision whether we were
21 interested.

22 Q Was that study done in anticipation of this particular
23 litigation?

24 A I'm in no position to know that.

25 Q Has that study been published?

1 A. It isn't completed yet.

2 Q. Has Monsanto received any final report on that study?

3 A. No.

4 Q. Going back to those attachments to that one set of
5 motion to produce as to the names of the claims that
6 were filed, do you recall that?

7 A. I believe I recall that.

8 Q. Question No. 5. When you answered that or prior to your
9 answering that motion, did you go about Monsanto and
10 inquire of other people as to the claims or did you just
11 answer that on your own without checking?

12 A. No, I had other people working on it, gathering the
13 data for me, putting it together for my review.

14 Q. And since those, do you know how that came to your
15 attention? Did it come through your attorneys -- or
16 Monsanto's attorneys?

17 A. What is that, the --

18 Q. The request to produce those documents?

19 A. Since it was addressed to me, with my name on it, it
20 came to my desk first, and I went seeking legal counsel
21 on how to best respond.

22 Q. So you went to your Legal Department?

23 A. Yes.

24 Q. Prior to answering that, is that correct?

25 A. That is correct.

1 Q And so then when we talk about claims and -- did they
2 assist you in compiling the list of claims?

3 A Yes.

4 Q And we still have some claims, I believe, as a result
5 of other testimony, that weren't listed, and this is
6 in spite of the Legal Department assisting you in
7 compiling that list, is that correct?

8 MR. JUNGERHELD: I'll object, Your Honor.
9 That is Counsel testifying. I don't -- there's been
10 testimony by Mr. Egan about claims against Michigan Silo and
11 I object to the characterization of the testimony.

12 MR. WOODWORTH: I think the question is
13 proper, Your Honor.

14 THE COURT: Go ahead. I'll allow the answer.

15 Q In spite of your contacting legal -- or do you recall
16 the question, rather than me rephrasing it?

17 A I think I recall it. Your question, if I can try to
18 paraphrase it, was in spite of going to Legal Department,
19 they didn't include all the claims. I'm in no position
20 to respond to that since I don't know what all the claims
21 would have been.

22 Q Without going into the contents of this proposed
23 exhibit, Mr. Papageorge, would you concede that if, in
24 fact, that is true, that is actual, would that be a
25 claim that was not mentioned within that particular

1 attachment?

2 MR. JUNGERHELD: Well, Your Honor, I'm going
3 to object. I can't see it from here, but I think this
4 was a document that we've gone over now twice, that has
5 been offered and rejected, and I'm going to continue
6 to object to that.

7 MR. WOODWORTH: I'm not offering it, Your
8 Honor, I'm asking to use that to refresh his recollection
9 or to use it to assist him to answer it.

10 THE COURT: He's already looked at it
11 before and he's never seen it. He's not familiar with
12 it. So I will sustain the objection. He doesn't know
13 anything about it.

14 Q Now, I mentioned other names, Mr. Papageorge. Would your
15 answer, if I showed you -- or if I were able to show you
16 similar documents in relation to other names, would
17 your answer be the same?

18 A That is correct.

19 MR. WOODWORTH: That is all I have, Your
20 Honor.

21 Your Honor, I would again move for its admission,
22 although, it's 425.

23 THE COURT: I think I've already ruled on it.

24 REDIRECT EXAMINATION

25 BY MR. JUNGERHELD:

1 Q Mr. Papageorge, do you happen to recall how long your
2 deposition took that was taken at my office in Saginaw
3 by the attorney for the Plaintiff?

4 A At least three full days and maybe a part of the fourth
5 day.

6 Q Did you, Mr. Papageorge, ever tell Dr. Willett or this
7 Mr. Hess down in Ohio that they could not publish
8 anything about PCB?

9 A No, that's never been done.

10 Q And you testified, I guess it's yesterday now, about
11 chlorine, some precautions that were taken in the
12 production process as it related to chlorine.

13 And let me ask you, sir, does PCB have any free
14 chlorine in it?

15 A Well, the chlorine in PCB's is not free. It's not
16 freer than the chlorine in table salt. It's a different
17 material.

18 Q What is free chlorine?

19 A I don't know how to describe it. It's a pungent gas
20 that is used to -- I think many of us have heard of
21 chlorine used to treat drinking water to kill the
22 bacteria that might be in it, the harmful bacteria.

23 It's used in industry for many chemical reactions,
24 of course. It's also used as a bleaching agent to
25 whiten clothing.

1 Q All right, sir. When we are talking about chlorine,
2 and you made mention of this a minute ago, I'm not quite
3 certain, is that the kind of thing that is put into
4 swimming pools and drinking water and that sort of thing?

5 A Yes, it is used quite extensively to reduce harmful
6 bacteria in drinking water, swimming pool water and the
7 like.

8 Q You were asked questions about the word "confidential"
9 appearing on the Monsanto operating instructions.

10 And why would the word "confidential" appear on
11 Monsanto's operating instructions?

12 A Well, we have, in every case that I'm aware of in
13 Monsanto's chemical business, processes that are developed
14 by Monsanto, therefore they have techniques and methods
15 that are -- we'd like to keep secret from the competi-
16 tion.

17 So when these methods are described in a document,
18 we like to avoid having that information being used by
19 the competition and therefore we mark the entire docu-
20 ment confidential or words to that effect.

21 Q And was the plasticizer industry, for instance, a
22 competitive business?

23 A Oh, very competitive, yes.

24 Q You were also asked some questions about what is known
25 or what was referred to, I guess, as the hygienic guide

1 series.

2 Do you remember those questions?

3 A I believe I do, yes.

4 Q And the hygienic guide series is -- I think you indicated
5 was attached to the Monsanto operating instructions, if
6 you will, is that correct?

7 A That is correct.

8 Q Is the hygienic guide series a published document?

9 A Yes, it's a published publicly available document.

10 Q And was that document confidential?

11 A No.

12 Q There were comments therein about -- and you were
13 asked about those by Mr. Woodworth concerning liver
14 consequences, systemic effects, I think.

15 What was that based on?

16 A That's based on the animal studies deliberately designed
17 so that the animal is given high levels to deliberately
18 get some effect so that the researchers can determine
19 what effect would be expected at high levels of exposure.
20 And this is what was reported in that guide regarding the
21 PCB's.

22 Q And in that guide, in the operating instructions, what is
23 the anticipated exposure?

24 A Anticipated exposure in operations?

25 Q Yes. In other words, is it -- well, what would be --

1 would it be industrial or would it be in the home or what
2 are you talking about?

3 A. These hygienic guides are designed for the industrial
4 situation, not the pharmaceutical or home consumer situa-
5 tion.

6 Q Mr. Papageorge, in addition to being asked yesterday
7 about chlorine, you were also asked about biphenyls.

8 Is biphenyls a substance that is comonly used in
9 some chlorine applications?

10 A Well, it's commonly used, yes.

11 Q Can you give us an example of a commonly used application
12 of biphenyl?

13 A Yes, I can, and one that is rather unique. Biphenyl
14 is used to coat the boxes and the tissue paper used to
15 wrap citrus fruits, grapefruit, oranges, and the like
16 to prevent a mold from starting and spoiling the fruit.
17 So it's approved by the Food and Drug Administration
18 for that close contact with fruit.

19 Q You were also asked about HCl. What is HCl?

20 A HCl is the chemical shorthand to describe the gas that
21 is used when mixed with water to make muriatic acid.

22 Q And can you give us some uses of muriatic acid or a
23 use that --

24 A Oh --

25 MR. WOODWORTH: Object to the relevance of

1 this. It's redirect and I don't -- muriatic acid
2 didn't even come up in the hygienic guide. There was
3 a reference to HCl. And I think it's irrelevant and to
4 how many different chemicals or how many other different
5 compounds in chemistry can HCl make.

6 MR. JUNGERHELD: Your Honor, Counsel in a
7 series of questions attempted to infer a lot of serious,
8 dangerous things in the manufacture of polychlorinated
9 biphenyls and one of them that he specifically raised
10 and dwelled upon was HCl.

11 THE COURT: I'll allow it.

12 MR. JUNGERHELD: Thank you, Your Honor.

13 Q All right.

14 A Shall I respond?

15 Q Yes, would you please finish your answer.

16 A Muriatic acid is commonly used among bricklayers, for
17 example, to wash the surface of the finished brick
18 work to remove the excess mortar and to clean that sur-
19 face. It's just one example of many.

20 Q In your production processes, Mr. Papageorge, did you
21 do anything or add anything to neutralize HCl?

22 A Yes. When the Aroclors were produced in the reactor,
23 just before they are distilled to refine them to make the
24 finished product, we at Monsanto added lime to neutralize
25 the HCl present, to diminish the evolution of any of the

1 HCl fumes, and then that neutralized crude Aroclor was
2 sent to a refining unit where it was distilled and the
3 saleable product was made.

4 Q Mr. Papageorge, you were asked some questions about
5 why you happened to be selected for the post you assumed
6 in 1970 and I forget just what the title of that job
7 was. But can you remind us of what the title was,
8 January 1st, '70, I think it was?

9 A It was manager, Environmental Control.

10 Q And can you tell us if you had had any experience with
11 PCB previous to being selected for that job that may
12 have assisted you in being considered and hired for that
13 job?

14 A Well, the fact that I managed the plant at which one of
15 the two units that produced the PCB's was a factor. I
16 was very familiar with the product, its uses, the process,
17 characteristics, so on.

18 Q In connection with your trip to Europe, that you told
19 us about, in, I believe it was, '70, I'm not quite
20 certain.

21 A That is correct.

22 Q All right. In '70. And in connection with the presenta-
23 tions to various groups that you have talked about, were
24 others from Monsanto present along with you?

25 A Oh, invariably I'd have an individual representing a

1 specific expertise.

2 MR. WOODWORTH: Objection, this has been asked
3 and answered. It was on direct and I don't recall going
4 into this on cross.

5 MR. JUNGERHELD: He certainly did, Your Honor.
6 He attempted to convey the impression that Mr.
7 Papageorge was a pretty face selected by Monsanto to
8 deal with the situation and I think I'm entitled to show
9 that, indeed, he was -- he and others made presentations,
10 it was not him alone.

11 MR. WOODWORTH: That was not the intent.
12 If Counsel wants to infer that, he is free to infer
13 whatever he desires. However, Your Honor, he already
14 testified on direct that he went with others over to
15 Sweden. I think he visited the Netherlands. I think
16 on direct he took along an analyst and someone else.
17 Someone else went to the meeting in Oregon. This has
18 been all done on direct.

19 MR. JUNGERHELD: He raised this, Your Honor.

20 THE COURT: I'll allow it. Go ahead.

21 Q In getting back to the point here, Mr. Papageorge,
22 continue on. Did you take others with you on these
23 occasions?

24 A I took others on many occasions, depending on the
25 subject to be discussed and the audience that was being

1 addressed and this included analytical chemists, it
2 included medical doctors, it included, as I mentioned
3 the other day, the personnel from the animal testing
4 laboratory. Those are examples of the types of expertise
5 that I would ask to help me.

6 Q Mr. Papageorge, to your knowledge are mink different
7 than cows?

8 A To my knowledge they are definitely different, yes.

9 Q Do they have different reproductive systems?

10 A Yes.

11 Q Do they have a different digestive system?

12 A Yes.

13 MR. WOODWORTH: Objection, foundation, Your
14 Honor.

15 MR. JUNGERHELD: Your Honor, he raised this
16 with Mr. Papageorge. He asked him all kinds of questions
17 about --

18 THE COURT: I'll allow it.

19 Q Can you tell us if mink are sensitive animals?

20 A It's my understanding that mink are extremely sensitive
21 animals.

22 Q Mr. Papageorge, you were asked a whole series of ques-
23 tions about several hearings or trials or depositions
24 in which you have given testimony.

25 Did any of these hearings or trials or depositions

1 involve Aroclor 1254 which we're talking about in this
2 lawsuit?

3 A. You may recall the situation that happened in Tennessee
4 involving a transformer which was leaking while in
5 transit from the factory where it was manufactured to
6 the customers. That fluid in that transformer contained
7 Aroclor 1254 and another -- two other chemicals:
8 tetrachlorobenzene and trichlorobenzene.

9 So that's the only case or situation I remember where
10 Aroclor 1254 was involved.

11 Q. Whose truck or who did the spilling in that case, if
12 you know?

13 A. This was either G.E. personnel or a contract hauler
14 hired by the General Electric Company.

15 Q. You were asked some questions about what was referred to
16 as a case by Howell and Parsons.

17 What is your understanding of the exposure in that
18 case?

19 A. That was an inhalation problem, a fume emission problem.
20 Fumes originating in a bath of molten Aroclor 4465 that
21 was used in the laboratory that was making dentifrice,
22 dental prosthetics, I think they're called.

23 Q. Do you know what the size of the room was that Howell
24 and Parsons were in?

25 A. It was not a large room. Ten by fifteen or -- a rather

1 small laboratory size room.

2 Q Did this involve elevated temperatures?

3 A Where, in the room?

4 Q To which this 4465 was subjected to.

5 A Yes, 4465, as best I recall, melts at about -- and that

6 may not be accurate, 400 degrees centigrade, which would

7 make it close to 700 degrees Fahrenheit. So the tempera-

8 tures are quite high and you do get fumes from those

9 conditions.

10 Q While I think of it Mr. Papageorge, how long has

11 Monsanto had information on the labels indicating avoid-

12 ing exposure to fumes of 1254?

13 A Since the '30's.

14 Q Sir, with reference to the Tennessee case, the Hudson

15 River case, and the Pierce Packing case, that were

16 mentioned to you, did any of those involve any claims

17 of human health or animal health?

18 A No. In fact, yesterday I think I made a mistake when I

19 confused the Pierce Packing case with animal health

20 effects. All three of those are presence of PCB's in

21 the environment or in other materials.

22 Q Mr. Papageorge I'm going to hand you what's been marked

23 as Defendant's Proposed Exhibit 427. I'll ask you if

24 you can identify that for us, please, sir.

25 A This is a copy of a news release prepared by Monsanto,

1 dated January 26, 1976.

2 Q And were you still in charge of the PCB's operations
3 at that time?

4 A Yes.

5 Q Does this deal with PCB and the electrical industry?

6 A Yes, it does.

7 MR. WOODWORTH: I believe it's already in
8 evidence. It's been marked and admitted as Plaintiff's
9 Exhibit No. 110, Your Honor.

10 THE COURT: Do you have any objections to
11 the admission of this one?

12 MR. WOODWORTH: No.

13 THE COURT: Mr. Davidson?

14 MR. WOODWORTH: I have an objection since
15 it's a duplicate.

16 THE COURT: We've been doing that all along,
17 so we'll -- Mr. Davidson?

18 MR. DAVIDSON: No objection.

19 THE COURT: I'll allow 427, is it?

20 MR. JUNGERHELD: Yes, it is, 427.

21 Q And this has not been presented to the Jury or read to the
22 Jury yet, Mr. Papageorge.

23 Let me ask you, sir, you were asked some questions
24 yesterday by Mr. Woodworth about the TSCA legislation,
25 is that correct?

1 A Yes.

2 Q And does this news release that you have before you, as
3 Exhibit 427, does that predate the enactment of the
4 TSCA legislation?

5 MR. WOODWORTH: Objection to the leading
6 question. I think he can ask what the date is and what
7 TSCA legislation was without suggesting --

8 THE COURT: Can you ask him that?

9 MR. JUNGERHELD: I'm not suggesting the
10 answer to him, I'm asking if it predates the TSCA legis-
11 lation. I don't think that is leading.

12 THE COURT: All right. Why don't you ask
13 him the dates, if he knows the date of that legislation,
14 or have you asked him that?

15 MR. JUNGERHELD: I haven't, but he did testify
16 to that yesterday.

17 Q But tell us, Mr. Papageorge --

18 A As best I recall, the TSCA legislation was passed in
19 the third quarter of 1976.

20 Q And the TSCA legislation dealt with what, for just a
21 brief summary of what you testified to yesterday under
22 Mr. Woodworth's exam.

23 A It enabled the EPA to take certain steps as appropriate
24 to control the sale, distribution, presence of toxic substances.

25 Q What is the TSCA deadline by which all of this had to

1 be accomplished?

2 A Well, there were several deadlines. The one of interest
3 here is the one referring to PCB's. And yesterday I
4 was in error when I mentioned that the act called for
5 termination in 1978. I missed it by one year. The act
6 called for termination of sale of PCB's by 1979.

7 Q Now, Mr. Papageorge, you -- well, let me ask you that.

8 What is the date then on this news release?

9 A This is dated January 26, 1976.

10 Q And in this news release you are announcing what, sir?

11 A It's actually a vice president of Monsanto, Mr.
12 Fitzgerald.

13 Q But did you have any involvement with this?

14 A Yes, I did.

15 Q And were you still in charge of the PCB operations at
16 this time in January of 1976?

17 A Yes, I did.

18 Q And would you then indicate to the Jury, read to the Jury
19 what does this news release, say, January 27, I think
20 you said, 1976, regarding what Monsanto was going to do
21 with its remaining PCB business?

22 A I think I can answer that by reading perhaps the last
23 two paragraphs.

24 Q All right.

25 A "Mr. Fitzgerald added, 'That while the PCB issue

1 "is a difficult one to handle, the difficulty does
2 not now nor will it in the future stem from any
3 lack of effort or cooperation on the part of Monsanto.
4 The problems that we face collectively are rooted in the
5 unique fire resistant and dielectric characteristics
6 of PCB's, and the irreplaceable role they have played
7 in electrical and industrial applications for the
8 past 45 years,' he said.

9 'The challenges to replace them in an orderly
10 manner without creating another hazard of equal or
11 potentially greater consequences, while at the same time
12 avoiding serious power and transportation disruptions.
13 This is our goal

14 In the interim we will continue to work with
15 industry and government to ensure that the restric-
16 tive measures and controls we implemented in the early
17 1970's remain in force and are diligently pursued.'"

18 Q With this news release -- and, by the way, what is done
19 or what was done with the news release back in January
20 of 1976?

21 A. I'm sorry, I missed that.

22 Q What was done with the news release back in January of
23 1976?

24 A. This particular news release was issued to the repre-
25 sentatives of the press. And it's the first paragraph

1 that really describes the intent of the whole document.

2 Q Would you read that first paragraph to us?

3 A All right.

4 "The Monsanto Company today announced that it had
5 informed its U.S. capacitor and transformer industry
6 customers and the U.S. Environmental Protection Agency
7 that it intends to eventually phase out the production
8 of polychlorinated biphenyl, PCB, dielectric in-
9 sulating fluids."

10 Q Now, as of this date did Monsanto have any remaining
11 PCB business other than the electrical business?

12 A That was it. Nothing other than the electrical business.

13 Q Did this document then announce the end of the sole
14 remaining Monsanto PCB business?

15 A Yes.

16 MR. WOODWORTH: Objection, leading and
17 suggestive.

18 THE COURT: I'll allow the answer to stand.

19 Q Now, Mr. Papageorge, could you then have continued to
20 produced PCB after that time, after January of 1976,
21 until the TSCA date became effective in 1979?

22 A Yes.

23 Q Why didn't you do so? Why did you cease production then
24 a couple years early?

25 A Well, the electrical industry was totally dependent for

1 their fire resistant electrical equipment on PCB's.
2 They had not found a suitable replacement. Their
3 equipment was not designed to accept alternates that
4 were not fire resistant. They required time in their
5 research laboratory to come up with new equipment, new
6 fluids, or a combination of both.

7 They pleaded with us to continue to supply them with
8 this fluid until they could find a suitable replacement
9 and in a very smooth transition phase-out and phase
10 into the alternatives.

11 As a result of that, we continued to supply until
12 they informed us that they were ready for the change.
13 When they did that, and fortuitously it was earlier than
14 the governmental date, so once the industry had made the
15 change, Monsanto was ready to stop production of sales.

16 Q When was that?

17 A 1977.

18 Q Is PCB today still in use in the electrical field?

19 A Yes. In fact, the regulations explicitly point to the
20 permitted continued use in the electrical equipment
21 that is already in place. And they are closed systems,
22 properly maintained, and this accounts for almost half
23 of the PCB's ever produced. So the PCB's are still in
24 use today.

25 Q Would that included in such items as the lights in this

1 courtroom?

2 A. That is right.

3 Q. Is the language or the cautions, I should say, that
4 were -- that you testified to yesterday from the
5 hygienic guide -- let's go back to that for a moment.

6 Liver effects, systemic effects, dermatitis, are
7 these peculiar to PCB?

8 A. No, they're fairly common to many industrial chemicals
9 that are mishandled, misused.

10 Q. Are there typical chlorinated hydrocarbon products that
11 would be in use that you might be familiar with?

12 A. I believe most of us know about the dry cleaning fluids
13 that are used in dry cleaning establishments. There
14 are several of the chlorinated hydrocarbons used as
15 paint thinners, solvents. There is some that are even
16 used for paint removal, varnish removal purposes.

17 I think occasionally you may find here and there spot
18 remover applications that are available.

19 Q. Mr. Papageorge, regarding your testimony of the use
20 of PCB as a pesticide extender, who developed that use?

21 A. That use was developed by the U.S. Department of
22 Agriculture's research laboratories in Bethesda,
23 Maryland.

24 Q. And you testified yesterday that the USDA at some point
25 then disapproved of that use.

1 Did Monsanto have anything to do with that activity,
2 that disapproval?

3 A Monsanto, through its medical director, Dr. Kelly, in
4 two methods. One by telephone, where Dr. Kelly called
5 an individual --

6 MR. WOODWORTH: I'll object to this, what Dr.
7 Kelly called and did, unless we have further foundation
8 as to his participation in the phone call.

9 THE COURT: It does sound like hearsay, Mr.
10 Jungerheld.

11 MR. JUNGERHELD: Yes, the question was assumed.

12 Q Anyway, do you know -- did you have any participation in
13 whatever steps were taken that involved Monsanto with
14 the USDA in stopping that use?

15 A Yes, I was involved in discussions on what action we
16 could take and agreed with Dr. Kelly that we inform
17 the U.S. Department of Agriculture that this was not a
18 suitable use for PCB's and the further permitting of
19 that use not be acceptable to the Department of
20 Agriculture.

21 Q And was that communicated then to the United States
22 Department of Agriculture?

23 A It was.

24 Q Mr. Papageorge, if the silo coating called Cumar, not
25 the Allied or Neville, but the silo coating Cumar, if

1 that coating had been properly designed and manu-
2 factured would the PCB's have come out of it?

3 A. Not if it's properly designed, properly applied,
4 no.

5 Q Do you know anything, by the way, about the quality
6 control practices of the Concrete Silo Company or
7 the Michigan Silo Company?

8 A. No, I don't.

9 Q Do you know if, in fact, the Concrete Silo Company
10 or the Michigan Silo Company in fact followed this
11 recipe that we talked about for this silo coating?

12 A. There is no information regarding whether the recipe
13 was in fact the one used or whether it was followed
14 consistently. I have no way of knowing.

15 THE COURT: Mr. Jungerheld, in light of the
16 hour, do you have a substantial amount more of re-
17 direct?

18 MR. JUNGERHELD: Well, let's see here,
19 Your Honor. May I consult my cohorts just a minute?

20 THE COURT: Go ahead.

21 MR. JUNGERHELD: Your Honor, I would
22 take probably anywhere from between 30 and 60 minutes.

23 THE COURT: We'll just have to reconvene
24 tomorrow morning. We'll recess for the day, members
25 of the Jury. We'll look for you when we reconvene

1 promptly at 9:00 o'clock tomorrow morning.

2 (Whereupon at 5:00 o'clock P.M., on
3 Tuesday, May 22, 1984, Court was adjourned
4 until 9:00 o'clock A.M., on Wednesday,
5 May 23, 1984.)

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1 STATE OF MICHIGAN)
2) SS
3 COUNTY OF HURON)
4

5 We, James R. Fritzler, a Notary Public and
6 Court Reporter in and for Saginaw County, State of Michigan,
7 and Donald E. Pearson, a Notary Public and Court Reporter
8 in and for Midland County, State of Michigan, acting in and
9 for Huron County, State of Michigan, do hereby certify that
10 we stenographically recorded the proceedings had and testimony
11 taken in the above-entitled matter, on Tuesday, May 22, 1984,
12 before the Honorable M. Richard Knoblock.

13 We further certify that the foregoing and
14 attached 199 typewritten pages, or parts of pages, constitute
15 a full, true and accurate record of our stenographic
16 notes then and there taken.

17 
18 James R. Fritzler, RPR, CSR-2067

19 Notary Public, Saginaw County
20 My commission expires: 8-30-87

21 
22 Donald E. Pearson, RPR, CSR-0279

23 Notary Public, Midland County
24 My commission expires: 11-18-87

25 bmg: 5-22-84