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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.)

No. 77 002593 NP

)
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.)

The deposition of WILLIAM B. PAPAGEORGE, a witness
herein, taken before James R. Fritzler, RPR, CSR-2068 and Notary
Public, on Wednesday, January 19, 1983, at 10:00 o'clock A.M.
and continuing on Thursday, January 20, 1983, at 5525 Colony
Drive, Saginaw, Michigan.

1 APPEARANCES:

2 MC GRAW & BORCHARD,
3 BY: JOHN W. MC GRAW, Esq.,

4 and

5 PATRICK MC GRAW, Esq.,

6 and

7 JAMES N. WOODWORTH, Esq.,

8 and

9 CUBITT, CUBITT & TROWHILL,
10 BY: H. DALE CUBITT, Esq.,

11 Appearing on behalf of Plaintiffs.

12 CHAKLOS, JUNGERHELD & DELLA SANTINA,
13 BY: WILLIAM E. JUNGERHELD, Esq.,

14 and

15 DENNIS J. BERGEVIN, Esq.,

16 and

17 JOSEPH G. NASSIF,

18 Appearing on behalf of Defendant
19 Monsanto.

20 DAVIDSON, BREEN & DOUD,
21 BY: CRAIG A. ZANOT, Esq.,

22 Appearing on behalf of Defendant
23 C & B Silo.

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WILLIAM B. PAPAGEORGE,

a witness herein, having been first duly sworn, testified
on his oath as follows:

MR. MC GRAW: Mr. Papageorge, we have introduced ourselves before we started here on the record and as I told you, my name is John McGraw, and along with other counsel here representing various parties, farmers up north, I just want to ask you some questions and if questions that we ask you don't understand, just feel free to say so. All right?

THE WITNESS: Yes.

MR. MC GRAW: And if you want me to repeat something, either I'll repeat it or I'll ask the court reporter to repeat it. Our objective is not to try to trick you in any way. Our objective is to get answers to some questions we hope you have the answers to. All right?

THE WITNESS: I understand.

MR. MC GRAW: And if you don't know the answers, nobody has to tell you if you know or don't know. I'm telling you now if you don't know the answers, just say you don't know and we'll go on to something else or maybe explore that area a little bit. All right?

THE WITNESS: Yes.

EXAMINATION

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1 BY MR. MC GRAW:

2 Q Will you give us your full name, please?

3 MR. JUNGERHELD: By the way, before we get into
4 the bed of the deposition, we would like to reserve the right
5 to read and sign.

6 MR. MC GRAW: All right.

7 A. My name is William B. Papageorge. P-a-p-a-g-e-o-r-g-e.

8 Q And what is your age?

9 A. 60.

10 Q Where do you live?

11 A. St. Louis County, Missouri.

12 Q And how long have you lived there?

13 A. 13 years.

14 Q What is the nature of your job or business activity?

15 A. I'm involved in environmental affairs related to a portion
16 of Monsanto Company.

17 Q And how long have you been in that particular job?

18 A. Well, coincidentally, since the first of the year I have
19 been assigned to a new portion of Monsanto. But prior to
20 that I was in similar work for about five years.

21 Q All right. And in environmental affairs?

22 A. Yes. The title is, if that helps any, is Director of
23 Environmental Operations.

24 Q All right.

25 MR. JUNGERHELD: Is that the current title, Bill?

1 A. Yes.

2 Q. All right. And before that? That was from '82 for five

3 years, you're back to '77. What did you do before that?

4 A. I was manager, product acceptability.

5 Q. And before that what were you? And for how long, by the way,

6 were you manager of product acceptability?

7 A. Oh, that goes back to about 1973.

8 Q. All right. Somewhere then in the area of '73 to '77?

9 A. correct.

10 Q. All right. And up to '73 what were you?

11 A. Prior to that I was manager, environmental protection.

12 Q. All right. And how long did you hold that job?

13 A. As best I recall, from about 1972 to about 1973.

14 Q. About a year?

15 A. About a year, yes.

16 Q. All right. And before that what were you?

17 A. I had the title Manager, Environmental Control.

18 Q. And how long did you have that job?

19 A. From 1970 to '72.

20 Q. Then before that what was your job?

21 A. Plant manager.

22 Q. Where?

23 A. Anniston, Alabama.

24 Q. Were the jobs you held from '70 on up to the present time in

25 Anniston or in St. Louis?

1 A. St. Louis.
2 Q. And how long were you plant manager at Anniston, Alabama?
3 A. About five years.
4 Q. Somewhere around '67 to '72?
5 A. No. No. No. 1965 to 1970.
6 Q. Oh, I'm sorry. Okay.
7 And before that what was your job title?
8 A. General superintendent, manufacturing.
9 Q. At Anniston?
10 A. No.
11 Q. Where?
12 A. Sauget, S-a-u-g-e-t, Illinois.
13 Q. Okay. And how long were you on that job?
14 A. About a year.
15 Q. '64 to --
16 A. '64 to '65.
17 Q. And before that?
18 A. I was general superintendent, distribution utilities in
19 St. Louis, Missouri.
20 Q. And how long were you on that job?
21 A. About two or three years. I don't remember exactly.
22 Q. Okay. And before that?
23 A. Superintendent at Technical Services.
24 Q. Where?
25 A. St. Louis.

1 Q. Okay. And that would be from -- how many years were you
2 in that?
3 A. About a year or so.
4 Q. And that would be somewhere around '60, '61?
5 A. '61, '62. Somewhere in that period.
6 Q. Okay. And before that?
7 A. Maintenance superintendent, St. Louis.
8 Q. How long were you there?
9 A. About 1958 to 1961 or 2. About four years.
10 Q. Okay. And before that?
11 A. I was maintenance supervisor.
12 Q. And where?
13 A. St. Louis.
14 Q. How long on that job?
15 A. About one year. '57 to '58.
16 Q. And before that?
17 A. Production supervisor.
18 Q. Where?
19 A. St. Louis.
20 Q. And how long there?
21 Q. About a year.
22 Q. And before that?
23 A. Process engineer. I'm not certain of that title. It's
24 either process engineer or design engineer.
25 Q. Where?

1 A. St. Louis.
2 Q. And what years?
3 A. 1951 to about 1956.
4 Q. Okay. And before that?
5 A. Before that I was with another company.
6 Q. What company?
7 A. Phillips Petroleum Company.
8 Q. How long were you with Phillips Petroleum Company?
9 A. About four years.
10 Q. From maybe '47 to '51?
11 A. Correct.
12 Q. And before that?
13 A. I was in school. At the university --
14 Q. What school?
15 A. Washington University, St. Louis, Missouri.
16 Q. All right. And you got an engineering degree there?
17 A. Yes.
18 Q. In what discipline?
19 A. Chemical engineering.
20 Q. Okay. And that was a BS degree?
21 A. That was in masters of science.
22 Q. Pardon me?
23 A. Masters of science.
24 Q. Before getting your masters did you have a BS?
25 A. Yes.

1 Q. Same school?

2 A. Yes.

3 Q. Same field?

4 A. Yes.

5 Q. All right. And where were you born and raised?

6 A. St. Louis, Missouri.

7 Q. What was the nature of your job with Phillips Petroleum?

8 A. There were two distinct assignments. The first assignment

9 -- they each lasted about two years. The first assignment

10 was related to a secondary recovery in oil fields.

11 Q. And what does that mean?

12 That involves the use of materials which are injected into

13 a formation to force any residual oil over to a production

14 well so it can be removed from the subsurface. These are

15 practices used in what appear to be spent oil fields. We

16 try to reactivate them. Rejuvenate them.

17 Q. All right. Kind of priming the pump a little bit?

18 A. Yes.

19 Q. All right. What other job did you have there for two years?

20 A. It was involved with the design and specification of

21 equipment for refineries. Petroleum refineries.

22 Q. All right. Was this for the breaking down of petroleum

23 for by-products? Naphtha gas and all that?

24 A. That is correct.

25 Q. In school at Washington University did you specialize in

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1 any particular area of chemical engineering?

2 A. Well, my thesis, I would consider that a specialty, was
3 in electrochemistry.

4 Q. And what does that entail?

5 A. That involves basically the use of electric currents to
6 promote chemical reactions.

7 Q. Okay. During your school years did you ever come in contact
8 with gas chromatography?

9 A. No, sir.

10 Q. During your time with Phillips Petroleum did you ever come
11 in contact with gas chromatography?

12 A. No, sir.

13 Q. When was the first time you ever came in contact with gas
14 chromatography studies?

15 Q. I need some help with the word contact.

16 Q. Well, when did you first become aware of it as a system of
17 testing?

18 A. The middle 60's.

19 Q. Can you give me like a '62, 3, 4, 5?

20 A. About the time I arrived at the Anniston plant. About 1965.

21 Q. Okay. And when you became aware of it, had it been in
22 existence for some period of time before that?

23 MR. JUNGERHELD: What? The plant, you mean?

24 MR. MC GRAW: No. No. You're right.

25 Q. The gas chromatography method of testing?

1 A. It's my understanding it had been and was in an evolutionary
2 state. Was still being developed and its applications were
3 being expanded.

4 Q. All right. How long had it been in existence, to your
5 knowledge?

6 A. It's my impression it was about 10 years.

7 Q. Since about 1955?

8 A. Middle 50's, yes, sir.

9 Q. When you got down to Anniston, your job there was plant
10 manager, is that correct?

11 A. Yes.

12 Q. What were the details of your plant management?

13 MR. JUNGERHELD: You mean his job duties, John?

14 MR. MC GRAW: Right.

15 A. I was responsible for everything that took place in the plant
16 from hiring of people, training of people.

17 Q. Were you the administrator rather than a chemist?

18 A. Yes. Administrator.

19 Q. In the position of an administrator, did you know what was
20 being produced at that plant and how it was being produced
21 and for what purposes?

22 A. Yes.

23 Q. What was being produced at that plant?

24 A. We produced -- would you -- I don't know how to answer.

25 Do you want chemical names or types of products?

1 Q. Types of chemical names first. Then we can go to products.
2 A. All right. We produced chlorine, caustic potash and caustic
3 soda, hydrogen, muriatic acid, terphenyls and quadraphenyls,
4 biphenyl, chlorinated biphenyl, chlorinated terphenyls,
5 phosphorus, pentasulfide.
6 Q. Phosphorus what?
7 A. Penta, p-e-n-t-a sulfide, s-u-l-f-i-d-e.
8 Parathion. I believe that's it. I can't remember any
9 others.
10 Q. Okay. What products do you produce?
11 A. We produce the chlorinated biphenyls, the chlorinated
12 terphenyls, biphenyl itself, the terphenyls, muriatic acid,
13 parathion.
14 Q. Spell that one for us.
15 A. P-a-r-a-t-h-i-o-n.
16 Q. I put a Y. Okay.
17 A. We also produce mixtures of these individual products.
18 Q. Can you give us the names of those?
19 A. They were shipped under tradenames such as Therminol,
20 Pyranol, Inerteen.
21 Q. What was that last one?
22 A. Inerteen. I-n-e-r-t-e-e-n.
23 Q. Okay.
24 A. And Parathion -- no, I'm sorry, that was not a mixture.
25 That was Santowax.

1 Q. Spell that.

2 A. S-a-n-t-o-w-a-x. HB-40. I can't recall any others at the
3 moment.

4 Q. Okay. When you're referring back to any of these chemicals
5 that you mentioned to us are any of them, or leave it that
6 way, are any of them in any form considered to be poison if
7 absorbed by an animal or a human?

8 A. Yes.

9 Q. Are all of them considered such?

10 A. I need some help with the word "absorbed".

11 Q. Well, absorbed by an animal either by eating, drinking,
12 swimming in it, touching it, in the air? In that way.

13 MR. JUNGERHELD: And could you be perhaps dose
14 specific? How much are you talking about?

15 MR. MC GRAW: Well, I'll have to get into it.

16 A. Well, the question as I understand is which of these could
17 be?

18 Q. Yes.

19 A. I would suggest that all of them, dependent on the amount,
20 the time, and the route of exposure.

21 Q. All right. And depending upon those elements, then, if
22 either an animal or a human came in contact with those,
23 depending upon the dosage and the route and the amount, they
24 could have an adverse effect on that animal or human?

25 A. Yes.

1 Q And the adverse effects would vary depending upon those
2 topics?

3 A And the animal and the chemical.

4 Q All right. Including human?

5 A Correct.

6 Q All right. The products that you have listed, are those
7 considered, each and every one of them, to be a poisonous
8 substance if in this same line of chemicals come in contact
9 with human or animals?

10 MR. JUNGERHELD: You mean dependent on time, amount,
11 route?

12 MR. MC GRAW: That's what I said in the question.
13 The same manner I asked with chemicals.

14 MR. JUNGERHELD: Perhaps first when you say
15 considered poisons, considered by whom and in what context?

16 MR. MC GRAW: By the witness.

17 A If by poison we mean can cause some physical harm?

18 Q Well, what is your definition of poison?

19 A Physical harm.

20 Q To the animal or to a human being?

21 A Yes. To a living creature. Yes.

22 Q All right. I'm saying animal. Could be fish, birds,
23 animals, humans. Any living thing, organ, or cell.

24 A Yes.

25 Q All right. Now, can you answer that question?

1 MR. JUNGERHELD: Which question now?

2 Q The question I asked you about are these products considered,
3 in your opinion, a poison? Keeping in mind the question I
4 asked you about the chemicals.

5 MR. JUNGERHELD: Do you follow that?

6 A I think the question says that in the same context as we
7 applied it to the individual chemicals does this same thought
8 apply to the mixtures sold as products?

9 Q Very good.

10 MR. JUNGERHELD: In your opinion, dependent on
11 time, route, so on.

12 Q That was included in the question.

13 A Many variables. Yes.

14 Q All right. When you're talking about the chemical now,
15 chlorine, how was that produced?

16 A Salt solution is exposed to an electrical current and the
17 chlorine is evolved as a result of this exposure.

18 Q And does it come out in either a gas or a liquid?

19 A It's a gas.

20 Q All right. It can be turned into a liquid form?

21 A Yes. At very high pressures.

22 Q All right. And when you're talking about terphenyls,
23 biphenyls, and quadruphenyls, do those include chlorine?

24 A No, sir.

25 Q All right. Tell me what biphenyls are first.

1 A. They're a group of chemicals which consist of, as I remember,
2 12 carbons and associated other elements, such as hydrogen,
3 oxygen, to satisfy the natural order of the things associated
4 with those 12 carbons.

5 Q. Okay. When you're talking about terphenyls, what are they?

6 A. They are again chemicals. In this case instead of the 12
7 carbons, it's an additional six.

8 Q. In other words, 18?

9 A. 18 carbons, yes, sir.

10 Q. Plus the other elements of hydrogen and oxygen?

11 A. Yes. Whatever happens to be available.

12 Q. And what about quadraphenyls?

13 A. That's an addition six carbons. So we're up to 24.

14 Q. 24? Okay. When we're talking about the chlorinated
15 biphenyls, what are we talking about?

16 A. We're talking about the chemical that results when chlorine
17 reacts with the biphenyl.

18 Q. Okay. And when we're talking about chlorinated terphenyls,
19 are we talking really about the same thing, only different
20 chemicals?

21 A. That's right.

22 Q. In other words, you're talking about the interreaction of
23 chlorine with the biphenyl, terphenyls, or quadraphenyl?

24 A. Correct.

25 Q. And do they have certain rings upon which you then place

1 the chemical chlorine?

2 A. There are rings that form by the relationship of the carbon
3 to each other to form a ring.

4 Q All right. Can you take a -- well, let me get a few more
5 questions first.

6 We go now to the products. You said that the same
7 really, biphenyl, terphenyls and quadraphenyls, are chlori-
8 nated, as well?

9 A. Yes.

10 Q What are polychlorinated biphenyls?

11 A. They are mixtures of the different chlorinated biphenyls.

12 Q What do you mean by that, now?

13 A. There are over 200 possible chlorinated biphenyls. Any
14 combination of mixtures of two or more of these 200 would
15 be considered a polychlorinated biphenyl.

16 Q Okay. And if you utilized terphenyls, what is it called?

17 A. Polychlorinated triphenyls would be a mixture of the many
18 possible types.

19 Q All right. Could you give us the chemical makeup on the
20 rings of the chemistries as to polychlorinated biphenyl and
21 where the rings are located and their quantities?

22 A. I will try. I don't know that I quite understand the
23 question.

24 When the chlorine reacts with the biphenyl, it attaches
25 itself to any one of the 12 carbons that are available in a

1 random fashion displacing the hydrogen that was formerly
2 associated with the carbon.

3 Q. So that the chlorine becomes the predominant chemical?

4 A. Not necessarily. Carbon remains the predominant.

5 Q. All right.

6 A. The chlorine becomes attached to any one of the 12 carbons.
7 Anywhere from one chlorine to 10 chlorine. That's the
8 maximum.

9 Q. Do you have in mind how to put these chlorines and carbons
10 around the rings for polychlorinated biphenyls?

11 A. I don't understand the part you have in mind.

12 Q. This is a crude drawing by a lay person, but isn't that
13 something what the rings look like?

14 A. Yes. And each of these corners represents the location of a
15 carbon. Okay. So there are 12 carbons. Two of them
16 connected to each other. For biphenyl, each of these carbons
17 is associated with a hydrogen, except for the two that are
18 connected to each other.

19 Q. Two connected? All right. And how did the rings look with
20 the chlorinated biphenyls?

21 A. Instead of a carbon associated with a hydrogen we would find
22 a chlorine associated with a carbon at any one of these
23 points. One or more up to ten.

24 Q. All right. Is that variable depending upon your production
25 and the manner of your producing the polychlorinated biphenyls?

1 A. It is variable, yes.

2 Q. What is the average or the usual that comes out of it?

3 If you were to sell polychlorinated biphenyls for a purpose

4 of a dielectric, for instance, what would the rings look

5 like as far as the chemical ingredients?

6 A. The rings, they would go from a single chlorine up to eight

7 chlorines. They're detectable up to eight chlorines. From

8 one to eight.

9 Q. All right. And would they be on either side of the

10 connecting carbons?

11 A. Yes.

12 Q. You're talking about one to eight on each side of the

13 connecting carbons?

14 A. Total.

15 Q. Total? All right. And is the product considered a salable

16 polychlorinated biphenyl with only one of the carbons or

17 one of the chlorines attached?

18 A. We have never sold such a product.

19 Q. What is it you usually sell?

20 A. Mixtures.

21 Q. Polychlorinated biphenyls?

22 A. Yes.

23 Q. What do you mean by mixtures?

24 A. It's the result of exposing chlorine to molten biphenyl at

25 given temperatures for given periods of time. And the mass

1 that results in the reaction vessel is what is sold as the
2 biphenyl.

3 Q. Okay. And do you ever then test that to see how the carbons
4 and the hydrogen and the chlorine are made up in these
5 rings?

6 A. Tests have been made, yes.

7 Q. Okay. Could you tell us when you finally get through with
8 your salable product how those rings are that you indicate,
9 the chlorine, the carbons and hydrogen, are around them?

10 A. Yes, I can tell you.

11 Q. All right.

12 A. As I said earlier, you can have the one chlorine and all the
13 others retain their hydrogen to a certain concentration.
14 Then you can have the two chlorines and those two chlorines
15 can be in any combination as long as there are two. They
16 can be one on each ring. They can be on the four corners.
17 They can be opposite each other. Any configuration that
18 one might consider is possible in that random selection of
19 the spot where the chlorine ends up.

20 Q. But does Monsanto strive for a certain number of chlorine
21 parts at each one of these ring points where they consider
22 it a salable polychlorinated biphenyl?

23 A. No. We strive for a given total chlorine reacting with the
24 biphenyl.

25 Q. Which means how much?

1 A.] Anywhere from 21 percent chlorine to 42 percent, 48 percent,
2 54 percent.
3 Q. Okay. If you have a polychlorinated biphenyl called 54
4 percent --
5 A. Yes.
6 Q. -- how would the ring be made up? Can you draw a ring in
7 for us there showing us where the hydrogen chlorinated is
8 located?
9 A. There is no single ring. There may well be over a hundred
10 of those. If you want me to take time to draw you a hundred
11 rings with different chlorine positions?
12 Q. No.
13 A. But it's a random mixture that occurs without man control.
14 It just happens physically and naturally in that reaction
15 vessel.
16 Q. How do you know you got 21, 42, 48 or 54 percent chlorine?
17 A. From experience that dates way back we know after so many
18 hours when chlorine is introduced at a certain rate to a
19 given mass of biphenyl that we will reach a point where
20 the material is the desired level. We then take samples
21 out of the reaction vessel and test for a characteristic
22 and generally, that characteristic is a specific gravity of
23 the mass. What is its weight? And that -- once we have
24 reached the given range that we are satisfied that we're
25 completed with that reaction and we terminate the introduction

1 of the chlorine. That's our finished product.
2 Q Okay. What is the difference between -- as far as your
3 selling the products to different customers, what is the
4 difference that a customer would strive for or you would
5 strive for, between 42, 48, 54 or 60? What is the difference
6 in the product and how does it work and why would certain
7 customers get one and not another? Why do you maybe sell
8 them in the various percentages?

9 MR. JUNGERHELD: A technical objection. I think
10 for probably ease of questioning, all of these questions
11 are being stated in the present tense. Of course, PCB's
12 have been manufactured for some period of time, so I'm sure
13 you're talking about back in the 60's?

14 MR. MC GRAW: I'm talking about back in the 60's
15 when he was down at Anniston. We haven't left Anniston yet.

16 A. Okay. The type of polychlorinated biphenyl requested by
17 the customer was totally dependent on his particular needs
18 and use. The higher the chlorine content, the more viscous
19 the material would be.

20 Q Thicker?

21 A. Much thicker. Like cold molasses.

22 So if a desired characteristic in the end product was
23 a viscous end product they would naturally call for the
24 higher chlorinated material.

25 Also, another consideration would be the degree of

1 fire resistance desired in the end product which in every
2 case was a mixture with many, many other chemicals. If the
3 chemicals that were mixed with the polychlorinated biphenyl
4 had in themselves fire-resistant characteristics, you wouldn't
5 need as high a chlorinated content as PCB.

6 If, on the other hand, they were quite flammable, you
7 would seek the higher chlorinated biphenyl to offset the
8 fireability of the other ingredients.

9 So this really became one of the customer testing in
10 his own facilities the end product and adjusting the mixtures
11 to end up with the conditions that he was looking for.

12 Q. Monsanto in manufacturing these PCB's in the various
13 percentages, I guess what you would call them 1242, 1248,
14 1254, 1260 Aroclors?

15 A. That is Monsanto's trademark and numbering system.

16 Q. So Aroclor 1242, 48, 54, 60 is Monsanto's trademark?

17 A. Correct.

18 Q. So anything that is Aroclor is Monsanto's?

19 A. Correct.

20 Q. What does the 12 stand for?

21 A. That was selected by someone to designate the biphenyl.

22 Q. The 12?

23 A. The one-two, yes. That was -- I have never determined who
24 that was, but that was arbitrarily chosen.

25 Q. The last two numbers indicate the percentage of chlorine in

1 the product?

2 A. Percentage of chlorine by weight.

3 Q. Okay. Now, how did Monsanto put this out to the public?
4 I mean, you're making all of these products of PCB's and
5 from what we've seen in the records literally millions of
6 tons of it. How did you get to the customers and say we have
7 got certain products, PCB's in these varying degrees and
8 weights, percentages?

9 A. At what point in time?

10 Q. In 19 -- well, almost the beginning of you making them back
11 in the 30's?

12 MR. JUNGERHELD: I think perhaps an explanation
13 of what you mean by public would be helpful. I don't believe
14 there's been testimony this was marketed for the general
15 public.

16 MR. MC GRAW: I'm asking the questions. I can't
17 ask everything that you would like me to ask, exactly. So
18 I'll just have to ask questions.

19 If you know the answer, say so. If you don't understand
20 me or any words, just say so, and I'll try to correct them.

21 Q. You are making -- Monsanto is making all these products now?

22 A. Yes.

23 Q. Polychlorinated biphenyls?

24 How did you get it disseminated to the public or to the
25 customers? Was there some sort of a program or ad, or sales

1 program that Monsanto had to bring to the potential customers
2 and the public that you are making this product and you would
3 like to sell it to them?

4 MR. JUNGERHELD: Again I'll object to the use of
5 the word "public" which has the connotation of general
6 public. Perhaps you ought to ask him who it was marketed to.

7 Q Can you answer the question as I gave it to you?

8 A It depends on what point in time we're talking about.

9 Q Okay. Let's back up and start then from the beginning kind
10 of historically, so I can get this in my own mind.

11 A Okay.

12 Q This, as I understand it, was produced somewhere around what,
13 '29?

14 A 1929, yes.

15 Q All right. And by Monsanto?

16 A By Swan Chemical Company in 1929.

17 Q All right. Down in Alabama?

18 A Yes.

19 Q Did that eventually become absorbed by Monsanto?

20 A Yes.

21 Q When?

22 A 1930's. '32, '34. Early 30's.

23 Q So that Monsanto acquired all of the Swan Chemical Company's
24 products?

25 MR. JUNGERHELD: If you know, Bill.

1 A. I don't know about products, no.

2 Q. All right. Did Monsanto acquire the polychlorinated

3 biphenyl product?

4 A. Yes.

5 Q. Okay. So we're talking at least as far as the PCB's are

6 concerned from about 1932, '34 area Monsanto developed and

7 manufactured and continued to develop and manufacture

8 polychlorinated biphenyls?

9 MR. JUNGERHELD: Objection to the word "develop".

10 I think he said it had already been manufactured by Swan,

11 so presumably it was developed by them.

12 MR. MC GRAW: We can't presume anything. We have

13 got to get it from the witness. As much as we'd like to

14 put it down.

15 Q. Didn't Monsanto after acquiring Swan continue to develop and

16 produce polychlorinated biphenyls?

17 A. We certainly continued to produce and following acquisition

18 of the Swan Chemical Company, the other polychlorinated

19 biphenyl series were eventually developed with different

20 chlorine contents.

21 Q. What were the ones that were acquired from Swan?

22 A. To the best of my information, the principal one was the

23 54 percent.

24 Q. 1254?

25 A. 1254.

1 Q. Was this ever altered or changed after Monsanto acquired
2 Swan up until about 1970?
3 A. Not to my knowledge.
4 Q. All right. So as far as Aroclor 1254 is concerned, Monsanto
5 continued to develop that weight and percentage after
6 acquiring Swan and continued to manufacture it up until 1970?
7 A. That word develop I have problems with. I don't know we
8 continued to develop. We continued to produce.
9 Q. Okay. Did Monsanto have the exclusive tradename and trademark
10 on Aroclor 1254?
11 PATRICK MC GRAW: Mr. Papageorge, I would like you
12 to answer these questions without looking at Monsanto's
13 counsel. I notice in answering yes or no to every question,
14 the last four, he's nodding his head --
15 A. I didn't realize I was impacting.
16 MR. JUNGHERELD: I'm going to make a statement for
17 the record that Mr. Papageorge does not need the assistance
18 of counsel to answer these questions nor do we need any
19 theatrics from Mr. McGraw. This witness is not being
20 coached or advised as to how to answer any particular ques-
21 tion, and he doesn't need that kind of assistance, so I
22 categorically deny this theatrical statement for the record.
23 It's just plain untrue.
24 MR. WOODWORTH: You can't see Counsel behind you.
25 Patrick is sitting behind him and he can see. We can put

1 it on the record for all the others behind us.

2 MR. BERGEVIN: As long as we're putting it on the
3 record, I'm sitting across from Mr. Nassif and I have not
4 seen him nodding his head. I have seen him make notes,
5 have conversation with Mr. Jungerheld, but I haven't seen
6 him signaling or what could be considered any signals to the
7 witness.

8 MR. WOODWORTH: Mr. Jungerheld was looking at the
9 witness and I was looking at Mr. Nassif and likewise saw his
10 head nodding.

11 Q Mr. Papageorge, I'm trying to get questions to you and your
12 answers and I just moved down here because of a favor. Do
13 I bother you standing here?

14 A. No.

15 Q It's a little easier for me sometimes to think on my feet.
16 Okay?

17 A. Fine with me.

18 Q Okay. Everybody is at the table behind me.

19 A. As long as they can hear me.

20 Q They can. You're speaking very well.

21 A. Okay.

22 Q Is it correct to say that as far as the production and sale
23 of polychlorinated biphenyls in the United States, Monsanto
24 since the 1934 era up through -- I think you stopped
25 producing it in 1977 --

1 A. That's correct.

2 Q. -- did produce the entire production of Aroclor 1254 in the
3 United States?

4 A. I can't say that.

5 Q. Why?

6 A. Because there's some reports that I was made aware of that
7 others in this country produced polychlorinated biphenyls
8 either intentionally or inadvertently.

9 Q. Do you know who they are?

10 A. I have had some names of companies.

11 Q. Who?

12 A. I recall personally two of them in this country. A Coastal
13 Chemical Company..

14 Q. Located where?

15 A. As I remember, it was near the gulf coast. Texas.

16 And another company, Geneva. I believe it's Geneva
17 Chemicals or Geneva -- I don't remember the formal -- Geneva
18 is the only part of the name I do recall. They were also
19 associated with the gulf coast. I would say Texas, also.

20 Q. Do you know when you learned of this?

21 A. Yes. It was 1971 as best I recall.

22 Q. Do you know when they manufactured it?

23 A. No.

24 Q. Do you know how much they manufactured?

25 A. No.

1 Q Do you know to whom they sold it?

2 A Not specifically.

3 Q What does that mean?

4 A I know that when we announced the termination of sales to

5 heat transfer units --

6 Q In 1970?

7 A -- in 19 -- I think in 1971 is when we decided to phase out

8 of heat transfer application. Some of our ex-customers

9 informed Monsanto representatives that they were able to

10 get replacement material from these two companies and others

11 that were not mentioned to me by name.

12 Q These were customers requiring PCB's for transformers,

13 electrical dielectrics?

14 A No. These were heat transfer systems. Heat transfer fluids.

15 Q Used in what?

16 A Heating systems.

17 Q Okay. And was the PCB that you manufactured sold to those

18 customers for use in heating systems?

19 MR. JUNGERHELD: At what time, now?

20 MR. MC GRAW: At any time?

21 A Up until the announced withdrawal from that application, yes.

22 Q Did you ever know how -- or could you tell us how the

23 polychlorinated biphenyls were used in the heat systems?

24 Was it just a liquid put into a container?

25 A The typical system consists of a reservoir of polychlorinated

1 biphenyls normally located in a remote part of a facility
2 which are heated by open flame-type systems, natural gas or
3 oil, up to a given temperature, and the hot polychlorinated
4 biphenyl is then pumped into another part of the facility
5 where its heat is used to perform some heating service.
6 Such as just space heating, or distillation, or cooking
7 varnishes, or even baking bread. It's a source of heat
8 that --

9 Q But it would be the heat that is coming off of a container
10 of some kind inside of which is the PCB's?

11 A That's correct.

12 Q So in no way are the PCB chemicals or liquid coming in
13 contact with any living thing?

14 A That is correct.

15 Q All right. And to your knowledge, that's the only two
16 companies you know of that were maybe competing with Monsanto
17 with PCB's and to your knowledge from your customers they
18 sold only to people with heat treating systems?

19 A No. I don't know that. All I know is that the customers
20 that had these systems indicated they could get material
21 from these two sources.

22 Q Do you have any personal knowledge or does Monsanto have any
23 personal knowledge that these two companies ever sold their
24 products to any other customers in the United States other
25 than the heat treatment people?

1 A. No, I don't.

2 Q. So insofar as what we have talked about on those exceptions
3 for those two companies, did Monsanto produce and sell
4 exclusively in the United States the Aroclors 1221, 42, 48,
5 54 and 60's?

6 MR. JUNGERHELD: You're talking specifically about
7 the tradename Aroclor as opposed to PCB's with those
8 characteristics?

9 MR. MC GRAW: We have established Aroclor is a
10 tradename. That's why I asked him.

11 A. Not exclusively in the United States, no.

12 Q. You sold it out of the United States?

13 A. Yes.

14 Q. But inside of the United States, was Monsanto the only
15 producer and seller of Aroclors?

16 A. No.

17 Q. Who else was, besides those two companies?

18 A. That's all I know of. Those two.

19 Q. Okay. Do you know whether those two companies called their
20 product an Aroclor?

21 A. No.

22 Q. They didn't?

23 A. I do not know.

24 Q. Okay.

25 A. I do not know.

1 Q. Would you have any knowledge or experience in your career
2 in the field before and while with Monsanto that any other
3 organization produced and attempted to sell PCB's under the
4 tradename of Aroclor?

5 A. I do not have any knowledge.

6 Q. If in your opinion they did, would Monsanto have taken some
7 legal action to have prevented the impingement of their
8 pattern and tradename?

9 MR. JUNGERHELD: I'll object to that unless there's
10 some foundation laid that he would know the legal require-
11 ment or what the legal --

12 Q. As a legal administrator would you be obliged to notify the
13 legal department of an impingement if you had heard of it?

14 A. Yes.

15 Q. Did you ever inform the legal department of the knowledge
16 you learned in '71 about the heat treatment usage of PCB's
17 by those other two companies in Texas?

18 MR. JUNGERHELD: He wasn't the plant manager in
19 1971, sir.

20 Q. You were the administrator at Anniston in '71. You were in
21 environmental control. So in any one of those positions
22 we talked about?

23 A. I informed attorneys of this finding.

24 Q. In the company?

25 A. In the company, yes, sir.

1 Q. All right. But do you know whether or not any action was
2 taken by Monsanto against those companies?

3 A. Yes.

4 Q. What was done, and when?

5 A. We attempted to verify the report and I personally recall
6 -- I don't remember the individual's name, but it was an
7 individual with the United States, at that time, Geological
8 Survey, who I understand had much to say about what goes
9 on in the offshore drilling and oil and gas producing
10 platforms in the Gulf Coast, and asked him if he was aware
11 of this source of polychlorinated biphenyls and as I recall,
12 he was not personally aware, but offered to look into it,
13 because the government was most interested in the termination
14 of this application.

15 That was my personal involvement.

16 I also talked to someone in Washington within the
17 Environmental Protection Agency. I don't recall the person's
18 name. And they offered to look into it, also.

19 Q. Did you personally go down to Texas and look into it?

20 A. No.

21 Q. When you made this knowledge known to your people in Monsanto
22 and you made this known to the EPA in Washington and to
23 the people with the digging operations in the gulf, did you
24 send letters out on that?

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

1 Q. Just telephone calls?

2 A. Yes.

3 Q. Did you make memorandums of your knowledge and also your

4 telephone conferences and with whom and what you discussed?

5 A. I don't recall any memorandum, no.

6 Q. Was this all completely in your head? Transferred out of

7 your head and never recorded in any form whatsoever at

8 Monsanto?

9 A. That's right.

10 Q. When you were selling this 1254 to customers I understand

11 that it primarily, as far as Monsanto is concerned and has

12 stated in a few instances, it was used in a dielectric?

13 A. That's one of its uses, yes.

14 Q. But it's not its exclusive use, is it?

15 A. That's correct.

16 Q. As a matter of fact, your sales receipts show that at some

17 point of time in the 60's, mid-60's and up until '70, there

18 was almost an equal amount of sales to nonelectric users of

19 PCB's?

20 A. I don't recall the specific numbers. I can't respond to that.

21 (Whereupon a recess was taken.)

22 Q. I'm going to show you what was received from our discovery

23 process as a newsletter release for 1971 from Monsanto

24 Industrial Chemicals Company, E. V. John.

25 Who is that?

1 A. He's a Monsanto employee who was in the public relations
2 department and was the author of this document.
3 Q. All right. Have you read this document?
4 A. I recall seeing it, yes, sir.
5 Q. Recently?
6 A. Yes.
7 Q. You have had an opportunity for the last two days we know
8 of to at least talk with Mr. Jungerheld and go over those
9 files and records and acquaint yourself with them.
10 MR. JUNGERHELD: You're wrong. It hasn't been two
11 days, Mr. McGraw. Unless you have a spy here. But your
12 spy is misinforming you.
13 MR. MC GRAW: That's what you told us.
14 MR. JUNGERHELD: No, it's not.
15 MR. MC GRAW: That's what you told the judge, in
16 any event.
17 MR. JUNGERHELD: Misrepresented.
18 Why don't you mark that as long as we're looking at it.
19 MR. MC GRAW: We will.
20 Q. Do you recognize this letter? Look at it first.
21 A. Yes. I remember it.
22 MR. MC GRAW: Okay. We'll offer it.
23 (Whereupon Plaintiff's Deposition Exhibit No. 1
24 was marked for identification purposes.)
25 Q. I'll show you now what we have looked at here marked

1 Plaintiff's Exhibit No. 1 today and it contains one, two,
2 three typewritten pages and one chart. Is that correct?

3 A. That is correct.

4 Q. Okay. In the release --

5 MR. JUNGERHELD: Let Counsel see that before you
6 question the witness about it.

7 Q. In the Exhibit 1, which you have now looked at yourself
8 and your counsel has, the report says:

9 "Monsanto Company announced today it has released
10 figures to the United States Department of Commerce
11 showing the company's U. S. production and sales of
12 polychlorinated biphenyl (PCB) from 1960 through
13 estimated 1971."

14 "Closed-system electrical uses ranged from 11,000 tons
15 per year to 20,000 tons per year during the period."

16 "The report also shows Monsanto voluntarily reduced
17 its nonelectrical sales of PCB from the high of 16,000
18 tons in 1970 to 4,400 tons in 1971. Substantial further
19 reduction will be accomplished in 1972, the company
20 said."

21 Keeping that in mind and referring to the chart showing
22 the various years from 1960 to 1971 with the total U. S.
23 production versus the domestic sales of electrical versus
24 all others, as we're looking through from 1965, 1965 upwards,
25 were sometimes a little bit more than half of all sales in

1 the U. S. going to all other users than electric users?
2 Would that be fair to say?

3 A. Yes.

4 Q. As a matter of fact, almost equal in usage in the year '69
5 and '70 to electrical versus nonelectrical?

6 A. Almost.

7 Q. Okay.

8 A. There's still a difference.

9 Q. So that basically the utilization of polychlorinated biphenyl
10 or PCB and their sales, rather, by Monsanto to the public
11 had been in 1960 to 1971 at least half or more to nonelec-
12 trical users?

13 MR. JUNGERHELD: I'll object to that. The document
14 speaks for itself and it shows, for instance, from '60
15 through '65 much smaller amounts going to nonelectrical users
16 than to electrical users. So I object to the characteriza-
17 tion. It does not accurately reflect what is on that chart.

18 MR. MC GRAW: He agreed a moment ago. Before your
19 statement he agreed with that.

20 MR. JUNGERHELD: I don't care.

21 A. I don't believe I agreed. You mentioned it was about two
22 to one in the early years and about one to one in the later
23 years.

24 Q. Yes.

25 A. Your summary didn't reflect that.

1 Q So we're talking in here 1964? Is that -- to nonusers versus
2 electrical users. Is that more than half?

3 MR. JUNGERHELD: Is what more than half?

4 Q Is the sale to nonusers over -- or rather more than half of
5 your sales as to electrical users?

6 MR. JUNGERHELD: In 1964, you're talking?

7 MR. MC GRAW: That's what I said.

8 A. The numbers 13,769 tons versus 8,666 tons, yes.

9 Q So the answer to that simply is in 1964 over half of the
10 sales went to -- versus electrical sales went to nonusers?

11 MR. JUNGERHELD: I object to the form of that
12 question. Over half of the sales sounds like you're asking
13 over half of all sales went ton nonelectric users. That's
14 not what that chart shows.

15 Q Does that chart show as to all other users more than half
16 were made -- more than half the number of sales were made
17 then to electrical insulating liquids?

18 MR. JUNGERHELD: I object to the form of that
19 question.

20 A. I'm confused, because if I add those two numbers and take
21 half of that, it does not equal the 8,666.

22 Q What is half? 13 and 8 is what?

23 A. It's about 14. Plus 8 is 22. So half would be 11. 11 is
24 certainly greater than 8,666.

25 Q Okay. What have we got? 13,000 -- 13,000 is that?

1 A. It's 13,769 short tons.

2 Q. Okay. 13,000 tons sold to electrical users?

3 A. Correct.

4 Q. 8,600 tons sold to nonelectric users?

5 A. Correct.

6 MR. JUNGERHELD: In '64.

7 Q. In '64. So as far as the numbers are concerned, you're
8 almost approaching the same amount to all other users as you
9 are to the electric users?

10 MR. JUNGERHELD: No.

11 A. I can't agree to that.

12 MR. JUNGERHELD: Objection to the form of the
13 question.

14 Q. In '65, 16,000 to electric users and 9,600 tons to non-
15 electric users?

16 A. Correct.

17 Q. Okay. What percentage would you call that in 1964 of non-
18 electric users?

19 MR. JUNGERHELD: I don't understand the question.
20 Percentage of what? Percentage of the total sold? Or
21 percentage of the nonelectric versus the electric?

22 Q. What percentage is the nonelectric to the electric sales in
23 1964?

24 MR. JUNGERHELD: Percentage of total sales?

25 MR. MC GRAW: That's what they amount to, those

1 figures.

2 MR. JUNGERHELD: Or do you mean the 86 figure to
3 the 13-7 figure? Do you understand what he wants, Bill?

4 A. Not really.

5 MR. JUNGERHELD: I don't, either. The document
6 speaks for itself.

7 MR. MC GRAW: No, it doesn't.

8 MR. JUNGERHELD: It certainly does. If you want
9 him to read this thing to you --

10 MR. MC GRAW: I want to know the percentage of
11 differences of sales of all other users in 1964.

12 A. May I attempt an answer?

13 Q. Sure.

14 A. The total sales add up to about 22,000 short tons. Of that
15 22,000 we have a little over -- well, actually 8,666 ton
16 went to users other than electrical. That, if my mental
17 arithmetic is good, is about 40 percent of the total went
18 to this nonuse. Therefore, the 60 percent went into the
19 electrical use.

20 Q. Okay. So when we get up here to 1966, what are we talking
21 about in percentages?

22 A. Just real quickly here without a calculator, looks like 10
23 divided by 29 is about one in three. Talking about 33
24 percent.

25 Q. And when we're up to '69?

1 A. '69 we were 15 divided by 33. You're approaching closer
2 to 50 percent there.

3 Q. Okay. So at least back in '64 and rising up, you're some-
4 where around the 33, 35 to 40 percent until you reach up
5 around '69, you're reaching what, close to 50 percent?

6 A. That is correct.

7 Q. Okay. Now, from your knowledge where were the sales and to
8 what customers were the nonelectrics going to? What customers
9 were using the Aroclor 1254 Monsanto sold other than for
10 electrical use? What kind of customers?

11 A. Your heat transfer applications. Like the system we referred
12 to earlier. There were uses in hydraulic fluids. There were
13 uses in -- as a plasticizer in synthetic rubber. There were
14 uses in adhesives. There were uses in caulking. Sealing
15 kinds of materials. Special coatings. Varnishes. Paints.

16 MR. JUNGERHELD: Counsel, before you remove that
17 chart, one point of clarification should be asked so we don't
18 have to dig it out again.

19 Mr. Papageorge, does that chart purport to reflect
20 sales of all PCB's as opposed to just Aroclor 54?

21 A. This covers all of them. Not 54 alone.

22 Q. The same properties we discussed earlier about the effect on
23 human or animal or live cells affects all PCB's, not just
24 1254, isn't that correct?

25 MR. JUNGERHELD: Objection to the form of the

1 question.

2 A. The same properties?

3 Q. All the Aroclors, the PCB's, 42, 48, 54, 60, have the similar
4 effects on human, animal and living cells?

5 MR. JUNGERHELD: Objection to the form of that
6 question. That misstates earlier testimony.

7 MR. MC GRAW: I'm just asking him.

8 MR. JUNGERHELD: You're telling him.

9 MR. MC GRAW: So what? It's cross-examination.

10 MR. JUNGERHELD: Objection to the form of the
11 question and misstating prior testimony -- let me finish my
12 objection. Objection to the form of the question and mis-
13 statement of prior testimony.

14 A. My answer is no.

15 Q. All right. Is there a varying effect on living things
16 between 42 percent, 54 percent and 60 percent?

17 A. Yes.

18 Q. And as the number goes higher, there's a greater effect on
19 living cells?

20 MR. JUNGERHELD: Objection. Unless you specify
21 what kind of living specimens you're talking about. Snails
22 or what?

23 MR. WOODWORTH: I thought we had an agreement
24 about objections. We didn't object when you redeposed the
25 Haleys. We went through hours and hours of deposition

1 without an objection. We had an agreement to withhold
2 objections. Now we're getting an objection every single
3 question. Is the agreement off?

4 MR. JUNGERHELD: My deposition isn't being taken.

5 MR. WOODWORTH: You were a party to the agreement.

6 MR. MC GRAW: You're making testimony.

7 MR. JUNGERHELD: No. I object to that character-
8 ization.

9 THE WITNESS: Would someone repeat the question?

10 MR. MC GRAW: Would you please read that question
11 back?

12 (Whereupon the question was read back by the
13 reporter.)

14 A. I don't know that I have the proper understanding of the
15 effect on living cells to answer the question.

16 Q. What about on animals?

17 A. On animals, there is a different effect exhibited by the
18 different Aroclors you described.

19 Q. And as they go higher in their percentage, the effect is
20 more?

21 A. This varies with the species of animal under consideration.

22 Q. And in general it goes higher with the higher number as far
23 as the effect on the animal?

24 A. I can't generalize. No, I can't say that.

25 Q. In rats?

1 A. In rats the answer would be yes.
2 Q. In monkeys?
3 A. I don't know about monkeys.
4 Q. You never read anything about monkeys?
5 A. No.
6 Q. Never read any studies about monkeys?
7 A. I was not involved with PCB's at the time the monkey studies
8 were originated and reported.
9 Q. In your job as environmental program director, have you read
10 all of the reports on investigations of PCB's?
11 A. I suspect not.
12 Q. You have never read any on monkeys?
13 A. That is correct.
14 Q. What about mink?
15 A. What about them?
16 Q. Well, did you read any studies about mink?
17 A. I can recall a report out of the University here in Michigan,
18 yes.
19 Q. And --
20 A. Yes.
21 Q. And the higher the PCB chlorination, the more effect it would
22 have on the mink?
23 A. I recall that, yes.
24 Q. And the same would be true of rabbits?
25 A. I don't know anything about rabbits.

1 Q Any other animals that you read about?

2 A The beagle dog.

3 Q And as far as the dog is concerned, the higher the

4 chlorination, the more the effect?

5 A That's true.

6 Q Birds?

7 A And leghorn chickens.

8 Q The higher the --

9 A Which was not true -- it seemed that the lower chlorinated

10 had an effect on the chickens rather than the higher. It

11 was the reverse.

12 Q Was there a test on the chickens of 42, 48, 54 and 60?

13 A The test included 42 percent, 54 percent and 60 percent.

14 Not the 48.

15 Q Okay. As far as the sales now to the nonelectrical users

16 that we have been talking about, would that include the use

17 as a plasticizer?

18 A Yes.

19 Q What is a plasticizer?

20 A The expression plasticizer is normally applied to those

21 materials that are added to synthetic materials to give them

22 flexibility and pliability. Workability.

23 Q And the Aroclors were sold to various customers who you knew

24 were manufacturing plasticizers and using the Aroclors in

25 that process as an end product or a component of their

1 product. Would that be true?

2 A. No. Because you referred to manufacturers of plasticizers.

3 Aroclor in itself was a plasticizer.

4 Q. I see. Was the Aroclor itself sold to outside customers to

5 be used as such as produced and manufactured by Monsanto

6 as a plasticizer?

7 A. Yes.

8 Q. And to be applied to what in that form?

9 A. Whatever --

10 MR. JUNGERHELD: In what form?

11 MR. MC GRAW: In the form they sold it.

12 A. The customer would normally add the material purchased from

13 Monsanto to his recipe to end up with his finished product.

14 Q. All right. And then did Monsanto deal with people who were

15 using this -- the Aroclors as the plasticizer? Did Monsanto

16 engineers, chemists, administrators, yourself, go to these

17 customers to find out how they were using them?

18 MR. JUNGERHELD: That's a multipart question.

19 Who are you asking about? Him or other people?

20 MR. MC GRAW: He speaks on behalf of Monsanto.

21 MR. JUNGERHELD: That's still not clear. Are you

22 asking him what he himself did?

23 MR. MC GRAW: What he knows. Then I'm going to

24 find out where he got it.

25 A. There were Monsanto representatives in the position to visit

1 and observe and know about the applications of many of its
2 products. But not necessarily all of its applications.

3 Q Was the production and sale of PCB's a large percentage or
4 portion of the total sales of Monsanto?

5 A. No.

6 Q About what percentage was it of Monsanto's total income?

7 A. I don't know.

8 Q Half?

9 A. I don't know.

10 Q More?

11 MR. JUNGERHELD: Objection. He's answered the
12 question.

13 A. I do not know.

14 Q All right. It was at least a large part of Monsanto's
15 business? That is the production and sale of PCB's. Would
16 that be true?

17 MR. JUNGERHELD: I object. He's answered that
18 question three times.

19 MR. MC GRAW: I can explore it different ways. I'm
20 not limited to what you suggest.

21 MR. JUNGERHELD: I don't care about a debate. I'm
22 putting my position on the record.

23 MR. MC GRAW: I don't care about that.

24 MR. JUNGERHELD: He will if it's put to him
25 improperly.

1 MR. MC GRAW: He's going to answer the question.

2 MR. JUNGERHELD: If it can be answered.

3 MR. MC GRAW: He's going to answer whatever I ask
4 him.

5 MR. JUNGERHELD: That remains to be seen. Get
6 around to a question that makes sense. That's a possibility.

7 Q Was it the business of Monsanto in the production and sale
8 of their products, just overall, all products, to have field
9 representatives go out to customers to whom they sold their
10 products to see how they were using them and to maybe
11 promote other uses or additional uses so as to increase the
12 sales and productivity of Monsanto?

13 A. There's several points to your question.

14 Q. Can you handle it?

15 A. It was a practice of Monsanto representatives to make calls
16 on customers and potential customers and describe the
17 products that they were selling and find additional uses.

18 The first part of your question referred to was it a
19 policy or a practice for these representatives to make it
20 a point to go into the customer's plants and discover
21 exactly how the product was handled and used. I'm not aware
22 of any such policy.

23 In fact, I'm aware in many cases our customers will
24 not permit our people to go on their premises to observe
25 the operation.

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1 Q. Did you in any of your positions with Monsanto Company go
2 out in the field and check on the customers to whom you were
3 selling, let's stick to PCB's, and see how they were using
4 it?
5 A. I did do that, yes.
6 Q. When was that, Mr. Papageorge?
7 A. 1970-71.
8 Q. Did you before that time do it?
9 A. No.
10 Q. Did somebody else for Monsanto, to your knowledge do that?
11 A. Yes.
12 Q. Who?
13 A. All salesmen assigned the responsibility for selling PCB's
14 at one time or another.
15 Q. So at least within your knowledge you knew that salesmen
16 from Monsanto would go out to see the customers to whom
17 PCB's were sold to see how they were using it? To see
18 whether or not they could sell more or put it to other
19 applications and at least boost the sales of Monsanto, if
20 possible?
21 MR. JUNGERHELD: Objection to the compound nature
22 of the question.
23 A. Well, I have to answer that by saying not in every case.
24 But in some cases, that would apply.
25 Q. Was it a good practice as far as you were concerned in your

1 positions with Monsanto for Monsanto as a company to follow
2 up on their sales of their products to see how they were
3 being used in the field? Was that good industry practice?

4 A. Yes.

5 Q. And Monsanto followed that type of a practice?

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

7 Q. All right. To those customers, nonelectric that you sold
8 PCB's to, would this include the salesmen going out to see
9 those people and see how they were using the PCB's and in
10 what manner and how they might help with their usage and
11 production?

12 MR. JUNGERHELD: Objection to the compound nature
13 of that question.

14 A. At his discretion and based on his priorities, he may or
15 may not follow up on PCB as compared to the other products
16 he's selling.

17 Q. All right. So in one instance you're saying that as to
18 any specific customer a salesman might not follow up on how
19 the customer who purchases PCB's is using it?

20 A. That's correct.

21 Q. And on the other hand, he may follow up on it?

22 A. It's his decision.

23 Q. All right. It is not a policy or practice or a requirement
24 then of Monsanto that the salesman is to in all cases for
25 sales of PCB's to nonelectric users to follow up and see

1 how they're using it?

2 A. That is correct.

3 Q. It is discretionary completely with the salesman attached
4 or assigned to that area or to that customer to see how or
5 in what way they are utilizing PCB's in their products?

6 A. Yes.

7 Q. Would it be the practice and policy of Monsanto to themselves
8 get a product from a customer to see how it was being used
9 to see whether or not they, Monsanto, through their chemistry
10 department, their engineering department, so on, could help
11 in suggesting better ways of producing it or utilizing a
12 different PCB in strength?

13 A. It is possible, yes.

14 Q. Was it done?

15 A. I'm under the impression it was done. But I never saw it
16 personally with my own eyes.

17 Q. Okay. But being in your position in the company you knew it
18 was being done?

19 A. That was my understanding.

20 Q. All right. As to the use of PCB's when you were at Sauget
21 -- is it Illinois?

22 A. Sauget.

23 Q. French name?

24 A. French, yes.

25 Q. When you were there what, '60 to '65?

1 A. '64 to '65.

2 Q. What was your job there at that time, again?

3 A. I was involved with manufacturing.

4 Q. All right. And give us a little detail of how you were
5 involved with manufacturing at that point.

6 A. I was assigned at an administrative level several operating
7 units representing roughly a third of the capabilities in
8 that plant.

9 Q. And was there any specific product that was manufactured
10 there that you oversaw?

11 A. Yes.

12 Q. What?

13 A. Phenyl and some rubber chemicals and some chlorinated phenyl.
14 I believe that represents the major products.

15 Q. Did that plant produce PCB's?

16 A. Yes.

17 Q. And did that plant produce all of these PCB's -- I should
18 put it a different way, all of the different weights of
19 PCB's?

20 A. Yes.

21 Q. When I say weights, what weights are we talking about so that
22 if you and I are talking later we talk about weights in
23 general we know what we're talking about?

24 A. If I understand it, we're talking about the percent of
25 chlorine by weight in each of the mixes that we sold as

1 products. 21 percent, 42 percent, 48 percent, 54 percent,
2 60 percent.

3 Q All right. Now, that combination of weights as you have
4 just explained them, can we just refer to them as weights
5 rather than designate a number?

6 A. That's all right with me.

7 Q So was the Sauget plant producing all of those weights?

8 A. Yes.

9 Q And was the Sauget plant selling to both electric and
10 nonelectric users or just to one of those categories?

11 A. To any category.

12 Q Any category?

13 A. Yes, sir.

14 Q Including electric, nonelectric?

15 A. That is correct.

16 Q Are we utilizing all of the categories that it was produced
17 for and used for, PCB's, when we say electrical and non-
18 electrical? Or was there some other use or product
19 developed of PCB's that is in another category other than
20 electric and nonelectric?

21 A. I don't know of any other. It's either electrical or it
22 isn't.

23 Q Okay. So that covers the total categorization of PCB's
24 production, use and sales?

25 A. Correct.

1 Q. All right. At that Sauget plant did you personally go out
2 into the field and see customers, electric and nonelectric?
3 A. Well, I did not go see any customers but I was not involved
4 with PCB's at that time.
5 Q. Okay. But the plant was manufacturing them?
6 A. Yes.
7 Q. In your position as manager --
8 A. Yes, sir.
9 Q. -- did you have under your control everything that was
10 manufactured at that plant as a manager position?
11 A. I'm confused now. As manager I associated with the Alabama
12 plant. Is that what we're talking about?
13 Q. We're still at Sauget.
14 A. The title was general superintendent.
15 Q. Okay.
16 A. I reported to the plant manager.
17 Q. Okay. As general superintendent did you have jurisdiction
18 and supervision over all the products that were manufactured
19 there?
20 A. No, sir. Just about a third of the products.
21 Q. Were there other general superintendents over other --
22 A. Yes, sir.
23 Q. All right. Did your general superintendency include any of
24 the PCB's?
25 A. No.

1 Q. But you know that they were manufactured there?

2 A. Yes.

3 Q. Distributed and sold to customers from there?

4 A. Yes.

5 Q. The same when you were going back now to the Anniston plant?

6 There you were manager?

7 A. Yes.

8 Q. Did you oversee the entire production of that entire plant?

9 A. Yes, sir.

10 Q. Which included PCB's?

11 A. Yes, sir.

12 Q. And included PCB sales to electric and nonelectric?

13 A. Yes.

14 Q. Did you, when you were at Anniston, go out to the customers

15 to whom PCB's were sold and see how they were using it?

16 A. No.

17 Q. Did you have underneath you men whom you controlled that you

18 would say go out to these customers and see how they were

19 using it? See if we can promote any more sales? See if we

20 can help them? See if we can utilize any of their tests to

21 further products of our own? Things of that nature?

22 A. No.

23 Q. What was your job as manager as far as contact with

24 outsiders? Customers?

25 A. That was not part of my assignment.

1 Q People under you did that?
2 A No.
3 Q Over you?
4 A No.
5 Q Nobody from Anniston went out to see customers?
6 A That is correct.
7 Q They sold their products out of Anniston directly from
8 Anniston to customers in the field?
9 A Correct.
10 Q But no one from Anniston went to see the customers?
11 A That's correct.
12 Q The products that were sold out of Anniston to customers in
13 the field, did anybody from Monsanto's whole complex,
14 wherever they were located, ever follow up on those sales
15 and visit customers in the field? Sales from Anniston?
16 A Yes.
17 Q Where would they come from?
18 A They would normally be the marketing representative.
19 Occasionally accompanied by a research individual or a
20 commercial development individual.
21 Q Where would they come from?
22 A Generally -- well, the marketing representative would come
23 from the office out of which he operated, which could be one
24 of several locations throughout the country. Generally the
25 -- if a technical individual was required, he would

1 generally come out of the St. Louis laboratory.

2 Q. But was it generally at least the practice that whatever was
3 sold from Anniston or Sauget or any of the manufacturing
4 plants of Monsanto that somewhere along the line customer
5 contact was made?

6 A. Yes.

7 Q. And if it was something like the PCB's sold out of Anniston
8 maybe to Indiana, somebody around that territory employed by
9 Monsanto would go to that Indiana purchaser and give him some
10 help if need be or try to promote sales of that and more?

11 A. Not necessarily.

12 Q. All right. So that a customer who buys a quantity of PCB's
13 out of Anniston may never see a Monsanto representative?

14 A. That is correct.

15 Q. Was there any instruction booklets or pamphlets or writings
16 of any kind that accompanied the sales of PCB's in any form,
17 small cans, large, bulk, railroad car, anything else, that
18 went to the customers to what this product is, what the PCB's
19 are, how they can be used and their properties?

20 A. Would you help me with the word accompany the sale?

21 Q. Yes. Either on the containers themselves or with the
22 containers or attached to sales receipts or in any way mailed
23 to the customer from any source whatsoever? I bought a can.
24 Here's the instructions and use and what the properties are.
25 I bought it in bulk. I got a letter from Monsanto's

1 agency. No matter where it's from. I have a booklet,
2 pamphlet, or whatever, somewhere from Monsanto about the
3 product I just bought. Tells me what it is. How I'm to use
4 it and what precautions or mixtures, so on, to use it for.

5 MR. JUNGERHELD: Is this question now about PCB's?

6 MR. MC GRAW: Yes.

7 A. This is -- there was in every instance a lable associated with
8 the package that contained the PCB. There is also available
9 literature describing the characteristics of these PCB's
10 and some of the known applications. The literature would
11 be available upon request or could be delivered by a
12 Monsanto representative when he made a call to follow up on
13 an inquiry.

14 So literature was available on a need basis.

15 Q. On a need basis?

16 A. Yes. As distinguished from just a general mailing to whom-
17 ever it may concern kind of list.

18 Q. Do you have a copy of the labels that were used in 1960
19 through 1970?

20 A. I personally don't have them.

21 Q. Did you turn one over to your counsel?

22 A. Yes. I understand they have been submitted as documents
23 already introduced in this matter.

24 Q. Have you seen that in the last few days or before you came
25 here?

1 A. Yes.

2 MR. MC GRAW: Do we have a copy of that we could
3 see?

4 MR. JUNGERHELD: Are you asking me?

5 MR. MC GRAW: Yes.

6 MR. JUNGERHELD: I don't have one.
7 You may have one.

8 MR. MC GRAW: Do you have one here in the office
9 that you have seen?

10 MR. JUNGERHELD: I suppose someplace. I'll have
11 to go dig it out.

12 Don't you have one available? If you want to talk to
13 him about labels --

14 MR. MC GRAW: Brought a stack of stuff.

15 Q. When did you last see a copy of the label?

16 MR. JUNGERHELD: The label -- I think there have
17 been several submitted to you. Different ones at different
18 times.

19 A. I saw one of those last Thursday -- no, I wasn't here
20 Thursday.

21 Q. In St. Louis?

22 A. In St. Louis, yes.

23 Q. Did you bring them with you?

24 A. No.

25 Q. You received a request to produce certain documents here

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1 today, did you not, in the mail?

2 A. Yes, sir.

3 Q. Did you produce any of those documents? Do you have them
4 with you?

5 MR. JUNGERHELD: Counsel, we have -- I think it's
6 being typed now, is it not? We have prepared a response to
7 your -- your late-filed notice to produce and in the limited
8 time available that notice to produce has been analyzed and
9 responded to and the responses were typed and I think they're
10 being corrected and retyped now.

11 MR. NASSIF: I think there were a few typos in
12 the last edition. I asked them to retype them and insert
13 the correct spellings of some names and she's doing that right
14 now.

15 MR. MC GRAW: But did you bring any of the docu-
16 ments with you? Any documents at all? Papers? Letters?

17 MR. JUNGERHELD: Did he physically do that, you're
18 asking him?

19 MR. MC GRAW: Yes. Did you bring them with you
20 or your counsel, or anybody bring with them to this deposi-
21 tion today?

22 A. I didn't bring any personally. I turned it over to counsel
23 and asked them to prepare it.

24 Q. Do you know if Counsel has brought any of the things in that?

25 A. He brought some things.

1 Q Do they have them here I could look at?

2 A I don't have them personally. I don't know where they are.

3 MR. MC GRAW: Are they here so we can look at them?

4 MR. JUNGERHELD: They're being typed now. When

5 they're done, they'll be available for you.

6 MR. MC GRAW: The answers?

7 MR. JUNGERHELD: That's right.

8 MR. MC GRAW: What about the documents?

9 MR. JUNGERHELD: Those that are available and those

10 that are discoverable are attached to the answers.

11 MR. MC GRAW: Can we see those?

12 MR. JUNGERHELD: Yes. I just told you as soon as

13 she's done with them you can see them.

14 Q Do you happen to recall what type of label it was you're

15 talking about? Is it just a little pasted-on label to a

16 can? Or what labels are you talking about? Describe them

17 to me.

18 A Oh, it's a -- it is pasted onto the container. It measures,

19 as best I recall, seven inches by 10 inches, or five by

20 seven, somewhere in that range. It describes the material

21 by tradename and then there's a generic reference, as I

22 remember, chlorinated polyphenyls. It's a chemically

23 generic description. And then it has the statements

24 regarding respiratory exposure. To avoid breathing. Avoid

25 skin contact. That's all I remember.

1 And then, of course, it has the weight, net weight,
2 tare weight, gross weight features.

3 Q Was this the type of label that was put on cans from 1960
4 on up to 1970?

5 A. Yes.

6 Q Do you remember when it was first developed?

7 A. Well, it goes all the way back to the 30's when it was first
8 shipped.

9 Q All right. And that kind of a lable with that kind of
10 information on it went back to the 30's?

11 A. Basically so, yes. To the best of my knowledge.

12 Q You mentioned that it had some warnings on there about
13 inhalation of the fumes?

14 A. Yes.

15 Q Why was that?

16 A. As a result of animal testing conducted in the 30's, then
17 repeated in the 40's and 50's, it was determined that the
18 hot vapors would irritate the respiratory system and it
19 of course -- of course this was our method of determining
20 the effects of these materials on humans and passing it on
21 to the people that would handle and use the material.

22 Q So that it was the position of Monsanto that you should not
23 be in a position to inhale these fumes because there could
24 be some danger to your respiratory tree?

25 A. Yes.

1 Q And that was known back in the 30's and back as far as the
2 30's?
3 A Right.
4 Q Also that people shouldn't really touch it or come in
5 contact with it on their skin?
6 A Yes.
7 Q And that would cause a -- a chloracne sort of disease?
8 Or irritant?
9 A It's possible. But the immediate effect is a reddening of
10 the skin. That's the short term low level kind of skin
11 exposure. The chloracne is a higher exposure. Longer term.
12 Q Which could develop from constant exposure?
13 A Yes.
14 Q All right. This was known also back into the -- as early as
15 the 30's?
16 A To the best of my knowledge, yes.
17 Q What, if anything, did Monsanto have as far as safety
18 programs for their employees in the manufacturing of the
19 product PCB?
20 A It was the normal chemical plant program and it related to
21 good hygiene, bathing and changing clothes and the like.
22 And it included, of course, the typical fire explosion type
23 of training as well as exposures to the chemicals.
24 Q Are the PCB's flammable?
25 A No. But we're talking now about the training given to the

1 employees.

2 Q. All right.

3 A. And they were exposed -- or trained in handling of fires.

4 Not because PCB's themselves are flammable, but the materials

5 which go into making PCB's have many of these properties.

6 Q. All right. What about any plant safety with regard to your

7 employees in the breathing and handling of PCB's during its

8 manufacturing process?

9 A. That was part of their training.

10 Q. Not to breathe it?

11 A. Not to breathe it.

12 Q. Not to touch it?

13 A. That's correct. They were issued the appropriate gloves to

14 protect their hands and overshoes to cover their feet, of

15 course. We had issue of outer clothing that was changed

16 daily and laundered for the employee.

17 I don't recall any other unique features.

18 Q. Do you have any knowledge about what prolonged breathing of

19 this PCB materials would do to a person? Chronically rather

20 than acutely?

21 A. No. I don't believe there's any knowledge of that type

22 available.

23 Q. All right. Has Monsanto attempted to find that out and do

24 testing in that regard as to the longterm effects of PCB's?

25 MR. JUNGERHELD: In what particular? Are you

1 still asking him about breathing?

2 MR. MC GRAW: Breathing and skin contact.

3 A. Not by that route of exposure. We took the route of feeding
4 studies, longterm, with animals.

5 Q. All right. When was the last time you tested with regard to
6 the breathing and the touching and contact with skin?

7 A. About 1950, I believe.

8 Q. When, if at any time, did you ever make any tests -- Monsanto
9 make any testing with regard to eating and drinking mixtures
10 that contain PCB's?

11 A. That started in 1968.

12 Q. Where?

13 A. In a laboratory located in Illinois.

14 Q. Whose laboratory?

15 A. Industrial Biotest Laboratories.

16 Q. And in whose charge was that laboratory? Was it Monsanto's
17 lab?

18 A. No. This was a consulting laboratory.

19 Q. Who was the person that owned and operated that?

20 A. I believe the company was owned by the Nalco Company.

21 Q. Nalco?

22 A. N-a-l-c-o.

23 Q. What does that stand for? Do you know?

24 A. At one time it used to be National Aluminate Company and
25 they shorted their company name to Nalco.

1 Q. And was there any testing by any departments, engineering
2 or chemistry, of Monsanto's about the effects of eating and
3 drinking mixtures containing PCB's?
4 A. Monsanto's departments do not do that kind of testing. It
5 was contracted out to private laboratories.
6 Q. Okay. Just so that I understand and I can maybe close that
7 kind of questioning off a lot, as far as Monsanto was
8 concerned, Monsanto never, ever, to this day, tested in any
9 way whatsoever the effects of eating or drinking mixtures of
10 PCB's on any form of human life or animal life or living
11 cells? Monsanto's company itself? Any of its departments
12 or employees?
13 A. That is correct.
14 Q. All right. So all tests that were relied upon by Monsanto
15 as to eating and drinking and effects on all these living
16 cells, living things, was done on a contract basis to
17 independent people outside of Monsanto's corporate nature
18 and makeup?
19 A. Yes.
20 Q. Did any of these testing laboratories have any connection
21 whatsoever with Monsanto as a subsidiary, or did they own
22 stock in it, or did they set it up in any way?
23 A. I don't -- not to my knowledge.
24 Q. Was the one you just mentioned, Nalco, the only testing
25 laboratory that you assigned this job to?

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1 A. I don't know which job you're talking about.

2 Q. The job of testing the effects, if any, of PCB's upon living

3 things in mixtures.

4 A. No. It was one of several laboratories through the years.

5 Q. The first time you sent that out, then, or approached that

6 topic or subject was 1968?

7 MR. JUNGERHELD: What subject?

8 MR. MC GRAW: The subject we're talking about.

9 MR. JUNGERHELD: You've talked about several things.

10 Are you talking about eating, drinking, skin contact, or what?

11 On animals, or birds, or what?

12 Q. Did Monsanto send to this -- we call it Nalco Laboratories --

13 A. No. It's more commonly known as Industrial Biotest Labor-

14 atories.

15 Q. Okay. When Monsanto engaged -- give it to me again.

16 A. Industrial Biotest.

17 Q. Industrial Biotest?

18 When Monsanto engaged Industrial Biotest, they engaged

19 them only for the effects of PCB's on living things, eating

20 and drinking? Not for breathing and not for skin contact,

21 is that correct?

22 A. That is correct.

23 Q. Because as we talked about a moment ago, the last time you

24 did that was 1950?

25 A. That is correct.

1 Q. So we're now up in 1968 and we're talking about this subject
2 now, the subject I'm talking about is the contact with
3 living things, eating and drinking, and that's the first time
4 that Monsanto ever approached that topic or subject, correct?

5 A. Correct.

6 Q. What other agencies did you contract out to? Their names,
7 dates and people who were involved in them.

8 A. This is still relating to studies involving the effects of
9 PCB's, am I correct in that?

10 Q. Yes. Eating, drinking. For that matter, swimming in them.

11 A. I can only speak to the period up to 1976.

12 Q. Why can you only speak up to that period, Mr. Papageorge?

13 A. Because at that point my assignment was changed and I was not
14 able to follow any placing of any studies of any kind beyond
15 that point.

16 Q. Let's jump ahead a little.

17 From 1976 to the present time have you been involved
18 in any PCB investigations or discovery, or work for Monsanto?
19 Not related to lawsuits, but PCB's and their use. Effect in
20 the environment. Their effect on living things and so on.

21 A. No.

22 Q. From 1976 until now what have you been doing?

23 A. I have been involved with many chemicals, not including
24 PCB's, in this general area of environmental impact, product
25 safety, air, water pollution, waste disposal and the like.

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1 Q Have you been involved in waste disposal with regard to
2 PCB's?
3 A At what point in time?
4 Q '76 to '82.
5 A No. I was wrong there. I have been involved at it applies
6 to the implementation of the regulations under the Resource
7 and Conservation and Recovery Act.
8 Q In what way are you involved in that?
9 A As I recall, there are -- let me think of it. I'm confused
10 on my -- not the Resource Conservation Recovery Act. It's
11 the Toxic Substances Control Act that regulates PCB's and
12 in my assignment since the act was passed, which I believe
13 was 1976, I have to be certain that the plants that I'm
14 responsible for follow the provisions of that act and the
15 subsequent regulations.
16 Q Which includes what happens to PCB's?
17 A Correct. Yes.
18 Q And as I understand it, Monsanto since 1977 has stopped
19 manufacturing PCB's?
20 A That is correct.
21 Q For any use?
22 A That is correct.
23 Q Anywhere?
24 A Correct.
25 Q Okay. So what you're dealing with now are the residues and

1 what is still out there in the public domain in the use of
2 customers, et cetera, as far as its disposal?
3 A. No. I'm not involved with that. I'm only involved with
4 those residual PCB's that might still be at some of
5 Monsanto's plants. Those plants assigned to me.
6 Q. Okay. You don't have to do then with the customers who
7 still might have PCB's in their plants or in use at the
8 present time?
9 A. That is correct.
10 Q. Somebody else at Monsanto does?
11 A. That is correct.
12 Q. Who?
13 A. Dr. John Craddock.
14 Q. Spell his last name.
15 A. C-r-a-d-d-o-c-k.
16 Q. And you say doctor. Of what discipline is he a doctorate
17 in?
18 A. I believe he's a doctor of chemistry. In chemistry.
19 Q. Is there anybody else in Monsanto assigned to that topic?
20 A. Not to my knowledge.
21 Q. Were you ever assigned up until the '76 point when you said
22 you ceased working there, were you ever assigned any job or
23 duties with regard to the disposal of PCB's that are in the
24 presence of first Monsanto?
25 A. That last part of your statement --

1 Q I'll rephrase it. Just say you don't understand it.

2 Were you ever in charge of any project by Monsanto as
3 to how to get rid of the PCB's in the Monsanto plants?

4 A. Prior to '76?

5 Q. Yes.

6 A. Yes.

7 Q. What years were those?

8 A. From -- of course, when I was manager at the Alabama plant
9 I had the disposal responsibilities of the PCB's at that site.

10 Q. Those years again?

11 A. In 1965 through 1970.

12 Q. What method of disposal did you utilize and how did you come
13 about utilizing that method?

14 A. Well, I don't know that it's -- I suppose it is a method.
15 The plant has its own chemical landfill and the materials
16 that contain the PCB's were disposed of at that site under
17 Monsanto's control.

18 Q. Is that property owned by Monsanto?

19 A. Yes.

20 Q. Is that property -- or has that property since that time ever
21 been required to be cleaned up by the federal government?

22 A. No, sir.

23 Q. Even to this date to your knowledge?

24 A. That's correct.

25 Q. And has there ever been any lawsuits against Monsanto, to

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1 your knowledge, with regard to that dump site?

2 A. No, sir.

3 Q. How were the PCB's destroyed in the '65 to '70 period at
4 Anniston, Alabama?

5 A. There was no destruction deliberately attempted. There
6 was a burial of the waste at that site.

7 Q. What waste are we talking about?

8 I'm confused, because in '65 to '70 you were still
9 manufacturing PCB's. Right?

10 A. Yes.

11 Q. So what waste are we talking about you had to dispose of?

12 A. Well, as you can imagine in any activity there's a certain
13 amount of material that would get on the floor, or would get
14 into a dirty drum container and would not lend itself to
15 retaining or recovery. We had to dispose of it somewhere.

16 Q. So in other words, PCB's that somehow cannot be sold to the
17 public because they themselves are not pure, they are
18 contaminated?

19 A. That is correct.

20 Q. Okay. At any other location were you ever in charge of such
21 a project other than Anniston?

22 A. No.

23 Q. At that time.

24 A. At that time?

25 Q. Yes.

1 A. No.

2 Q. Up at St. Louis in '70?

3 A. Beginning in 1970 I acted as a focal point for collecting
4 all of the various techniques that were developing and sharing
5 those techniques with Monsanto's plants, as well as
6 customers.

7 Q. What customers?

8 A. Any customer of PCB's who made inquiries how to dispose of
9 the materials.

10 Q. Okay. So Monsanto didn't voluntarily send out a blurb to all
11 of its customers to whom it sold "This is how you can get
12 rid of PCB waste"?

13 A. That's correct.

14 Q. If they asked, you'd give them some assistance?

15 A. That is correct.

16 Q. Would you give us the names now and addresses of the outside
17 laboratories other than I.B.T. that Monsanto asked to
18 investigate the effects of living things?

19 A. I only remember one time. Younger Laboratories in St.
20 Louis. I don't recall any other.

21 Q. What about the date for Younger Lab?

22 A. I believe they were -- they did the work in 1950 as best I
23 recall.

24 Q. 19 what?

25 A. 1950's.

1 Q. Would that Younger be with regard to the breathing and with
2 regard to the skin, then?

3 A. Yes. The battery of tests commonly referred to as acute
4 toxicity tests.

5 Q. With regard to the effect on the respiratory tree and the
6 skin contact?

7 A. Correct.

8 Q. Not to eating and drinking of mixtures containing PCB's?

9 A. That's correct.

10 Q. So Younger wasn't really anybody rather than -- Younger
11 wasn't anybody that tested in that area of eating and
12 drinking?

13 A. I don't know if they did that type of testing. We never
14 asked them.

15 Q. Okay. So you never got any reports from them relative to
16 that topic of eating and drinking it?

17 A. That's correct.

18 Q. So really the only laboratory you can think of is Industrial
19 Biotest that went to this subject of eating and drinking
20 and its effects on living things?

21 A. Yes.

22 Q. I noticed in one of the documents that were given to us which
23 is entitled, "Biphenyls, Scientific Associates Aroclors
24 Studies", I'll let you see it in a minute and your counsel,
25 Younger Laboratories seemingly were getting things from

1 Monsanto up to and including '75 and then Industrial Biotest
2 somewhere in '63's had polychlorinated biphenyl studies,
3 "Subacute Dermal Toxicity in Rabbits". and then in 1969, '70,
4 '71 forward, I.B.T. apparently worked on different
5 things which included during that period of time a subacute
6 oral toxicity study on rats and toxicity reproduction and
7 residue study in white leghorn chickens and a four-day fish
8 toxicity study in '69.

9 Why don't you look this over? I'll mark it first as
10 Plaintiff's Exhibit 2.

11 (Whereupon Plaintiff's Exhibit No. 2 was marked
12 for identification purposes.)

13 Q Is that something, Plaintiff's Exhibit 2 -- have you seen
14 that before today?

15 A I don't recall seeing it, no.

16 Q Okay.

17 A Yes.

18 Q What I asked you is that basically what is in this document
19 is what had occurred with regard to outside employment of
20 laboratories to investigate the toxicity effects of PCB's?

21 MR. JUNGERHELD: Well, the record should probably
22 reflect this document was prepared, I believe, without
23 participation of Mr. Papageorge and sources other than him
24 and he may or may not be familiar with it. So the record
25 should be clear on that point.

1 MR. MC GRAW: I asked him a minute ago.
2 MR. JUNGERHELD: Didn't sound like it.
3 MR. MC GRAW: He said he never saw it.
4 MR. JUNGERHELD: That's the point.
5 MR. MC GRAW: He never saw it, he couldn't make it.
6 MR. JUNGERHELD: If you want to read it, you can
7 put it on the record and we can all read it.
8 MR. MC GRAW: He did, and I'm asking him now is
9 that true as far as the laboratories that were hired to
10 investigate or Monsanto, to your knowledge, the toxicity
11 effects of PCB's.
12 MR. JUNGERHELD: Bill, obviously if you know.
13 MR. MC GRAW: Well, I also said that at the
14 beginning. Nobody needs to say if you know. The question
15 is presumed if you know.
16 A. This appears from my quick look to be a summary of the
17 testing activities relating to the PCB's from Monsanto going
18 back to '53.
19 Q. Okay.
20 A. This does not take care of any earlier studies that I'm
21 aware of.
22 Q. Okay. All right. Now, from your knowledge what earlier
23 studies, if any, went beyond or back of '53?
24 A. I was aware that there were some studies made in the 30's
25 and these studies were repeated in the 40's that were

1 similar to what is listed on the first few pages of this
2 document.

3 Q. By Younger?

4 A. By Younger, yes.

5 Q. Were those 30's and 40's tests by Younger, as well?

6 A. I don't know.

7 Q. By whom?

8 A. I don't recall.

9 Q. To your knowledge those only involved the inhalation and
10 effects on the respiratory tree and the skin contact?

11 A. No. There was this acute toxicity test that was referred
12 to as the oral LD50.

13 Q. What is that?

14 A. That's a test designed to determine that dose which would
15 be lethal to half of the test animals within a given time
16 period.

17 Q. Who has possession of that test?

18 A. I don't know. I'm assuming you're talking about test
19 reports?

20 Q. Yes.

21 A. I don't know at the moment.

22 Q. Apparently the first thing we have on here, Exhibit 2, is a
23 scientific associate study by Younger on November 10, '53,
24 Aroclor 1254, and it's the oral LD50 test you just mentioned?

25 A. Yes.

1 Q. Where is that report?

2 A. I don't know.

3 Q. Where would it normally be found, if you wanted to go get it?

4 A. I would go to the Monsanto Medical Department file or

5 library.

6 Q. And that was repeated, apparently again a month later, that

7 type of test, same lab, only on 1242 and on 1248 and again

8 on 70 in 1957. So different periods of time this LD50 test

9 was performed utilizing the various weights that we've

10 talked about, including 1254 through Younger Laboratories

11 from 1953 up through 1969, correct? At least what we know

12 from Exhibit 2?

13 A. There's some in 1972.

14 Q. Yes. But the Younger Laboratory. '69, 70's and '72's

15 and up to '73 by Younger Laboratory?

16 So would those tests then be in the medical department

17 of Monsanto? The reports?

18 A. I can't speak for the existence of those reports personally,

19 but I would approach the medical department managers and see

20 if it's in their possession.

21 Q. Would this be something to your knowledge was something that

22 would be kept in the regular course of business of Monsanto?

23 A. Yes.

24 Q. This type of thing?

25 A. Yes.

1 Q All right. And then if we go beyond that and we go back to
2 pick up I.B.T., who in 1963 and then jumped to 1969, '70,
3 '71, they had an LC, looks like 50. Was this a different
4 kind of report?

5 A There was a change in the way they report and I'm not
6 qualified to explain it, but they went from the expression
7 of lethal dose-50 to lethal concentration-50.

8 Q That's what those initials stand for?

9 A Yes.

10 Q Lethal dose meant at a certain point the animal dies?

11 A Half of the animals. This 50 percent represents 50 percent
12 of the animals.

13 Q If you have 100 animals and 50 of them die, that's what
14 you're talking about?

15 A At that dose. That's the way they calculate it.

16 Q All right.

17 MR. JUNGERHELD: Bill, are you saying any of those
18 exist today, do you know?

19 A I suspect that they exist. It's normal to keep such a record
20 forever.

21 But if you're asking me have I seen it with my own eyes,
22 no.

23 Q If I were to ask you are there any tests that Monsanto made
24 or hired out to be made with regard to the toxicity effects
25 on living things, these are the type of tests that we're

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1 talking about?

2 A. Yes.

3 Q. And these are the only tests that Monsanto did?

4 A. Yes.

5 MR. MC GRAW: Bill, it's 12:30 now. Do you want
6 to break for lunch and also we can look over those things?
7 We can come back quickly and go on from there.

8 MR. JUNGERHELD: That's fine with me.

9 (Whereupon a recess was taken until 2:00 o'clock
10 P.M., of the same day, Wednesday, January 19, 1983.)
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1 (Whereupon at 2:00 o'clock P.M., Wednesday,
2 January 19, 1983, the deposition was continued as
3 follows):

4 Q. (Mr. McGraw, continuing): Mr. Papageorge, before we broke
5 for lunch we were more or less talking in the general area
6 and in the specific area of testing that Monsanto either did
7 or didn't do themselves or they hired to outside help,
8 just to bring us all back into that category.

9 When was it that you first heard of or learned that
10 PCB's were being used by silo companies for any purpose?

11 A. I think you said where was it?

12 Q. When?

13 A. When?

14 Q. Yes.

15 A. In 1970, as I recall, about March or April. March of 1970
16 is my first exposure to this use.

17 Q. At no time before March of '70 did you ever hear of silo
18 companies utilizing PCB's?

19 A. That is right.

20 Q. How did you learn of it in 1970?

21 A. I got a telephone call from a representative of the agency
22 in the state of Ohio that concerns itself with dairy and
23 dairy operations and dairy products who called to ask
24 questions about PCB's and at that time he expressed his
25 suspicions that it came from a coating in the silos and that

1 was my first exposure.

2 Q. How did it come directly to your attention? Was it a
3 telephone call directly from the farmer? Directly from the
4 Ohio people, agriculture, or did somebody in your organization
5 get a phone call and refer it to you, then you got in
6 contact?

7 A. All I know is I picked up the phone and a Dr. Hill from the
8 State of Ohio was at the other end.

9 Q. Can you give me the gist of what you recall he told you?

10 A. He wanted to talk to me about PCB's. And of course I asked
11 him what specific questions did he have and his primary
12 concern at the time was what is a safe exposure level and
13 expressed his frustrations talking with the Federal Food
14 and Drug people and he felt as though he was getting a
15 runaround of what is the exposure -- permissible exposure
16 level for PCB's.

17 And in that conversation, which took some time, I have
18 forgotten, but it may have lasted as long as a half hour,
19 it was a lengthy conversation, he expressed some suspicions
20 of where it might be coming from and among those suspicions
21 he indicated the coating on the wall of the silo.

22 Q. Did he indicate to you why he suspected a coating?

23 A. No, he didn't elaborate on that.

24 Q. Did he tell you what the coating was?

25 A. No.

1 Q. Did you know what it was?

2 A. No.

3 Q. Did you make any recordings of that conversation? Of that

4 telephone conversation?

5 A. No.

6 Q. None at all?

7 A. No.

8 Q. Did you make any letters to Dr. Hill?

9 A. I don't recall ever corresponding and writing to Dr. Hill.

10 I don't remember.

11 Q. Did he ever correspond to you?

12 A. I don't remember any correspondence with Dr. Hill's

13 signature on it.

14 Q. Or anybody from his office?

15 A. No.

16 Q. So as far as you know, Monsanto has no communications to

17 or from Dr. Hill or the Ohio Department of Agriculture?

18 A. In writing?

19 Q. Yes.

20 A. No.

21 Q. Did you have any other communications with that office or

22 Dr. Hill on the telephone or other means of communication?

23 A. I believe there was some additional telephone conversations

24 and then I visited his office.

25 Q. Were the telephone conversations likewise with Dr. Hill?

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1 A. Yes.

2 Q. Those were --

3 A. Yes.

4 Q. -- after the one you just told us about?

5 A. That is correct.

6 Q. And what was the nature of those telephone calls?

7 A. In the general area of what I would call a follow-up on

8 activities in the area as well as attempting to make an

9 appointment to drop by and see him and further seek out some

10 information that he may have gathered in his study.

11 Q. Did he tell you or did you somehow learn from the first

12 telephone call that there were PCB's involved?

13 A. He told me that during the first telephone call that PCB's

14 were involved.

15 Q. Did you ask him how they were involved?

16 A. Well, he volunteered that they were present in the milk that

17 he had tested.

18 Q. Milk from the cows on the dairy farm?

19 A. Milk from some dairy farms, yes.

20 Q. Did he give you an indication of how they detected it and

21 the method of detection?

22 A. We did not discuss in detail the methodology used. I did

23 caution him to be certain that his laboratory was certain

24 that that's in truth what they were seeing. I suggested

25 that it was a difficult analysis at that point in time to

1 conduct.

2 I also suggested they be certain that they had the right
3 standard and offered to send him samples to use as a standard
4 if his laboratory didn't have any.

5 That's all I recall about the analytical details.

6 Q Did you send him samples?

7 A I don't recall specifically that I did.

8 Q Did he assure you that in his opinion that what they found
9 and why they were calling you is because they found PCB's?

10 A Yes, he was certain.

11 Q And apparently you at least reacted to that by what you said
12 offering to send some samples. And did you subsequently
13 go out there?

14 MR. JUNGHERHELD: I object to the form of that
15 question.

16 Q Did you subsequently --

17 MR. JUNGHERHELD: It mischaracterizes what he told
18 you.

19 MR. MC GRAW: Would you read that back?

20 (Whereupon the question was read back by the
21 reporter.)

22 Q Is that correct?

23 A I did go out to visit with Dr. Hill in his office, yes.

24 Q And you had offered to send samples?

25 A Yes.

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1 Q Okay. So --

2 MR. JUNGHERHELD: Is the term "samples" or "stan-
3 dards"? I don't remember what you said.

4 A I used the word sample, but that sample is used as a standard.

5 Q Okay. See, if you don't understand me, say so. Then all
6 the attorneys can know if there's any discrepancy between
7 words or anything like that. You're the guy that's being
8 questioned.

9 A Okay.

10 Q When did you go out to see Dr. Hill at the Ohio Agricultural
11 Department?

12 A I believe it was in '71. 1971. That's the best I can
13 recall.

14 Q Who was with you?

15 A I was alone.

16 Q In April of 1970, April the 8th, specifically, a letter was
17 written from Dr. Hill's office to the Ohio Department of
18 Agriculture to a Mr. Robert Egan, Michigan Silo Company,
19 Massillon, Ohio. Do you know anything about Mr. Egan at that
20 time?

21 A Not at that time, no, sir.

22 Q When did you first meet with and get in contact with Mr.
23 Robert Egan from Michigan Silo of Massillon, Ohio?

24 MR. JUNGHERHELD: Objection. No foundation that
25 he met with him.

1 MR. MC GRAW: I'm asking him.

2 Q. When did you first meet with him, if ever?

3 A. I never met with Mr. Egan.

4 Q. Have you ever corresponded with him?

5 A. No.

6 Q. Have you ever talked with him on the telephone?

7 A. Not that I recall.

8 Q. Have you ever met with or talked with anybody connected with

9 the Bloomfield Silo Company in 1970?

10 A. I don't remember.

11 Q. All right. Was there a Dr. Kelly at the St. Louis Monsanto

12 office in 1970?

13 A. Yes.

14 Q. Who was he?

15 A. He was the medical director for the company.

16 Q. And was he an M.D. or a chemist?

17 A. M.D.

18 Q. M.D.?

19 A. Yes, sir.

20 Q. Did he do work on Aroclors?

21 A. It was under his direction and his supervision that all the

22 studies we previously talked about were placed.

23 Q. I see. So Dr. Kelly of Monsanto at your St. Louis office

24 would have been the one that assigned the investigation to

25 these outside labs?

1 A. Directly or indirectly, yes.

2 Q. And his title would be what in 1970?

3 A. Medical director.

4 Q. Is he still with the company?

5 A. No.

6 Q. Where is he now?

7 A. Well, he's retired and the last I heard he's in the St.

8 Louis area.

9 Q. How old a man is he?

10 A. Oh, I would estimate about 70.

11 Q. When did he retire?

12 A. 1975.

13 Q. And who is the present director?

14 A. Dr. Roush.

15 Q. R-o-u-s-c-h?

16 A. R-o-u-s-h.

17 Q. And is he an M.D.?

18 A. Yes.

19 Q. Was he working under Dr. Kelly for a period of years before

20 he became director?

21 A. Yes.

22 Q. How long has he been there, to your knowledge? Dr. Roush?

23 A. I believe since 1974.

24 Q. And prior to that time of '74 Dr. Kelly was there and

25 director?

1 A. Yes.

2 Q. And who was under Dr. Kelly prior to '74? Like in the 60's

3 and up to the 70's?

4 A. Oh, I do not know all the doctors who were assistant direc-

5 tors.

6 There was a Dr. Johnson prior to Dr. Roush and that's

7 the extent of my familiarity with the organization.

8 Q. What is Dr. Johnson's first name?

9 A. It escapes me at the moment. It was not a common first name.

10 So it escapes me.

11 MR. WOODWORTH: Would it be Norm?

12 A. No. That's a different Mr. Johnson.

13 Q. You say doctor, though?

14 A. He's a medical doctor.

15 Q. Is he still there?

16 A. No, sir.

17 Q. He retired?

18 A. No.

19 Q. Passed on?

20 A. No.

21 Q. Quit? Where is he?

22 A. The last I knew he was with the B. F. Goodrich Company.

23 Q. As a medical director for them?

24 A. Yes.

25 Q. Who was a Mr. Brassert or Mrs. Brassert?

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1 A. I do not know the gentleman personally. I have seen his
2 name in print. It's my understanding he was associated with
3 silos and silo coatings.

4 Q. Do you recall what Dr. Kelly's first name is?

5 A. His first initial is R. His middle initial is E and he
6 prefers to be called Emmett.

7 MR. MC GRAW: I'm going to mark these as an exhibit.

8 (Whereupon Plaintiff's Deposition Exhibits 3, 4,
9 5 and 6 were marked for identification purposes.)

10 Q. Okay. I'll show you Plaintiff's Exhibit No. 3 and ask you
11 if you recognize that, first of all?

12 A. I recognize it.

13 Q. And how did you come in contact with it? How did you get
14 ahold of it? How did Monsanto come in contact with it and
15 when?

16 A. That I don't know. I was shown this by attorneys.

17 Q. What attorneys?

18 A. I don't recall the specific ones when I first saw this.
19 But here lately with attorneys present in this room.

20 Q. These documents, by the way, to help you out and to let you
21 know where I got them and where they come from, we made
22 motions at various times for discovery, these were presented
23 to the Court, the Court ordered they be turned over to us.
24 I don't know where they came from. That's why I'm asking
25 you from your knowledge where did they come from in Monsanto?

1 Because Monsanto turned them over to us.

2 MR. JUNGERHELD: Well, for the record I would
3 object to the scenario of the producing of these documents.
4 At least to the ones he's holding now.

5 Q Do you know where they came from in Monsanto?

6 A No, I don't.

7 Q Do you know if they were in Monsanto's control and presence
8 at one time? Or the originals of those, or original copies?

9 A At one time Monsanto had copies of these documents.

10 Q All right. When? Back around the time of '70 when they
11 were written?

12 A I don't know. I didn't see them in '70.

13 Q All right. Exhibit 3 purports to be a letter from Dr. Hill
14 from the Ohio Department of Agriculture to Robert Egan of
15 Michigan Silo. And he talks about an investigation and
16 progress relative to Aroclor 1254 and that it is recommended
17 that a formula for Cumar be changed to eliminate the need
18 for Aroclor 1254, or perhaps an epoxy could be used as an
19 alternative.

20 Did you ever hear of or discuss that in 1970 when you
21 got the call from Dr. Hill?

22 A No.

23 Q You did discuss with Dr. Hill at that time in 1970 the fact
24 that he claimed Oroclor 1254 was involved in the farmers'
25 claims in Ohio in 1970?

1 MR. JUNGERHELD: I'll object. That's not what the
2 witness said. He did not say Aroclor 1254.

3 MR. MC GRAW: I'm asking him now.

4 MR. JUNGERHELD: You are not. You're mischarac-
5 terizing his testimony.

6 MR. MC GRAW: I just asked him.

7 Would you answer that question, Doctor?

8 Do you want it reread to you?

9 A. We discussed -- I discussed with Dr. Hill PCB's. I don't
10 recall specifically relating that to a particular commercial
11 mixture of PCB's.

12 Q. That's what my question was. Did you discuss with him the
13 Aroclor 1254 as that letter purports?

14 A. Not to my knowledge, no.

15 Q. All right. And insofar as you can recall, however, this
16 letter, Exhibit 3, from Dr. Hill dated April 8, 1970, to
17 Robert Egan was within the control of at one time Monsanto
18 Chemical Company?

19 MR. JUNGERHELD: Objection. He has not said
20 anything about the -- if you're referring to the original,
21 I don't think he mentioned the original as being in the
22 control of Monsanto.

23 MR. MC GRAW: I think that's what I did hear.
24 The original of this letter is somewhere in the control of
25 Monsanto Company.

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1 A. No. I used the word "copy".
2 Q. All right. You got a copy of it?
3 A. A copy was available to Monsanto at some point in time, but
4 not as of the date of that letter.
5 Q. In 1970, at least somewhere along the line after 1970,
6 April, but still in 1970?
7 A. Not to my knowledge.
8 Q. 1971?
9 A. I don't think I was aware of this letter personally until
10 the mid-70's. '74, '75.
11 Q. Okay. Does Monsanto have a practice that when they get mail
12 in from an outside source, whether it's an original or copy,
13 that they datestamp it?
14 A. That depends on each individual.
15 Q. Do you have a central source of mail incoming, outgoing?
16 MR. JUNGERHELD: With now --
17 MR. MC GRAW: Monsanto.
18 MR. JUNGERHELD: Monsanto has several locations.
19 He's talking about Sauget, Anniston, St. Louis.
20 Q. At any of them you have been connected with and familiar.
21 A. There is a mail room at each site.
22 Q. And at each of your designated sites there's a mail room to
23 have incoming mail to be disbursed to whoever it's addressed
24 and outgoing mail?
25 A. Yes.

1 Q. And the incoming mail coming to the various mail rooms there's
2 a person that puts a datestamp on them?
3 A. No.
4 Q. Not even copies? To this date?
5 A. Right.
6 Q. Who puts a datestamp on, if anybody?
7 A. The secretary to the person to whom it's addressed who opens
8 the mail. May or may not affix a date. Depending on
9 instructions that she receives from her supervisor.
10 Q. Is it the usual practice for the secretary to datestamp mail
11 that comes in to their supervisor? Their bosses?
12 A. No.
13 Q. Does your secretary during those periods of time datestamp
14 your letters? Incoming?
15 MR. JUNGERHELD: What periods of time?
16 MR. MC GRAW: Any of the time you worked for
17 Monsanto.
18 A. I started the practice, but I don't recall just when I
19 started it. And I did not diligently make certain that it
20 was followed through continual change of secretaries. And
21 so it was a practice, an on-and-off kind of arrangement.
22 Q. Was it a policy or practice of Monsanto as a directive to
23 the various departments that look, when we get mail coming
24 in here, let's datestamp it?
25 A. No.

1 Q All right.

2 I'll show you Exhibit 4 which is a letter from Michigan
3 Silo, Robert Egan, to a Bloomfield Silo in Bloomfield,
4 Indiana dated April 29, 1970.

5 Have you seen this?

6 A I have seen this, yes.

7 Q When did you first see it?

8 A At about the same time I saw Dr. Hill's letter to Mr. Egan,
9 which to the best I recall was mid-70's. All right.

10 Q All right. In this letter, Exhibit 4, Mr. Egan is telling
11 the people at Bloomfield that he has talked with Monsanto's
12 Dr. Kelly, correct?

13 A Yes.

14 Q And that Dr. Kelly would be at your St. Louis office at that
15 time?

16 A Yes.

17 Q And do you have any knowledge as to whether or not the
18 contents of that letter are correct or incorrect insofar
19 as Mr. Egan is telling Bloomfield? After having received
20 it in the mid-70's and also having looked it over?

21 A I cannot speak for all the statements made in this letter.

22 I did ask Dr. Kelly if this third paragraph was true
23 and he said yes. Somebody did call him. And he was -- he
24 confirmed this is what he said.

25 Q When did you ask Dr. Kelly whether that was true or not?

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1 A. When I first saw this in the mid 1970's.

2 Q. And what we're talking about, if I might read:

3 "This 1254 Aroclor is made by Monsanto and I have

4 talked to Dr. Kelly at their St. Louis office and he

5 has told me not to use it."

6 Dr. Kelly said he recalls that and told you that?

7 A. This was four years later, yes.

8 Q. Okay. Did you at that time in 1970 when you got your

9 telephone call from Dr. Hill learn that the PCB was Aroclor

10 1254?

11 A. Eventually I learned that it was, but not at that time to

12 paraphrase you.

13 Q. Did Dr. Hill claim their test indicates it was Aroclor 1254?

14 A. Not during that initial telephone conversation.

15 Q. What did you do when you got that telephone call from a

16 physician with the Ohio -- maybe he's not a physician, I

17 may be -- the Ohio Department of Agriculture, a veterinarian,

18 David Hill. What did you do with that information when he

19 called you and said that they got problems down there with

20 PCB's?

21 A. Well, I recall two things I did. I shared this piece of

22 information with our medical department.

23 Q. That would be Dr. Kelly?

24 A. It would be for his principal assistant, Mr. Wheeler, who

25 was available at that time. Dependent on who was in the

1 office.

2 Q Do you recall talking to Mr. Wheeler?

3 A Yes.

4 Q What was his position at that time?

5 A I believe he was a toxicologist. Industrial hygienist.

6 Q A medical doctor?

7 A No.

8 Q Doctorate in toxicology?

9 A No. I think he had a master's degree.

10 Q Okay. What did you report to Mr. Wheeler -- was it?

11 A Yes.

12 Q What is his first name?

13 A Elmer.

14 Q Is he still with the company?

15 A No.

16 Q Where is he now?

17 A The last I knew he was residing in North Carolina.

18 Q Do you know what city?

19 A No.

20 Q How old a man?

21 A Between 65 and 70.

22 Q Did he retire from Monsanto?

23 A Yes.

24 Q What was the nature of your conference with Mr. Wheeler?

25 And in giving me that, tell me in relationship to when you

1 got the call from Dr. Hill the first time when did you first
2 see Mr. Wheeler?

3 A. Oh, within that day or the next -- within 24 hours.

4 Q. It was an important call to check out?

5 A. It was something new. Different. And I talked to him about
6 receiving the call and about Dr. Hill's attempts to talk
7 with someone in the Food and Drug Administration to get some
8 guidance and his frustrations. I shared with him my personal
9 surprise that it was in coatings applied to silos.

10 That's about all I knew at that time that I could share
11 with him.

12 Q. What, if anything, do you know that he did with that
13 information?

14 A. I don't know what he did with it.

15 Q. Did you ever follow it up with him?

16 A. Well, certainly this became one of the many topics we
17 addressed frequently.

18 Q. With whom?

19 A. With Mr. Wheeler.

20 Q. Did you go beyond Mr. Wheeler and address that topic on many
21 occasions with anybody else?

22 A. Yes. I informed of course my supervisors.

23 Q. Who?

24 A. That was Mr. Bergen.

25 Q. Spell it.

1 A. B-e-r-g-e-n.
2 Q. First name?
3 A. Howard.
4 Q. Where is he now?
5 A. I believe he is with Georgia Pacific Company.
6 Q. In what area?
7 A. I believe he's in Atlanta, Georgia. At least he was the last
8 time I knew.
9 Q. When did he leave Monsanto?
10 A. 1973.
11 Q. Do you know why he left?
12 A. As best I can tell, he was offered what appeared to him to
13 be a better position with another company and he took it.
14 Q. With whom else did you share this information other than Mr.
15 Wheeler?
16 A. I went over to the marketing representative of the plasticizer
17 products to discuss this particular application and whether
18 or not his records showed sales to silo companies.
19 Q. And who was that?
20 A. Dr. Cumming Paton.
21 Q. Where is he now?
22 A. I believe Dr. Paton is with Monsanto in Brazil. That is the
23 last I knew.
24 Q. And what was his position? As a physician, M.D.?
25 A. No. He is a doctorate in chemistry and at that time he was

1 -- I'm not certain of the official title, but he was the
2 St. Louis marketing manager for the plasticizer products.
3 Q All right. He would be in charge of those PCB's used as
4 plasticizers in the sales and distribution to customers
5 outside the plant? Would that be a fair statement?
6 A Yes.
7 Q Did you know that -- what was his name again? What was his
8 name again?
9 A Dr. Paton.
10 Q Paton? Do you know if he went out of the plant and checked
11 on how the PCB's were being used either alone or in mixtures?
12 MR. JUNGERHELD: Which plant are you talking about?
13 MR. MC GRAW: Anywhere he went. Dr. Paton.
14 MR. JUNGERHELD: Silo companies? Monsanto plants
15 or what? I'm unclear about the question.
16 Q Do you know if Dr. Paton went outside the Monsanto plant
17 to check on customers who purchased the 1254 or any of the
18 weights to see how the customers were using them?
19 A No, I do not.
20 Q Do you know if people under him did that?
21 A No, I do not.
22 Q What, if anything, transpired in the conversation with Dr.
23 Paton?
24 A We looked over a list of customers in an attempt to find a
25 reference to any customer that appeared to be involved with

1 silos.

2 Q Did Monsanto have some sort of a system by which they could
3 keep track of the various customers that were sold your
4 products?

5 A Yes.

6 Q And with that system at any time in 1965 up through '70,
7 for example, you could literally push a button and find out
8 to whom you sold and the amount of the ingredient and what
9 ingredient?

10 MR. JUNGERHELD: Objection to the extent that's
11 trying to -- that mischaracterizes his testimony.

12 MR. MC GRAW: He hasn't said anything yet. He can
13 answer.

14 A I don't know what you mean by the expression "push the
15 button".

16 Q How would you get that information, then, after a time?

17 A There was a report available monthly to Dr. Paton for his
18 line of products and in this report they would list the
19 customers and the amount of a product that was shipped to
20 that customer during that month.

21 Q Would it indicate the type of customer and the use to which
22 the product was being put?

23 A No.

24 Q Are those records then, the monthly reports, made a regular
25 part of the business and kept in the regular channels of

1 business? Or does he get them and push them in the basket?

2 MR. JUNGERHELD: The question is in the present
3 tense. Do you mean still today?

4 MR. MC GRAW: Did he get them in that period of time,
5 '65 to '70, I prefaced before, and read them and in the
6 regular course of business somehow preserve them? File them
7 away?

8 A. I cannot speak for the practices that Dr. Paton followed.
9 But the report was such that he did not have to keep a
10 previous month's copy when he received a new copy because it
11 would be an administrative type of document in which the
12 previous month would be retained as they go through the year.

13 Q. So that it's a compilation of all of the sales as it continues
14 throughout the year?

15 A. Throughout the year.

16 Q. And at the end of the year what happens to that? Is it an
17 annual report?

18 A. There is an annual, yes, picked up on the column of the year
19 as the previous year's sales, and then they pick up January,
20 February, March.

21 Q. Each year on?

22 A. Yes.

23 Q. Any particular time you wanted to go into the records of
24 Monsanto you could say okay, here's customer A, I want to
25 know how many sales, how much of the product and what

1 product went into customer A in any one of the years '65 to
2 '70?

3 A. This report didn't cover that span of time. It would cover
4 current year by month and previous year total.

5 Q. Okay. But what happened to the older year that just passed?
6 Would that be filed and kept in the regular --

7 A. I personally don't know.

8 Q. Could you at this date go back and get those monthly reports
9 and the annual reports?

10 MR. JUNGERHELD: For what period of time, now?

11 MR. MC GRAW: '60 through '70.

12 A. I don't know. I don't believe so.

13 Q. Why not?

14 A. Monsanto has a records retention program that specifies the
15 period of time which certain reports should be retained.
16 I personally don't know any reference that refers to this
17 kind of document that says retain forever.

18 Q. Do you know how long the retention period is?

19 A. No, I don't.

20 Q. Like three years? Five, ten?

21 A. I would guess it's five or less. That's the best guess I
22 can give you now.

23 Q. But have you personally seen those records that we're talking
24 about that Dr. Paton would get as a monthly and annual report
25 as to the customers and the product and the amount?

1 A. Yes.

2 Q. And those would have been in the period of 1960 to '70

3 available to you?

4 A. I can only speak for the report that was available to me in

5 1970 when I looked over Dr. Paton's shoulder at a report. I

6 do not know if previous years would have been available.

7 Q. Did you ever see them yourself, though, in previous years?

8 A. No.

9 Q. The reports, however, were received month-by-month and then

10 annually from that period of time of at least 1960 to 1970

11 by Dr. Paton or someone in his department?

12 A. I do not know when this report was originated so I cannot

13 speak for the years 1960 to 1969.

14 Q. Do you have any knowledge that somebody in the Monsanto

15 Company could keep track of the customers and the sales and

16 the amounts as was being produced and sold to outside

17 customers month-to-month and year-to-year? Or was there no

18 means of Monsanto to determine who their customers were and

19 the sales and the amounts?

20 A. There was a means, but I don't know how refined the reporting

21 was in the earlier years.

22 Q. Okay. So at least you know that Monsanto knew at any period

23 of time who their customers were, what the product was being

24 sold to them and the amount?

25 A. Yes.

1 Q And this could be at any time during the period of time
2 of probably 1930, or '40 or '50 and '60 on up? Would that be
3 true?

4 A I'm confused by your question. Does this mean that in 1970
5 we would know what was done in 1930?

6 Q I follow you. Okay.

7 At any of the Monsanto plants was there some sort of a
8 procedure whereby somebody in the employ of Monsanto would
9 know what any one particular time, regardless of the year
10 from 1930 up to 1970, what products were being sold to what
11 customers and to the amounts?

12 A Not at the plants.

13 Q Where was it kept?

14 A It was kept by primarily the salesman responsible for that
15 customer.

16 Q Would the salesman make reports to superiors above him,
17 here's what I'm doing, here's my customers, here's what I'm
18 selling to them?

19 A That would be a normal procedure, yes.

20 Q And that's a procedure that you were familiar with in all the
21 years you have been with them and the different plants in
22 the different capacities, would that be true?

23 A The plants have nothing to do with customer records.

24 Q All right. The salesman -- do salesmen that sell PCB's work
25 out of the various plants or do they work out of one

1 particular source or plant?

2 A. Please explain your "work out" statement.

3 Q. All right. You got salesmen going around trying to find

4 customers for your products?

5 A. Yes.

6 Q. Number one?

7 A. Yes.

8 Q. You got these same salesmen and other servicing past and

9 current customers and trying to develop future customers for

10 your products?

11 A. Yes.

12 Q. Where are these salesmen stationed with regard to the sale of

13 PCB's to the outside world?

14 A. Oh, any one of several dozen cities in the United States.

15 Q. Do they come out of and are reporting to any one particular

16 plant? Whether it's Anniston, or whether it's Sauget, or

17 whether it's St. Louis, Texas, or wherever else you got

18 plants?

19 A. They do not report to the plants at all.

20 Q. They report to somebody?

21 A. Yes.

22 Q. To whom?

23 A. Usually to a regional manager who in turn reports to a

24 district manager who in turn reports to his director of

25 marketing in St. Louis who in turn reported to the business

1 manager. That's the typical organization.

2 Q In that chain you have just mentioned then of those people
3 until you finally hit St. Louis, those people that the
4 salesmen report to are going to see as the sales are made
5 and the customers acquired and serviced the identity of all
6 those customers and the amounts the customers are purchasing
7 and the product being sold?

8 A Yes.

9 Q Okay. Now, Monsanto had sold PCB's and even -- PCB's
10 generally to silo companies long before 1960, would that be
11 correct?

12 A That's what I understand.

13 Q What silo companies do you recall being sold PCB's prior to
14 1960 and the dates, if you can give it to us?

15 A I don't have the specifics in mind, but I do recall the dates
16 from a report that I was shown.

17 Starting in early 1960 and going -- let me think of it,
18 early 1961 through 1964. And I recall two silo companies
19 mentioned in the reports. In the summary. And the amounts
20 ranged from about 600 pounds to -- I think the highest number
21 I saw was something like 7,000 pounds.

22 Q What companies?

23 A There was a Concrete Silo Company with many city addresses
24 and Michigan Silo Company with several city addresses.

25 Q And this was in what years? '61, 2, 3, 4?

1 A. I believe it was '61, 2, 3, 4, yes. Early 60's.
2 Q. All right. Before that time were there sales to silo
3 companies, as well?
4 A. I do not know.
5 Q. After that time were there sales to silo companies?
6 A. Not to my knowledge.
7 Q. Do you know that cumar was being sold to a Concrete Silo back
8 at least in '49, '48 area?
9 A. No.
10 Q. Would that be something that you could check out to determine
11 when the first sales were to Concrete Silo and Michigan
12 Silo and/or C & B Silo?
13 MR. JUNGHERHELD: Sales of cumar, you're asking now?
14 MR. MC GRAW: Cumar sales of 1254. We haven't
15 mentioned that word yet.
16 MR. JUNGHERHELD: Well, I beg to differ with you.
17 You just did.
18 MR. MC GRAW: Did I mention it? I meant to say
19 1254 then. I'll correct myself.
20 A. Your question is could I have checked out the sales or Aroclor
21 1254 to these silo companies in the 40's?
22 MR. MC GRAW: Yes.
23 MR. JUNGHERHELD: In the 1940's could he check that
24 out? Or could he now check out the sales in the 1940's?
25 MR. MC GRAW: He can't go back to '40 himself.

1 He's got to check it out now.

2 A. I suppose I could go through the exercise of checking, but I would
3 not be at all surprised if the records are not available to
4 do any searching through.

5 Q. What kind of records would you have to search in order to
6 get that information?

7 A. Very likely be the sales records that existed at that time
8 which were not as sophisticated as they are today.

9 Q. Did you ever put all the sales records before destroying them
10 on a computer?

11 A. No.

12 Q. Are they now on a computer?

13 A. All those past sales records?

14 Q. Past sales records?

15 A. No.

16 Q. Do you know for what purpose the sales that we mentioned to
17 Michigan Silo and Concrete Silo, that 1254 was to be used
18 for?

19 A. No.

20 Q. No idea?

21 A. No.

22 Q. Did anybody at Monsanto ever inquire to your knowledge as
23 to what its use would be by a silo company?

24 A. I saw a reference to where a salesman of Monsanto's knew
25 about this coating application.

1 Q. What is the name of that salesman?

2 MR. JUNGERHELD: And what period of time are we

3 talking about now?

4 Q. What period of time are you talking about?

5 A. The time when I found out or heard. Was aware of it.

6 Q. You said you saw a reference where a salesman had known about

7 those sales and what they were used for. Would that be back

8 when they were sold?

9 MR. JUNGERHELD: I object. That's an inaccurate

10 characterization of what he said.

11 MR. MC GRAW: Whatever I asked him he can answer.

12 He's a very intelligent man.

13 A. In the middle 1974's. Middle -- about 1974 or so I was shown

14 a copy of a letter written by a Monsanto individual.

15 Q. What date was the letter written?

16 A. In the 50's.

17 Q. In the 50's?

18 A. As best I can recall.

19 Q. And have you any idea what the name was on that? Salesman's

20 name?

21 A. Yes. It was David Bechtold.

22 Q. Spell it for us.

23 A. I believe it's spelled B-e-c-h-t-o-l-d, or close to that.

24 Q. All right. And was he a salesman for Monsanto?

25 A. Yes.

1 Q. Was he in any management or supervisory capacity?
2 A. Not at that time.
3 Q. Was he eventually?
4 A. I don't know.
5 Q. Where is he now?
6 A. I don't know.
7 Q. Do you know if he's still alive?
8 A. I haven't heard otherwise. I haven't followed his career
9 closely.
10 Q. Do you know if he was still with the company up through
11 1975?
12 A. Yes. At that time.
13 Q. And had you known him through that period of time that you
14 were with the company up through '75 at any time?
15 A. I had met Mr. Bechtold briefly, but I don't recall the
16 situation or the time.
17 Q. And do you remember him being in any supervisory capacity
18 when you did meet him?
19 A. He was not in a supervisory capacity.
20 Q. Still a salesman?
21 A. Yes.
22 Q. What was the content of the letter by him and to whom?
23 Start out with he wrote the letter. Correct?
24 A. Yes. He was the author.
25 Q. And to whom did he write it?

1 A. I don't recall the specific individual. It was someone
2 involved with silos. And as I remember, Mr. Bechtold was
3 thanking him for the good visit they just had and apparently
4 discussed coatings used in silos. That's all I recall about
5 the gist of the letter.

6 Q. Did it indicate there were PCB's or 1254 used for the
7 coatings?

8 A. I don't remember the specifics, no.

9 Q. Did you remember whether or not the letter referred to cumar?

10 A. I don't remember.

11 Q. You have no recollection at all or is it just hazy?

12 A. No recollection at all.

13 Q. Where is that letter now?

14 A. Oh, I don't know.

15 Q. When did you last see it?

16 A. I guess '74, '75 was the last time I saw that letter.

17 Q. Who would have its possession? Who did then?

18 A. It was in the -- the attorneys had it.

19 Q. The attorneys for the company? Or outside attorneys?

20 A. For Monsanto. Monsanto's attorneys.

21 Q. Can you give me the name of the attorneys?

22 A. Let's see. That would -- I believe it was Mr. Wayne Withers
23 or it could have been Richard Stohr. One or the other or
24 both?

25 Q. Are they -- were they then counsel or general counsel or

1 on the payroll of Monsanto?

2 A. They were on the payroll of Monsanto and they were counsel.

3 The term general counsel I do not associate with these two

4 individuals.

5 Q. When I say general counsel, they have an attorney of a

6 department?

7 A. No, they were not general counsel.

8 Q. Okay. What was the purpose of showing you that letter at

9 that time?

10 A. They were involved with some litigation with silos and along

11 with the previous letters that were just shown to me that

12 was part of the document that they were sharing with me.

13 I have forgotten the total gist of the dialogue.

14 Q. What lawsuit was that?

15 A. I do not remember the specific lawsuit.

16 Q. Did it arise out of Ohio?

17 A. I don't remember.

18 Q. Was it arising out of litigation that might be in Montana?

19 A. I don't associate it with Montana, no.

20 Q. Did you associate it with silos having to do with feed,

21 cattle, cows, calves?

22 A. Yes. That general area, yes.

23 Q. And do you remember to whom he wrote it?

24 A. What?

25 Q. To whom David Bechtold wrote the letter.

1 A. Not by name. Only by association with some silo company.
2 Q. Had you ever seen that letter since?
3 A. Not to my knowledge.
4 Q. Did you talk to Mr. David Bechtold when you first learned of
5 that letter as to what he knew about the PCB's in that 1950
6 era?
7 A. No.
8 Q. Was Mr. Bechtold a part of a defense team in that lawsuit
9 to your knowlege?
10 A. I don't know.
11 Q. Were you part of that defense team in that case in 1975?
12 A. Would you describe defense team for me?
13 Q. Well, were you representing Monsanto and were the attorneys
14 to use you in testimony in that case?
15 A. Well, I was under the impression that they were discussing
16 the PCB situation with me with the intent that I might be
17 involved with this particular lawsuit.
18 Q. Did you ever give a deposition in that case? Do you know
19 what a deposition is?
20 A. Yes.
21 Q. Where other attorneys question you.
22 A. Yes.
23 Q. Did you ever give a deposition in that case?
24 A. Not at that time, no.
25 Q. Had you ever given a deposition on PCB's?

1 A. Yes.

2 Q. When?

3 A. About a half a dozen times.

4 Q. Okay. They were involved with lawsuits?

5 A. Yes.

6 Q. And each of the half dozen times was with a different

7 lawsuit?

8 A. Yes.

9 Q. Can you start out with the first one, its date, and give me

10 some kind of identification?

11 A. I'll try. Deposition having to do with what I'm going to

12 call the Holly Farms case having to do with poultry and eggs.

13 Q. H-o-l-l-y?

14 A. Yes.

15 Q. Where was that? What state? County?

16 A. North Carolina.

17 Q. Was the plaintiff's name Holly Farms?

18 A. Yes.

19 Q. And they were suing Monsanto?

20 A. Along with many others, yes.

21 Q. What year, about, was that?

22 A. I'm going to guess a bit because my memory is a little vague.

23 About '72, '73.

24 Q. In North Carolina?

25 A. In North Carolina, yes.

1 Q And that was about what? What was the claim?

2 A The claim was that PCB's present in poultry feed affected

3 the flocks and that eggs weren't hatching. Some of the

4 newly-hatched chicks were diseased and that the slaughtered

5 poultry had PCB's in levels that were not acceptable to the

6 FDA. In general, that was the claim.

7 Q What was the PCB involved? What weight are we talking about?

8 A I believe it was the 48 percent.

9 Q Aroclor 1248?

10 A 48, yes.

11 Q And what was the next one?

12 A Oh, I don't know if I'm going to get these chronologically

13 in the proper order.

14 Q Just do your best. There's no problem there.

15 A All right. There was another situation in Tennessee. I'm

16 going to guess this was about 1974 or 5 in which transformer

17 fluid was involved.

18 Q Let me back up just a minute on that first one.

19 How did the PCB's get to the chickens and the eggs and

20 so on? Was it from a transformer or was it from paints or

21 plasticizers?

22 A No. The poultry feed contained as one of several ingredients

23 fish meal. The fish meal was dried and pasteurized in a

24 heat treating unit in which the heating medium was a PCB --

25 Q Okay.

1 A. -- used to supply enough heat to the fish meal to acheive
2 pasteurization and dry it.
3 Q. And the claim was it got into the feed and got into the
4 chickens and so on?
5 A. Yes.
6 Q. Okay. Go ahead to the next one.
7 A. Transformer in transit from manufacturer to customer developed
8 a leak on its way. The leak was spotted by the highway
9 patrol. The driver of the transfer vehicle was asked to pull
10 aside off the road.
11 He in turn contacted his dispatcher and asked for
12 instructions and the net result was that he just opened the
13 Q. Petcock?
14 A. -- the valve, or what have you, and drained the entire
15 contents on the shoulder of the highway and the neighbors
16 in that area claimed damage to farmhands, to cattle ponds,
17 farm animals, as well as illnesses.
18 Q. Did that ultimately result in a suit in Tennessee?
19 A. Yes.
20 Q. Naming probably Monsanto and probably others?
21 A. Yes.
22 Q. All right. And can you give me the county of Tennessee and
23 the names of maybe one of the party plaintiffs?
24 A. I don't remember the plaintiffs. This was primarily a
25 General Electric case and I was there as a witness for

1 General Electric.

2 Q That's as far as PCB's and their effect?

3 A Yes. And I was deposed in that role.

4 Q That was, you say '74 in Tennessee?

5 Was that the time of your deposition or the time of

6 trial?

7 A As I remember, the deposition and trial took place at about

8 the same time.

9 Q Okay. Going back to that first one, the eggs. Was that

10 '71?

11 A The incident occurred in -- the incident occurred in '70. I

12 believe it was in '71 that I was deposed, yes. Yes.

13 Q Okay. We got two of them out of the six. What is the next

14 one?

15 A Up in New Hampshire I was involved in depositions relating

16 to PCB's and mink.

17 Q And was this a feed problem?

18 A This was -- starts off as a feed problem, yes, sir.

19 Q PCB's got into feed?

20 A PCB's got into poultry feed and poultry feed was fed to Long

21 Island ducks. The waste from the slaughtering of the ducks

22 was sold to the mink farmers, who fed it to their mink.

23 Q And the mink acquired PCB's from that feed?

24 A That was the allegation, yes.

25 Q Was that Aroclors?

1 A. They were PCB's.

2 Q. Do you know which PCB's? Was it Aroclors in which number
3 and weight?

4 A. Well, the analytical reports reported them as equivalents
5 or as similar to Aroclor 1240-something. 48, 42.

6 Q. All right. Do you remember a plaintiff's name in that one?

7 A. Beverly Hemming is the name that stands out.

8 Q. They were suing Monsanto and were other people involved?

9 A. Yes, they were. There were several defendants.

10 Q. And do you know what county that was in in New Hampshire?

11 A. I don't recall the county, but the court was located in
12 Concord, New Hampshire.

13 Q. Do you know where the court was located in Tennessee?

14 A. Knoxville.

15 Q. And the year in New Hampshire?

16 A. I believe the depositions were about 1972. The trial in 1974.

17 Q. And the incident that occurred would have been before you
18 gave your depositions in '72?

19 A. Yes.

20 Q. About when did the incident occur?

21 A. About 1971. That's the best I can recall.

22 Q. What is the fourth incident?

23 A. Let me think. Let me think. I was deposed in Indianapolis.
24 Dairy milk silo situation.

25 Q. And Indianapolis, Indiana?

1 A. Indiana. This was about a year ago.

2 Q. What was the plaintiff's name?

3 A. Bottema.

4 Q. Bottema?

5 A. Bottema.

6 Q. And he was suing whom?

7 A. Monsanto is a party and I believe a silo company.

8 Q. Do you know what silo company?

9 A. Bloomfield Silo Company.

10 Q. Was Bloomfield one of the companies to whom PCB's were sold

11 by Monsanto?

12 A. I have no information to confirm that.

13 Q. Do you know when the incident occurred and what it was all

14 about in the Bottoma case?

15 A. Not specifically. Early 70's is as close as I can come to

16 here. I just don't remember.

17 Q. Okay. And what other case now?

18 That was four.

19 Q. Up in New York.

20 Q. New York State?

21 A. New York State.

22 Q. What county? City?

23 A. I don't remember the county. I think it's Middleton, New

24 York is the city. It was another poultry feed issue and the

25 allegation of PCB's and the effect on poultry.

1 Q All right. And you gave a deposition in that?

2 A Yes.

3 Q When?

4 A I'm trying to recall. About '74, '75.

5 Q And when did the incident occur?

6 A That was -- gee, about 1971.

7 Q And can you remember a plaintiff's name in that case?

8 A The name Spear County comes to mind, but I don't recall if

9 they were a co-defendant or a plaintiff.

10 Q Monsanto was a defendant?

11 A Yes.

12 Q Anybody else?

13 A Yes. I remember -- let me think. Bond Bakery or their

14 successors. There's a bakery involved.

15 Q What kind of PCB's were involved?

16 A Be 48 percenters again.

17 Q What about the Bottema? What weights are we talking about?

18 A I don't recall if a specific weight was discussed.

19 Q Do you know where it came from?

20 MR. JUNGERHELD: Do you know -- what do you mean?

21 Q What was the source of the PCB?

22 A The coating was the suspected source that was the issue.

23 Q The silo?

24 A Silo, yes.

25 Q Getting into the animal feed and then into the cows?

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1 A. Yes.

2 Q. What is the last one?

3 A. And the sixth one -- where was it? I just can't think of it.

4 MR. BERGEVIN: Gentlemen, I count six if Bond

5 Bakery was one of them.

6 MR. MC GRAW: Bond Bakery was a co-defendant up

7 in New York State.

8 MR. BERGEVIN: Excuse me. Okay.

9 A. I was either wrong on the number six or my memory fails me.

10 Q. Do you have another suit up in Montana?

11 A. Yes. Yes. In Montana. Packing house incident involving

12 transformer oil.

13 Q. Monsanto and G.E. sued?

14 A. Yes. Yes.

15 Q. PCB's involved?

16 A. PCB's were involved.

17 Q. Chickens and eggs?

18 A. Yes.

19 Q. What weight of PCB?

20 A. This was the -- I don't recall which of the PCB's, if either

21 was mentioned specifically. I think we talked there about

22 the -- referred to it under its tradename, Pyranol, rather

23 than talking about Aroclors, certain percent.

24 Q. Was that manufactured by Monsanto?

25 A. It was blended and packaged for G.E. by Monsanto.

1 Q It was a polychlorinated biphenyl?

2 A One of the ingredients, yes.

3 Q And it got into the chickens or the feed?

4 A Well, as I understood it, a transformer developed a leak

5 because of some accident. Leaked the oil onto the floor and

6 from the floor it drained along with all other liquids,

7 wastes, what have you into a common sewer system from which

8 they salvaged anything they could that could be used in

9 animal feed, blood and so on, so that when they salvaged all

10 this material the transformer and all was involved, entrapped

11 and found its way into this food ingredient which was used

12 as one of several ingredients in the formulation of poultry

13 and animal feed.

14 Q And was the PCB's in the resulting feed, the PCB's and the

15 chickens and the eggs that were claimed to be contaminated

16 because of it?

17 A I don't recall any discussion about chickens and eggs. It

18 was sort of implied, but I didn't get into any depth at all

19 on that.

20 Q It was the PCB's that was the contaminating agent?

21 A That was the agent, yes.

22 Q That case was settled?

23 A I'm told so, yes.

24 Q What about the other cases? All settled?

25 A Well, the General Electric case in Knoxville, Monsanto was

1 released by the judge as not really being a party to the
2 matter.

3 Q. That was the highway spill?

4 A. Yes. I was sent home.

5 The mink case, the jury found all of the defendants
6 guilty if you -- I guess that is the appropriate word, in
7 varying degrees with the fee formula for the principal
8 contractor to an assessment that was made. I have forgotten
9 the exact dollars involved.

10 All the other cases to the best of my information were
11 settled.

12 Q. What about the Ohio cases? Still pending?

13 MR. JUNGERHELD: Are you talking about Humphrey
14 and Schwarzwaldner?

15 MR. MC GRAW: Yes. That's the only Ohio case I
16 know of. Are there others?

17 MR. JUNGERHELD: I don't know.

18 A. All I know is the two just mentioned and I'm told they were
19 settled just some time ago.

20 Q. How long ago were they settled?

21 A. '72, '71. I guess '72.

22 Q. There are no other pending cases that you know of?

23 A. Not that I know of.

24 (Whereupon Plaintiff's Exhibit No. 7 was marked
25 for identification purposes.)

1 Q I'll show you Plaintiff's Exhibit 7. Can you tell me what
2 that is?
3 A That's a copy of a letter signed by David Bechtold addressed
4 to Mr. R. B. Egan, Michigan Silo Company, in Massillon, Ohio
5 and it's dated September 19, 1957, and it's from Monsanto's
6 office.
7 A There is no Monsanto reference on here.
8 Q What is that address? Cleveland?
9 A That says Cleveland Sales Office. I can't make out the
10 street on the next line.
11 Q Mr. David Bechtold was a sales representative of Monsanto
12 at that time?
13 A To my knowledge, yes.
14 Q Okay. And this is a letter maybe that you had seen and --
15 A Yes.
16 Q In relationship to that -- our previous testimony --
17 A Yes. This is the letter I referred to earlier.
18 Q Okay. And Mr. Bechtold refers to discussing Aroclors in the
19 use with silo coatings, is that correct?
20 MR. JUNGHERHELD: The letter speaks for itself.
21 Q Is that correct?
22 A It refers to Aroclors and books about Aroclors and the
23 initial phase of coating work.
24 Q And this is with regard to a silo company's use? He's
25 writing to a silo company?

1 A. He's writing to an individual whose address is a silo
2 company, yes.

3 Q. Okay. I'll show you Plaintiff's Exhibit No. 5 and ask you
4 if you can identify what that is.

5 A. This is a copy of a memorandum I prepared on November 17,
6 1970, which I addressed to the file.

7 Q. While file?

8 A. My personal file. This is primarily for my own use, in which
9 I described a visit with Mr. George Schwarzwald and his
10 son at their farm in Wayne County, Ohio.

11 Q. And that was a dairy farm?

12 A. Yes.

13 Q. And at that time was this in answer to earlier letters of
14 Dr. Hill and your telephone calls to Dr. -- or Dr. Hill's
15 telephone calls to you? Did this visit come about by that
16 route?

17 A. Well, I don't know there was necessarily an answer to Dr.
18 Hill. It was an attempt to get much better information for
19 my own edification so I could have a better understanding of
20 silos, dairy herds and coatings.

21 Q. Okay. How did you happen to arrange to go down there and
22 see him and at that time having Dr. Hill call you in April
23 of '70?

24 A. I don't recall all of the specifics. I don't recall where
25 I got the name, Mr. Schwarzwald's name, but obviously I

1 got it from someone and the best I can recall, I got it from
2 an attorney in Monsanto.

3 Q. Were you asked by Monsanto's office, legal or otherwise, to
4 go out and investigate these claims?

5 A. Well, it was the legal counsel in Monsanto that had these
6 two names and asked that I go out and look the situation over
7 and get a better understanding of what was all involved.

8 Q. Did anybody go with you, Mr. Papageorge, from Monsanto?

9 A. No. I was alone.

10 Q. Didn't take any scientists with you?

11 A. No.

12 Q. Or veterinarians?

13 A. No.

14 Q. Who besides yourself then and George Schwarzwald and his
15 son did you see out there, if there were any more?

16 Were there any veterinarians that you can recall that
17 were there that you talked to?

18 A. Not at Mr. Schwarzwald's place.

19 Q. Okay. Did you make a determination at the time of visiting
20 the Schwarzwald farm -- which was located where?

21 A. Wayne County.

22 Q. Ohio?

23 A. Ohio.

24 Q. Is that very far from St. Louis?

25 A. I don't know what you mean by far.

1 Q Well, how far is it?

2 A Well, I flew into Cleveland as I recall, and then drove to

3 the farm.

4 Q Okay. And what did you find out when you got to the

5 Schwarzwalders' farm was the problem he was complaining

6 about? What was his complaint?

7 A I didn't sense that he was truly complaining, except for

8 that a brief -- very brief moment, his milk was found to

9 contain PCB's and the state agency would not permit that

10 milk to be sold to consumers.

11 Q Because of what?

12 A Because of the presence of these PCB's.

13 But very shortly thereafter, his milk was reanalyzed

14 and found to be acceptable.

15 Q It still had PCB's in it but it was an acceptable limit?

16 Would that be true?

17 A Yes. Yes.

18 Q Okay. At that time did you determine what kind of a -- what

19 the source was of the PCB's?

20 I don't want to keep this from you if you want to use

21 it.

22 A Not at that time. Mr. Schwarzwalders pointed to the silo

23 that he was told was his problem by the state authorities.

24 Q And you've mentioned in your report here of November 17th,

25 number two: The cumar coating was applied to both the new

1 and old concrete block surfaces by representatives of
2 Michigan Silo Company. The surfaces were not given special
3 treatment, but were wirebrushed to remove loose particles.
4 No heat curing was used.

5 Who told you about the cumar coating? Where did you
6 learn of that at?

7 A. That's Mr. Schwarzwalders description of what happened to
8 his silos.

9 Q. And had you heard about cumar coating before?

10 A. Yes. Somewhere in the period from when I first heard from
11 Dr. Hill until that November. Sometime during that period
12 of time I heard about cumar, yes.

13 Q. You never heard about it from any of your salesmen? For
14 example, Bechtold or anybody else in the employ of Monsanto
15 from say '57 up until 1970?

16 A. That is correct.

17 Q. To your knowledge, however, were there other people in the
18 business, either Mr. Bechtold or other people, that you
19 learned later that knew cumar was a coating being used on
20 silos?

21 A. No. I never did get that information from anybody.

22 Q. All right. Did you make a determination of what kind of
23 PCB's by weight were involved with Mr. Schwarzwalders
24 farm?

25 A. Yes. I took samples as I recall and brought them back to

1 St. Louis with me and our analytical laboratory did some
2 analysis.
3 Q And the results of those analyses was what?
4 A I don't remember the specifics, but there were PCB's present.
5 Q Were these PCB's Aroclors? Aroclor 1254?
6 A Well, I think -- I sense a -- perhaps a misunderstanding on
7 your part.
8 Q You took samples?
9 A The chemicals are never identified as specifically Aroclors.
10 They are compared to a standard which may be an Aroclor.
11 Q Okay.
12 A If a laboratory used a German sample, they'd say this was
13 equivalent to conaclors or whatever the German name is, 54,
14 whatever they call it. So it depends on the standard the
15 laboratory has available as to how they report it.
16 Q It was your laboratory that made the test of the scrapings
17 you personally got and brought back?
18 A Yes.
19 Q And it would have been your standard your laboratory used to
20 make a determination as to what the PCB's were?
21 A Yes.
22 Q And it was your laboratory that used a standard as to what
23 result they would get as to the weights?
24 A I forget the specifics.
25 Q But they were Aroclors?

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1 A. They were reported as Aroclor so-and-so, yes.
2 Q. By your laboratory?
3 A. That is right, yes.
4 Q. All right. And what about the samples of current milk
5 production? Did you take -- what did you do with those?
6 A. They would not give me any. He claimed he didn't have any
7 milk.
8 Q. Okay. You took samples of the old silage near the wall and
9 at the center?
10 A. Yes.
11 Q. And a sample of the silage in the new silo from a conveyor
12 located at the bottom of the silo?
13 A. Yes.
14 Q. And each of those as your laboratory reported out was
15 Aroclors PCB's?
16 A. I don't remember the specifics. The PCB's were present in
17 some of those samples. I don't know --
18 Q. And by virtue of using their standard they came to the
19 Aroclor determination?
20 A. They'd have to. There's no other answer possible.
21 Q. Okay. So I'm clear, your laboratory reported PCB's or
22 Aroclors in the Schwarzwald samples that you took?
23 MR. JUNGERHELD: PCB's or Aroclors, or as Aroclors
24 or calculated as, or what are you talking about?
25 MR. MC GRAW: I think the question is pretty clear.

1 Do you understand it?

2 A. I think I understand it and I think I'd like to correct it.

3 Q. All right.

4 A. My answer.

5 Q. The samples that you took that you're talking about in number

6 12 and number 14 of your November 17, '70 report on the

7 Schwarzwald farm, those were tested by your laboratory,

8 correct?

9 A. Yes.

10 Q. They came back and reported as Aroclors involved?

11 A. In those samples where PCB's were present they reported the

12 presence of these PCB's and described them as being similar

13 to Aroclor such-and-such and I forgot just which.

14 Q. You don't know the weight?

15 A. Not at this moment. No. I'd have to see the report again.

16 Q. Where is the report?

17 A. I don't know.

18 Q. Can you get them?

19 A. If they're available yet. I don't know that they keep

20 reports like this.

21 Q. You mentioned a moment ago that these are from your personal

22 file. This report of November 17, '70. Exhibit 5.

23 A. That report is -- shows me a copy from Mr. Park's file.

24 Q. All right. Where is your personal file kept?

25 A. I don't know where it is, anymore.

1 Q. You don't have it?

2 A. No.

3 Q. What did you do with it?

4 A. When I was relieved of PCB duties in 1976 I did not take the
5 file with me. I had no need for it. No use for it.

6 Q. When you say a personal file, what do you mean by that?

7 A. It's the information associated with an assignment that goes
8 with that assignment.

9 Q. But when you say personal do you keep it in your own office.
10 Your desk or --

11 A. Yes. I'm the custodian.

12 Q. Okay. Of the original file?

13 A. In this case, of the original, yes.

14 Q. Okay. And then you mailed different copies or at least
15 throughout Monsanto these five names listed at the top?

16 A. In this instance, yes.

17 Q. And in this instance the copy that I have shows an arrow to
18 the last of the five, Mr. P. Park.

19 A. Correct.

20 Q. Does that mean that's Mr. Park's copy?

21 A. Yes.

22 Q. What happened to your copy, and Wheeler's, Kelly's, Bergen's
23 and Mason?

24 A. I don't know.

25 Q. How did we happen to pick up Park's rather than your

1 original?

2 A. I can't answer that. Whoever gave you that copy apparently

3 had access to Attorney Park's files.

4 Q. Is Park an attorney?

5 A. Yes.

6 Q. Who is Wheeler?

7 A. Wheeler is the toxicologist we referred to earlier.

8 Q. Okay. And this is Emmett Kelly?

9 A. Dr. Kelly, yes.

10 Q. Okay. And then Bergen?

11 A. Mr. Bergen is my superior.

12 Q. And Mason?

13 A. Mr. Mason is Mr. Bergen's superior.

14 Q. So when you got back from the November 1970 investigation of

15 Schwarzwalders farm you reported to attorney and everybody

16 above you and then the toxicologist under you?

17 A. Yes.

18 Q. What happened?

19 A. Not under me.

20 Q. Okay. What happened with this report and investigation?

21 What, if anything, happened with regard to George Schwarz-

22 walder's problem?

23 A. Well, we certainly --

24 MR. JUNGHERHELD: Wait a minute. I want to be

25 clear. What about to his problem? Schwarzwalders problem?

1 MR. MC GRAW: The problem he investigated.

2 Q. What did Monsanto do about it other you making this nice
3 report?

4 A. Well, we certainly analyzed the samples I returned with and
5 as a result we were able to learn more about the presence of
6 PCB's in silos of this type which was to Monsanto's new
7 information. A confirmation of previous information that we
8 were getting that we had no personal knowledge of. So that
9 helped us understand the silo dairy cattle milk situation
10 better.

11 Q. Okay.

12 A. That's --

13 Q. What did you do with Schwarzwalders claim, if anything?

14 A. The attorneys handled it. I don't know what they did,
15 specifically.

16 Q. Okay. Did you do anything more with it?

17 A. There was nothing to do at that time that I could introduce
18 because the material was no longer sold. Mr. Schwarzwalders
19 was not using his old silo. His cattle and their milk was
20 acceptable. Everything was in order at that point in time.

21 Q. As far as you were concerned, everything being in order and
22 there was really nothing more to do was because you were not
23 marketing that product anymore to nonusers -- pardon me, to
24 nonelectric users?

25 MR. JUNGHERHELD: No. That's not what he said.

1 MR. MC GRAW: That's what I'm asking him.

2 Q. Was it?

3 A. Well, that's only one of the many reasons why there was no
4 need to do anything further. Everything has been done.

5 Q. Okay. And one of the other reasons why was that Mr.
6 Schwarzwaldar assured you that he was not using those silos
7 anymore?

8 A. That's another reason, yes.

9 Q. And had he used those silos again then he would have been
10 in a situation where he would be like he was before, using
11 feed from a silo that delivered PCB's into his herd?

12 A. I don't know that. That's speculation.

13 Q. You did find PCB's in the scrapings you found from the
14 silos?

15 A. Yes.

16 Q. All right. So if we assume that the PCB's were in the silos
17 from the scrapings that your lab found, would you assume
18 that the rest of that inside of the silo, not just that
19 spot you took scrapings from, also had PCB's in it? Would
20 that be a reasonable assumption? Especially after Mr.
21 Schwarzwaldar told you that they coated the inside of that
22 --

23 MR. JUNGHERELD: Well, objection. Perhaps you
24 should lay some foundation as to whether this witness knows
25 the mechanics of whatever this transfer is.

1 MR. MC GRAW: Well, that has nothing to do with the
2 question. It has to do with his knowledge.
3 A. Well, one could assume that, yes.
4 Q. Okay. It would be a reasonable assumption, wouldn't it?
5 A. Yes, but it still has nothing to do with showing up in milk
6 at an objectionable level.
7 Q. Okay. It shows up in milk, but not at an objectional level
8 to the Ohio Agricultural at that time in '70, correct?
9 A. Yes.
10 Q. Okay. Now, would you have recommended to Mr. Schwarzwald
11 that he continue to use that silo or silos that you made
12 determination of PCB's were in the coating?
13 A. No, I could not recommend a dairy farmer how to feed his
14 cattle. That's not my expertise.
15 Q. But having knowledge there's PCB's in that coating inside
16 would you say go ahead and continue to use that feed and
17 continue to use that silo?
18 MR. JUNGERHELD: Just based on that information?
19 Or with further --
20 MR. MC GRAW: Based on the information he knows.
21 MR. JUNGERHELD: Let me make my record.
22 Based on the information -- if you want to get into a
23 contest who can outshout the other, I'm perfectly willing --
24 MR. MC GRAW: But you're not making objections.
25 MR. JUNGERHELD: Based on further transfer

1 information or solely PCB in the silo without any information
2 about what goes forward from that point, if anything?

3 MR. MC GRAW: Forget his suggestion. Answer my
4 question. I'll repeat my question.

5 A. Not knowing --

6 Q. Wait a minute, please. Let him re-read that question.

7 (Whereupon the question was read back by the
8 reporter.)

9 A. Well, as I said earlier, I'm not a cattle feed expert and
10 without knowledge in this area I'm in no position to advise
11 a farmer on what he should or should not feed his cattle.

12 Q. Was the fact that you earlier said, I believe, that there
13 was no longer any problem one of the reasons as we talked
14 about was he wasn't going to use that anymore?

15 A. Yes.

16 Q. Okay. Now, where is Schwarzwalders farm? You say it was
17 located in Wayne County, Ohio. Do you know what city that
18 was near? Any more identification of how you would find it?

19 A. I would, of course, have to refresh my memory by looking at
20 a map, but I drove out of Canton, Ohio.

21 Q. On this Exhibit 6 which we haven't got to, Mr. Papageorge,
22 just to help both of us, I remembered there was a map.

23 Would that help? That's a Humphrey --

24 A. I don't see where this covers Wayne County.

25 Q. By the way, was Humphrey in Wayne County?

1 A. I don't think so.

2 Q. Did you mention it in your report?

3 A. Humphrey is over in Indiana.

4 Q. Columbiana County. Here, you got it.

5 A. Columbiana. Columbiana is up in this general area. It's

6 not clear as to the exact location of the Humphrey's farm.

7 Q. Let's see. Looks like writing in the middle of that map.

8 A. It's hard to make out.

9 Q. Okay. While we're on this now, --

10 MR. JUNGERHELD: Which exhibit?

11 Q. When I ask you a question --

12 MR. JUNGERHELD: Which exhibit is that?

13 MR. MC GRAW: Six.

14 Any time I ask you a question about this because it's

15 in my hand don't think I'm trying to hold it from you. You

16 can have it any time you want to read it.

17 A. I understand.

18 Q. Okay. Now, apparently you saw the Schwarzwalders on November

19 17, '70. You must have made a swing around to the Humphreys

20 on November 20, '70, on that same trip, would you think?

21 A. No. This was the next day. On the 18th.

22 Q. Okay. That's the date of your report?

23 A. That's the date of my report when I got back to the office.

24 Q. Okay. You saw the Schwarzwalders on the 17th and the

25 Humphreys on the 18th, then?

1 A. Yes.

2 Q. The same trip?

3 A. Yes.

4 Q. Okay. How did you happen to get the claim from the Humphreys?

5 A. Again, it came out of the law -- lawyers.

6 Q. I notice on the top of your report here you got a contact

7 from a Harry Schmuck, S-c-h-m-u-c-k, of Canton, Ohio, an

8 attorney, and an Ed Smith, representing the Co-op Dairy

9 Alliance, Ohio.

10 Would you have talked to those two men about the

11 Humphrey claim?

12 A. Not personally, no. Again --

13 Q. Go ahead.

14 A. At the meeting -- well, these gentlemen were in the living

15 room of the Humphrey home when I visited with them.

16 Q. Okay. So that with the Humphreys besides yourself there

17 were these two men?

18 A. Yes.

19 Q. These two attorneys?

20 A. Yes.

21 Q. And what -- did you learn also the Humphreys were claiming

22 they had PCB levels in their milk?

23 A. Yes.

24 Q. Okay. And with regard to -- going back to the Schwarzwalders,

25 they were claiming, and apparently there must have been

1 some readings you got, PCB content of the milk of the
2 Schwarzwalders was determined at .3 and .4 parts per million
3 and one cow as high as 1.4 parts per million?

4 A. Yes.

5 Q. And then during that time Schwarzwalders tells you that he
6 lost 20 newborn calves two and three days old, which he
7 valued at a hundred each then and claims he had an unusually
8 high incidence of false pregnancies. Did you discuss that
9 with Mr. Schwarzwalders at that time?

10 A. That's his information, yes.

11 Q. And this was what he gave you and Monsanto some concern
12 about looking into this problem in making a personal trip
13 out there?

14 A. We were not aware of the details. Just on my own initially.
15 I picked up this information when I talked to Mr.
16 Schwarzwalders personally face-to-face.

17 MR. JUNGHERHELD: Let's take a little break, John.

18 (Whereupon a recess was taken.)

19 Q. Did you ever send Mr. Schwarzwalders a letter indicating
20 what your findings were? Your laboratory findings?

21 A. No.

22 Q. Did you ever send a letter of any kind to Dr. Hill at the
23 Ohio Department of Agriculture about your investigation of
24 Schwarzwalders?

25 A. No.

1 Q. Did you have in your personal file at one time the
2 laboratory reports from your own lab of the Schwarzwalders'
3 test?
4 Q. Yes.
5 Q. And what else would you have had in your file besides your
6 report of November 17, '70, and the lab reports?
7 A. That's it.
8 Q. Nothing else?
9 A. That's right.
10 Q. Okay. Did you ever get any feedback, memorandums, inter-
11 departmental memos, or anything like that from any of these
12 people you sent copies to?
13 A. No.
14 Q. Do you know if any of these people you sent copies to took
15 any action whatsoever on your report?
16 A. I do not know what they did individually, no.
17 Q. With regard to Exhibit 6, the Humphreys, apparently they had
18 been informed that their milk was unacceptable for consumption
19 because of its PCB content back in February 27th of '70, as
20 you learned from them?
21 A. Yes.
22 Q. And they indicated there was PCB levels reported from .26
23 parts per million to over one part per million from that
24 day in February of '70 to when you saw then on November 18th?
25 A. Yes.

1 Q. They also reported to you that 21 cows of the herd of 60
2 are producing milk free of PCB's, but 16 of those had never
3 been fed silage?

4 A. Yes.

5 Q. Apparently on that same time also with the Humphreys, did
6 you test the water, the hay and the forage from the pastures?

7 A. No.

8 Q. Who did that? Do you know?

9 A. The Humphreys.

10 Q. Did they tell you what those tests revealed?

11 A. No. I don't recall.

12 Q. All right. And like the Schwarzwalders, you were told by
13 the Humphreys or their representatives that cumar was used
14 to coat the silos?

15 A. Yes.

16 Q. And they were Michigan silos?

17 A. Yes.

18 Q. Did you identify both Schwarzwalders' and Humphrey's silos
19 as Michigan silos?

20 A. Would you help me with the word identify?

21 Q. Did you see in fact they were Michigan silos?

22 Either by labeling on the door, labeling on the silo,
23 or by the descriptive building formation of Michigan silos?

24 A. No.

25 Q. Did you have any reason to believe that they were not

1 Michigan silos as they were told?

2 A. Being totally unfamiliar with silos, all of that to me was
3 not helpful. I didn't know enough about it to even ask the
4 question.

5 Q. But in any event, the Humphreys and/or their representatives
6 that were there told you that they were Michigan silos?

7 A. Yes.

8 Q. And told you there was a cumar coating?

9 A. Yes.

10 Q. Did you ask them where they got the silos and when they were
11 erected?

12 A. I didn't, no.

13 Q. Did you ask Schwarzwalders where they got the silos and when
14 they were erected?

15 A. No.

16 Q. Apparently the Humphreys were claiming that they had this
17 eight or nine months' loss of income because they couldn't
18 produce and sell their milk?

19 A. Yes.

20 Q. Because of the PCB levels?

21 A. Yes.

22 Q. Now, also you were told as far as the Humphreys were
23 concerned, they weren't going to use those Michigan silos
24 anymore to feed from?

25 A. Yes.

1 Q. And then you also took samples of current and old milk and
2 paint scraping from the Humphreys?
3 A. Yes.
4 Q. From both silos that they had?
5 A. Right.
6 Q. And you also learned that Humphreys instead of using the
7 old ones are now installing a new glass-coated Smith silo
8 to be placed in service within a week of your visit?
9 A. Yes.
10 Q. Now, did you take these samples back like you did the
11 Schwarzwalders' to the Monsanto laboratories?
12 A. Yes.
13 Q. And did you there have your people with your standards test
14 the Humphreys' samplings?
15 A. Yes.
16 Q. And were those samples likewise containing PCB's?
17 A. Some of them, yes.
18 Q. And were those designated as Aroclors?
19 A. Yes.
20 Q. Did you ever thereafter write to the Humphreys and advise
21 them what you found out from your testing from their samples?
22 A. No.
23 Q. Did you ever write to the attorneys, either Schmuck or Smith,
24 and advise them of your findings from your laboratories?
25 A. No.

1 Q. What, if anything, did you do with regard to this claim from
2 Humphreys as a result of your visit?
3 A. I shared that with the people who received copies.
4 Q. Again, the same people that you shared with on the
5 Schwarzwalders?
6 A. Yes. And I have no idea what they did.
7 Q. All right. So at least as of 1970 in November you and these
8 other men that you shared this information with knew that
9 there were Michigan silos out there in the Ohio area that
10 had a cumar coating that at least gave back some PCB
11 readings and designated as Aroclor through your laboratory?
12 MR. JUNGERHELD: What do you mean designated?
13 MR. MC GRAW: We used that before and he said
14 designated. Is that correct?
15 A. Reported as.
16 Q. Reported as Aroclor? All right.
17 Does designated as Aroclor bother you? Can we say it?
18 A. Not if it's understood that this is the standard which was
19 used for comparison.
20 Q. And it was your standard?
21 A. Yes.
22 Q. The standard that you know from Monsanto this is our
23 Aroclors?
24 A. Yes.
25 Q. Okay.

1 MR. JUNGERHELD: When you say standard, now, this
2 is Aroclor. You mean the standard you know is Aroclor?
3 A. That's the way I answered it, yes.
4 Q. The standard was Monsanto's standard.
5 A. On Monsanto's material.
6 Q. So that the standard against which these tests were made
7 was Monsanto's standard?
8 A. Yes.
9 Q. And they proved out to show consistent with PCB's and
10 Aroclors? The results?
11 A. No. No. You're misunderstanding.
12 Q. Give it to me, then, what it means.
13 A. In the analysis of PCB's, the actual sample is very seldom
14 exactly like the standard. The fingerprint is not exactly
15 the same. It is close to something that was produced
16 commercially. The analyst must use subjective judgment,
17 which is close to. Is it close to 1254, 1248? Is it close
18 to 1242? In his judgment he picks one of the standards and
19 makes his report. This does not mean that the fingerprint
20 observed is exactly the fingerprint of the material. It's
21 closest to in his judgment.
22 Q. All right. In his judgment, the Monsanto analysis, he said
23 it appeared to be PCB?
24 A. Yes.
25 Q. And it appeared to be Aroclors based on your standards?

1 A. I don't report it that way.

2 Q. Did they report it as Aroclors?

3 A. They report it as PCB's similar to Aroclor 1254, 1242, 1248.

4 MR. MC GRAW: Okay. Mark this.

5 (Whereupon Plaintiff's Exhibit No. 8 was marked

6 for identification purposes.)

7 Q. I'll show you Exhibit 8, Plaintiff's Exhibit 8, which was

8 given to us purporting sales summary search from 1954 on.

9 I'll show you -- they're not numbered -- yes. Is this the

10 page numbers? I guess not.

11 A. Supposed to be dollars.

12 Q. Oh, yes. Okay.

13 I'll show you a page and we'll probably mark it

14 separately of 1960 and this indicates sales to Michigan

15 Silo, White Marsh, Maryland, 1,000 pounds.

16 A. That's what it says.

17 Q. And then in 1960, Michigan Silo, Massillon, Ohio, 2,000

18 pounds?

19 A. Correct. That's what is there, yes.

20 Q. Would you affirm that that's a correct record or not?

21 A. I have no knowledge of this report at all. First time I

22 have seen it.

23 Q. If it was properly prepared by your people at Monsanto,

24 would you affirm that?

25 MR. JUNGERHELD: Well, he's already answered the

1 question, John. He doesn't know. That's been prepared
2 without his knowledge.

3 MR. MC GRAW: Can we get an admission from you
4 what you gave us is a correct one?

5 MR. JUNGERHELD: I'm not admitting anything. He
6 just told you already he doesn't know anything about this.

7 MR. MC GRAW: Then all this work is for naught,
8 if somebody doesn't admit it.

9 Q. I'll show you on page -- dated 1961, there's listed Michigan
10 Silo, Massillon, Ohio, 1,800 pounds.

11 A. That's what I read.

12 Q. And then that's the only one on there. That's the only one
13 I can find quickly looking on here and we'll probably have
14 to come back to that.

15 Maybe you can mark Exhibit 8 and then put a sticker
16 8-A for 1960 and put Exhibit 8-B for 1961, would you please?

17 (Whereupon Plaintiff's Exhibits 8-A and 8-B were
18 marked for identification purposes.)

19 Q. When you learned of this chemical Cumar in 1970 from the
20 Schwarzwalders and the Humphreys, I must ask this again for
21 my own foundation, now, had you heard of Cumar before that?

22 A. I was aware of the trademark Cumar as it referred to a resin
23 that was sold by Allied Chemical Company. That was my
24 personal knowledge.

25 Q. When was that, Mr. Papageorge?

1 A. I was aware of this in the 50's somewhere. And as to the
2 specifics how I became aware of it, I really don't know.
3 Q. Did you become aware of who manufactured or designed
4 or developed Cumar and its ingredients in 1950 or the 50's?
5 A. It would help me if you would explain which Cumar are we
6 referring to.
7 Q. Cumar used in the silos.
8 A. I was told by attorneys or made aware by attorneys of a
9 recipe that they had received from somewhere which listed
10 the ingredients of this silo coating referred to as Cumar.
11 Q. When did you receive that?
12 A. I don't remember vividly. I'm going to say about 1972.
13 Late '71, '72.
14 Q. All right. And who were the attorneys that gave you that
15 recipe in late '71?
16 A. I think it was Mr. Richard Stohr. S-t-o-h-r.
17 Q. Now, how did you come about getting the recipe for that then?
18 A. I don't know.
19 Q. Was it arising out of and following up with these claims
20 by these farms from Ohio?
21 A. I can only assume that. I don't know.
22 Q. Why were you given that? Do you know?
23 A. Not really. It's just since I was involved in matters
24 regarding PCB's at the discretion of the person getting new
25 information they would share it with me. Other than that,

1 I can't explain why in this specific instance I was shown.
2 Q. Were you by Monsanto put in charge of investigating these
3 claims of PCB's in silos?
4 A. No.
5 Q. Was any one particular person?
6 A. Not to my knowledge. The attorneys were managing that issue.
7 Q. Were any group of people that you know of other than
8 attorneys working on that?
9 A. No.
10 Q. Were the men that you wrote those reports to from the Ohio
11 farmers working on that project from that November on?
12 November, '70?
13 A. They were addressing this topic as one of many, many, that
14 come to their attention throughout their working day.
15 Q. Was the receipe that you got in 1971 for Cumar that which
16 was put on Michigan silos?
17 A. I have no idea.
18 Q. Was it represented to you that it was?
19 A. No. It was represented to me, here is a recipe for that
20 coating.
21 Q. Used on silos?
22 A. Used on silos, yes.
23 Q. All right. Do you remember what the recipe was?
24 A. Not specifically, no.
25 Q. Would you look at this formulation and tell me if that

1 appears to be the recipe that you saw in 1971?

2 A. It's similar and yet the recipe I saw had Cumar as one of
3 the ingredients listed. The word C-u-m-a-r.

4 Q. Would that be a finish product of the ingredients? Cumar?

5 A. No. Cumar was an ingredient sold by either the Neville
6 Chemical Company or the Allied Chemical Company.

7 Q. All right. And the coating that you were told was used in
8 the silos in 1971, was it this recipe and in addition you
9 feel it had the word Cumar in it?

10 A. It had these kinds of substances, except that I recall the
11 word Cumar listed under ingredients.

12 Q. Okay.

13 A. I do not recall the pounds or gallons. The amounts are not
14 vivid to me now.

15 Q. But you do recall the recipe you saw included all of those
16 ingredients on that page there?

17 MR. JUNGERHELD: That's not what he said.

18 Q. But in addition, the word Cumar was listed as an ingredient?

19 MR. JUNGERHELD: That's not what he said.

20 A. No. The ingredients listed on this page appear to be similar
21 to those that I recall from the recipe I saw, but I note
22 the absence of the word Cumar.

23 Q. All right.

24 A. And I don't know if the word Cumar would have been in
25 addition to or in lieu of one of those.

1 Q All right.

2 (Whereupon Plaintiff's Exhibit No. 9 was marked
3 for identification purposes.)

4 Q Do you recall in the recipe that you saw that Aroclor 1254
5 was a component part?

6 A Yes.

7 Q Do you remember the quantity of the mixture?

8 A No.

9 Q Do you know where that document and recipe is now?

10 A No, I don't.

11 Q Have you ever seen it recently in the past year or so?

12 A No.

13 Q Did you ever come in contact with Michigan Silo Company and
14 any of its officers or workers in any of your travels on
15 behalf of Monsanto?

16 MR. JUNGERHELD: Which Michigan Silo Company are
17 you referring to?

18 Q Michigan Silo Company of Charlotte, Michigan; White Marsh,
19 Maryland; Massillon, Ohio.

20 A I have met some individuals associated with silo companies.
21 I don't know if their experience at any time included
22 association with any of the Michigan Silo Companies. But
23 when I met with these individuals they were not at that
24 time associated with any of the Michigan Silo Companies.

25 Q When did you meet them?

1 A. 1975.

2 Q. Who was it that you met?

3 A. There was a Mr. Baird, a Mr. Harrington and there was a
4 third individual whose name escapes me at the moment.

5 As I remember, this individual was working for Mr. Baird
6 in 1975.

7 Q. And do you know what company Mr. Baird represented?

8 A. C & B Silo Company.

9 Q. C & B?

10 A. Yes.

11 Q. Do you know that C & B acquired Michigan Silo?

12 A. I was told that they acquired the assets of Michigan Silo
13 Company.

14 Q. Was it the assets that they acquired that was the Michigan
15 Silo Company to whom you sold PCB's?

16 A. I don't know that.

17 Q. Did you discuss with these men when you did talk to them the
18 use of Cumar?

19 A. Yes.

20 Q. Did Mr. Baird of Concrete Silo, formerly of Michigan Silo,
21 indicate that their companies, at least Michigan Silo
22 Company before Concrete Silo, or C & B Silo rather utilized
23 Cumar as a sealant on their silos?

24 MR. JUNGERHELD: Counsel, you said Concrete a few
25 times and Concrete --

1 MR. MC GRAW: I'll rephrase it.

2 Q In your talks with Mr. Baird did you learn from him in

3 talking about Cumar that that was the product that they

4 used to seal their silos when built as Michigan silos?

5 A. Yes. Michigan Silo was quoted by Mr. Baird as using the

6 Cumar coating, yes.

7 Q And that that Cumar coating included Aroclor 1254?

8 A. We did not get into details of composition.

9 Q You didn't inquire?

10 A. No.

11 Q Did you ever talk with Lynn Willett out of Ohio about Cumar?

12 A. Yes.

13 Q When?

14 A. I believe in the period '71, '72, '73. Several occasions.

15 Q Did you hear from Mr. Willett that the silo coating called

16 Cumar which contains Aroclor 1254 should not be confused

17 with Neville R-16 resin, which has the same name?

18 Did you discuss those two products?

19 A. Yes. In fact, I believe I coached him on that.

20 Q Okay. He makes a comment in his article that I just read

21 to you, "The silo coating called Cumar, which contains

22 Aroclor 1254, should not be confused with Neville R-16 resin,

23 which has the same name," do you agree with that?

24 A. Yes, sir.

25 Q Okay. When you discussed the situation with Mr. -- or Dr.

1 Willett, would you agree that during that time this was
2 also discussed, "The Michigan Silo Company reported 108
3 sales of Cumar during the period '66 through the end of '69"?
4 A. I don't remember that item. That discussion.
5 Q. Did you learn at any time up to the present time that the
6 Michigan silos on the Haley farm in the Owendale area were
7 built by the C & B company that had taken over the Michigan
8 Silo Company?
9 A. I was aware that C & B Company completed some silos sold by
10 the Michigan Silo Company. I do not recall any discussion
11 that related the silos to the Haleys.
12 Q. That relates to the Gemmells?
13 A. To the Gemmells, no.
14 Q. Who owned the farm before the Haleys?
15 A. No.
16 Q. Did your discussion with Dr. Willett include or have you
17 learned since up until now that the Gemmell silos taken over
18 by the Haleys were coated with Cumar, which contained
19 Aroclor 1254?
20 A. No.
21 Q. Do you know that to this day?
22 A. You just told me.
23 Q. Okay. Had you known it before this day?
24 A. No.
25 Q. Nobody ever told you that?

1 A. No.

2 Q. Nobody in Monsanto told you until right now?

3 A. Right now.

4 Q. And none of your attorneys told you?

5 A. That's right.

6 Q. Did you ever read the pleadings in this case? The complaint

7 against Monsanto?

8 A. Yes. But I don't -- I don't remember that reference.

9 Q. You don't remember any reference that the Gemmell or Haley

10 silos were painted with Cumar and which contained 1254?

11 MR. JUNGERHELD: You're asking him if that is a

12 fact or he was told that or is claiming that, or what?

13 MR. MC GRAW: Did he ever hear it before now?

14 Q. I remember the reference to Cumar and silos and the Gemmells

15 and the Haleys, but how it all fits together in my mind is

16 not clear.

17 Q. Nobody has ever explained that to you even up to the time

18 of this deposition this morning?

19 A. That's right. I had no reason to know that.

20 Q. Does Dr. Willett ever receive any grants from Monsanto

21 Company for research?

22 A. Yes.

23 Q. What does he receive from Monsanto?

24 A. You used the present tense. I don't know --

25 Q. What did he receive in the past?

1 A. I was involved in getting him, as I remember, a \$3,000 grant
2 to complete some ongoing studies he had relating to PCB's
3 in cattle and milk.
4 Q. And when was that?
5 A. '72 or '73. In that period.
6 Q. All right. If you're assuming it's '72, '73, what was the
7 information you gave to Dr. Willett?
8 A. It wasn't --
9 Q. You gave him -- all right. You gave him a grant of \$3,000
10 to do some investigating with regard to PCB's effect on
11 cattle, is that right?
12 A. No. No.
13 Q. All right. What did you do?
14 A. As I remember, he came to me and he said he was conducting
15 some studies with PCB's and cattle and the presence of PCB's
16 in their milk; that he was running out of funds; that he
17 had some analytical work to complete and he was afraid that
18 he would not be able to get any funding elsewhere and he was
19 concerned that he would lose his trained technician, could
20 I help him out with a small grant to keep the technician
21 working for him to complete the study. I didn't tell him
22 what to do with the technician or what to look for. That
23 program was designed before the request for help was made.
24 Q. All right. Did you ever provide him with any materials
25 after the grant was given?

1 A. I certainly provided him with samples of Monsanto's Aroclors
2 just like I did for thousands of other laboratories and
3 study centers.

4 Q. Did you give him your standards?

5 A. That was -- he probably used these as standards in addition
6 to using them in his feeding formulations or however he
7 exposed his animals.

8 Q. Did you work with him in any way after that time when the
9 grant was given?

10 A. Would you describe working with him?

11 Q. Well, provide him with any information ongoing as it acquired?
12 With the reports that you had on the two farmers in 1970.
13 With the other claims that we talked about. Did you give
14 him all that information?

15 A. I personally didn't, but I did drop by and talk with him on
16 the progress of his studies and I also talked with him on
17 the telephone.

18 Q. Do you know where he got his information about Cumar and its
19 formulation?

20 A. No.

21 Q. Is the poly -- or are the polychlorinated biphenyls a
22 contaminate in the environment?

23 A. Can you help me with the expression of contaminate in the
24 environment? It would help me.

25 Q. You're an environmental man. What does it mean? You tell

1 us and we'll work from there. What is a contaminate in the
2 environment?

3 MR. JUNGERHELD: What environment? Could you
4 help the rest of us? What kind of environment are you
5 talking about? Outside, the air, in the trees, or in the
6 animals, or what?

7 MR. MC GRAW: Any environment he wants to pick.

8 A. I find that a difficult question in that -- if PCB's are
9 present in a piece of equipment and were put there to serve
10 a purpose, I personally can't call that a contaminate.

11 If, however, PCB's are found in a place where you
12 wouldn't expect them to be and serve no useful function, I
13 suppose you would call that a contaminate.

14 Now, we're talking about presence.

15 Q. What do you mean by the -- how would you define a contaminate,
16 period? The word contamination or contaminate?

17 A. I'll have to give you a personal understanding.

18 Q. That's all right.

19 A. In my mind, when I think of contaminate, I'm thinking of the
20 presence of a material that was not intentionally added and
21 as a result of its presence introduces some undesirable
22 effect. That, to me, would be a contaminate as distinguished
23 from mere presence.

24 Q. Are PCB's in food a contaminate?

25 A. Well, by my definition, I would say unless it exceeds some

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1 level the FDA sets, I wouldn't call it a contaminate. It's
2 a presence.

3 Q Are PCB's in food foreign bodies?

4 A I don't know what you mean by foreign bodies.

5 Q If you took a glass of milk and induced any level of PCB's,
6 would the PCB's be normal to that milk or would it be
7 foreign to that milk?

8 A Now, that's a different question. Would it be normal to that
9 milk? I would suggest it's not normal.

10 Q All right. It would be foreign to the milk, right?

11 A By what comparison?

12 Q Anybody's comparison. Is it supposed to be in there?

13 A No.

14 Q All right. If it's in there and if it acquires different
15 levels, it may not hurt people or animals or living things,
16 but in certain other levels it could hurt people or living
17 things or animals?

18 A No different than bacteria in milk.

19 Q Are you equating then PCB's with bacteria at certain levels?

20 A No. We're talking about the presence of a material in milk
21 at different concentrations and milk will tolerate -- milk
22 is drinkable with bacteria in it, but if it exceeds a given
23 level it's not acceptable by society as set in this country
24 by the Food and Drug Administration.

25 Q We have bacteria floating in our mouths, don't we?

1 MR. JUNGERHELD: He's not done with his answer, are
2 you?

3 A. I was trying to understand the question that the presence of
4 the material may or may not be foreign may be acceptable,
5 may or may not be contaminated based on society's perception
6 of these things. You put me in a position of what society
7 will tolerate or not and I can't answer that question that
8 way.

9 Q. You used the analogy of bacteria. We have bacteria in our
10 mouths normally.

11 MR. JUNGERHELD: Speak for yourself.

12 Q. Bacteria is not foreign to our body at a certain level?

13 A. Depends on the kind of bacteria and levels, yes.

14 Q. And foodstuffs from ground and milk from cows and so on
15 would have a certain level of bacteria that isn't considered
16 harmful in the scientific community to the human body or
17 animal?

18 MR. JUNGERHELD: What do you mean by harmful?

19 MR. MC GRAW: I'm not going to define every word I
20 use. If he doesn't understand me, he can ask me.

21 A. I can agree with the statement if you describe the type of
22 bacteria.

23 Q. Okay. Various kinds of bacteria can be harmful or not
24 harmful, depending upon the amount that's involved?

25 A. And the type.

1 Q. And the type? Okay.

2 A. Yes.

3 Q. Now, are PCB's in any way a normal part of a food chain that
4 is consumed by animals or humans?

5 A. I have trouble with the word normal. I would suggest that
6 in a highly-industrialized society a good bit of human and
7 animal food has detectible PCB's in it.

8 Q. Where do the PCB's come from?

9 A. From many sources.

10 Q. Okay. It's a synthetic, isn't it? It's man-made?

11 A. Yes.

12 Q. Okay. Any PCB's that are in any part of the food chain or
13 water are from man-made sources?

14 A. That's the current understanding, yes.

15 Q. Whereas bacteria is not from man-made sources, is it?

16 A. All right.

17 Q. Okay. So if we have any level of PCB's in any of the food
18 chain or liquid that is drunk by animals or humans, that is
19 not a normal ingredient in those foods or in those liquids,
20 is that correct?

21 MR. JUNGERHELD: Already answered.

22 A. I don't understand the use of the word normal. Unless you
23 mean natural.

24 Q. Natural. You got it. It's not a natural ingredient, is it?

25 A. That's stipulated when we said earlier on that this is a

1 man-made material.
2 Q Okay. I just want to clear that up so we both understand
3 each other.

4 But you don't like to indicate that it could be a
5 contaminate of the environment in any way or of the food
6 chain? You don't like to use that word?

7 MR. JUNGERHELD: Which now? Bacteria or --

8 MR. MC GRAW: Contaminate.

9 MR. JUNGERHELD: Are you still talking about
10 bacteria?

11 MR. MC GRAW: I just gave you the question if you
12 would listen, Bill.

13 MR. JUNGERHELD: Read the question back.

14 Talking about bacteria or --

15 (Whereupon the question was read back by the
16 reporter.)

17 MR. JUNGERHELD: What does it stand for?

18 MR. MC GRAW: Contaminate.

19 A. The word contaminate has many meanings to many people.

20 Q. Okay. What is its meaning to you?

21 A. I thought I described that earlier.

22 MR. JUNGERHELD: Asked and answered.

23 MR. MC GRAW: I don't understand it that way after
24 our other questions here.

25 MR. JUNGERHELD: Well, it's been asked and

1 answered. Go on to something else.

2 Read the record back. He's already answered it.

3 MR. MC GRAW: What is your --

4 MR. JUNGERHELD: Don't bother. It's been asked
5 and answered.

6 MR. MC GRAW: Read it back if it's in there.
7 It's a lot easier to go on and get the answer than to start
8 fooling around.

9 (Whereupon the following questions and answers
10 were read back by the reporter):

11 "Q. What do you mean by the -- how would you define a
12 contaminate, period? The word contamination or
13 contaminate?

14 A. I'll have to give you a personal understanding.

15 Q. That's all right.

16 A. In my mind when I think of contaminate I'm thinking
17 of the presence of a material that was not inten-
18 tionally added and as a result of its presence
19 introduces some undesirable effect. That to me
20 would be a contaminate as distinguished from mere
21 presence.

22 Q. Are PCB's in food a contaminate?

23 A. Well, by my definition I would say unless it
24 exceeds some level the FDA sets I wouldn't call
25 it a contaminate. It's a presence.

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1 Q Are PCB's in food foreign bodies?

2 A I don't know what you mean by foreign bodies."

3 Q Is that your definition of a contaminate?

4 A That is my personal definition.

5 Q All right.

6 A And it's based --

7 Q What is the scientific community definition of a contaminate?

8 A I don't know that the scientific community has a single

9 definition.

10 Another example, if I may, the food and drug people

11 will --

12 Q That's not responsive to my question.

13 A All right.

14 Q Let me read for you Dr. Willett's report. He entitled it

15 about page five, Roman numeral number III, the contamination

16 process. And he goes on to discuss Cumar was just one of the

17 many coating materials that had been applied to fill the pours

18 of concrete and reduce the surface vulnerable to acid

19 attack.

20 And he goes on discussing that and then he goes on,

21 "Cows and PCB residues when cows were fed PCB's orally or

22 consumed PCB-contaminated silage, residues were detected in

23 the milk for six hours. Willett, 73."

24 What is Dr. Willett talking about when he's talking

25 about contaminated silage and contaminated silos and

1 contamination process?

2 MR. JUNGERHELD: Well, objection. You're asking
3 him to read somebody else's mind.

4 MR. MC GRAW: I'm just asking him with whom he's
5 discussing and gave a grant what does that mean.

6 MR. JUNGERHELD: That's a different question.

7 MR. MC GRAW: That is a different analogy to
8 contamination that I want to explore.

9 A. If you will read Dr. Willett's report there, you can sense
10 immediately he is using contaminates to indicate presence.

11 Q. It's to indicate presence of what?

12 A. Of the PCB's.

13 Q. In the silage?

14 A. In the feed or whatever he's associated PCB's with he's
15 talking about presence.

16 Q. Can we agree if there are PCB's in the feed, in the silage,
17 that at least that's a contaminated silage?

18 MR. JUNGERHELD: What do you mean by the feed and
19 the silage?

20 MR. MC GRAW: In the silage.

21 MR. JUNGERHELD: Apparently he's leaving out the
22 feed part of that.

23 Q. He says when cows were fed PCB's orally or consumed PCB-
24 contaminated silage. That's what I'm trying to figure out.
25 What does that mean? PCB-contaminated silage to you?

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1 A. It means you sample and analyze the silage and you can
2 detect the presence of PCB's.

3 Q. All right. PCB's are not normally supposed to be in silage,
4 is that correct?

5 A. That's correct.

6 Q. Okay. And would it also be correct that PCB's are not
7 normally to be expected within milk from dairy cows?

8 MR. JUNGERHELD: Well, that question has been
9 asked and answered too, a couple of times.

10 Are you talking again now? Has he --

11 MR. MC GRAW: Just as he answered about the silage.

12 MR. JUNGERHELD: Well, he's been asked that and
13 answered that several times and he's explained the answer
14 to you in the context of industrial society. How many times
15 are we going to go over this?

16 MR. MC GRAW: He hasn't. Let's get the answer
17 and we'll go on.

18 A. I don't know enough about the universal presence of PCB's
19 in milk to answer that question.

20 Q. In your opinion should there be PCB's in the milk of dairy
21 cows as a normal -- a normal ingredient of the milk?

22 MR. JUNGERHELD: Well, that's been asked and
23 answered.

24 A. I have no opinion in that regard. Because we have not
25 talked about the amount.

1 Q. Any amount?

2 A. Unless it's a harmful amount, I have never addressed that.

3 There is no need to address the quantity.

4 Q. What is a harmful amount?

5 A. I am not qualified to answer that. That's a function of

6 the Food and Drug Administration.

7 Q. Would you agree that if the harmful amount was set at two

8 or 2.5 parts per million in the milk that that would be an

9 improper level?

10 A. That would be regulatory -- via the regulatory process

11 improper, yes.

12 Q. In your own opinion do you find it a harmful substance based

13 upon your knowledge and experience, in Monsanto's knowledge

14 and experience, for whom you speak, that any level of PCB's

15 in the milk beyond 2.5 parts per million is harmful?

16 MR. JUNGERHELD: What do you mean by harmful?

17 MR. MC GRAW: The way he used it.

18 A. There is no evidence that exists anywhere to my knowledge

19 that establishes for a fact that PCB's are harmful or have

20 created any harm to the humans via drinking milk.

21 Q. What about animals?

22 A. There are animal studies that show that -- at these high

23 levels and which they are exposed there were some effects.

24 Q. 2.5 and above?

25 A. No. Closer to a hundred parts per million in their daily

1 diet. Not just in a portion of their diet as milk would be.
2 Q. Where are these studies? Whose studies are you referring to?
3 A. These are the IBT studies.
4 Q. Performed for Monsanto?
5 A. Yes.
6 Q. What about any other studies throughout the literature? Do
7 you know of any?
8 A. Well, I'm aware of a study that the National Cancer Institute
9 conducted with Aroclor 1254.
10 Q. On humans?
11 A. No. Rat studies.
12 Q. Nobody has tested humans, have they?
13 A. That's right.
14 Q. So what the scientific community does is test animals and
15 try to equate the testing process and the effects on animals
16 on what it might do to humans?
17 A. That is correct. Yes.
18 Q. To your knowledge, or Monsanto's knowledge, is there any
19 studies with regard to long-term effects of ingestion of
20 PCB's at any level? 20 years, 30 years, on human beings?
21 A. No.
22 Q. Haven't reached that point, have they?
23 A. What hasn't reached?
24 Q. The time passage.
25 A. I'm confused at this point.

1 There are workers that we know have been exposed for --
2 since the 30's, 40's, 50 years of exposure.

3 Q. Isn't this in regards to inhalation and touching skin?

4 A. Yes.

5 Q. Okay. Are there any studies, long-term studies, of the
6 chronicity of PCB's in the body because of eating it or
7 drinking it?

8 A. No.

9 Q. So we're still not sure what effects on humans that type of
10 ingestion or consumption results in, is that correct?

11 A. That's true of all industrial chemicals, yes.

12 Q. Except for asbestos.

13 A. That's inhalation.

14 Q. Yes. But now there is a passage of time and familiarity with
15 that?

16 A. We're talking ingestion?

17 Q. Yes. You were talking about the 1930's and ingestion before.

18 MR. JUNGERHELD: Let's not argue with him.

19 Q. I'm just relating asbestos to what you were talking about.

20 A. I just wanted to talk about -- I'm talking ingestion,
21 eating. Long-term human exposure.

22 Q. And there aren't any studies on that to this date, are there?

23 A. There never will be.

24 Q. Then they're ongoing?

25 A. No, they are not.

1 Q. As far as Monsanto is concerned, there are no studies going
2 on?
3 A. On human beings.
4 Q. To watch and observe the effects of known people who have
5 ingested by eating and drinking materials containing PCB's?
6 MR. JUNGERHELD: You mean is Monsanto conducting
7 such studies?
8 MR. MC GRAW: I say are there?
9 A. I'm not aware of any such program anywhere in the world.
10 MR. MC GRAW: Okay.
11 (Whereupon Plaintiff's Exhibit No. 10 was marked
12 for identification purposes.)
13 Q. I'll show you Plaintiff's Exhibit 10 and ask you if you
14 recognize that.
15 A. Yes, I have seen this before.
16 Q. What is it, Mr. Papageorge?
17 A. This document shows the two columns. The left-hand column
18 is the chemical formula for the isomers that are in the
19 mixture called Aroclor 1254.
20 The second column shows the percent by weight of that
21 material in the total mixture.
22 Q. Okay. Did you ever get a report from Dr. Willett on the
23 project he was working on and which Monsanto backed?
24 A. I recall a copy of the document that was circulated here
25 previously from which we pulled a page showing a formulation.

1 Q That's an article he wrote in the journal, but did he give
2 Monsanto a different report or a report?
3 A I don't recall any other report, no.
4 Q Did you provide samples of Aroclors to other scientists to
5 do investigations other than Willett with regard to PCB's
6 and their effects on living things?
7 A I provided samples of material to scientists, but in most
8 cases I do not know what they did with the sample.
9 Q Did you ever request that you be -- in order that they be
10 given these formulas and samples that they report back to
11 you what they discovered and found?
12 A We never made that a condition of providing samples, no.
13 Q Did any of these people ever send back reports to you?
14 A No.
15 Q Do you know to whom they may have been sent other than IBT,
16 Young, and Willett?
17 A I personally don't have that listed. There must have been
18 hundreds.
19 Q Is there any way you can find out who they are?
20 A I don't know if the records exist today. But at one time
21 we used to keep a sample request form which the requester
22 would sign and submit to us. I don't know if those were
23 -- are still available or not.
24 Q Is there some way you could look for them and determine
25 whether they are?

1 A. Oh, I guess we could go back and try to look for them, yes.
2 But that doesn't mean they're still around. I don't know.
3 Q. Today, in fact this afternoon for lunch, we were given this
4 January 19th letter with some material in there, one of
5 which on the back side is this document?

6 A. Yes.

7 (Whereupon Plaintiff's Exhibit No. 11 was marked
8 for identification purposes.)

9 Q. All right. I'll show what is marked as Plaintiff's Exhibit
10 11 and can you tell us what that purports to be?

11 A. This is a copy of a Monsanto label for the product Aroclor
12 1254 and is representative of the label that was affixed to
13 product containers starting in the middle of 1954.

14 Q. Where did you get the date from, Mr. Papageorge?

15 A. July, '54 here. And there's an August '54 here.

16 Q. A datestamp?

17 A. Yes.

18 Q. Who was that made by? That datestamp?

19 Q. I don't know.

20 Q. Okay. Is this the only label that went on containers in
21 1954 and right on up through 1970?

22 A. No, this label was the label that existed until it was
23 replaced. And I don't recall when it was replaced. But just
24 eventually replaced with different makeup, different artistic
25 work, and different information. It had weight information.

1 Q We may have one of those.

2 What containers are you talking about that that lable
3 Exhibit 11 is placed on?

4 A. There were three containers in use. A five-gallon pail, a
5 30-gallon steel drum, and a 55-gallon steel drum.

6 Q All of which had that label on them?

7 A. Yes.

8 Q Okay. Did they have any other labeling or writing attached
9 to those three types of containers?

10 A. At what point in time?

11 Q From '54 to '70.

12 A. Other than the change in the label itself, the basic
13 information is roughly this.

14 Q Okay. In our discovery process we asked for different labels
15 and so on and these were the only other ones we were given.

16 Mark that Exhibit 12. And there are seven sheets on
17 top of the cover sheet labeled Aroclor labels. Label it
18 No. 12, A, B, C, D, E.

19 (Whereupon Plaintiff's Exhibits 12, 12-A through
20 12-H were marked for identification purposes.)

21 Q Why don't you look through Exhibit 12-A to 12-G, they are
22 various labels.

23 Have you had a chance to look at 12-A through G?

24 A. Yes.

25 Q And Exhibit 11?

1 A. Yes.

2 Q. On 11, while Mr. Jungerheld says once in a while speaks for
3 itself, is there anything on this Exhibit 11 that warns or
4 tells anybody that you're not to eat it or drink it in any
5 form whatsoever?

6 MR. JUNGERHELD: Objection. The exhibit speaks
7 for itself.

8 MR. MC GRAW: I know.

9 A. No, there is no reference.

10 Q. In Exhibit 12-A through G was there any reference in any
11 of those labels that warned or advised anybody that they
12 shouldn't eat it or drink it in any quantity whatsoever in
13 any mixture?

14 A. No, there is no reference.

15 Q. Now, with these labels here, and I don't know if all of them
16 are involved from Monsanto, because this is all I have been
17 given, are these all the labels you know of that Monsanto
18 utilized on their PCB products sold to the public?

19 MR. JUNGERHELD: On which product now? 1254?
20 Is that what you're limiting that to?

21 MR. MC GRAW: That's a good question. Thank you.

22 Q. Was this Exhibit 11 used in the same format exactly for
23 21, 42, 48, 54 and 60, but just with a number change?

24 A. Assuming that those products were available commercially
25 at the time this particular design was in place, yes.

1 But I can see the situation where a product was introduced
2 to the marketplace where we replaced this design with a
3 subsequent design.

4 Q Okay. And with Exhibit A to G, would those exhibits also
5 apply to whatever weights we're talking about? Not just
6 1254.

7 A. For all the Aroclor 1200 series, yes.

8 Q Okay. What is the difference -- you might just go through
9 and make it easier that way.

10 Where did you use each one of these labels and why and
11 on what?

12 MR. JUNGERHELD: Exhibit?

13 MR. MC GRAW: They're all 12 so that will be A
14 -- or B. I'm sorry. Exhibit 12-B.

15 MR. JUNGERHELD: Is it the first page there,
16 the cover sheet? Is that --

17 MR. MC GRAW: Yes.

18 MR. JUNGERHELD: Okay. Then we go to H.

19 A. 12-B, 12-C, 12-D are designed to be used on small containers
20 of sample material for experimental purposes.

21 Q Stop right there, because I think the court reporter can
22 help us.

23 Whenever we referred to this Exhibit A through G, it
24 was really A through H. Can the reporter change it?

25 MR. JUNGERHELD: Yes. I believe he did.

1 MR. MC GRAW: I mean in his typed record.

2 MR. JUNGERHELD: Sure.

3 A. We talked about A, B, C, D was designed to be used on small
4 containers and small quantities of sample material.

5 Q. wkey.

6 A. Exhibit E is a copy of the label that is attached to the
7 55-gallon drum of the material.

8 Q. Which contains 600 gallons of PCB?

9 A. 600 net weight pounds as indicated on this copy.

10 Q. Okay.

11 A. F is designed to be placed on the five-gallon container
12 and it shows a net weight of 60 pounds.

13 Q. Why did they have legal in all of these things? Do you
14 have illegal labels?

15 You can forget that.

16 A. I can't explain it. It has something to do with the Depart-
17 ment of Transportation rules that must be met here.

18 Q. Okay.

19 A. Exhibit G is a universal label in that the space for weights
20 is left blank to be filled in depending on whether the
21 five-gallon pail, the 30-gallon drum or the 55-gallon drum
22 was used, and then you would put in the net tare and gross
23 weights.

24 Exhibit H is again an all-purpose label with some
25 modification in the artwork.

1 Q. Okay. Basically, then, E through H are exactly the same
2 except where they have got the weights?

3 A. Yes.

4 Q. Okay. Now, we found one more that I got on my own. I'll
5 mark that one 13.

6 (Whereupon Plaintiff's Exhibit No. 13 was marked
7 for identification purposes.)

8 Q. Now, looking at Exhibit 13, what is that?

9 MR. JUNGERHELD: Could Counsel see that? I haven't
10 seen your 13.

11 Q. First of all, have you examined Exhibit 13?

12 Everybody has but you? Why don't you look at it?

13 A. Okay.

14 Q. Okay. What does that purport to be, Mr. Papageorge?

15 A. This is a copy of a label which was designed by Monsanto
16 and sent to customers who had PCB materials for disposal.
17 They would affix this label to the shipping container and
18 return it to our plant in Sauget for incineration.

19 Q. And was there a date somewhere on that you can find?

20 A. I don't see any. It's a poor copy because this was a red
21 background with white letters.

22 Anyway, that label was designed and used starting in
23 1971.

24 Q. I just see -- I can make out a 53 on the corner there.

25 A. 53 is the number you'll see on all Aroclor labels, generally.

1 It's missing from that one, but you'll find that 53 is
2 accompanied, used by the label custodian in his system in
3 his library. I think you'll find 53 covers this particular
4 group of products.

5 Q Oh, okay.

6 A So that's his way of cataloging his labels.

7 Q These labels that you have given us here and we have gotten
8 before, Exhibit 11 and 12, apparently you still have those
9 in your control or archives somewhere, is that it? Originals
10 of these labels?

11 A I don't have personally.

12 Q Monsanto does?

13 A Yes.

14 Q Is it possible for you to give to your counsel an original?
15 Just pick up an original so that we could have that rather
16 than a photostatic copy of the Exhibits 11 and 12 A through
17 H?

18 A I don't know if they have more than one original still
19 available. They may want to keep their last original.

20 Q I would understand that, yes. But do you think you could
21 do that and contact -- look for it and contact your attorney?

22 MR. JUNGERHELD: This isn't the procedure by which
23 we discover documents.

24 MR. MC GRAW: I know. It's helpful to all of us
25 if we can find the original instead of eyestrain on the --

1 MR. JUNGERHELD: The witness indicated obviously
2 he doesn't know if such things are available and I don't
3 want to get into a confusing situation on the record that
4 I'm under burden to produce something that doesn't exist.

5 MR. MC GRAW: I'll send out a request, then.

6 MR. JUNGERHELD: All right.

7 MR. MC GRAW: I thought I would save that time.

8 Q Okay. On Plaintiff's Exhibit 13 now, this went out about
9 what year?

10 A. 1971.

11 Q All right. And why was this form designed to be sent to
12 your customers with PCB's? Do you have any knowledge of
13 that?

14 A. It was to help our customer properly label the package in
15 which he was returning the material.

16 Q Did you send this to every customer you sold PCB's to or
17 just those that contacted you as you kind of earlier said,
18 "We got some PCB's we want to get rid of"?

19 A. We sent it to those who requested. We sent to those who
20 would place an inquiry regarding disposal. And we sent to
21 those who were involved or could have been involved in a
22 withdrawal replacement program.

23 Q Okay. Will you read that for me, please?

24 First at the upper right-hand corner. Read it out
25 loud so he can take it down.

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1 A. It appears to have been a fold in here and some of the
2 words are not readable right over that fold. But I'll
3 attempt.

4 "Important: This product contains polychlorinated
5 biphenyls (PCB's) which some studies have shown may
6 be persistent."

7 And then there's a fuzzy word.

8 Q Where?

9 A. I believe it was "as an" although only the A shows.

10 "Environmental contaminate and possibly injurious to
11 certain forms of birds, aquatic and animal life."

12 "Prevent" and these are now in capital letters:

13 "PREVENT ANY ENTRY INTO THE ENVIRONMENT THROUGH SPILLS,
14 LEAKAGE, DISPOSAL, VAPORIZATION, RE-USE OF CONTAINERS
15 OR OTHERWISE. SPILLS, LEAKAGE AND WASTE PRODUCT MUST
16 BE COLLECTED."

17 Q And then on the --

18 A. Then there's a space for product name for the product being
19 returned. A space for the weight.

20 Q And the lower corner?

21 A. Lower right-hand corner is another paragraph that starts
22 off:

23 "Caution. Contains chlorinated hydrocarbons. Harmful
24 substances if taken internally or in prolonged contact
25 with the skin causes irritation of skin and eyes.

1 During shipment avoid spills and leakage into inland
2 waterways and the sea. Store away from food, animal
3 feeds, feedstuffs and pharmaceuticals. Keep container
4 tightly closed. Do not eat or smoke when using. Avoid
5 breathing vapors, mist, or fumes. Do not wear
6 contaminated clothing. Wash product from skin with
7 soap and water. Wash eyes by flushing with water."

8 Q. Okay. Fine. Thanks very much.

9 Would it be safe to say that you did not send any such
10 Exhibit 13 to any of the silo companies?

11 A. True.

12 Q. Would it also be safe to say that you never had written to
13 any of the silo companies at any time or Monsanto had never
14 written to any of the silo companies advising them or warning
15 them about any adverse effects of PCB?

16 A. Monsanto direct?

17 Q. From Monsanto to your customers.

18 A. That is correct.

19 Q. Did Monsanto ever put out any advertising in any journals,
20 farm journals, general magazines of any form or type
21 announcing that there might be some problems with PCB's
22 that customers had purchased from you?

23 A. Monsanto did not do so, no.

24 Q. Did anybody do that, to your knowledge, regarding PCB's?

25 A. I was personally told in conversations with state regulatory

1 people involved with dairy, dairy farms, that they had
2 issued bulletins and publications.

3 Q. Do you know if Michigan did?

4 A. Yes. I recall Mr. VanPatton indicating that he was
5 communicating.

6 Q. What year was this?

7 A. 1975.

8 Q. How do you remember that? The date and Mr. VanPatton?

9 MR. JUNGERHELD: How? With his memory.

10 Q. How do you remember that? I mean, was there something --
11 a lot of us can pick out different dates because things
12 happened and --

13 A. I associated it with events and in my case I recall I left
14 this assignment in '76, went back to a meeting in Chicago
15 on PCB's in November of '75 and somehow I remember that
16 summer of that year I was up here in Michigan talking to
17 people.

18 Q. Okay. Now, what do you think Monsanto meant by saying that
19 this might be an environmental contaminate on Exhibit 13?

20 A. Well, this was in response to what was continuing to appear
21 in the public press regarding the alleged damage to the
22 brown pelicans in California. To the falcons. To --

23 Q. In Sweden?

24 A. In Sweden there was no harm claimed. It was just presence.
25 No harm. But there was the Peregrine falcon indication

1 that we were contributing to the demise of that species
2 because of this material and in response to that possibility
3 we thought it prudent to share that with our customers.
4 And this particular phrase also appeared in the finished
5 product label. The virgin material that was shipped out
6 of the plant in addition to the returning material.
7 Q. In what year? When you're talking about the virgin product
8 being shipped out.
9 A. This message was incorporated on the labels in about April
10 or May of 19 -- early 1970. March, April or May.
11 Q. Of 1970?
12 A. 1970, yes.
13 Q. If I understand historically and recall right, you stopped
14 making PCB's to be sold to and distributed to nonelectric
15 users?
16 A. Yes.
17 Q. Is that correct?
18 A. Yes.
19 Q. Okay. So the only place that such a label that says it may
20 be an environmental contaminate would be only to those
21 customers who were purchasing PCB's for use in closed
22 elements for electrical use?
23 A. Depends on the time period.
24 Q. I'm using 1970 that you said that was sent out.
25 A. When we incorporated this message on the product labels in

1 early 1970 all applications were still being supplied.
2 Q. All right. That's why I say historically I recall that you
3 stopped selling to nonelectric users in 1970.
4 A. In August 30, 1970.
5 Q. Okay. So any customer, nonelectric, that bought between
6 March, April, '70 through August 30, '70, would have received
7 a warning like this?
8 A. Yes.
9 Q. But no customer before April or March of '70 ever received
10 any indication of an environmental contaminate?
11 A. That information was not available.

12 MR. MC GRAW: Okay. Now, if we want to break and
13 pick up in the morning?

14 MR. JUNGERHELD: Sure.

15 (Whereupon the deposition was adjourned until
16 9:00 o'clock A.M., the following day, Thursday,
17 January 20, 1983.)
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19
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(Whereupon at 9:00 o'clock A.M., Thursday, January
20, 1983, the deposition continued as follows):

Q. (Mr. McGraw, continuing): Good morning, Mr. Papageorge.

A. Good morning.

Q. We're just continuing now from yesterday. You're still under
oath and again as I told you yesterday, if you don't
understand me, just say so, because it's your understanding
we're looking for. Not mine or any of the other attorneys.
Okay?

A. I understand.

Q. I think yesterday we were talking about that the PCB's of
the various weights known as Aroclors were the trademark
of and the sole producer and manufacturer and sales in the
United States by Monsanto, is that correct?

A. Yes.

Q. Okay. Would that also hold true throughout the world in
sales to other countries and other users in other countries?

A. If sold by Monsanto, yes.

Q. All right. In other words, that trademark of Aroclor
applied to PCB's holds up worldwide? Not just the United
States?

A. Yes.

Q. Is Monsanto selling -- manufacturing, producing or selling
PCB's outside the United States in the world market?

MR. JUNGERHELD: Today?

1 MR. MC GRAW: Since 19 -- let me finish.
2 Since 1977 when you stopped U. S. production until now.
3 A. No.
4 Q. When you stopped production and -- well, when you stopped
5 sales to users, nonelectric, in '70 -- follow me so far?
6 Am I correct so far? You stopped sales to nonelectric users
7 in 1970.
8 A. That's not correct.
9 Q. Okay. What did you do with regard to sales to nonelectrics?
10 When did you stop that?
11 A. We stopped some of the sales to those uses that we classified
12 as plasticizer uses in 1970. And at that point we were still
13 selling to the hydraulic fluids, the heat transfer applica-
14 tions, as well as the electric uses.
15 Q. Maybe I can put it this way: You stopped sales in the
16 United States in 1970 for all open uses of PCB's, but
17 continued sales for all closed uses of PCB? Would that be
18 correct?
19 A. Can you define your understanding of the word closed?
20 Q. Let's get yours. What do you mean by closed use of PCB?
21 A. It's the application in which the material is contained
22 within a system which when properly maintained prevents the
23 release of the PCB's into the environment.
24 Q. All right. And then all other uses would be classed as
25 open use?

1 A. Yes.

2 Q. Whether they be in plasticizers, paints, rubber compounds,
3 many other compounds, or mixtures?

4 A. Yes.

5 Q. All right. So that in 1970 when you stopped the production
6 as to all open uses in the United States did you or did
7 Monsanto likewise stop all sales to the foreign markets as
8 well as outside the United States?

9 A. Yes.

10 Q. And then in 1977 all closed sales were stopped in the United
11 States and worldwide?

12 A. Yes.

13 Q. So that from 1977 on Monsanto did not produce or manufacture
14 and sell any PCB's in the United States or in the world?

15 A. Yes.

16 Q. Did any of the formulation of the PCB's as you knew them
17 before that 1977 ever turn up in any other substitute
18 products? So that Monsanto would be able to use or utilize
19 its tradename of Aroclor and its trade secrets and its
20 compounds and its chemical makeup in some substitute chemical?

21 A. Yes. There was a temporary interim alternative material
22 introduced.

23 Q. And did that phase out eventually?

24 A. Yes.

25 Q. So when did that phase out, that temporary chemical?

1 A. At the same time all PCB's were terminated.

2 Q. Which was when?

3 A. Let me think here.

4 As best I remember this was even before 1977. The best
5 of my recollection this occurred in '71, '72.

6 Q. When you attempted a substitute chemical?

7 A. The substitute material was offered and it too was terminated
8 by the end of '72.

9 Q. Then what was -- what was used -- let me back up a minute.

10 Was the substitute chemical a PCB, nevertheless, of some
11 sort?

12 A. One of the ingredients in the alternative material offered
13 to replace the PCB's that were removed from the marketplace
14 would today be considered a PCB.

15 Q. What was it?

16 A. It was the Monsanto chlorobiphenyl.

17 Q. Has that got a weight?

18 A. 21 percent.

19 Q. And that was only used from apparently '71 to '72, that
20 substitute chemical?

21 A. As a substitute. It existed before for its own unique
22 characteristics and was sold as such.

23 Q. Was that ever sold as a plasticizer?

24 A. As an ingredient along with another material.

25 Q. Was that ever sold to silo companies?

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1 A. Not to my knowledge, no.

2 Q. Did you stop using or manufacturing, producing and selling

3 that substitute after '72?

4 A. To the best of my knowledge, yes. In about that time.

5 Q. So that from '72 through '77 you were still selling the

6 PCB's, but only to closed circuit customers?

7 A. In '72 we were selling only to the dielectric applications.

8 Q. Not to heat treating?

9 A. I believe by that time we had phased out of the heat treating,

10 the heat transfer and hydraulic fluids applications.

11 Q. So that from '72 to '77 the only industry that was buying

12 -- the only customers that were buying PCB's to whom you

13 were selling Aroclors were the dielectric companies?

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

15 Q. And that's for what? Insulators and transformers and things

16 of that nature?

17 A. Yes.

18 Q. And then in '77 that was all phased out?

19 A. Yes.

20 Q. Are there any companies to your knowledge that have picked

21 up the cudgel, so to speak, and began to manufacture PCB's

22 after Monsanto ceased in 1977 in the United States?

23 A. I need some help with the word began to manufacture PCB's.

24 Q. Okay. We learned yesterday that to your knowledge there were

25 only two other companies that had a PCB compound being

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1 sold and that was down in Texas.

2 A. In this country?

3 Q. Yes.

4 A. Yes.

5 Q. Is that right?

6 A. Yes.

7 Q. Okay. And do you know first of all that those companies

8 phased out their manufacturing at any time?

9 A. I do not know.

10 Q. Do you know if they're still doing it today? Manufacturing

11 PCB's?

12 A. That I don't know. It would be illegal.

13 Q. All right. It's illegal because the federal government came

14 down and said no more PCB's in the United States after '77?

15 A. Correct.

16 Q. So to your knowledge it would be illegal for anyone to

17 produce and sell PCB's to the public?

18 A. As it applies to the deliberate manufacture and sell. Not

19 the incidental production.

20 Q. What does that mean? What is incidental production?

21 A. PCB's are inadvertently produced when other chlorinated

22 chemicals are manufactured.

23 Q. And is there a limit as to what content that chemical can

24 have or weight of PCB's in it?

25 A. That is being debated currently with the Environmental

1 Protection Agency.

2 Q But for all practical purposes, no one manufactures,
3 produces and sells PCB's as such?

4 A. To my knowledge, that is correct, yes.

5 Q All right. There are no competitors then in the business
6 for PCB sales in the United States?

7 MR. JUNGERHELD: Do you understand the question?

8 Do you mean today?

9 Q No one has -- you're not manufacturing it and to your
10 knowledge no one else is manufacturing it and there's no
11 one competing for the business of customers to buy PCB's
12 from '77 on to the present day?

13 A. Not to buy PCB's, no.

14 Q All right. Are your formulas for PCB's governed by a patent?

15 A. Will you please explain formula?

16 Q Well, the makeup. The recipe, so to speak, of your Aroclor
17 trademark for PCB's. Is that subject to a patent? Its
18 content, its makeup and how it's produced?

19 A. No.

20 MR. JUNGERHELD: I think a trademark would be
21 subject to a copyright, wouldn't it?

22 A. Yes. But not a patent.

23 Q It's not subject --

24 A. As I understand it, the question refers to the patent?

25 Q Yes.

1 A. As it relates to Aroclors?

2 Q. Yes.

3 A. And Monsanto's manufacture thereof?

4 Q. Yes.

5 A. There is no such patent.

6 Q. All right. With regard to any trademark usage was there a

7 disclosure to the federal government that this is what our

8 recipe is, this is what our product is, and we claim

9 exclusive use to it?

10 A. I'm not familiar with what is required to register a trade-

11 mark.

12 To the best of my knowledge, the word Aroclor was

13 registered by Monsanto.

14 Q. And Aroclor related to and only to PCB's?

15 A. No.

16 Q. What did Aroclor relate to?

17 A. It related to chlorinated polyphenyls, one of which is PCB's.

18 Q. All right. What other chlorinated biphenyls were there in

19 the Aroclor trademark?

20 A. None. No other biphenyls.

21 Q. Okay. Phenyls?

22 A. The terphenyls were also chlorinated and they were also sold

23 under the Aroclor trademark.

24 Q. All right. Any others?

25 A. That's all I recall.

1 Q. What about the quadraphenyls?

2 A. Quadraphenyls were present, but they were not sold under the

3 Aroclor trademark.

4 Q. So only the biphenyl and terphenyls were sold under the

5 Aroclor trademark? Such as --

6 A. And mixtures.

7 Q. What mixtures?

8 A. Mixtures of chlorinated biphenyl and chlorinated terphenyls.

9 Hence, they were made and sold under the chlorinated --

10 Q. Okay. I got you.

11 Has there been some '77 to the present time, any policy

12 of Monsanto's to protect that tradename or trademark in any

13 way from any other person infringing on it or using it?

14 A. I'm not aware of any expressed policy relating to -- speci-

15 fically to the trademark Aroclor any different from all

16 other trademarks that Monsanto has.

17 Q. All right. Is the information that was gathered over all

18 the years back from the 30's and Swan and into Monsanto

19 up to the present time, is that information now being

20 utilized with reference to the production and use and sale

21 of PCB's by Monsanto in any way?

22 MR. JUNGHERHELD: Could I have that question again,

23 Jim?

24 (Whereupon the question was read back by the

25 reporter.)

1 A. Yes.

2 Q. How is it being used?

3 A. In response to inquiries from any source.

4 Q. Are the inquiries that are coming in with regard to the
5 Aroclors and PCB's only inquiries as to first, lawsuits;
6 secondly, Environmental Protection Agency requests; third,
7 governmental agencies and others trying to get some informa-
8 tion and assistance as to these compounds, the materials
9 and to whom it was sold and why and where it was used and
10 things of that nature?

11 MR. JUNGERHELD: Well, I'll object to that question
12 as it has about 157 different parts to it. Which of them
13 do you want answered?

14 MR. MC GRAW: Do you understand the question?

15 MR. JUNGERHELD: Do you remember all of those
16 various subheadings, Bill?

17 MR. MC GRAW: He's an intelligent man. If he
18 doesn't know, he can tell me.

19 MR. JUNGERHELD: He doesn't have a photographic
20 memory. If he does, I don't.

21 MR. WOODWORTH: He doesn't know until he answers
22 the question.

23 MR. JUNGERHELD: Butt out.

24 MR. MC GRAW: Procedures call for any person on
25 any side can object whether it's a question or not.

1 Would you read the question again, please?

2 MR. JUNGHERHELD: If you want a tablet to write all
3 that stuff down, you're free to do that.

4 (Whereupon the question was read back by the
5 reporter.)

6 A. Yes. In a general way.

7 Q. Thank you.

8 Are there any inquiries coming in for the use of that
9 information in the design, production, sales, use of PCB's
10 from any source so as to be able to have that inquirer make
11 up and formulate PCB's from what you people have done through
12 all the years?

13 A. That I wouldn't know.

14 Q. You have never gotten any inquiries, to your knowledge, in
15 that regard?

16 A. The fact that the inquiry was made would not necessarily
17 imply that the inquirer was planning to produce the material.
18 I have no way of knowing his intentions or motivations.

19 Q. Okay. As far as all of the documents that we have intro-
20 duced as evidence yesterday, exhibits, is that information
21 that we showed you and you told us about something which
22 was made in accordance with the regular company policy and
23 maintained in the regular company business?

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

25 Q. And anybody in the company would literally have access to

1 them if they needed them or wanted them?

2 A. If there was a need to know an individual could have access
3 to them, yes.

4 Q. All right. As far as papers, reports, medicals, tests,
5 intercompany memorandums, letters, and complaints from
6 outside sources, are those kept when received, made up in
7 the company, in the regular course of the company's business
8 somewhere by somebody?

9 A. Yes.

10 Q. And are they to some extent retrievable if you were to ask
11 for all these documents?

12 A. Depends on the period of time that is elapsed.

13 Q. You might have destroyed them?

14 A. Yes.

15 Q. If they were too old?

16 A. Yes.

17 Q. But nevertheless, they're all available if they haven't been
18 destroyed?

19 A. For given varying periods of time. Some for months, some
20 for weeks, some for years.

21 Q. Is all the information with regard to the manufacture,
22 production and use of PCB's by the company somehow secluded
23 from everybody's knowledge in the company itself and just a
24 very few know what those practices and what those documents
25 are regarding the PCB's?

1 A. I have personally no way of knowing where they are now and
2 who has them, how many people are aware of these records.
3 Q. Are they in kind of open records and open files so that
4 whoever is working on any project of PCB's can go get any
5 of the information on PCB's that they might want?
6 A. That's never the case for any product. Nothing is kept in
7 open files.
8 Q. I don't mean everybody that walks by can see them. But I
9 mean at least open so that somebody in one of the other
10 departments says I need the information on production and
11 manufacture of PCB's from 1955, or something, I want to check
12 something out, could that person in Monsanto's employ get
13 them?
14 A. If there's a need to know and he would approach the custodian
15 of those files, I suspect that he would be given permission
16 to peruse them.
17 Q. Who in the Monsanto organization would be considered the
18 custodian of the files of the manufacturer, production and
19 sales of PCB's?
20 A. I don't know today who that is.
21 Q. Did you know back in 1965, '70?
22 A. Yes. There were several people. Certainly an individual at
23 each of the producing plants and an individual in St. Louis
24 who was the director of manufacturing had access to these
25 records.

1 Q. Who was the director of manufacturing in around, let's say,
2 1970?
3 A. 1970? William Kuhn. K-u-h-n.
4 Q. Where is he now?
5 A. He's retired.
6 Q. Do you know where?
7 A. No, I don't.
8 Q. When did he retire?
9 A. About 1977 or '78.
10 Q. All right. Is there any other person that you can remember
11 that either succeeded him or worked with him that's still in
12 employed by the company in the position as custodian of the
13 records regarding PCB's?
14 A. I believe he was succeeded by James Savage, S-a-v-a-g-e.
15 Q. And where is he now?
16 A. He is still with Monsanto in St. Louis.
17 Q. If you, Mr. Papageorge, wanted to get all the records that
18 Monsanto had on PCB's, their manufacture, production, sale
19 and all information on the investigation and the testing of
20 PCB's and its effect on the environment, people and animals,
21 so on, to whom would you go to get that?
22 A. Depends on the subject matter. I would go to -- I would
23 start with department people.
24 Q. Would you start with Mr. Savage?
25 A. Depends on the subject. It -- no, I wouldn't go to Mr.

1 Savage, because he hasn't been involved for so long. I
2 suspect he wouldn't know where they are.

3 Q Okay. Now, where would you go?

4 A For what kind of information?

5 Q On the production and manufacture and sales and customers
6 that were sold PCB's.

7 A If it's production I would try to contact the two manufac-
8 turing sites. See if they had any records yet.

9 Q Where would that be?

10 A In Sauget, Illinois or Anniston, Alabama.

11 Q Anyone in particular at those places you would contact?

12 A I believe I'd just be forced to call the plant manager.
13 Because I don't know who's in place any longer and who's
14 directly involved.

15 Q Is there somebody there like if you called the plant manager
16 he would have -- the fellow would have custody or control or
17 knowledge of the records? Like a custodian of the records
18 title, or director of management, or what?

19 A I just don't know who he would direct me to.

20 Q That would be the same at Anniston or at Sauget?

21 A Not necessarily. By same I'm assuming you're saying the
22 same title? Same position?

23 Q Yes.

24 A Not necessarily.

25 Q But at each plant you'd go to the plant manager first?

1 A. Today I would.

2 Q. Okay. What about information with regard to all of the

3 testing, if any, that was done by Monsanto, or testing that

4 was done by outside sources at the request of Monsanto, or

5 just testing that Monsanto people found gathered and put

6 into their files that they knew was being done? Who would

7 have custody of that material?

8 A. By testing do you mean product testing for product use or

9 for health testing?

10 Q. The testing I'm talking about is the effects of PCB's on

11 living things. The environment.

12 A. I would go to our department of medicine.

13 Q. And who was that? You may have given me his name yesterday,

14 I think.

15 A. Well, the director is George Roush.

16 Q. Would he be what might be referred to as a custodian of all

17 those records?

18 A. Well, it's --

19 Q. Or at least under his control?

20 A. It's under his control, yes.

21 Q. Is there a person in that medical department that is called

22 a custodian of records?

23 A. Not necessarily so, no. There is a librarian.

24 Q. For the medical department?

25 A. Yes.

1 Q And that librarian, if you wanted to find out any information,
2 would be able to locate and find any information you want?
3 A Yes.
4 Q What would that librarian's name be?
5 A I don't remember. I haven't used her help lately, so I just
6 don't remember. She's a relatively new employee, but she's
7 available.
8 Q You have a procedure, I would assume, that complies with good
9 library keeping and resources and if a librarian is there
10 would be able to go through those records and find out what
11 they're looking for? Even though they hadn't been there in
12 1970 they could find '70 records?
13 A If they're available, yes.
14 Q Does the information Monsanto had gathered with regard to the
15 manufacture, production and sales of PCB's in the past from
16 1977 all the way back, have any current value to the company
17 with regards to its operations presently ongoing?
18 A I don't think I understand your question.
19 Q Well, the information that you got with regard to the years
20 of design, production and sales of PCB's, is all now in the
21 past from '77 back, correct?
22 A Yes.
23 Q Is any of that information now being utilized in any way by
24 Monsanto with regard to any other product?
25 A The information that is specific to the PCB's is certainly

1 not transferable to other chemical substances such as toxi-
2 city data and specific gravity and viscosity and boiling
3 points. Those are unique to that group of products;
4 therefore, they're not useful for any other chemicals.

5 Q. Would that also be true that that information wouldn't be
6 useful as far as effects of chemicals on the environment
7 and on living things?

8 A. Not unless you're talking specifically about the PCB's.

9 Q. Okay. The information then that is gathered with regard to
10 the production, the chemical makeup and the sale of PCB's
11 plus the information you get on the effect of PCB's on the
12 environment and on living things is a peculiar avenue to
13 PCB's and does not affect any other chemical use as far as
14 the effect on the environment or the humans or animals or
15 living things, would that be correct?

16 A. That is correct.

17 Q. So in a nutshell, what we have is a chemical or a group of
18 chemicals or mixtures of PCB's that had its own unique
19 status in the industrial society of the United States and
20 the world at one time.

21 A. Yes.

22 Q. And there was no other chemical or even any other substitute
23 at that time for the uses to which PCB had been put?

24 A. Equivalent substitutes were not available, that's correct.

25 Q. Once all that was stopped in '77, there is now no longer any

1 PCB's in the industrial society being manufactured, produced
2 and sold?

3 A. Are you talking worldwide?

4 Q. In the United States.

5 A. United States, to the best of my knowledge, that's correct.

6 Q. Okay. When Monsanto received some complaints, as you have
7 indicated yesterday from those couple of farmers in Ohio,
8 Schwarzwald and Humphrey, was it the regular course of
9 your company's business that you would receive those reports,
10 complaints, and then make an investigation on behalf of the
11 company?

12 A. That would be a typical approach, yes.

13 Q. All right. And in these events that was what was done?

14 A. Yes.

15 Q. And then the reports as you made them and any tests that
16 were made by the company were all done in the regular course
17 of the business of Monsanto at that time?

18 A. Yes.

19 Q. All right. Was there a specific area or department in
20 Monsanto that controlled or utilized in some way a customer
21 list for customers who were sold PCB's in any weights?

22 A. Would you read the early part of that question?

23 (Whereupon the question was read back by the
24 reporter.)

25 A. Yes.

1 Q Okay. Tell us about that.

2 A I don't know what there is to tell, other than to say the
3 customer list was in the possession of the marketing
4 department for their use in their normal execution of their
5 business.

6 Q Where was the marketing department? In what location or
7 plant that had control of this list of customers?

8 A The total list of PCB customers was kept in St. Louis and
9 each district or regional sales office had a list that
10 applied to that geographic area. A shorter list.

11 Q Then apparently those fringe offices would report their
12 customer list to St. Louis where a master list of customers
13 of all of your offices would be kept?

14 A Yes.

15 Q And who has custody of that master list of customers now?

16 A I don't know.

17 Q Would it be in the marketing department?

18 A That's where I would go seeking it, but I don't know the
19 specific individual today.

20 Q Okay. We're all used to computers today, but I don't know
21 if Monsanto had such a computer operation back in the 70's.
22 Did they have any computer operations for their products
23 and customers?

24 A Yes.

25 Q Did they, really?

1 A. Yes.

2 Q. How long ago did Monsanto invest in and start utilizing

3 computers for their product lists and their customer listing?

4 MR. JUNGERHELD: Wait a minute. He didn't say

5 product lists and customer lists.

6 MR. MC GRAW: Read it back. My question.

7 (Whereupon the question was read back by the

8 reporter.)

9 A. I don't know when Monsanto began using computer technology

10 for marketing product and customer lists.

11 Q. If a computer was used, would it be a relatively simple

12 procedure to call up the product list and the customer list

13 for a printout?

14 A. Yes.

15 Q. Is that a matter of literally punching a couple of buttons

16 and letting the machine run?

17 MR. JUNGERHELD: Isn't it all speculative? He

18 doesn't know if this is on computer or not.

19 MR. MC GRAW: How do you know he doesn't know?

20 A. In 1970 we had not yet reached the point where an individual

21 had access to computer equipment. Yesterday we talked about

22 the reports.

23 Q. Which reports?

24 A. That we consulted for products and customers to see who was

25 buying the material. Those were computer printouts that

1 were issued monthly. If you recall, we talked about the
2 report would be issued each month.

3 Q. In the medical department?

4 A. No. No. No. This is product sales by month.

5 Q. And by customer?

6 A. By customer, by product.

7 Q. I recall.

8 A. That was a computer printout which automatically was
9 distributed each month to the people who needed to know.

10 Q. When was that begun?

11 A. I don't know when it started. It was in place in 1970 when
12 I occasionally referred to that printout.

13 Q. Okay. At least when you got these complaints in 1970 there
14 was a computer in business and a computer could find out the
15 product lists and the customer list at that time?

16 A. Yes.

17 Q. And has that been a regular part of the Monsanto business
18 from at least, to your knowledge, from '70 on up through
19 the present time?

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

21 Q. And who would have access to those computer lists of
22 customers and products, sales?

23 A. It's the marketing manager who is responsible for the
24 products.

25 Q. And is there any one particular location? Or was there

1 a master list again at St. Louis?

2 A. The complete list for a given product is in St. Louis.

3 Q. And same with the customer list at St. Louis?

4 A. Well, that's what I meant by --

5 Q. Okay.

6 A. -- by product, by customers. The complete list at St. Louis.

7 Q. Okay. Who would you go to, for example, right now and say

8 I'd like a copy of any and all computer lists for the

9 product and the customer from 1970 up to 1977?

10 A. For any particular product?

11 Q. Well, for the PCB's. Their weights.

12 A. Since the PCB's are inactive, there certainly is no market

13 manager assigned.

14 I would go to the market service department asking

15 where I should go to get such information.

16 Q. Is there anybody there that you know by name that you would

17 go to?

18 A. With the recent reorganization, I don't know.

19 Q. Where is marketing services department located in St. Louis?

20 You know, in your complex there. Any particular area?

21 A. I believe they're located in one of the buildings in the

22 general office area.

23 Q. Has that got a number or a letter to it?

24 A. Letter B as in boy.

25 Q. How many buildings or offices are there in that complex?

1 A. Oh, I have never counted them.

2 Q. They go by letters, though, each complex or building?

3 A. Yes.

4 Q. We're supposed to be there in a week, I think, at Building

5 G.

6 A. Yes.

7 Q. What is that?

8 A. It's an office building.

9 Q. Okay. But I mean, has it got -- what is its designation?

10 A. G.

11 Q. Building G, but what is contained in there? Is that the

12 medical department, products department, research department?

13 You know.

14 Q. Many functions are located in there.

15 Q. Okay. Is it generally the administrative building?

16 A. The office building at that complex other than the research

17 laboratories are all administrative buildings. The space is

18 allocated to each group, depending on the size of the group

19 and the available offices.

20 Q. Is the records department you spoke of in G Building?

21 A. No. I said earlier in, I believe --

22 Q. B?

23 A. -- I think would be found in B Building, yes, sir.

24 Q. And what about the medical department? Where is that

25 located?

1 A. They're located in the G Building.

2 Q. Okay. And that's where that Dr. Roush would be?

3 A. Yes, sir.

4 Q. PCB's, any of the weights, are they biodegradable?

5 A. Some of the components in all of the weights are degradable.

6 Q. What are the components that are degradable?

7 A. It's generally the lower chlorinated isomers. The single
8 chlorine. The two chlorine, three chlorine and some of the
9 four chlorine are readily degradable.

10 Q. Is polychlorinated biphenyl, 1254, degradable?

11 A. That portion of the mixture represented by the one, two,
12 three, and some of the four chlorines is degradable.

13 Q. How many chlorines are there in 1254?

14 A. I don't understand your question.

15 Q. We're talking about the numbers. We're talking about the
16 numbers around the rings?

17 A. Yes, sir.

18 Q. Whey you're talking about one chlorine, two --

19 A. Yes.

20 Q. -- how many total chlorines are there in 1254?

21 A. There are 54 percent by weight. I don't know how else to
22 describe that.

23 Q. Okay. Are you saying then the 1254 is in all instances
24 degradable?

25 A. No.

1 Q Would you agree that 1254 is unlikely to be degradable in
2 any way whatsoever?

3 A No, I wouldn't say that, either.

4 Q Do you have knowledge or an opinion on behalf of Monsanto
5 that 1254 is considered a nonbiodegradable chemical?

6 A Well, 1254 is not a single chemical. It's a mixture.

7 Q All right.

8 A Within that mixture some of the ingredients making up that
9 mixture degrade readily. Some are more resistant.

10 Q All right. But still there is a level of the 1254, the PCB,
11 that are not degradable?

12 MR. JUNGERHELD: He's answered that question now a
13 half dozen times.

14 MR. MC GRAW: I don't understand it.

15 A Well, first we must -- I need from you your understanding
16 of the word degradable.

17 Q I was just going to ask you your definition.

18 A When you ask a question you must have a thought in mind.

19 Q I do, but then I'm going to ask you another question. What
20 is meant by degradable?

21 A Degradable means that the chemical moiety is changed by
22 physical or chemical forces acting on that moiety such that
23 as the process is completed it loses its chemical identity.
24 It no longer resembles its original chemical characteristic.

25 Q All right. What is the problem with PCB's remaining in

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1 the environment?

2 How do the PCB's remain in the environment?

3 A. Because of their chemical makeup, some of the PCB's are
4 constructed in such a way and are exposed to conditions that
5 preserve the original chemical identity so any analyst looking
6 at this material X months, X years later, sees the same
7 chemical identity that existed originally.

8 Q. All right. And is this what we're talking about when
9 Monsanto and the government says that there are PCB's in
10 the environment that have been manufactured by man and still
11 exist in the environment?

12 A. Yes.

13 Q. In other words, PCB literally can't be destroyed? They're
14 going to be here forever?

15 A. Well, I can't buy that.

16 Q. How long do you think they're going to be there?

17 A. I don't know.

18 Q. Are PCB's being found now that were sold in the 30's and
19 40's?

20 A. I don't know.

21 Q. 50's and 60's?

22 A. Well, certainly inside of transformers.

23 Q. I mean in the environment.

24 A. I don't know that. No one knows.

25 Q. Have there been reports by scientists in Sweden that they

1 have found PCB's in fish and birds?

2 A. Yes.

3 Q. Do you know where those PCB's came from?

4 A. No.

5 Q. PCB's that were found there in Sweden, were those man-made

6 or just natural by the good Lord?

7 A. I suspect they were man-made.

8 Q. PCB's that have been found in the Great Lakes and in the

9 fish in the Great Lakes, were those man-made?

10 A. I again have to suspect they were man-made.

11 Q. The PCB's that are found in the silos that you have known

12 about, are they man-made?

13 A. Yes.

14 Q. Do you know when those PCB's that are found in the lakes and

15 in the fish will disappear?

16 A. No.

17 Q. Do you know when the PCB's in the silos and in the feed will

18 disappear?

19 A. No.

20 Q. Do you know if anybody who has any level of PCB's in their

21 fat, let's stick to animals, when that will disappear out

22 of the animal chain?

23 A. That depends on the animal, its diet, its activity, its

24 age. Too many factors to make it predictable.

25 Q. If PCB's get into an animal, does the PCB go into the fat?

1 A. Some of the isomers are metabolized and destroyed. Some of
2 the isomers are stored in the body fat.
3 Q. Those that are stored in the body fat, is there any way of
4 getting them out?
5 A. Yes.
6 Q. How do you get them out of the body fat?
7 A. Well, it's my understanding that when the animal is deprived
8 of the nutrition and starts living off of its body fat, the
9 PCB's are mobilized and eliminated from the body and the
10 waste generated by the body.
11 Q. In the urine or in the feces, or both?
12 A. I'm told both.
13 Q. Is that the only waste we're talking about?
14 A. Well, there's perspiration.
15 Q. Who told you that?
16 A. Medical people.
17 Q. Who?
18 A. Dr. Kelly, Mr. Wheeler.
19 Q. Dr. Kelly of Monsanto?
20 A. Yes.
21 Q. And Mr. who?
22 A. Mr. Wheeler formerly with Monsanto.
23 Q. Have you ever read that in the literature, in any literature
24 in the world, that the animal will begin to live off its
25 own fat and the PCB's will be dissipated, destroyed, or

1 removed?

2 A. I have seen it in print, but I don't recall the specific

3 article.

4 Q. You're referring to an article or many articles?

5 A. Many articles. That's just sort of general knowledge on

6 animal metabolism and generally applies to chemicals that are

7 stored in body fat. Not just PCB's.

8 Q. Have you personally made a study of that function, metabolism?

9 A. No. That's not my expertise.

10 Q. So what you know about it is what you have been told by

11 Monsanto people?

12 A. Yes.

13 Q. And what you may have read about it somewhere in some maga-

14 zines or journals?

15 A. Yes.

16 Q. Can you give us the identity of any of those journals,

17 magazines, or literature?

18 A. I don't recall any specifically at the moment.

19 Q. Is there literature that you have read or heard about that

20 once it's in the fat, it's in there and stays and will never

21 get out?

22 A. That allegation has been made, yes.

23 Q. Have you read or heard from any source that the PCB's

24 bio-accumulate in the body as they're being eaten or drunk?

25 A. Which body?

1 Q. In the animal body.

2 A. Yes.

3 Q. And in the human body?

4 A. I haven't heard the expression bio-accumulation applied to
5 humans.

6 Q. Do animals and humans have the same kind of a physical
7 makeup whereby they have fat tissues in their bodies?

8 A. That's my -- I'm led to believe so, yes.

9 Q. That's why scientists use animals to test so they can have
10 some kind of relationship to the human as to certain
11 chemicals and drugs and so on and their effects?

12 A. I don't know that the similarity between body fat in animals
13 and humans is the only reason animals are used for testing.

14 Q. I don't mean to imply that. But you don't test human
15 beings on a new chemical or drug? You test animals in
16 scientific communities?

17 A. Yes.

18 Q. And you kind of extrapolate or relate what happens to the
19 animals should be the same result to human beings?

20 A. Yes.

21 Q. And if the animals bio-accumulate PCB's in their fat, would
22 you also expect humans to bio-accumulate PCB's in their fat?

23 A. Yes.

24 Q. When you made the investigations back in 1970 and before
25 that time did you have personal knowledge and did Monsanto

1 have knowledge that these PCB's if somehow got out into the
2 environment would be something that would be in the
3 environment and stay in the environment for an indefinite
4 period of time?

5 A. What time was this?

6 Q. Back before 1970 and up to 1970.

7 A. No.

8 Q. Monsanto didn't know that?

9 A. No one knew this, including Monsanto.

10 Q. Just so I understand, no one at Monsanto knew that PCB's
11 if somehow released into the environment outside of the
12 containers would stay in the environment for an indefinite
13 period of time? Would not be self-destructive by the
14 atmosphere or the environment?

15 A. That is correct.

16 Q. When did Monsanto first learn that PCB's would not self-
17 destruct in the environment?

18 A. I don't know that there was any specific day of the calendar
19 that this happened.

20 Q. Are we talking about 30's, 40's, 50's, 60's?

21 A. Oh, I would suggest late 60's, early 70's.

22 Q. Okay. How did that knowledge come about?

23 A. It was primarily a result of sophisticated analytical
24 methods that were applied to many environmental samples in
25 which PCB's were found.

1 Q. And how were they found? By whom?

2 A. We mentioned earlier the Swedish investigators who analyzed

3 different samples and looking for pesticides and finding

4 PCB's. There were investigators in California at the

5 University of Berkley, who again looking for pesticides

6 identified PCB's. Monsanto itself developed the analytical

7 methodology to be able to do so.

8 Q. When? Late 60's?

9 A. Late 60's, yes. '68, '69.

10 Q. All right. So that at least in the late 60's, '68, '69,

11 Monsanto had knowledge from different areas of the country

12 and different areas of the world, including its own knowledge,

13 that PCB's are being found in the environment?

14 A. Yes.

15 Q. And being found in animals and fish and birds?

16 A. Yes.

17 Q. All right. What, if anything, did Monsanto do to notify

18 any of its customers from that point of 1968 on that there

19 are pCB's being found in our environment?

20 A. In early 1970 all of our customers on record were sent a

21 letter in which we tried to share with them our knowledge of

22 PCB's in the environment as it existed in early 1970.

23 As I remember, this was -- as I remember, February,

24 1970.

25 Q. All right. Do you have a copy of that letter? Is that

1 letter available?

2 A. I personally don't have a copy. I suspect it's available.

3 MR. JUNGHERHELD: It's been supplied.

4 A. I believe it's been supplied. You have a copy.

5 MR. MC GRAW: I don't think I have a copy.

6 Q. What did the letter say, if you remember?

7 By the way, when did you last see a copy of that letter?

8 A. Last Thursday or Friday in St. Louis.

9 Q. Who showed it to you?

10 A. An attorney.

11 Q. Can you remember basically what it said?

12 A. I of course don't recall all of the paragraphs, but it

13 covered that we were made aware of reports that PCB's were

14 being found in the environment and that PCB's were contained

15 in our products which we call Aroclors and the type of

16 PCB's being found that resembled our Aroclor 1254 and

17 Aroclor 1260 and the products you as a customer are buying

18 include these Aroclors and we suggest that they be handled

19 carefully and not be permitted to enter the environment.

20 That's the thoughts I remember were expressed.

21 Q. Now, this letter was sent out to all customers from and

22 after February 2nd, 1970, is that correct?

23 A. No. No. These were customers on record as of February.

24 Q. All right. So that any customer list that you had at that

25 time -- did you have some way of identifying who the past

1 customers were so that you could send these letters out?

2 A. The list included past customers.

3 Q. All right. And that list was what you had at the Monsanto

4 plant in St. Louis?

5 A. The plants don't have lists like this.

6 Q. Well, we talked earlier about where would a production and

7 customer list be located. You indicated in St. Louis in

8 marketing. So where would the -- what customer list would

9 you have gotten for the sending out of that letter?

10 A. The marketing department list is the list used for corre-

11 spondence.

12 Q. Was there any retention of any carbon copies or notations

13 of any kind on your records that a customer was sent this

14 letter?

15 A. Not on my records.

16 Q. On the company records?

17 A. Yes.

18 Q. What notations do they have?

19 A. Well, there was a copy of a letter that was sent and a copy

20 of the list of customers and addresses to which that letter

21 was sent.

22 Q. Do you have access to that now?

23 A. I suppose I do. I haven't asked for it personally, no.

24 Q. All right. But you did have a letter shown to you recently?

25 A. Yes.

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1 Q That was back to 1970?

2 A Yes.

3 Q Would this be from the records and files of Monsanto that
4 were retrievable at the record or custodian's office?

5 A Yes.

6 Q And with that letter did you ever see a customer list that
7 was marked as to which customers were notified?

8 A Yes.

9 Q Do you remember whether or not any of the customers such as
10 C & B Concrete, Michigan Silo, or Bloomfield Concrete -- or
11 Silo, rather, were ever notified?

12 MR. JUNGERHELD: I'm going to object to the form
13 of that question and to the substance of that question,
14 because he's never testified there were any sales to any of
15 those silo companies that you have just listed.

16 MR. MC GRAW: I'm just asking him that now.

17 A They were not.

18 MR. JUNGERHELD: You don't need to make a comment
19 every time. Why do you have to have the last word every
20 time? There's no judge here to rule on it. I made my
21 objection. Go on with it.

22 MR. MC GRAW: You don't have to instruct me or
23 yell at me to tell me what to do.

24 MR. JUNGERHELD: If you're going to -- I told you
25 yesterday, if you want to get into a shouting match, I'll be

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1 happy to participate. You have tried to cut me off at any
2 time I made a statement on this record.

3 MR. MC GRAW: You weren't cut off.

4 MR. JUNGERHELD: Get on with it.

5 MR. MC GRAW: I will when I'm ready.

6 MR. JUNGERHELD: You'd better be ready soon or
7 we'll go back to St. Louis.

8 MR. MC GRAW: When you make a suggestion with --
9 I'm going to object to your suggesting answers. The objection
10 is no foundation or something of that effect.

11 MR. JUNGERHELD: Get on with it.

12 Q Do you recall whether or not any letter went out to Michigan
13 Silo, Concrete Silo, or C & B Silo?

14 A. No letters were sent to those companies.

15 Q On the list that we had supplied to us by your attorneys
16 purporting to be a customer list there were several entries
17 in there of Michigan Silo Company. Do you recall ever sending
18 a letter such as you described in February of '70 out to
19 Michigan Silo that was in that customer list?

20 A. The customer list was the active customer list. The companies
21 you mention were not active customers of Monsanto in 1970.

22 Q All right. So that I can get this straight, the letter that
23 you're talking about that went out to customers in February
24 of '70 about what Monsanto has learned about 1254 in the
25 atmosphere or in the environment was sent only to the 1970

1 active customers? Right?

2 A. Well, it was a list of customers that were considered active
3 in 1970, but that does not mean that they bought anything
4 from us in 1970.

5 Q. All right. But they were on the active list of customers
6 at around that time that were still actively being sold the
7 products and being serviced by Monsanto? That was the
8 customers -- those were the customers to whom this notice
9 was sent?

10 A. Yes.

11 Q. All past customers who had no longer been buying any PCB's
12 were not sent this letter?

13 A. That is right.

14 Q. And how long back from February of '70 would you have gone?

15 A. It's my understanding that included the active customers
16 in 1969.

17 Q. 1969?

18 A. Yes.

19 Q. '70? '71?

20 A. No. No. '71 wasn't with us yet.

21 Q. Oh, okay.

22 A. It was in February, 1970 we had a list of customers that had
23 purchased some PCB's from us in 1969.

24 Q. Okay.

25 A. And we assumed they would be customers in 1970.

1 Q All right. So as to any customers before 1969, none of those
2 would have received this letter?

3 A Not quite. Those that were still active in '69, although
4 they bought something in '64, '65, '66, would still be on
5 that list.

6 Q Whoever wasn't active in 1969 never got a letter?

7 A That is to the best of my knowledge, correct. Yes.

8 Q Now, where would we find a copy of the list that would show
9 the active customers in 1969 and '70?

10 A The marketing department's records.

11 Q And would there also be with that list some identification or
12 carbon copies of that letter to that customer identifying
13 that customer?

14 A I suspect so, yes.

15 Q Did you ever see it?

16 A At one time I saw both the copies of the letters and the
17 copies of the customers receiving this letter.

18 Q Did you ever see the MSU reports, Michigan State University,
19 reports on materials that were sent from the Haley farm to
20 them or that they picked up and brought back to the laboratory
21 and tested?

22 MR. JUNGERHELD: Do you mean Michigan State
23 University or the Department of Agriculture?

24 MR. MC GRAW: Michigan State University. Depart-
25 ment of Agriculture. Michigan Department of Health.

1 A. I saw some reports, but I don't know -- I don't recall which
2 laboratory was involved.
3 Q. When did you see those?
4 A. Last Thursday or Friday.
5 Q. In St. Louis?
6 A. In St. Louis.
7 Q. Attorney show them to you?
8 A. Yes.
9 Q. Did they show you a brochure that was submitted by the Haleys
10 and their attorneys to the court and to the attorneys
11 representing Monsanto and a rather thick brochure of records
12 and exhibits from the Michigan Department of Health, Michigan
13 Department of Agriculture?
14 A. There were several pages involved, yes.
15 Q. And is that the first time last Thursday, that you ever saw
16 those documents?
17 A. Yes.
18 Q. Do you know if anybody else from Monsanto had ever seen those
19 documents before?
20 A. No, I don't.
21 Q. In your present position with Monsanto, have you been placed
22 in charge of, or as a guide, or a head with regard to any
23 and all lawsuits on PCB's?
24 A. All lawsuits are under the management of our law department.
25 I would have nothing to do with lawsuits per se.

1 Q. But insofar as your being an informant for Monsanto Company,
2 you are the one to whom your Monsanto lawyers would go to
3 or otherwise for guidance in the PCB cases in their trials?
4 A. I'm one of many. Monsanto people and others.
5 Q. I'll show you a set of documents, the first of which is
6 titled, "Haley Brochure", and then a supplemental Haley
7 brochure, and then a exhibits list for the brochure, and
8 ask if you have seen these before.
9 A. I don't recognize them.
10 Q. Do you have any idea about what this suit is about and what
11 the Haleys are claiming?
12 A. In a very general way. Not the specifics.
13 Q. What is the general way you understand their claim to be?
14 A. I understand that they're claiming that PCB's associated
15 with their silos impacted on their dairy and cattle business
16 and also that it affected their personal health.
17 Q. Okay. And do you have any knowledge as to where the PCB's
18 that they claim are in their environment and their farm came
19 from?
20 A. From coatings in their silos.
21 Q. Do you know where the coatings came from?
22 A. No.
23 Q. Do you know that the coatings contained PCB's?
24 A. I personally don't know, but that's what the allegation is.
25 Q. Has anybody at Monsanto attempted to verify that or check

1 that out, to your knowledge?

2 A. Not to my knowledge.

3 Q. Can you tell me --

4 A. May I glance through these documents?

5 A. Oh, certainly. Right now?

6 A. Yes. I was asked if I seen them. It appears that I
7 recognize some of the pages, but not the total documents.
8 I don't recall this thick a document.

9 Q. The exhibit folder contains the testing and the lab reports
10 and the field reports on the Haley farm from fat samples
11 in the cows and calves and serum levels and so on. Also,
12 the purchases and sales of various cattle and feed.

13 A. It appears that I have seen only portions of these three
14 documents.

15 Q. All right. Do you remember seeing in those documents the
16 tests and the results from the agricultural department?

17 A. I recall seeing a tabulation, but not the individual report
18 sheets.

19 PATRICK MC GRAW: Exhibit 16.

20 Q. If you look at --

21 A. These don't look too familiar.

22 Q. If you look at Exhibit 16, that's the Department of Agri-
23 culture Laboratory Division reports of analysis showing
24 the parts per million of PCB's found in the silo scrapings.

25 A. 16?

1 Q 16. That's 15.

2 Q 16? Okay.

3 MR. JUNGERHELD: Give me your numbers again.

4 MR. MC GRAW: 16.

5 Q If you will assume that that's a --

6 MR. JUNGERHELD: If you're going to ask him
7 questions about it, let's get it on the record and have it
8 marked.

9 MR. MC GRAW: Well, it's Exhibit 16 in our brochure.

10 MR. JUNGERHELD: Get a mark on it for this depo-
11 sition.

12 MR. MC GRAW: I will in a minute.

13 Q If you assume that Exhibit 16 is as it says there a silo
14 scraping from the Haley farm as of September 26th, '74 and
15 they found PCB's calculated as Aroclor 1254 at this number,
16 which is what --

17 A. Well, I see a comma and a period in that number, so I don't
18 know if it's a million eight hundred thousand or if it's a
19 thousand eight hundred.

20 Q It's a thousand eight hundred, I think.

21 Of what concentration is that in your opinion?

22 A. It's a thousand eight hundred.

23 Q All right. Is that a high concentration of PCB's?

24 A. Compared to what?

25 Q Is that an abnormal finding in scrapings or in an

1 environmental subject?

2 MR. JUNGERHELD: What do you mean by an environ-
3 mental subject?

4 There's millions of environmental subjects.

5 Q If you were to find -- ordinarily, normally there should
6 not be any PCB's in silo scrapings? Would you agree to that?

7 A. No.

8 Q You think there should be some PCB's in silos?

9 A. If they were applied, yes. I would expect to find them
10 there.

11 Q Okay. And if it was a silo that had not been -- had a PCB
12 chemical such as Cumar or otherwise applied, just a normal
13 non-insulated or coated silo, you would not expect to find
14 PCB's, would you?

15 A. I suppose not.

16 Q All right. Because PCB's are man-made and somebody has to
17 put them there, correct?

18 A. Either accidentally or deliberately, yes.

19 Q All right. And of what significance is an 1,800 parts per
20 million reading of 1254 in a silo scraping?

21 MR. JUNGERHELD: Significance as to what?

22 MR. MC GRAW: Do you understand my question?

23 A. No, I don't understand. I don't know how to respond to it.
24 You understand -- from what perspective?

25 Q From the perspective of being a contaminate in the

1 environment.

2 MR. JUNGERHELD: In the environment of what?

3 MR. MC GRAW: In the environment of the silo.

4 A. It indicates that someone found it there. I don't know how
5 else to interpret it.

6 Q. Is that a high percentage?

7 MR. JUNGERHELD: As opposed to what?

8 MR. MC GRAW: As opposed to zero.

9 MR. JUNGERHELD: Well, it speaks for itself.

10 MR. MC GRAW: As opposed to ten.

11 A. I don't know how to answer your question.

12 Q. All right. Would you recommend that anybody who got feed
13 from that silo with that reading eat that feed? Animals be
14 fed that feed?

15 MR. JUNGERHELD: Objection. Too many variables.
16 And you're leaving an awful lot out as to what happens from
17 this point forward.

18 Q. If the silo scrapings show a figure of 1,800 parts per
19 million and feed is placed in that silo, would you expect
20 the PCB's to flow into the silage, the feed therein?

21 A. I would have to know more about the conditions.

22 Q. What conditions?

23 A. The age of this coating, the abrasion it's experiencing,
24 how good a coating it was to start with, how well was the
25 surface prepared before the coating was applied, how much

1 silage is involved, how much is the animal fed, what is the
2 general health of the animal, what else is it eating. It's
3 very, very complex.

4 Q. All right. Let's go then to --

5 MR. JUNGERHELD: Let's not -- are you staying with
6 the same document?

7 Let's get a mark on there before you change.

8 MR. MC GRAW: Just a minute.

9 MR. JUNGERHELD: Just a minute nothing. Mark it,
10 please.

11 MR. MC GRAW: I'm doing this and I'm --

12 MR. JUNGERHELD: I'm making a record.

13 Put a mark on that. I'm making a record and I'm doing
14 it.

15 MR. MC GRAW: We'll do it in just a moment.

16 And again, your yelling isn't going to get it done.

17 MR. JUNGERHELD: Jim, put a mark on that.

18 MR. MC GRAW: Just hold your horses, Jim. I'm
19 still not through with my question.

20 MR. JUNGERHELD: Put that on the table.

21 I saw you looking at your watch. Do you want to take
22 a rest break?

23 THE WITNESS: Soon.

24 MR. JUNGERHELD: Let's do it now.

25 MR. MC GRAW: If you wait, I'll put a mark on

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1 there with the other one I'm getting to, so I can mark two
2 at the same time so we don't go back and forth.

3 MR. JUNGERHELD: We're taking a break.

4 (Whereupon a recess was taken; and whereupon
5 Plaintiff's Deposition Exhibits 14 and 14-A through
6 H were marked for identification purposes.)

7 MR. MC GRAW: 14 is the brochure exhibits in their
8 entirety and then we could have used the numbers we had,
9 but I put a tab on each one. 14-A -- these will all be 14,
10 but they'll be letters A through H. I'll give you -- they're
11 all Department of Agriculture reports of analysis, MDA
12 reports of analysis, and then I'll give you the dates of
13 what they are.

14 9-26-74 --

15 MR. JUNGERHELD: This is 14-A?

16 MR. MC GRAW: Yes.

17 MR. JUNGERHELD: Is this the one you have been
18 questioning him about?

19 MR. MC GRAW: Yes.

20 And B is 9-9-75.

21 MR. JUNGERHELD: What is your page exhibit in this
22 document series, here?

23 They're all 25?

24 MR. MC GRAW: Isn't it 25?

25 Yes. And C is 3-16-76.

1 D is 3-17-76.
2 E is 8-2-76.
3 F is 8-2-76.
4 G is 8-2-76.
5 And H is 4-12-77.
6 Q Okay. Mr. Papageorge, before we took our break you were
7 looking at what now has been marked 14-A, correct?
8 A. Yes.
9 Q Now, will you look at B, please, and this is a report of
10 analysis from the Michigan Department of Agriculture on raw
11 milk dated 9-9-75 in which they report as PCB's calculated
12 Aroclor 1254 in the fat 7.6 parts per million. What does
13 that mean to you when they report 7.6 parts per million of
14 PCB's calculated as Aroclor 1254?
15 A. That tells me that the analyst in his assessment of the
16 results of this test felt that the -- believed that the
17 material he was seeing resembled and he reported it as
18 Aroclor 1254 at a level six parts per million.
19 Q Is that 7.6?
20 A. I'm sorry. 7.6 parts per million by weight in the fat
21 sample.
22 Q Right. Of what significance does that have to you that
23 there is that level of Aroclor 1254 in raw milk?
24 MR. JUNGERHELD: Well, that's in the fat, though.
25 The level you have just been talking about.

1 MR. MC GRAW: That's right.

2 A. I don't know that it -- it just tells me that's what was
3 found.

4 Q. Okay. Does Monsanto or do you believe -- in your opinion,
5 does Monsanto consider that a high level of PCB's in raw
6 milk fat?

7 MR. JUNGERHELD: High as opposed to what?

8 A. No, we don't consider that a high level in terms of creating
9 harm.

10 Q. All right. Was there ever a level of so many parts per
11 million in milk that Monsanto ever set for itself as a safe
12 level not to go above? To stay at that level and below?

13 A. No. That is not our responsibility.

14 Q. But nevertheless, Monsanto never attempted to find out what
15 would be harmful and not harmful as to what level of PCB's
16 in raw milk would be acceptable, is that right?

17 A. Well, we attempted to find out by speaking to the profes-
18 sionals in our federal agency charged with this responsi-
19 bility.

20 Q. But Monsanto itself -- did you go about doing that with your
21 medical department and your scientists to make a determina-
22 tion that any level of PCB's above a certain level as far as
23 Monsanto was concerned should not be consumed or drunk by
24 human beings or animals?

25 MR. JUNGERHELD: He just told you he went to the

1 authorities. He's already answered that question.

2 MR. MC GRAW: No, he hasn't.

3 A. We went to the authorities to help us establish that level.

4 Q. All right. I'm talking about people in Monsanto. They,
5 Monsanto, without any outside help at all from the government
6 did Monsanto undertake itself to establish a safe level of
7 PCB's in milk?

8 A. We're not qualified to do that. Therefore, we couldn't do
9 it.

10 Q. In other words, you didn't do it.

11 A. That's right.

12 Q. Okay. That's all I'm asking.

13 Now, when you went to the government, the government
14 gave the industry a certain safe level above which it
15 shouldn't be distributed to the public for consumption or
16 drinking, isn't that correct?

17 A. That's correct.

18 Q. And that level was what?

19 A. As I remember, it was five parts per million.

20 Q. Wasn't it 2.5 parts per million?

21 A. No. There was a higher number initially. It was dropped
22 in subsequent years. But the initial number, as I remember
23 that Dr. Hill was told, was five parts per million.

24 Q. In what food product?

25 A. Milk.

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WATER_PCB-SD0000037023

1 Q Will you, just to help me refresh your mind, look at this
2 document? It says: "Part 122, unavoidable contaminates
3 in food and food packaging material," U.S. Code.

4 And it has on the second page 2.5 parts per million in
5 milk, fat basis.

6 MR. JUNGHERHELD: Just a minute.

7 Q Does that help you?

8 MR. JUNGHERHELD: Mark it.

9 Bill, don't answer any questions until it's marked.

10 (Whereupon Plaintiff's Deposition Exhibit No. 15
11 was marked for identification purposes.)

12 Q Does that help refresh your recollection?

13 A It does in that it reminds of the 1973 level that that report
14 refers to. Not the 1970 level.

15 Q All right. Was it lower in 1970?

16 A It was higher.

17 Q What was the level in 1970?

18 A As I recall, it was five parts per million.

19 Q All right. Let's go on.

20 In '73 it was 2.5 parts per million as established
21 by the government as a safe level?

22 A Yes.

23 Q Anything above that should not be consumed by the public?

24 A That was the regulation, yes.

25 Q All right. And this test of Exhibit 14-B of September of

1 '75 related that it was 7.6 parts per million in that milk
2 fat sample?

3 A. Correct.

4 MR. JUNGERHELD: In the fat in that milk sample.

5 Q. In the fat. And isn't that what the regulations say? Parts
6 per million in the fat milk?

7 A. Yes.

8 Q. So we don't have to have that. We all understand we're
9 talking fat, don't we?

10 A. Yes.

11 Q. Isn't that correct?

12 A. I thought I answered. That's what the report says.

13 Q. Okay. Now, is that then as far as 14-B, and is that milk
14 unacceptable as far as the regulations of the United States
15 are concerned? Unacceptable as a product to drink or for
16 human consumption?

17 A. If that level represents the true content of PCB's in that
18 milk, true. I see a plastic bag reference here and I'm
19 wondering what's in that plastic material. Whether the
20 PCB's came out of that plastic.

21 Q. Do you know that PCB's are used in plastic bags?

22 A. They were.

23 Q. Did Monsanto ever tell anybody you better not use plastic
24 bags because they contained PCB's?

25 MR. JUNGERHELD: For milk samples?

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1 MR. MC GRAW: For anything.

2 A. It's general knowledge and it's published in federal reports
3 finding PCB's in plastic wrappings, the ink on the wrappings
4 and the adhesives on the wrappings and they also reported
5 finding it in cereal boxes and on and on. It's well-known.

6 Q. When did they report that?

7 A. It was finally -- formerly reported in 1972, but knowledge
8 was available starting late 1970 on through 1971.

9 Q. Did Monsanto have that knowledge, as well, in 1970?

10 A. Certainly. We told the federal agencies.

11 Q. Did you tell any of your customers that purchased any of
12 these materials for plastic bags, adhesives, et cetera, that
13 PCB's are in there and could be a danger to the public?

14 A. That's why we terminated the sale of PCB's to keep them out
15 of such applications.

16 Q. Did you ever tell anybody you ever sold those things to in
17 the past that are still using the PCB's, or these materials
18 are out into commerce and the public use?

19 A. I thought that we had already talked about informing those
20 customers that were purchasing the PCB's for the open use as
21 well as closed about the presence of PCB's in the environment
22 and later we did withdraw the sale to such applications as
23 plastic bags.

24 Q. So that a plastic bag that would be made in 1975 or there-
25 abouts shouldn't have the PCB's in it?

1 A. I don't know.

2 Q. Okay.

3 A. I don't know where it came from.

4 Q. Are you saying the plastic bag increased that number?

5 Q. No. I'm saying since we don't know the source of the bag and

6 since the use of those plastic bags in sampling PCB's is

7 not recommended because they do contaminate samples --

8 Q. Did you ever tell scientists in the scientific community

9 not to do that? Not to use plastic bags for sample testing

10 PCB's?

11 A. The laboratories qualified to test for PCB's know full well

12 that the recommendation is to use glass containers and

13 aluminum foil whenever they collect samples of PCB's.

14 Q. How do they know that?

15 A. It's general knowledge.

16 Q. Monsanto had that same general knowledge?

17 A. Yes.

18 Q. All right. On 14-C we have a raw milk, 3-16-76 with a 4.717

19 PCB calculated as Aroclor 1254 in that raw milk sample.

20 Would that likewise be above the governmental recommendation

21 for human consumption?

22 A. If it were in truth PCB's, yes.

23 This test does not have a confirmatory test to go with

24 it, so I don't know what they used.

25 Q. It says gas liquid chromatography.

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WATER_PCB-SD0000037027

1 A. Yes.

2 Q. What tests are you talking about?

3 A. There is gas liquid chromatography confirmed by mass spectro-
4 photometry. That's the ultimate in testing. Anything else
5 remains questionable.

6 Q. All right. In Exhibit D, 3-17-76, we have bovine fat. That's
7 cow, isn't it?

8 A. That's my understanding.

9 Q. And you have findings of calculated as Aroclor 1254 as high
10 as 33.89 in the fat, correct?

11 A. That's what it says.

12 Q. Is that an acceptable level in cow fat?

13 A. I don't know.

14 Q. Well, on behalf of Monsanto, do you have any numbers that
15 Monsanto developed itself as to what safe levels it would be
16 for fat levels of bovine or cow?

17 A. No.

18 Q. On E, 8-2-76, there is haylage and silage. Do you know what
19 that is?

20 A. I believe I do.

21 Q. What is it?

22 A. Haylage, as I understand it, is mowed grasses that are
23 stored out in the open generally. Sometimes under cover.

24 Q. And silage?

25 A. Silage are such things as corn that are stored in a container

1 like a silo.

2 Q All right. They calculated as Aroclor 1254 samples --

3 MR. JUNGERHELD: What date?

4 MR. MC GRAW: 8-2-76.

5 Q -- as 4.73 and 1.68.

6 In that one sample of 4.73 do you know if that's an
7 acceptable level for silage and haylage to be fed to cows?

8 A If this is in truth PCB's --

9 Q Make an assumption it is, as reported by the analysis.

10 A I don't like to assume things anymore than I have to.

11 Q But assume for our question and our purpose here.

12 A That's why I said if it is PCB's, then it exceeds the Food
13 and Drug Administration upper level for animal feed.

14 Q Which is what?

15 A In Exhibit No. 15, item (5) refers to 0.2 parts per million
16 in finished animal feed.

17 Q So this is an unacceptable level to feed animals?

18 A As applied to that regulation.

19 Q Right.

20 In F, 8-2-76, bovine fat calculated as Aroclor --
21 assume that it's calculated as Aroclor 1254 and the reading
22 in the fat is 5.42. Is that likewise nonacceptable level
23 of bovine fat?

24 A I don't know.

25 Q Does Monsanto ever make any tests to make that determination

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1 as to what would be an acceptable level of PCB's in bovine
2 fat?

3 A. No, we never have.

4 Q. And Exhibit G, 8-2-76, that's silo scrapings from the Haley
5 farm calculated, and assume that it's correct, as Aroclor
6 1254, 2,760 parts per million. Is that an acceptable level
7 of any scrapings found in a silo?

8 MR. JUNGERHELD: We have gone over this in the last
9 questions about the last exhibit.

10 MR. MC GRAW: Let him answer about this exhibit.
11 There's two exhibits.

12 A. There's no way to determine acceptability without knowing
13 a lot more about this sample.

14 Q. All right. If you make an assumption that you have a silo
15 that contains in its scrapings 2,760 parts per million of
16 PCB's and we have seen that the silage is up around four
17 and five parts per million and the bovine fat is up in that
18 level as well, and the milk is up at that level, is there,
19 in your opinion, a relationship between the silo scrapings,
20 the silage that's contained therein, and the ultimate
21 readings from the milk and the fat of a cow that eats that
22 silage?

23 MR. JUNGERHELD: I'm going to object to the
24 question because you have boxed it together here, a lot of
25 samples that are as much as five and six months apart.

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1 MR. MC GRAW: He knows what they are. I assume he
2 does. He just read them.

3 MR. JUNGERHELD: My objection is on the record.

4 MR. MC GRAW: Will you answer the question?

5 MR. JUNGERHELD: You're attempting to distort, as
6 usual.

7 MR. MC GRAW: Every objection you throw in is
8 distortion. Why don't you grow up, Bill?

9 Will you please answer the question?

10 A. You asked if there's a relationship?

11 Q. Yes.

12 A. The only relationship I can see that are obvious is the fact
13 they are all related by the analysis to Aroclor 1254. They
14 all seem to be related because of location.

15 Q. The Haley silo?

16 A. The Haley silo. Not knowing any more of the circumstances
17 involved with this series of samples any other conclusion
18 would be pure speculation on anybody's part.

19 Q. In your opinion?

20 A. I don't know.

21 Q. I mean pure speculation in your opinion? You don't know
22 what other people would say about it, do you?

23 A. I don't know how to speculate.

24 Q. Okay.

25 A. I don't know the condition in the silo.

1 Q I mean you're speaking for yourself?

2 A I know I am.

3 Q When you say anybody's speculation, do you know what all the

4 other scientists would say about that?

5 A No. I can't speak for other scientists.

6 Q All right. H, silo scrapings, 4-12-77, 8,250. Again, the

7 same answers you would give to the previous one? G?

8 A Certainly.

9 Q All right.

10 (Whereupon Plaintiff's Deposition Exhibit No. 16

11 was marked for identification purposes.)

12 Q Exhibit 16 is a news release, Monsanto, 4-10-70.

13 I'll show you Exhibit 16, Mr. Papageorge, and on the

14 first page -- let me get myself acclimated.

15 It's a news release. What does that mean? News release

16 you put out to the public in general, or just to customers,

17 or to the federal government? To whom did this go to? Or

18 is it an interdepartmental thing?

19 A It is primarily prepared for the news media. And, of course,

20 it's available to our customers if they want a copy and

21 it's posted on the company's bulletin boards and shared

22 freely with anyone with any interest in the subject.

23 Q Who knows about it and can ask about it?

24 A Correct.

25 Q Okay. It wasn't mailed out to customers?

1 A. There's nothing to prevent a salesman from dropping one of
2 these in the mail to his customers.

3 Q. But as a policy and practice of Monsanto a news release
4 wasn't mailed? You didn't pull out a customer list and send
5 them all out to customers?

6 A. That's correct.

7 Q. All right. By the way, who is this that was writing these?
8 E. D. John.

9 A. Mr. John is a member of our public relations department, who
10 is the author of this document.

11 Q. Okay. He's going to put forth what Monsanto is doing in
12 Monsanto's words?

13 A. Correct.

14 MR. JUNGERHELD: If you know what is in his mind,
15 Bill.

16 Q. He's not there to put out all adverse memorandums about
17 Monsanto and their products, is he? He's a public relations
18 man to promote Monsanto, would that be correct?

19 A. Well, he's out to communicate with the public the truth.

20 Q. Okay. From Monsanto's viewpoint?

21 MR. JUNGERHELD: Well, that's argument. Now, cut
22 it out.

23 MR. MCGRAW: It's not argument.

24 MR. JUNGERHELD: It is argument.

25 Q. What is a public relations man's job?

1 A. Well, I don't know that I'm an expert in describing their
2 jobs, but --

3 Q. Could I put it in a nutshell, to promote the good will of
4 the company with the public?

5 A. In a way. But that's expected of all Monsanto employees.

6 Q. Okay. That's good enough.

7 All right. "Monsanto Company said today it was well
8 aware of the concern over possible environmental
9 contamination by polychlorinated biphenyl (PCB), an
10 industrial chemical made by the company."

11 I want to stop there. What do you think the company
12 meant in their public relations field when they referred to
13 PCB's as a possible environmental contaminate?

14 A. They meant they were referring to the early reports that
15 PCB's were being found in the environment and the suspicion
16 that the brown pelicans in California, the seals off
17 California, the Peregrine falcon, were being affected by this
18 material.

19 Q. All over the world? Sweden, included?

20 A. Wherever they looked.

21 Q. What does the company mean in their release to the public
22 about that it's a contamination? Why would he use that
23 word?

24 A. It's a combination of presence to a level that is possibly
25 creating some harm.

1 Q. Okay.

2 A. Which fits my description I made yesterday.

3 Q. Could those levels we saw in the exhibits 14-A through H
4 possibly be a contaminate and possibly cause some harm?

5 MR. JUNGERHELD: Well, 14 --

6 MR. MC GRAW: Let him answer.

7 MR. JUNGERHELD: Let me make my objection, Mr.
8 McGraw.

9 14 and all of those subheadings dealt with a variety
10 of different media, silos, bovine fat and milk and what have
11 you.

12 MR. MC GRAW: He knows that.

13 MR. JUNGERHELD: And you're asking him a lump
14 question about all of those. Break them down.

15 MR. MC GRAW: He knows what they are.

16 You're assuming that he doesn't have a good memory.
17 He's very intelligent.

18 MR. JUNGERHELD: You're trying to distort, mani-
19 pulate --

20 MR. MC GRAW: There you go again.

21 MR. JUNGERHELD: I'm going to continue as long as
22 you continue to do it.

23 MR. MC GRAW: Contaminate the record now.

24 MR. JUNGERHELD: It's impossible to contaminate it
25 any more. You already have.

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1 MR. MC GRAW: Forget us, Mr. Papageorge. Answer
2 the question, if you remember it.

3 Do you want me to repeat it for you?

4 A. No. I think I understand it.

5 Q. Fine.

6 A. I have some difficulty in that in my perspective I do not
7 associate a farm scene of feeding animals and whatever is
8 associated with the dairy business as an environmental
9 situation compared to wild creatures and ozone bodies and
10 lakes and forests and the like, which is the normal under-
11 standing by most people of what is meant by environmental.

12 Q. But you used the word and described as contamination that
13 it might possibly create some harm. I'm asking you with
14 those fat levels in the bovine and the silage and the fat
15 levels of the milk wouldn't that by virtue of that
16 definition be a possible harm to those that might consume it?
17 Animals or humans?

18 A. The levels that I saw in the previous exhibits --

19 Q. 14?

20 A. -- to my knowledge have never been associated with physical
21 harm with cattle.

22 Q. What about other animals?

23 I'll inject here, hasn't it been associated with harm
24 to rats?

25 A. Not at that level.

1 Q. At five parts per million and up?

2 MR. JUNGERHELD: And up? Up how high?

3 MR. MC GRAW: Seven parts per million.

4 A. No.

5 Q. Do you have a study or literature on that?

6 A. Yes, sir.

7 Q. What?

8 A. The Industrial Biotest Laboratory studies conducted for
9 Monsanto with Aroclor 1254 on rats showed an effect at a
10 hundred parts per million of the entire food intake. Not
11 just a portion of their intake.

12 Q. That's the only lab you can refer to?

13 A. That's the only study ever made to set that standard on rats.

14 Q. IBT is the only one that made the study?

15 A. Yes, sir.

16 Q. And IBT is the one upon whom the federal government relied
17 to set their limits?

18 A. As part of their information.

19 Q. And no other testing laboratory ever made any testing of
20 rats or mice?

21 A. The National Cancer Institute sponsored a carcinogenic study

22 Q. All right.

23 A. With rats.

24 Q. What about just studies as to harm to the metabolism of the
25 rats? Its liver, its reproduction?

1 A. Those were all Monsanto-sponsored studies performed by
2 IBT.
3 Q. And they found nothing wrong?
4 A. I didn't say that. They found an effect at a hundred parts
5 per million.
6 Q. Okay. Over a short period of time?
7 A. Over the lifetime of the animal.
8 Q. And 50 of 100 died? Was that --
9 A. No. We're talking -- we're confusing our studies.
10 The LD-50 test is the acute toxicity test and you will
11 recall that that was up in the thousands of parts per
12 million.
13 The long-term lifetime study on the rats was at the
14 100 parts per million. Those are two different kinds of
15 studies.
16 Q. All right. So it's your position on behalf of Monsanto that
17 no other agency or testing laboratory ever performed any
18 tests on rats or mice that indicated somewhere around five
19 or up to seven parts per million in milk of PCB's was
20 harmful when the rats ingested that?
21 A. That is correct.
22 Q. All right. What about mink?
23 A. What about them? I don't know.
24 Q. Were mink tested?
25 A. Mink were tested by a laboratory here in Michigan.

1 Q Which laboratory?

2 A University of Michigan in Lansing. East Lansing.

3 Q That would be Michigan State University?

4 A Michigan State. That's right. Michigan State. I forgot

5 the researcher's name. It escapes me.

6 Nevertheless, he did conduct a study and found that

7 mink were sensitive as a species to PCB's.

8 Q All right. Any other species that were tested that you know

9 by any other labs?

10 A The government laboratory in Golf Breeze, Florida tested

11 shrimp and found that the shrimp is an extremely sensitive

12 species. The juvenile shrimp. Not the adult shrimp.

13 Q Did anyone ever test cattle? Cows?

14 A Yes. The Department of Agriculture in Bethesda, Maryland

15 had some studies. Dr. George Fries was my contact.

16 And also in Ohio at the Agricultural Research and

17 Development Center. Dr. Lynn Willett was conducting studies

18 on PCB's in cattle.

19 Q Did you ever talk with Dr. George Fries in Maryland?

20 A Yes.

21 Q When did you first talk to him about this problem of PCB's

22 with regard to animals and cattle and cows?

23 A Oh, I don't recall the specific -- it was '71 or '72. I

24 don't remember the exact period.

25 Q And was his findings such that there was some reported harm

1 that could come from ingesting PCB's by cattle or by cows?

2 MR. JUNGERHELD: At what level?

3 Q. And passing it on to the -- through the feed and into the
4 cows and out the milk to the consuming public?

5 MR. JUNGERHELD: Harm to whom and at what level?

6 MR. MC GRAW: I'm asking about the conversation.
7 Then I can go into what he told him. It's not me that's
8 testifying.

9 MR. JUNGERHELD: It's you asking the questions.
10 You're putting very vague questions to him.

11 MR. MC GRAW: He's answering them all without your
12 help.

13 MR. JUNGERHELD: When you change them.

14 A. I'm not aware of any reference to harm. In my discussions
15 with Dr. Fries the discussion had to do with his describing
16 to me the protocol he was using in his testing. His
17 analytical method he was using. His need for material to
18 use in his tests. And all in all, it was a case of
19 establishing the presence of PCB's and the route that it
20 took through the animal into the milk and also the
21 disappearance of PCB's after the exposure was terminated.
22 That's my recollection of the discussion with George Fries.

23 Q. Are you saying in your opinion or Monsanto's opinion that
24 after a cow had been subjected to PCB-contaminated food and
25 has eaten it and has reached a level of five or seven parts

1 per million in its fat that somewhere along its life it's
2 going to get rid of that PCB before it dies?

3 A. That would be the accepted situation. The expected situation,
4 yes.

5 Q. How is the cow going to get rid of the PCB's in its fat?

6 A. Well, I'm no doctor of veterinary medicine, but I have
7 been told, and it's my understanding after talking to Drs.
8 Willett and Fries that a lactating cow mobilizes its fat
9 and as that fat is mobilized and introduced into its blood-
10 stream, the PCB's are also released into the bloodstream,
11 find their way again into the wastes created by the animal
12 or into its milk, and with time, assuming there's no further
13 exposure of PCB's, the level of the PCB's in the animal's
14 body is reduced.

15 Q. So if the cow is not lactating and there's no calf feeding
16 or there's no milking of a cow, would the PCB's be eliminated
17 just through urine, or through blood, urine and feces?

18 A. Not normally.

19 Q. They would stay?

20 A. They would be immobile. Inactive. Inert.

21 Q. In the fat?

22 A. In the fat.

23 Q. What effect, if any, stays in there upon the longevity of
24 the cow, or disease-producing things? Do you know or does
25 Monsanto know whether it produces any such effects on the

1 body?

2 A. There have been no reports that it affects the animal under

3 those conditions.

4 Q. If that milk then is milked out of the cow first of all by

5 the feeding calf, then do the PCB's go through the milk

6 because of its fat into the calf?

7 A. That's my understanding.

8 Q. It also goes into the calf in utero through the placenta?

9 A. There's my understanding.

10 Q. Then when that calf grows up as a heifer and comes into

11 lactating, it passes on PCB's?

12 A. That's my understanding. But the PCB's now have changed

13 considerably from the initial exposure.

14 Q. All right. But that's the route by which PCB's can follow?

15 A. True.

16 Q. From one generation of cow to another?

17 A. True.

18 Q. All right. And this would be the same with regard to animals

19 who have the fat who are slaughtered for food? Cattle?

20 MR. JUNGERHELD: What is true as to that?

21 MR. MC GRAW: What we have been talking about.

22 That the PCB's remained in the fat of that animal and when

23 slaughtered that animal with the PCB's sold out for either

24 other animal consumption or human consumption is then fed

25 to other animals or human beings with PCB contents still

1 in it?

2 A. That assumes that the fat is consumed. Yes.

3 Q. And generally, most meat from cattle that is consumed by
4 humans, isn't fat involved in their meat?

5 A. Certainly. In various percentages.

6 Q. On the news release which is Exhibit 16, the company began
7 a six-point program in 1968 to properly identify and measure
8 PCB in the environment.

9 Were you part of that six-point program?

10 A. I eventually became a part of that program, yes.

11 Q. And what part did you play?

12 A. I suppose the best word to use is that I coordinated the
13 various pieces of the six-part program and saw to it that
14 the efforts were sustained and the direction was appropriate
15 and that the resources were made available.

16 Q. All right. What is the six points?

17 A. Well, I'm going to try to recall from memory.

18 First and foremost was the development of analytical
19 methodologies that could be relied upon to give reliable,
20 reproducible answers, and the results would be meaningful.
21 That was the first part.

22 Secondly, to establish if we could, which of the PCB's
23 of the series we were selling is the one being identified
24 out in the environment and to establish programs to prevent
25 that particular PCB from reaching the environment.

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1 Q. Was it determined that was 1254 predominantly?

2 A. And 1260, yes. The higher-chlorinated PCB's were found in
3 the environment.

4 We also communicated to our customers the knowledge
5 as it evolved piece-by-piece to try to keep them up-to-date
6 on our findings. At the appropriate point when we felt
7 our knowledge was valid and not just based on any rumors or
8 half truths.

9 We also took another look at the disposal practices
10 associated with PCB's having to do with air emissions,
11 water discharges, and land filling of the wastes, and we made
12 certain that those were responsibly handled.

13 Q. Is there a record of these things that you did? In a record
14 setting forth here's our six points, one to six, and here's
15 what we did, and we built up all of this input, made
16 memorandums, made letters, made reports, obtained reports,
17 and here it is in a package on our basis, just as your news
18 release says, we're going after this and find out what it
19 is? Was there such a document file produced?

20 A. I recall a document in which we listed the six points of our
21 program. There is no composite report that includes the
22 end results of each of the six parts. Each part was pursued
23 independently to its end. That's all I recall.

24 Q. You don't have any way of going back and checking out whether
25 you have any of these papers or files or memorandums, if

1 any were made?

2 A. Well, let me take an example.

3 One of our points in this six-point program was the
4 development of analytical methodology. That was certainly
5 done and I suppose the end product is our method that was
6 sent to the EPA and adopted by the association, the American
7 Society of Testing Materials, as the method, as the end
8 product of that one point.

9 Q. What point was that?

10 A. This is the point where we were going to develop methodology
11 for analyzing PCB's that gives reproducible high quality
12 answers. That point was pursued to its end and that
13 information was shared with the government through the
14 agencies and with the public through the American Society
15 of Testing Materials.

16 Q. What was the result of that -- what was the concluding
17 result?

18 A. The result is that whenever analyses are made using that
19 methodology by an experienced chemist and a reputable
20 laboratory, the results are believable. I guess that's the
21 end result. That gives good information to work with.

22 Q. Was there some reports you made to the government? Or you
23 made internally after all of these points were finalized
24 so that you had a conclusion that you could always go back
25 to? Say here's what we did, here's what we told people?

1 A. There was no single report. But there was a dialogue that
2 continued with representatives of the government as to the
3 status of our studies. The status of our communications.
4 Q. This was all verbal? None of it reported? None of it
5 written down?
6 A. Well, the status reports on the animal testing was summarized
7 in a written document which was shared with the government
8 people.
9 Q. All right.
10 A. So some of it was written, some was oral, and some was a
11 combination of the two where we would meet with them and leave
12 them a piece of paper.
13 Q. So Monsanto did test some animals, then?
14 A. These are the tests we talked about earlier. The Industrial
15 Biotests.
16 Q. The outside people?
17 A. Yes.
18 Q. Not the inside people?
19 A. That's true.
20 Q. Okay. I was getting an idea from your talk there that
21 somebody perhaps in Monsanto under their employ was doing
22 these tests and made a report.
23 A. Toxicity tests in the industry are normally done by outside
24 laboratories.
25 Q. Okay. I'm not sure if I asked you that before. Just to

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1 make sure I cover it, have you got any of those reports
2 from IBT and Young? Maybe it's coming back to me now from
3 yesterday. These should be in the control of the medical
4 department if they're there?

5 A. Yes.

6 Q. Okay.

7 (Whereupon Plaintiff's Deposition Exhibit No. 17
8 was marked for identification purposes.)

9 Q. Just look at that for a minute, Mr. Papageorge.

10 Okay. In a release of July 16, 1970, Exhibit 17, on
11 page two, your Mr. Minckler -- who is that, please?

12 A. He was the general manager of the Monsanto division which
13 had responsibilities for PCB's.

14 Q. Okay. This report indicates that Mr. Minckler said:

15 "Commenting on a recent report that PCB can induce
16 birth defects in animals, Minckler said, 'Monsanto
17 is not aware of any scientific data that indicates
18 polychlorinated biphenyls may cause birth defects'."

19 Where did the information come from, to your knowledge,
20 that there was a report of inducing birth defects in
21 animals?

22 A. I don't recall a specific article other than popular press
23 articles. And in some quarters the fact that pelican eggs
24 had soft shells, which prevented the eggs from hatching
25 properly, was considered a form of birth defect.

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1 Q. Was that traceable at that time to PCB's?

2 A. I need help on the word traceable.

3 Q. Very well. Reports were that the pelican eggs had soft

4 shells and thus resulted in some birth defects?

5 A. Yes.

6 Q. And that reference must have something to do with PCB's

7 having a causal effect?

8 A. This was an early assumption of the investigators at that

9 time.

10 Q. All right. Did Monsanto check that out?

11 A. We couldn't, of course, check the pelicans ourselves, so we

12 had to find a substitute bird and we went to the white

13 Leghorn.

14 Q. Chicken?

15 A. Chicken study.

16 Q. But no testings were made on the pelicans by Monsanto?

17 A. That is correct.

18 MR. MC GRAW: Have you got the exhibit there,

19 Patrick, that we used yesterday?

20 Is there an October 31, '77 release?

21 Look at Exhibit 1, Patrick. What is that?

22 I have it here. It was a part of another one.

23 Mark this one.

24 (Whereupon Plaintiff's Deposition Exhibit No. 18

25 was marked for identification purposes.)

1 Q No. 18 is October 5 letter release, but over on the side it
2 says, "Monsanto to shut down October 31, 1977."

3 Usually have a date up there. I think that's where I
4 got my note from. It's really then an October 5th and I'm
5 going to have to presume -- let me ask the witness first.

6 Do you know the date? Can you find a date on there,
7 Mr. Papageorge, that it was released?

8 A. No. I don't see a date. A year. I do not see that.

9 Q Does it help when it says at the top there and through all
10 the papers here Monsanto to shut down PCB unit, exit business
11 by October 31, 1977? Does that help any? Would it be a
12 1977 release, do you think?

13 A. May I read a little more just to see?

14 Q. Sure. Please.

15 Did you have any help in reading the article?

16 A. Yes. I believe this was issued in October, 1976, giving
17 an advance notice of a year before the ultimate date was
18 reached.

19 MR. MC GRAW: All right. Do you want to see this?

20 MR. JUNGHERHELD: Yes. Please.

21 Q. This Exhibit 18 is another news release and at the top it
22 has D. R. Bishop. Who would that be? Do you know?

23 A. Mr. Bishop is a Monsanto employee in Monsanto's public
24 relations department, who replaced Mr. John.

25 Q. Okay. And by virtue of coming out with this news release,

1 these news releases are checked by somebody who knows the
2 contents before they are released, don't they? The technical
3 stuff?

4 A. Oh, yes.

5 Q. I mean it's not just Mr. Bishop's or Mr. John's words that
6 are going in here? It's a production by the people who know
7 what they're talking about to put the information into a
8 news release?

9 A. That is correct.

10 Q. So what's in there is correct and true?

11 A. As best we can do so, yes.

12 Q. Okay. Now, there you're going to phase out all of your
13 PCB business no later than October 31, '77?

14 A. That's what it says.

15 Q. And that's what happened?

16 A. That's right.

17 Q. Okay. Read with me here on page three.

18 "Unfortunately, the very properties that have made PCB's
19 ideal and even mandatory for these essential uses,
20 were also found in the early 1970's, more than 40 years
21 after they were first introduced, to be the properties
22 causing them to persist and accumulate in the environ-
23 ment. Because of this tendency to resist biodegrada-
24 tion, Monsanto announced last January its decision to
25 voluntarily cease production as soon as the electrical

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1 industry could find viable alternate fluids and convert
2 its equipment and components to their use."

3 What is meant by Monsanto that these PCB's persist and
4 accumulate in the environment and resist biodegradation?

5 A. It means under normal conditions out in the environment the
6 PCB's are not affected rapidly by those elements in the
7 environment such as sunlight, bacteria, and other natural
8 phenomena, so that their characteristics are changed.

9 Q. All right. And he says that it resists biodegradation.
10 What does that mean?

11 A. Biodegradation is a term used to describe the change in
12 chemical form brought about by a biological process.

13 Q. And PCB's tend to resist that change of the normal biological
14 process?

15 A. That is true.

16 Q. And they still persist to your knowledge, to this day in
17 the environment?

18 A. There are PCB's in the environment, but I don't know if it's
19 the same PCB's that were there 10 years ago.

20 Q. Has Monsanto ever made an attempt to find out whether or
21 not the PCB's that were placed in waste disposals or grounds
22 back in the 50's, 60's, or '70's have biodegraded?

23 A. Not to my knowledge.

24 Q. Do you know of anybody who made such a study?

25 A. No.

1 Q. What, if anything, do you know or does Monsanto know about the
2 destruction of the PCB's? Can you just take them and put
3 them in a drum and throw them out in a dump?

4 A. Oh, you can do that, but that doesn't destroy them.

5 Q. Will they remain there literally forever?

6 A. Unless they're disturbed in any way to permit bacteria to
7 get to them, sunlight, and disbursed and diluted they will
8 probably stay compacted in that container for a long, long
9 time.

10 Q. What about if it's just the PCB fluid poured out onto the
11 ground? Will it still be there for many years after or does
12 Monsanto know or can it test that?

13 A. Well, we have conducted studies, the results of which were
14 shared with the federal agency and was reported to them.
15 And the studies were conducted in the laboratory in which we
16 simulated the typical municipal sewage treatment plant.
17 We actually went to a sewage treatment plant and got some
18 of their culture, some of the bacteria out of the sludge,
19 brought it back to the laboratory and prepared solutions of
20 the various types of PCB's and bubbled air through them
21 just like is done at the municipal plant and then analyzed
22 the results after given periods of times.

23 Those studies indicated that under these conditions
24 where you had that bacteria and had enough nutrients for
25 these bacteria, and sunlight, and air, oxygen, that some

1 of the PCB's disappeared quickly, some less so, and some
2 were still there at the end of the study. I think the study
3 went on for several weeks. I don't have the details right
4 with me, but that study was designed to give us an idea of
5 the difference in behavior of the different PCB's isomers.
6 Q. Eventually, though, even though your studies went on like
7 that, not all of the PCB's could be destroyed under those
8 laboratory conditions?
9 A. Under those conditions in that period of time the answer is
10 that's correct.
11 Q. Okay. And as far as just finding them out in the ground
12 without all of the sewage material and the bubbling and the
13 air and the cleaning procedures you put through a sewage
14 plant, do you have any idea of how PCB's would biodegrade
15 in the atmosphere just out in the country where they were
16 dumped into a hole?
17 A. Yes, I would submit to you the predominant Aroclor identified
18 by analysts as being out in the environment was Aroclor
19 1254. Taking that piece of information and comparing it to
20 the amounts of PCB's sold over the 40-year period, it struck
21 us that 1254 was not the predominant in terms of total
22 quantity sold. So it would seem, and this has some merit,
23 at the time the analysis was conducted it appeared to the
24 analyst to be similar to or roughly equivalent to Aroclor
25 1154.

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1 In many instances, started out as a 1221, a 1242, or
2 a 1248, and with time it lost some of the lower chlorinated
3 parts of it and ended up looking like its cousin, Aroclor
4 1254.

5 Q. You're saying that 1221, 42 and 48 after being exposed to
6 some of the atmosphere would change into 1254?

7 A. The residuals of those would look like Aroclor 1254.

8 Q. A higher weight and viscosity?

9 A. Yes. The fingerprint finally visible to the analyst would
10 look like the fingerprint of a modified 1254. Not exactly,
11 but closer to it.

12 Q. Supposing you had 1254 you knew was 1254 in the ground --

13 A. Yes.

14 Q. -- what would it do and how would it change, if any?

15 A. It would lose some of the peaks that represent the lower
16 chlorinated isomers so its fingerprint would be altered and
17 truncated, shifting more to the higher chlorinated --

18 Q. To look like 1260?

19 A. To look more like 1260, yes.

20 Q. Are you aware of a company called PCB Eliminators?

21 A. I have never heard of that expression, no.

22 Q. In St. Louis?

23 A. I don't know them.

24 Q. You're not connected with them in any way?

25 A. No, sir.

1 Q Okay. Do you have any idea of how much money annually that
2 Monsanto made on the sale of 1254 to nonelectric users?
3 A I was never given that number. No.
4 Q Is it readily available?
5 A I don't know how readily -- I don't know if it's available
6 even today. I never asked for it. Never had a need for it.
7 Q If you wanted to know, would you go to the finance depart-
8 ment?
9 A Yes.
10 Q And barring destruction of records, they should at least
11 know what they have been selling over the years?
12 A Yes.
13 Q Was there ever any warranties that Monsanto gave to its
14 customers when they sold the product to them? Any of the
15 weights?
16 MR. JUNGERHELD: Well, that question may call for
17 certain legal conclusions. Are you inquiring --
18 MR. MC GRAW: I'll back off.
19 Q Do you know what a warranty is? A written warranty?
20 A As a purchaser of items I'm aware of some of this, yes.
21 Q Guaranty the product to be of a certain reasonable nature
22 and conduct its purpose in life that it was made for?
23 A That's my understanding of these things.
24 Q Were there any such warranties given to the customers of
25 Monsanto in the sale of its PCB's?

1 MR. JUNGERHELD: Again, are you asking about
2 expressed warranties?

3 MR. MC GRAW: That's what I just did.

4 A. I have never seen anything in writing that would fit the
5 description of an expressed warranty.

6 Q. Was 1254 used as a sealant or as a mixture in a sealant or
7 coating in any type of a combination for any purpose?

8 A. It's my understanding that many of our customers who
9 purchased Aroclor 1254 were in the varnish and coating
10 business.

11 Q. And paints?

12 A. Painting, yes. Paints, coatings, varnishes.

13 Q. When you're talking about coatings, what are you talking
14 about?

15 A. To me paints and varnish are coatings. Coating is the
16 broader name term.

17 Q. So the 1254 can be made up in almost any kind of mixture and
18 utilized as a coating on something?

19 A. I wouldn't go so far as to say any kind of coating. In some
20 cases, it may not be compatible. It has to be carefully
21 formulated.

22 Q. As far as silos, would it be a reasonable use to apply 1254
23 in the mixture for a silo coating?

24 A. Not knowing the other ingredients in these coatings, I can't
25 answer that.

1 Q Assume the ingredient in Cumar which included 1254, would
2 that be a reasonable use for it?

3 A Oh, it's not a --

4 MR. JUNGERHELD: Are you asking about now? At
5 the present time?

6 MR. MC GRAW: Then.

7 A I don't know about the word reasonableness. It's not --

8 Q Reasonable to expect it could be used by customers that way?

9 A Yes. As a plasticizer, yes.

10 Q Did Monsanto ever put out what is somewhat termed in the
11 automobile industry as a recall? To all our past customers
12 we are telling you to get rid of your PCB's, return them to
13 us. Don't use them.

14 A I don't know that the waste return program is a true recall.
15 We did have an opportunity for our customers who had
16 difficulties disposing of used material to return it to our
17 one plant for disposal by incineration.

18 Q The input of that, though, was first getting it from the
19 customer back to you about some inquiry, is that correct?

20 In other words, before you had any input to the
21 customer about a recall basis or a destruction basis or a
22 return basis, you first got it from the customer complaining
23 or asking to do something about it?

24 A Not always, no.

25 Q Did you send out something to the customer and say return all

1 of the PCB's that we sold to you; that there is some danger
2 to them, don't continue to use them anymore?

3 A. I don't know that those words were used in the communications.
4 But there were some applications in which systems were
5 drained and an alternative fluids introduced and along with
6 that program we offered the opportunity for the customer
7 to send his waste material including his solutions that he
8 used to rinse out his equipment.

9 Q. This would be maybe in that period of '71, '72, when you
10 were making this substitute to PCB's?

11 A. Well, I wouldn't call them substitute PCB's. I would say
12 alternative materials.

13 Q. Was that the time you were talking about that you would
14 contact these people and say we have this alternative?

15 A. That would be one of the situations, yes.

16 And then for the electrical industry we also offered an
17 opportunity to dispose of any waste PCB's that they were
18 generating in the manufacture of their products.

19 Q. But there would be no offer or contact or notice to nonelec-
20 tric users that there's a danger to your PCB's we sold you
21 last year, two, three, four, five years back, don't use them
22 anymore, send them back, and there's a danger to them?
23 Certain risks?

24 A. The plasticizer users when they produced their end product
25 creates a material that our incinerator can't handle. It

1 has to be the liquid itself. The material in pumpable form.
2 Q Okay. So the answer is you didn't send out any notices to
3 nonelectrical users to stop using our stuff? Send it back?

4 A Well, no. There was, I recall -- let me think.

5 There was a letter to the distributors and they were
6 told that as of August 30, 1970, that they would not receive
7 any material from us and they should not sell any of their
8 inventory to their customers.

9 In order to make certain that their inventory was not
10 sold, we offered to take it back from them and we gave them
11 a time schedule in which they were to accomplish this.

12 Q These were people to whom Monsanto as a manufacturer gave a
13 product out to a retailer or wholesaler?

14 A Yes. And they would sell it.

15 Q All right. Does Monsanto or do you have any knowledge or
16 idea how PCB's got into the Gemmel or Haley silos?

17 A No.

18 Q Can you tell me what risks were known to Monsanto in about
19 1968, 1970 area regarding PCB's to animals?

20 A The known risks were those that we saw when we conducted the
21 acute toxicity testing series. This was the oral LD-50 test.
22 The dermal LD-50, the inhalation test, and the skin test.

23 We knew that certain levels of exposures via these
24 routes would create some effect on the intestine. We were
25 aware of that.

1 Q What would the health effect be?

2 A Well, for the LD-50, half of the animals died at that level.

3 And those -- I forget the numbers, but they were up in the

4 thousands parts per million in their diet.

5 Q Were there reproductive problems?

6 A At that time there were no studies made on industrial

7 chemicals of reproductive effects. So that was not known.

8 Q Were there any effects on the liver and the enzymes? How the

9 enzymes affect the liver?

10 A There were no formal tests for chemical -- industrial

11 chemical effects on the liver. So those were not done.

12 Q Weren't done?

13 A No.

14 Q Did you know it could cause in that period of time a

15 condition called chloracne?

16 A That was known, yes.

17 Q Did it cause any metabolic problems?

18 A Not that anyone was aware of.

19 MR. MC GRAW: Off the record.

20 (Whereupon a discussion was held off the record;

21 and whereupon a recess was taken until 2:00

22 o'clock P.M., of the same day, Thursday, January

23 20, 1983.)

24

25

(Whereupon at 2:12 o'clock P.M., Thursday,
January 20, 1983, the deposition was continued
as follows):

Q All ready to go, Mr. Papageorge?

A Yes, sir.

Q We had been talking earlier this morning before we went to
lunch about different levels that were set by the federal
government as sort of guidelines for people with regard to
the ingestion by drink, or food, of PCB's. Do you recall
our talk about that?

A Yes, sir.

Q I had mentioned that and I want to know whether or not the
1973 guidelines of the federal government that were set and
as we saw for 2.5 parts per million for milk was the same
back in 1970 or not, and I think you indicated it was higher
in 1970, like five parts per million?

A I did, yes.

Q All right. I'm looking at an article that we talked about
the other day and marked as an exhibit from Dr. Willett
and in his article he indicates that, "The FDA in 1969 first
established a subsequent internal guideline or 'working
level' of 0.2 parts per million in whole milk and declared
that whole milk with PCB residues exceeding that residue
would be excluded from commerce."

Do you remember whether or not what Dr. Willett says

1 was a factor at that time in 1969? That 0.2 parts per
2 million was the level set by the FDA? That anything above
3 that would be excluded from the market?

4 MR. JUNGERHELD: I have some problem with that
5 because I don't know if I can interpret between whole milk
6 and milk fat. Maybe Bill knows. I don't know if that's
7 significant or not. But that should be considered and
8 perhaps put to him.

9 MR. MC GRAW: I don't know. I can just ask
10 questions. He can give me answers and we can work around
11 that.

12 A. The 2.5 parts in milk is equal to five parts per million
13 in butterfat. And since the average butterfat content of
14 milk is four percent, if you take the four percent and you
15 divide it into the .2 and go through the arithmetic, you'll
16 end up with five parts per million in the butterfat, I
17 believe.

18 Q. All right. But this is what they were working with as far
19 as you can remember in '69 for whole milk is 0.2 parts per
20 million?

21 A. That is correct.

22 Q. And that if it was over that in any way then it was excluded
23 from the market by law?

24 A. It was excluded from interstate market.

25 Q. All right. As far as the federal law is concerned?

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1 A. That is correct.

2 Q. All right. Do you know if any of the states, any of the
3 states that you know of had a similar rule and level in 1969?

4 MR. JUNGERHELD: Counsel, was that earlier figure
5 you mentioned 2.2 or 0.2?

6 MR. MC GRAW: 0.2.

7 MR. JUNGERHELD: Thank you.

8 A. In 1969 from my initial conversations with Dr. Hill, I'm
9 led to believe that no state had considered any levels of
10 PCB's in milk.

11 Q. Let me ask this: What he says, too, "The regulations that
12 temporary tolerances for residues of PCB's in milk, fat
13 basis, and in manufactured daily products, fat basis, at 2.5
14 parts per million in finished animal feed or food-producing
15 animals, except finished animal feeds, feed concentrates,
16 feed supplement, and feed premises at 0.2 parts per million."

17 Do you read that the same as what you told me, Mr.
18 Papageorge?

19 Right here. The regulations set temporary tolerances
20 for PCB's in milk and in manufactured dairy products and
21 set those things at 0.2 parts per million.

22 Now, are they talking about, when they're talking about
23 milk, with the fat basis or are they talking about the
24 whole milk that is sold and consumed, or are they talking
25 about just the raw milk in the fat?

1 A. I don't see any reference to milk here at all in the section
2 you pointed out.

3 You're talking here about animal feed -- I'm sorry.

4 Q. Well, here.

5 A. Okay. I see that.

6 Q. Okay.

7 A. That is with reference to the 1973 which was the revised
8 number that you showed me earlier.

9 Q. All right. Does the '73 regulation, though -- was it the
10 same and did it apply to whole milk -- does the '73 apply
11 to whole milk that's consumed, the 2.5 parts per million?

12 A. The 2.5 parts per million applies to the contents in butter
13 fat.

14 Q. As you would get it off the farm? The raw milk?

15 A. It's my understanding this is the milk that's moving in
16 commerce across state lines. Irrespective of its butterfat
17 content. The amount of PCB's in the that butterfat cannot
18 exceed 2.5 parts per million as of July 6th, 1973.

19 Q. And was it the same in '69?

20 A. In '69, no. It was double that.

21 Q. All right. If we take the figures from the records of MSU,
22 the Michigan Department of -- not MSU, the Michigan
23 Department of Agriculture, Exhibit 14 that we looked at
24 this morning, and look at the analysis of it as calculated
25 as Aroclor 1254, if you make an assumption that he made a

1 correct analysis that it was Aroclor 1254, would you concede
2 that that at least came from Monsanto?

3 A. I can't do that.

4 Q. Why?

5 A. I don't have enough information.

6 Q. What would you need to know that?

7 A. I need to be assured that those PCB's didn't come from other
8 manufacturers worldwide.

9 Q. Do you know of any PCB's that were being brought into this
10 country from foreign manufacturers and sold in the United
11 States?

12 A. I have been informed by the Department of Commerce that the
13 probability that PCB's entered this country prior to 1970
14 was high. But in those days, no records were kept by the
15 Tariff Commission to identify these chemicals specifically
16 by name, therefore there are no accurate records.

17 Q. All right. Then Monsanto or yourself have no evidence that
18 can point to any one particular manufacturer other than
19 Monsanto that the Aroclor 1254, assuming that it's Aroclor
20 1254 from the Haley farm, was some other manufacturer?
21 Could you point to some other manufacturer wherever they
22 might be?

23 A. Well, I mentioned the two U.S. companies earlier.

24 Q. But they didn't sell to nonelectrical users, did they?

25 A. I don't know who they sold to.

1 Q. So you can't really say anything about them? Or where their
2 products went to?
3 A. That is true.
4 Q. Okay. Do you have any information about any other worldwide
5 areas that it could have come from that you can point to?
6 Monsanto can point to?
7 A. In what regard?
8 Q. Assuming it's Aroclor 1254 at the Haley farm that was some
9 other manufacturer other than Monsanto.
10 A. I don't have enough evidence to point to anybody, including
11 Monsanto.
12 Q. Would it be more probable that it was Monsanto's Aroclor
13 1254 on that assumption? Would you at least concede that?
14 A. I just don't know.
15 Q. Okay. Is it in the realm of possibility that it is?
16 A. Possibility? Sure.
17 Q. Is it in the realm of probabilities? Not certainties.
18 A. Not certainties? Then it's a degree of probabilities that
19 I can't enumerate.
20 Q. Is it more likely that it was the Monsanto product than any
21 others?
22 A. Not knowing the source of that coating and where the
23 ingredients came from, I find that I'm not in a good position
24 to have an opinion.
25 Q. If the source of the ingredient was Cumar and Cumar was

1 manufactured with the plasticizer Aroclor 1254 which Michigan
2 Silo purchased from Monsanto and they utilized it in coating
3 the silos that they made, manufactured and put up on farms,
4 and that was the same Cumar and same coating that Michigan
5 Silo used down in Indiana and Bloomfield and Massillon, Ohio,
6 and that the Haley silos were built with that product that
7 they had, would it be -- with that Cumar product containing
8 Aroclors 1254, would it be more likely that that 1254 is
9 Monsanto's product than anybody else's?

10 A. I have no way of knowing which Michigan Silo Company you are
11 referring to. Nor do I have any information that assures
12 me that Michigan Silo Company that we did sell the PCB's to
13 did not have other sources available to them at some
14 advantage, whether it be cost, or availability, or the like.
15 I have no way of knowing what they have done and how much
16 material they've prepared. Where they got their materials.

17 Q. Do you have any knowledge that there's more than one Michigan
18 Silo Company?

19 A. I have seen lists on which the Michigan Silo Company appears
20 with several cities. So I'm led to believe that there's more
21 than one Michigan Silo Company somehow involved here.

22 Q. Monsanto has its name in several different cities and states
23 and countries over the world, don't they?

24 A. Yes.

25 Q. And it's the same company? Monsanto?

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1 A. Yes.

2 Q. Do you know whether the Michigan Silo to whom Monsanto sold
3 PCB's 1254 was the same Michigan Silo in those other cities
4 in midwestern states?

5 A. No. I don't know personally.

6 Q. Okay. If you make the assumption that it was the same
7 company that you sold to, if you make the assumption that
8 this product 1254 was put in Cumar and that they utilized
9 this Cumar in the silos they built and that the silos at
10 the Haley farm were built by Michigan Silos or successors
11 of Michigan Silo would it at least be more likely that same
12 Cumar and 1254 was from Monsanto under those assumptions?

13 MR. JUNGERHELD: Well, that's asking him to assume
14 your entire case.

15 MR. MC GRAW: I'm not. I'm asking him to make
16 the assumption.

17 MR. JUNGERHELD: Well, it's your entire case.

18 A. I find that difficult to respond to because instead of going
19 through that chain of assumptions why not jump -- to assume
20 Monsanto's PCB's are in the material you're involved with,
21 I find that I can't intellectually accept that.

22 Q. By virtue of asking you to make that assumption, I'm telling
23 you we can trace it back that way. If we can trace it back
24 that way and you make the assumption we do trace it back
25 that way, is it more likely that Aroclor 1254 was in the

1 Cumar in the Haley silos?

2 MR. JUNGERHELD: He's told you now -- he's told
3 you three times that he can't answer that question.

4 If you're going to cut me off, I'm going to scream.
5 Now, cut it out.

6 Furthermore, I have had enough of this and I'm going to
7 instruct you, Bill, not to answer that question since it has
8 been asked and answered at least twice that I can think of
9 and possibly three times and that is it.

10 MR. MC GRAW: That has not been answered and I
11 want the answer to it.

12 MR. JUNGERHELD: Well, you're not going to get the
13 answer. I told him not to answer the question. Move on.

14 MR. MC GRAW: Let's call the judge. I'm tired of
15 being yelled at.

16 MR. JUNGERHELD: You call the judge only if you
17 can get the reporter on the phone.

18 MR. MC GRAW: Call the judge and see if you can
19 get the judge on the phone. You got phones that you have
20 that can put on a conference phone and we'll do the best we
21 can. The judge told us to call if we run into problems.

22 MR. WOODWORTH: If you want to cut it off, you're
23 the causation of it. He re-explained the question. He
24 said intellectually he couldn't understand it.

25 MR. MC GRAW: We can go on --

1 MR. JUNGERHELD: There's no way to get more than
2 two lines together. You got to -- there's a procedure here
3 and it's difficult, but you can't get two lines talking to
4 each other internally because of security reasons, so nobody
5 can overhear.

6 MR. MC GRAW: All you have to do is let him answer
7 the question and we can go on.

8 MR. JUNGERHELD: He's been asked that question
9 several times.

10 MR. MC GRAW: I don't get his answer through that
11 way and I'd like to have him answer. It's not going to help
12 you to scream.

13 MR. JUNGERHELD: I'm telling him not to.

14 MR. WOODWORTH: I'm leaving.

15 MR. JUNGERHELD: I'm not going to have any
16 conference in this case unless the court reporter is taking
17 down all sides of it, including the judge's end of it.

18 MR. MC GRAW: In other words, we can't call the
19 judge from your place?

20 MR. JUNGERHELD: Call the judge and do what you
21 want to. I'm not getting into any dichotomy on the record
22 here unless it's being recorded.

23 MR. MC GRAW: He's recording what we're going to
24 say. I'll tell the judge to wait until the court reporter
25 gets on the phone and he can take down what the judge says.

1 MR. JUNGERHELD: Well, that's going to be --

2 MR. WOODWORTH: We may as well work out the phone

3 mechanics now rather than when we get in St. Louis next week

4 and do the same thing. Have to pay for flights for four of

5 us, motel rooms, and do the same thing down there.

6 MR. MC GRAW: I don't think it's within your

7 prerogative to cut this witness off and tell him not to

8 answer.

9 MR. WOODWORTH: He's not your client.

10 MR. MC GRAW: It's not within your prerogative.

11 MR. JUNGERHELD: The last I knew, I was representing

12 Monsanto Chemical Company in this case and the last I knew

13 Mr. Papageorge was an employee of that company.

14 MR. MC GRAW: That does not necessarily make him

15 your client. He is a witness.

16 MR. JUNGERHELD: I would suggest we move on. We

17 complete the deposition, take it up with the judge before

18 whom we have got to go on other matters and if -- depending

19 on what he says, if a second deposition is in order, he'll

20 be provided.

21 MR. MC GRAW: I want the answer now. All we have

22 to do is get it and move on. You say move onto something

23 else. Let's push it back in your corner.

24 MR. JUNGERHELD: I'm not arguing all day. Call

25 the judge. I'm not getting on the phone with anybody in

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1 this case unless a reporter is present and the reporter is
2 taking it down. If we're going to make a record, we're
3 going to make a record.

4 MR. MC GRAW: Mr. Papageorge --

5 MR. WOODWORTH: Do you have a phone I can use?
6 I'll call the judge and tell him.

7 MR. MC GRAW: Let's have Jim read back what we
8 said up to the point we instructed him not to answer.

9 MR. JUNGERHELD: I don't like that procedure.

10 MR. WOODWORTH: I don't care.

11 MR. JUNGERHELD: I care whether I like it or not.

12 Get out and get on the phone, then. Go call. You're
13 not going to compel me or compel anybody else on the phone.

14 MR. MC GRAW: Mr. Jungerheld is screaming at us
15 and has been screaming all day long and all day yesterday and
16 I'm tired of it.

17 MR. JUNGERHELD: Every time Mr. McGraw tries to
18 cut me off I'm not going to have that permitted. I'm going
19 to make my objections or my statements on the record and I
20 will not be cut off. And if it requires speaking loudly to
21 prevent that, it's going to be done.

22 MR. MC GRAW: Nobody has cut you off.

23 MR. JUNGERHELD: Now, this is pointless. Let's get
24 on with it.

25 MR. MC GRAW: Let him answer and we'll go on.

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1 No big deal about having the answer being given.

2 MR. JUNGERHELD: This man --

3 MR. MC GRAW: Have him give the answer. It it's
4 been answered, he'll answer it the same way and we'll go on.
5 I don't think it's been answered.

6 MR. JUNGERHELD: Well, this man had told you that
7 that can't be answered.

8 MR. MC GRAW: I don't want you to tell me what he
9 said. I told you that's what you're instructing the witness
10 to say. That's a cute way of doing --

11 MR. JUNGERHELD: You ought to know, boy, you're
12 the expert on cute.

13 MR. MC GRAW: Here we go.

14 Jim, read the question back that I asked, please.

15 (Whereupon the following portion of the record
16 was read back by the reporter):

17 "Q Okay. If you make the assumption that it was the
18 same company that you sold to, if you make the
19 assumption that this product 1254 was put in Cumar
20 and they utilized this Cumar in the silos they
21 built and that the silos on the Haley farm were
22 built by Michigan Silos or successor of Michigan
23 Silo, would it at least be more likely that same
24 Cumar and 1254 was from Monsanto under those
25 assumptions?"

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1 "MR. JUNGERHELD: Well, that's asking him to
2 assume your entire case."
3 "MR. MC GRAW: I am not. I'm asking him to make
4 the assumption."
5 "MR. JUNGERHELD: Well, it's your entire case."
6 "A I find that difficult to respond to because
7 instead of going through that chain of assumptions,
8 why not jump -- to assume Monsanto's PCB's are in
9 the material you're involved with, I find that I
10 can't intellectually accept that."
11 "Q. By virtue of asking you to make that assumption
12 I'm telling you we can trace it back that way.
13 If we can trace it back that way and you make the
14 assumption we do trace it back that way, is it more
15 likely that Aroclor 1254 was in the Cumar and the
16 Haley silos?"
17 Q. Now, Mr. Papageorge, can you answer that question yes or no?
18 A. No.
19 Q. You can't answer that at all?
20 A. No.
21 Q. I'll ask you why can't you answer that question?
22 A. Because I don't believe I have enough information that will
23 lead me to come up with a responsible rational answer.
24 Q. All right. What is it that you need?
25 A. I need to know something about the way Michigan Silo

1 operated. How did all the pieces fit together? How did
2 they formulate this coating? Where did they buy their raw
3 materials? How did that coating get distributed such that
4 it eventually ended up and was used in silos.

5 Q. Okay. Can we make --

6 A. It's all strange to me.

7 Q. Let's just make this simple assumption, then, if we can.

8 First, will you agree that Monsanto sold to a Michigan
9 Silo Company Aroclor 1254?

10 A. At what point in time?

11 Q. In as per your records.

12 A. All right.

13 Q. All right. Then make the assumption, I'm asking you to do
14 this, it's up to us to prove it later, and it doesn't make
15 any difference for the purpose of this question whether we
16 can or can't, but just make the assumption that the Michigan
17 Silo to whom Monsanto sold its Aroclor 1254 was the Michigan
18 Silo Company who eventually came up to Michigan with its
19 products of silos and its coatings of Cumar and that Cumar
20 contained 1254 and that the silos that were built on the
21 Haley farm were built by the successor of Michigan Silo
22 even with some of its former employees on their farm and that
23 they coated the silos then of Gemmel, now of Haley, with
24 Cumar.

25 If you make those assumptions for me, please, regardless

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1 of whether you believe the truth or not, just make those
2 assumptions, is it more than likely that the Aroclor 1254,
3 if determined by tests to be Aroclor 1254, was from Monsanto?

4 A. Can you give me the years in which the silos in question
5 were coated?

6 Q. Yes. '65 and '66.

7 A. Well, as I remember the records, they would indicate that a
8 Michigan Silo Company received from Monsanto Aroclor 1254
9 in 1961 and 1962. I don't know enough about the quantities
10 of coating produced from that purchase and whether or not
11 there was enough produced such that there were sufficient
12 quantities available in 1965 to coat.

13 In the interim, additional batches of Cumar could have
14 been prepared with another source of PCB's.

15 Q. Add to that assumption those facts I gave you as an assump-
16 tion that the man who ran the Michigan Silo Company has
17 testified that's where he bought the 1254 from and no other
18 source. Would it be more than likely under those assumptions
19 that Monsanto's Aroclor 1254 was used as a coating in the
20 Haley silos?

21 A. I find it a difficult assumption or conclusion to reach.

22 Q. Why?

23 A. I'm just not trained to think this way with too many assump-
24 tions. Otherwise, you can arrive at any conclusion.

25 Q. You can have a question put to you with assumptions the

1 other way around. I'm just telling you from one point of
2 view if you make those assumptions isn't it more than likely
3 that Monsanto's 1254 is in the coating of the Haley silos?
4 Just on those assumptions.

5 Now, you can be given other assumptions, but on those
6 facts alone.

7 A. I still find it difficult to arrive at a conclusion on flimsy
8 assumptions. I can't get there from here.

9 Q. You can't answer that?

10 A. That is right.

11 Q. Is it you won't answer it or you can't answer it?

12 A. I cannot intellectually in my own mind come up with an
13 answer.

14 Q. What seems to bother you?

15 A. Too many iffy situations.

16 Q. Like what?

17 A. If these Michigan silos were all related and communicate to
18 each other. If the materials was originally in Monsanto to
19 produce. If it contained PCB's of Monsanto origin. If it
20 found its way into the silos that were built for your client.
21 It's just so iffy.

22 Q. Okay. Well, what I'm asking you to do is assume all those
23 ifs are proven. We finally get through all this morass of
24 stuff and we prove all those ifs.

25 A. Isn't that for someone else to decide? Why should I have

1 to decide?
2 Q I'm asking you to give us what Monsanto would say under those
3 facts and those facts alone. Assuming all those iffy things
4 you said were proven.

5 MR. JUNGERHELD: Well, this is absolutely ridi-
6 culous. It is argumentative. It is speculative. It is
7 theoretical in the extreme and I'm just telling this witness
8 not to answer that. We're going to get onto another area.
9 This is ridiculous.

10 Q Can you answer that last question?

11 A No, I cannot answer it.

12 Q All right.

13 Did Monsanto ever discover that there were some carcino-
14 genic effects on animals?

15 A Of what?

16 Q Of PCB effects?

17 A No.

18 Q In the answers to interrogatories a question was asked, 79,
19 what information did Monsanto have regarding PCB carcino-
20 genic effects on animals or humans.

21 The answer was no carcinogenic effects except on rodent
22 liver.

23 MR. JUNGERHELD: Which set of interrogatories?

24 MR. MC GRAW: 79.

25 MR. JUNGERHELD: Out of which set?

1 MR. MC GRAW: That would be the second set, I
2 believe.

3 Q Did Monsanto learn of effects of PCB's, carcinogenic effects,
4 on rodents' livers?

5 A There was a study made and reported and the researchers
6 claimed they saw cancer-like cells in the livers of the test
7 animals.

8 Q As related to PCB's?

9 A Yes, sir.

10 Q What study was that?

11 A With Aroclor 1260.

12 Q What study was that?

13 A That's a study performed by Dr. Ranata Kimbrough.

14 Q That is what, the Center of Disease Control in Atlanta?

15 A Yes. She's currently with the Center of Disease Control in
16 Atlanta.

17 Q Do you agree or disagree with her findings that there is a
18 causal connection of PCB's providing -- or culminating in a
19 carcinogenic effect on a rodent's liver?

20 A I disagree based primarily on comments she made in my presence
21 that her study was not complete.

22 Q When did you talk to her about that?

23 A We were both on a panel to review a document prepared by the
24 National Institute of Occupational Safety and Health and at
25 that session she agreed that her study was not adequate to

1 arrive at that conclusion.

2 Q Would you, on behalf of Monsanto, or would Monsanto allow
3 their workers to drink milk that had a PCB content above
4 2.5 parts per million? Would you recommend that they use it
5 or recommend that they not use it?

6 A. Personally, from what I understand from the toxicity effects
7 of PCB's I would not hesitate drinking that milk personally
8 and recommending to others, except where it was against
9 state and federal regulations. I wouldn't recommend that.

10 Q All right. But as far as you personally are concerned, you
11 have no objection to either yourself or allowing your men
12 in the plant to drink milk or any other kind of liquid
13 whereby your tests showed it had, let's say three parts per
14 million PCB's in it?

15 A. I would not have any hesitation. It would surprise me if
16 all of us hadn't drank milk with minor concentrations.

17 Q. Unknowingly, which arrived to us from man-made PCB's?

18 A. Yes.

19 Q. And more than likely from Monsanto than any other company
20 in the United States?

21 A. That, I don't know.

22 Q. How much? What was the production figures of Monsanto for
23 total PCB's in the United States from each year of '65
24 through '70, say, as compared to others that are coming in
25 from outside as compared to those two Texas companies?

1 A. I just don't have any numbers from the outside or the Texas
2 companies and I have forgotten the Monsanto figures. They're
3 available, but I don't remember them.

4 Q. Would you say at least 90 percent or more of all PCB's sold
5 or distributed in the United States came from Monsanto?

6 A. I don't know if I can come up with a specific number, but a
7 high percentage was produced by Monsanto.

8 Q. 90 percent or more?

9 A. I would say 80 to 90.

10 Q. All right. As far as any milk that is produced at a farm
11 that has its milk fat basis at more than 2.5 parts per
12 million, is it your position or Monsanto's position that that
13 could be safely distributed to the people to drink it, but
14 for the federal regulations saying you can't do it if it's
15 over 2.5?

16 A. That would be my opinion, yes.

17 Q. So it's okay to go ahead and drink it or to eat it?

18 A. There is -- all right.

19 Q. Is that right?

20 A. There is no evidence of harm. Yes.

21 Q. Is there -- to animals or humans?

22 A. That's right.

23 Q. Is there any level by which Monsanto would tell the public
24 or you would tell the public or friends I would suggest you
25 do not drink this liquid containing PCB's or eat this food

1 or material that contains PCB's? Is there any harmful level
2 beyond which you would say don't do it?

3 A. The answer to that is not as simple as might appear. It
4 would depend on what proportion of the total diet did this
5 material represent in addition to the level of PCB in that
6 part of the diet.

7 Q. Take an assumption. A normal person that likes and drinks
8 milk, maybe a teenager, say at least a quart of milk a day
9 to a half gallon of milk a day, seven days a week. As he
10 continues on his life is there any point beyond which you
11 would say don't drink that milk as your regular diet as to
12 what level of PCB's you would reach and recommend not to
13 drink it?

14 A. I can give you an unscientific opinion. As I recall the
15 levels considered by the Food and Drug Administration had
16 a large safety factor built into them a hundredfold.

17 Q. I'm going to stop you for a minute.

18 Aren't all regulations for the safety of human beings
19 -- don't they all have a safety factor built into them?

20 A. Yes, sir.

21 Q. Because nobody knows exactly where the cut-off is?

22 A. That's right.

23 Q. So they make a safety factor in there to go higher than what
24 is normal?

25 A. To go lower.

1 Q To go lower? To build in a safety factor?

2 A I'm sorry. They use a safety factor and end up with a lower
3 acceptable level.

4 Q In other words, if they think that five parts per million
5 are harmful they build in a safety factor and go to 2.5 parts
6 per million?

7 A No. You misunderstood me.

8 Q Probably so.

9 A As they did in 1969, 1970, with a five part per million,
10 that implies automatically that someone in the agency says
11 that the five hundred parts per million, I don't get any
12 effect, but I will put in a hundred safety factor and send
13 out as a guideline five parts per million.

14 Q All right.

15 A So that tells me that five hundred parts per million in
16 someone's opinion might well be acceptable.

17 Q As we lowered it down to 2.5, that would be 250 safety
18 factor for parts per million?

19 A Yes. And I understand that 2.5 parts per million was based
20 on a market basket analysis that assured the Food and Drug
21 Administration that by going to that number they would not
22 upset the dairy market and that the samples of milk out
23 there would meet that. And that's -- so you introduce here
24 a commercial factor in the establishment of a level.

25 Q In other words, you want to get it up a little bit higher

1 so you don't knock out the commercial establishments?

2 A. Well --

3 Q. If you pull it down to 1.5 you're going to knock out a lot

4 of sales?

5 A. That was one concern. And there was no need to go to one

6 point whatever.

7 Q. 1.5?

8 A. And since they would reach 2.5 without affecting the industry

9 and at the same time not harm anyone, they decided on 2.5.

10 Q. At least that was the consensus of opinion at that time

11 where the 2.5 was reached at that level? It's acceptable

12 to market and at that level they have no indication of harm?

13 A. That is my understanding, yes, sir.

14 Q. So that getting back to my question, would you say then

15 that the person drinking milk with over 2.5 parts per million

16 as a steady diet would be recommended consumption where it

17 contained the PCB's 2.5 parts per million?

18 A. That is an acceptable consumption.

19 Q. Is it acceptable at five parts per million?

20 A. Not by regulation, no.

21 Q. Is it acceptable as far as Monsanto is concerned at either

22 2.5 or 5?

23 A. As far as Monsanto is concerned, those levels have not shown

24 any harm, therefore there is no need for concern.

25 Q. Where would Monsanto's concern come into play to start

1 warning people don't go over this level? What level is
2 Monsanto concerned with?

3 A. That decision belongs in our medical department and I don't
4 intend to speak for the medical experts.

5 Q. Do you know if the medical department ever made that
6 decision or reached that decision or was asked to reach
7 that and disseminate that information to the public?

8 A. The authorities were already addressing that matter to the
9 point where Monsanto's role was not required. The federal
10 people and the state people had already addressed it and come
11 up with these numbers.

12 Q. So internally Monsanto had no maximum level beyond which you
13 shouldn't consume, eat or drink?

14 A. They did not establish one, no.

15 Q. Would you say that silos that contain silo scrapings to the
16 extent that we have seen in the Haley farm of 28 and 18
17 hundred parts per million in their scrapings, would those
18 silos in Monsanto's opinion be acceptable to be used to
19 place in silage or haylage or animal feed?

20 A. I can't answer that. I don't know the condition of that
21 scraping. I don't know if it represents -- what it repre-
22 sents. Does it represent the coating, or has it taken some
23 of the concrete with it, or some of the wax underneath it?

24 Q. Well, if it represented the coating and took in parts of
25 the cement, wouldn't the reading still be the same?

1 A. No.

2 Q. If they just took the coating, it might be higher?

3 A. It's possible.

4 Q. All right. If you take it at its lowest amount, 2,700 was
5 the lowest reading they could get from the wall all the way
6 around, regardless of the depth and you put silage in there,
7 would that be a safe usage of that silo? Would Monsanto
8 recommend that it continue to be used?

9 MR. JUNGERHELD: Well, to be technical, I think
10 there's a reading in there of 1,800.

11 MR. MC GRAW: 1,800 and one 427.

12 A. I don't think the level of PCB's in the coating is the key.
13 The true key is how much ends up in the animal, in the food
14 the animal is ingesting and in turn how much of that turns
15 up in the milk.

16 Q. Okay.

17 A. That it produces.

18 Q. Now, we saw from that Exhibit 14 the haylage and silage you
19 had seven, eights, nines; you had cows milked in the five,
20 sixes and sevens. With those figures would it be advisable
21 to continue to use that silo that was producing these
22 results in the silage and haylage and producing the results
23 in the cows' milk and the bovine fat?

24 MR. JUNGERHELD: I'm going to object to that
25 question. We went over this before lunch in the first

1 place.

2 In the second place, all of these samples are months
3 apart. There is no showing here -- no foundation to show all
4 these relate to one another at the same time.

5 Q. Can you answer that question?

6 A. I need some more information.

7 Q. Like what?

8 A. How much of the silage does the animal consume as part of
9 its total diet?

10 How long has it been on this silage?

11 How much PCB's are in the silage?

12 Is the silage from the top of the silo or from the very
13 bottom of the silo?

14 How long has that silage at the bottom of the silo been
15 in that silo?

16 How did the coating get off of the wall and into the
17 silage?

18 What is the condition of that coating?

19 Is it weathered and aged to the point where it's flaking
20 off very easily in seeable pieces or are they microscopic?

21 How new is the coating?

22 It's a very complex situation that cannot be answered
23 simply.

24 Q. Does it really matter about all those consensus you put out
25 if the end result is the cow ate that silage and the cows

1 milk shows seven parts per million? Does it make any
2 difference where they got the silage from? Side, middle,
3 center, top, bottom? As long as while it eats that silage
4 it gets in its milk five parts per million does it really
5 make any difference where it came from and all the business
6 about whether it flakes or doesn't flake, because the end
7 result is if the cow's milk has got seven parts per million
8 what difference does it make about all those other things?

9 A. Well, you asked me if the amount of material in the coating
10 as reflected in those analysis reports is an indication of
11 whether the situation is acceptable or not. It is very
12 possible that that same number could be reported on a
13 coating that is intact and new and firm and you could put
14 silage in it and nothing comes out with that silage to
15 enter the cow.

16 On the other hand, if there are other conditions where
17 that number represents a sample of a very fragile coating
18 that finds its way easily into the silage and into the cow
19 and into its milk. So just the number itself doesn't tell
20 me anything.

21 Q. If it's getting out of the silo, out of the coating, and
22 it's going into the silage, then first of all it's got to
23 get out from the wall. It's got to get into the silage
24 and the cow has to eat it before it gets into the cow.
25 Right?

1 A. What else is the cow eating?

2 Q. Does it make a difference if the cow is eating this silage
3 which has the PCB contents in it and other things and other
4 feed that don't have the PCB content in them?

5 A. Well, you have eliminated with one stroke the possibility
6 that PCB's could show up in other feed ingredients.

7 Q. All right. You got to make an assumption there because
8 that's what the proofs are going to show, that there is no
9 other feed that was being given that shows any PCB content
10 other than the silage that was from those silos.

11 So isn't it at least logical that if the cows were
12 eating that silage and they end up with PCB's in their milk
13 and in their fat, that that's where it comes from?

14 A. If that's the only source of exposure, that is logical, yes.

15 Q. All right. And if that's the source of their exposure, is
16 that a usable silo for continued feeding of these animals?

17 MR. JUNGHERHELD: What do you mean by usable?

18 Q. Usable silo for continuing to have silage and feeding from
19 that silo?

20 A. I have no information that helps me understand what would
21 happen if this silo is emptied of the old silage, refilled
22 with new silage, and the subsequent feeding season that the
23 effect would be noted. I do not know what the new silage
24 will show, so I don't know if that silo is reusable.

25 Q. Does Monsanto have any policy or practice to recommend to

1 people who have used PCB contents, PCB coatings, or plasti-
2 cizers, to -- I have a PCB problem, bring your stuff back
3 to us and we'll burn it? Isn't that what one of your notices
4 said to your customers?

5 A. Yes.

6 Q. Okay. Now, if the farmer has PCB's in his silo, what would
7 you recommend to that farmer about eliminating that PCB
8 problem?

9 A. All I can recommend to the farmer is to assure himself that
10 his coating in truth contains PCB's and he should take any
11 action he can to keep that coating from getting into his
12 silage.

13 Q. How does he do that?

14 A. Well, I can think of several ways and it's been successfully
15 tried.

16 You remove the coating and recoat.

17 Q. Has that been 100 percent successful?

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

19 Q. Who does that?

20 A. I don't know of any one company.

21 Q. Did Monsanto recommend this to any of the farmers that it
22 got complaints from in Ohio?

23 A. I don't know about Ohio. I think Dr. Willett was involved
24 in a study that supported this approach, yes.

25 Q. Okay. But did Monsanto contact any of the farmers with

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1 these silos with Cumar and 1254 in them to take a procedure
2 to eliminate the coating and to recoat and to work with that
3 and see if it works?

4 MR. JUNGERHELD: Are you asking about the Ohio
5 farmers?

6 MR. MC GRAW: Anybody.

7 A. I understand our attorneys were involved in remedial programs
8 of that type. I was not involved personally in the details
9 thereof.

10 Q. What was the remedial program?

11 A. The best I knew, and I wasn't involved totally, it involved
12 the removal of the old coatings and recoating with a
13 different kind of material. Sometimes it was plain -- what
14 we refer to as plastering. Replastering. And others, as
15 I understand, it was a different kind of coating with
16 totally different chemical composition.

17 Q. What do they do with the scrapings and the brushings and the
18 coatings that they took off?

19 A. It was suggested they safely bury them so that it would not
20 be exposed to the environment.

21 Q. Why?

22 A. Because of the --

23 Q. If there's no harm to it, why bury it with the safety factor
24 of not being exposed to the environment?

25 A. We felt that was the responsible thing to do with the material

1 that was being found out there in the environment with at
2 that time still unknown effects on the environment.

3 Q And still today unknown effects?

4 A That's true.

5 Q And still today unknown effects on animals to the full extent?

6 A Well, not totally unknown. But we know more about the
7 material today than we did 12 years ago.

8 Q But still not totally?

9 A You'll never know totally.

10 Q What farmers, if you know, were told to do this?

11 A I don't know.

12 Q Were any of those farmers given any written letters or
13 reports or suggestions by Monsanto as to what to do?

14 A I don't know.

15 Q You never heard of that or never followed that up in your
16 position in the environmental --

17 A I was not involved, therefore I just was not privy to any
18 of this.

19 Q But you were working with the environmental problems having
20 to do with animals back in 1970?

21 A Yes.

22 Q What, if anything, did you do then or that you asked Monsanto
23 to do, with regard to these people having animals and PCB's
24 on their farms?

25 A Whatever information our medical department had with regard

1 to animal studies was relayed to the attorneys who were
2 managing the program. And from that point I don't know how
3 that information was disseminated and used.

4 Q. If at all?

5 A. Well, that's part of my lack of knowledge. I don't know.

6 Q. Some ifs there?

7 A. Yes.

8 Q. If they did it? If they made a report? If they sent it,
9 right?

10 A. Right.

11 Q. Okay. Did you ever find out what happened to the Ohio
12 farmers, Humphrey and Schwarzwalders, and their problem? How
13 it was resolved?

14 A. When I visited the two Ohio dairy farms, the two farmers
15 involved informed me they were either using new silos or
16 were erecting a new silo to replace the old.

17 In the meantime, their PCB's in milk had dropped to the
18 point in one case where the milk was again acceptable and
19 in the other case, they were headed for that in the very
20 near future at that time.

21 Q. But in doing so, getting new silos up and not using the
22 old ones?

23 A. That was the solution they were using, yes.

24 Q. And as far as they were concerned, the Ohio farmers that
25 we mentioned, Humphreys and Schwarzwalders, did Monsanto

1 in any way help them with these projects?

2 A. You mean in erecting the new silos?

3 Q. Yes.

4 A. The silos were either erected or almost erected when I

5 visited the site. That's before Monsanto was involved to

6 that degree.

7 Q. Did Monsanto pay for those new silos?

8 A. I don't know.

9 Q. You have no knowledge of that?

10 A. That is true.

11 Q. Did Monsanto make any rectification to them trying to rectify

12 their losses of milk and any of the other things they

13 claimed?

14 A. I don't know.

15 Q. Did you determine where they got their PCB's from that was

16 in the silos?

17 A. No.

18 Q. Did they say where they bought it from?

19 A. I don't recall any reference. Let me think.

20 There was a reference to a Michigan Silo Company,

21 Massillon, Ohio.

22 Q. And is that the one that built their silos?

23 A. As the company that built their silos and coated their

24 silos.

25 Q. Did you learn -- did you go to that Michigan Silo Company

1 of Massillon as a representative of Monsanto and ask that
2 they give you a list of all other farmers that they sold to
3 and built for?
4 A. No.
5 Q. Did anybody in Monsanto do that?
6 A. Not to my knowledge.
7 Q. Did anybody in Monsanto try to trace down to whom all of
8 these silos were sold and built?
9 A. Not to my knowledge.
10 Q. Did they ever try that?
11 A. No.
12 Q. Do you or does Monsanto subscribe to the Agricultural
13 Science Review?
14 A. I don't and I cannot speak for the whole corporation. I
15 do not know that.
16 Q. And did you attend the meeting of the AOAC in October of
17 '72, symposium on industrial chemicals as food contaminants?
18 A. I attended one of their meetings and 1972 appears about the
19 time I would have been attending.
20 MR. JUNGERHELD: What is that series of initials
21 again?
22 MR. MC GRAW: AOAC.
23 Q. Are you still thinking about that meeting or --
24 A. Yes. But I'm ready for your question.
25 Q. I thought you were going to give me some more comments.

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1 A. I don't remember the specifics.

2 Q. All right. Do you remember any meetings with Dr. Fries of

3 the United States Department of Agriculture?

4 A. Yes.

5 Q. How many meetings did you have with him?

6 A. I had one discussion, which I would suggest was a formal

7 meeting in Bethesda, Maryland, where his laboratory was

8 located, and I met Dr. Fries on several occasions at

9 conferences and meetings on and off. I did not keep score

10 as to the number of times.

11 Q. What year was the meeting that you had? Month and year, if

12 you can, in Bethesda, Maryland?

13 A. Oh, boy. I don't recall the exact dates, but it would have

14 to have happend in 1971, early 1972.

15 Q. All right. Do you have any trade journals that you subscribe

16 to?

17 A. Would you describe trade journal for me so we're both talking

18 the same thing?

19 Q. Okay. What do you mean by a trade journal?

20 A. Well, to me there are roughly two types. One is the -- is

21 a printed document that has articles related to a specific

22 area of interest to its audience.

23 Q. Okay. And the other?

24 A. The other would be more -- I guess I really only have one.

25 Q. Okay. Do you subscribe to any of those trade journals?

1 A. I subscribe because I'm a member to Chemical Engineers
2 Progress, which is the official publication of the American
3 Institute of Chemical Engineers.

4 And I also get the Chemical Engineering News, which is
5 an official journal of the American Chemical Society.

6 In addition I get -- I have subscribed to a newsletter.
7 I don't know if that's considered a trade journal.

8 Q What is the title of it?

9 A. It's -- I don't know if I'm going to get this in the right
10 order, but it's Pesticides and Toxic Chemical News. Or the
11 reverse. Toxic chemicals and pesticide news. Those words
12 are in the title.

13 Q Where does that come from?

14 A. I don't know what the city is where it's located.

15 Q Do you get these yourself or do you get them through
16 Monsanto?

17 A. It's in Monsanto's subscription with the documented address
18 to me.

19 Q I suppose Monsanto gets a copy for its library for its
20 scientists?

21 A. There are many like me who get this throughout the corpora-
22 tion.

23 Q Okay. Monsanto has a library where they get such scientific
24 journals, trade journals, newspapers, do they not?

25 A. Yes.

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1 Q. Do you subscribe to any scientific journals?
2 A. No.
3 Q. Monsanto? Do they?
4 A. Yes.
5 Q. What scientific journals from Monsanto?
6 A. Oh, I can't begin to cover -- the research department
7 subscribes to all --
8 Q. Did they subscribe to any toxic chemical journals and
9 environmental scientific journals?
10 A. Either the medical librarian or the research library or both
11 will subscribe to the types of journals you have mentioned.
12 Q. Okay. Do you or Monsanto subscribe to the Environmental
13 Health Perspectives?
14 A. I used to at one time. That was discontinued and at the
15 moment do not know if Monsanto continues to receive it.
16 Q. When you say it was discontinued, you discontinued receiving
17 it?
18 A. I discontinued receiving it.
19 Q. But the prescription, the book, or pamphlet, Environmental
20 Health Perspectives is still put out?
21 A. Yes. But I don't know who in Monsanto is receiving it.
22 Q. All right. Do you or Monsanto subscribe to agriculture
23 and food journals by the American Chemical Society?
24 A. I do not know.
25 Q. For either yourself or Monsanto?

1 A. I don't get it. I don't know about Monsanto.
2 Q. All right. What about to the bulletin of Environmental
3 Contamination of Toxicology?
4 A. I do not get it. I do not know if anyone in Monsanto gets
5 it.
6 Q. What about to the Journal of Dairy Science?
7 A. I don't subscribe to it. I do not know about the rest of
8 Monsanto.
9 Q. Okay. What about to the Poultry Science?
10 A. Again, I don't subscribe. I do not know if someone else in
11 Monsanto subscribes.
12 Q. What about to the Bulletin of Environmental Contamination,
13 Toxicology?
14 MR. JUNGERHELD: I thought we covered that.
15 MR. MC GRAW: That was a different one. The other
16 one I asked you about was the Environmental Health Pros-
17 pective. This one is a Bulletin of Environmental Toxicology.
18 A. Again, I don't subscribe. I don't know if anyone else in
19 Monsanto subscribes.
20 Q. Do you subscribe to the bulletins of the FDA and Department
21 of Health, Education and Welfare?
22 A. I do not. I do not know -- I cannot speak for the rest of
23 Monsanto.
24 Q. Do you subscribe or does Monsanto to the U.S. Department
25 of Agricultural Research Science?

1 A I do not.

2 Q Do you know if Monsanto does?

3 A I do not know if Monsanto does.

4 Q What about to the Journal of Association of Official
5 Analytical Chemists?

6 A I do not subscribe. I do not know if others in Monsanto
7 subscribe.

8 Q What about to the Agriculture Science Review?

9 A I do not subscribe to that. Again, I don't know who in
10 Monsanto does.

11 Q Do you subscribe or does Monsanto subscribe to any farm
12 magazines that are put out to the farmers?

13 A I don't subscribe. I do not know about the rest of
14 Monsanto.

15 Q Do you know who K. Warren Easley is?

16 A Yes.

17 Q Who is he?

18 A He's a former Monsanto employee who worked in our Washington
19 office and represented Monsanto with the regulatory agencies.

20 Q Did Monsanto have an office in Washington, D.C.?

21 A Yes.

22 Q And was this Mr. K. Warren Easley its director?

23 A No.

24 Q What was he?

25 A He was one of the Monsanto employees located at that site

1 reporting to the vice-president in charge of that office
2 in Washington.

3 Q. Was that in the nature of somebody that works with the
4 Congress, congressmen, senators, representing Monsanto
5 Company?

6 A. At what point in time?

7 Q. Well, I don't know when he was there.

8 A. Well, Mr. Easley was there for many years. At one time he
9 did relate to congressmen, senators and their staffs on
10 legislative matters.

11 In later years he was more involved with the regulatory
12 agencies and representatives of these agencies and the
13 regulations they promulgated.

14 Q. Was this office in Washington D.C. whereby employees of
15 Monsanto would act as people that Monsanto has a contact
16 with the government facilities, the senators and representa-
17 tives, and promoting what Monsanto desires?

18 A. That was one of their assignments, yes.

19 Q. What do you call that job title?

20 A. Governmental Affairs.

21 Q. How many people were there?

22 A. Again, at what point in time?

23 Q. Let's put it '60 through '75.

24 A. Oh, I have never personally counted the staff, but it varied
25 from -- my personal exposure starting in '70 to the present,

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1 the staff numbered anywhere from a half a dozen professionals
2 plus supporting secretarial staff to maybe as high as 15.
3 Q. 15 professionals?
4 A. 15 professionals plus the necessary receptionists and
5 secretaries and supporting staff.
6 Q. Are these what might be called lobbyists?
7 A. I believe only a very few of that staff were registered as
8 lobbyists. I don't know the details.
9 Q. Were you ever in that office and working out of that office?
10 A. I was never assigned to that office, no.
11 Q. When you saw Dr. George Fries in Bethesda, were any of these
12 members of the staff with you?
13 A. Someone accompanied me. I -- I believe it was Mr. Easley.
14 Q. Had you ever met with Dr. George Fries prior to that first
15 meeting with him at Bethesda?
16 A. I don't believe so.
17 Q. This was your first meeting with Dr. George Fries in
18 Bethesda in '71, '72?
19 A. As best I can recall, yes.
20 Q. And at that time your Washington lobbyist, Mr. Easley, also
21 was with you?
22 A. I believe he was the one man who was with me, yes.
23 Q. And he was a lobbyist at that time?
24 A. I wouldn't call him a lobbyist, no.
25 Q. But he was a governmental affair official for Monsanto?

1 A. Yes.

2 Q. Anybody else that you can remember that was there?

3 A. At what point in time?

4 Q. At that visit. Other than you and Mr. Easley?

5 A. From Monsanto?

6 Q. Yes.

7 A. I believe Mr. Elmer Wheeler was with us.

8 Q. He was the assistant to Dr. Roush?

9 A. No. He was reporting to Dr. Emmett Kelly.

10 Q. Okay. And was there any particular reason why Mr. Wheeler

11 was there at that time?

12 A. Mr. Wheeler was the Monsanto individual who was assigned

13 the responsibility to keep abreast of the effects of

14 chemicals on animals. And since this involved a discussion

15 of PCB's on animals, he was the appropriate person for me

16 to ask to join me in these discussions.

17 Q. All right. And again I forget, pardon me for doing it, what

18 was Wheeler's background? He wasn't a doctor, was he?

19 M.D.?

20 A. No.

21 Q. I think you said M.S. in toxicology?

22 A. Masters, I believe, in toxicology. And he had also an

23 education and experience in industrial hygiene.

24 Q. And Wheeler's no longer with the company?

25 A. That's correct.

1 Q And my notes are elsewhere. Where is he now?

2 A The last I knew he was living somewhere in the Carolinas.

3 I tend to believe it's South Carolina, but I'm not certain.

4 One of the Carolinas.

5 Q Would it be possible for you to get his address?

6 A I could try.

7 Q Is he retired?

8 A Yes.

9 Q And would he be on a retirement plan with Monsanto?

10 A Yes.

11 Q And they would know where he would be to send checks and so

12 on?

13 A Yes.

14 Q Shouldn't be too hard to find him, then?

15 A I would hope not.

16 Q Okay. Are you familiar with or do you subscribe to the

17 Milk Reporter?

18 A I don't remember that title. I don't subscribe to it.

19 Q Okay. Do you know if Monsanto does?

20 A No, I don't.

21 Q As I understand it, you were at a meeting in New York for

22 the Society of Toxicology in March 18th of 1973 and gave a

23 talk on Aroclors. Do you remember that?

24 A The Society of Toxicology in New York?

25 Q Or at that time instead you gave scientists samples of the

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1 Aroclors by different weights?

2 A. That doesn't ring a bell at all. It's not coming to me.

3 I gave samples at that time?

4 Q. Yes.

5 A. At no time did I travel with samples in my kit, so I --

6 that doesn't seem to fit.

7 Q. Did you ever give any samples to a Sidney Williams of the

8 FDA?

9 A. I don't remember. I'd have to look that up.

10 Q. Whenever you travel and go to these various meetings do you

11 thereafter -- or at the time or shortly thereafter make up

12 a report of what the meeting was about and your participation,

13 if any, and what you learned from it and keep it in your

14 personal file and/or disseminate it to people above or below

15 you at Monsanto?

16 A. No. I customarily don't write reports. I would report

17 orally to those that may have an interest.

18 Q. Did you ever hear of Arctic polar bears and seals having any

19 levels of PCB's?

20 A. I heard of seals. Polar bears? I vaguely remember a

21 reference to polar bears, but that seemed to me at the time

22 and now is more of a rumor than a statement of fact.

23 Q. Do you subscribe to the Journal of Fishery Research of

24 Canada?

25 A. No.

1 Q. Monsanto?

2 A. I don't know.

3 Q. Would you agree with the statement by -- first of all, do
4 you know a Carl Bremmer at the EPA? EPA, Environmental
5 Protection Agency?

6 A. I don't remember a Carl Bremmer.

7 Q. Who indicated in 1975 that in the United States PCB's have
8 been manufactured by a single producer, Monsanto Industrial
9 Chemical Company. Would you agree with that?

10 A. No.

11 Q. Did you ever get a report based on the chicken investigation
12 from IBT?

13 A. Yes.

14 Q. And should that be in the medical department?

15 A. Yes.

16 Q. At one time you had it in your personal file?

17 A. I had a copy.

18 Q. And it's no longer in your personal file?

19 A. That's true.

20 Q. Do you know where it went to?

21 A. No.

22 Q. Did you after seeing the people down in Ohio come to a
23 conclusion that farm families having the Michigan silos
24 as they did in Ohio in 1970 with Aroclors 1254 in them,
25 that farm families would be drinking this milk produced

1 on their farm and eating the milk on their farm and that that
2 might be a possible source of harm to them?

3 MR. JUNGERHELD: What kind of harm?

4 MR. MC GRAW: Any kind of harm. Physical harm,
5 health harm.

6 A. At that point in time there was no reason to believe by
7 any information available that the PCB's at the levels we
8 were told were existing in milk would create a human health
9 problem.

10 Q. What about the animals?

11 A. Again, at the levels we're talking about there was no
12 evidence in '70 and '71 that any undesirable effects would
13 be noted.

14 Q. What was the result -- well, let me back up this way.

15 After having seen these farmers and listening to their
16 complaints, if I can kind of maybe sum up what I asked you
17 about before, but put it in a kind of a nutshell thing if
18 you'll agree, Monsanto and yourself agreed there really was
19 no indication of harm that would come to animals or humans
20 by the ingestion of PCB's by eating or drinking it and that
21 from that point on Monsanto did not engage in any program
22 to warn past users of its possible harms, if any?

23 A. That's not true.

24 MR. JUNGERHELD: Excuse me before you answer. I
25 didn't get the first part of that. Read that back, Jim.

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1 MR. MC GRAW: He answered it.

2 MR. JUNGERHELD: Well, I'd still like to hear what
3 the question was.

4 (Whereupon the question was read back by the
5 reporter.)

6 Q. Why isn't it true?

7 A. From the period 1970 through up to this point where I was
8 reassigned my duties, I was well aware that the federal
9 government was addressing this matter diligently. I was
10 also aware that representatives of the silo companies that
11 were involved with the manufacture and use of Cumar were
12 made aware of PCB's and what we knew about them at the time.
13 I was also well aware that state authorities in the states
14 of Florida, Georgia, Tennessee, Ohio, Michigan, were all
15 contacted and they assured us they were managing the
16 situations in their states.

17 I'm also aware that the National Silo Association was
18 well tuned in and had communicated to its members the
19 situation regarding PCB's, silos, milk, and the effects
20 thereof.

21 I'm also aware, as is obvious, that we had withdrawn
22 the sale of PCB's to those applications that would lead to
23 a coating application of this type.

24 Every piece of information we had at the time indicated
25 to us that communications were well-established. So we

1 were part of that communications network.

2 Q. All right. Basically what you're telling me is that
3 governmental agencies and/or private agencies were taking
4 up the investigation of and determination of whether or not
5 PCB's are going to be harmful, and testing of them, and that
6 Monsanto itself internally never did anything with regard
7 to the testing of PCB's and its effects on humans and
8 animals?

9 A. That's not true at all.

10 Q. Well, all you mentioned in your talk there were the United
11 States government agencies, the various state agencies
12 and private enterprise outside of Monsanto. You didn't
13 mention Monsanto was doing anything other than contacting
14 those people.

15 A. But you in your previous remarks you talked about the
16 government agencies doing the animal testing and the effects
17 ignoring Monsanto's test program that was given to the
18 federal government to help them make their decisions.

19 Q. This is the program you're talking about from IBT?

20 A. Correct.

21 Q. Okay.

22 A. That was the only ongoing program in the early years.

23 Q. And there was no other program by Monsanto other than that
24 IBT?

25 A. That's true.

1 Q. Okay. So that other than that program what you told me was
2 that Monsanto said the feds are taking care of it, the
3 states are taking care of it, and private industry is looking
4 into it and that you relied on that kind of a basis for
5 control of PCB's in the environment?

6 A. We participated with those people.

7 Q. In what way?

8 A. Very close contact.

9 Q. Doing what?

10 A. Talking with them, helping them with all kinds of method-
11 ologies.

12 Q. Like what?

13 A. Sharing with them --

14 Q. Like what?

15 A. How do you think their laboratories got the technology for
16 analyzing for PCB's? They didn't get it from anybody but
17 Monsanto.

18 Q. Are you saying the scientific community didn't know what to
19 do as to how to analyze materials for PCB content?

20 A. Exactly.

21 Q. So Monsanto was the only one in the world that knew how to
22 analyze for PCB's in the atmosphere, environment, liquids
23 and solids?

24 A. I wouldn't say the only one in the world, but one of a very
25 few.

1 Q. Who were the others?
2 A. Individuals in Sweden.
3 Q. No one in the United States, though, however?
4 A. There were many laboratories working at this.
5 Q. But they didn't know anything about analyzing it or testing
6 it other than what Monsanto told them?
7 A. They were in the early stages of developing their method,
8 but we were advanced to the point where we gave them a
9 leap forward when we shared our method with them, saving
10 them years of development efforts.
11 Q. When did you begin back from 1970 the years of development
12 in determining the effect on the environment, in humans, and
13 animals?
14 When did you begin all of these things at Monsanto?
15 The years that you passed on?
16 A. We're talking about -- I'm talking about analytical method-
17 ology. You're talking about toxicology testing. Did I
18 understand you properly?
19 Q. I understand from you that Monsanto in its wisdom and good-
20 ness passed on to the governments, federal, state, local,
21 private agencies, somewhere around 1970 all of its information
22 on how to determine whether or not PCB's are in any products
23 or liquids?
24 A. Correct.
25 Q. Okay. And that you gave them a leap forward with your many

1 years of research, so I'm saying to you when was it you
2 started your many years research back before 1970?

3 MR. JUNGERHELD: You're misquoting him. He said
4 he saved those other people many years of research.

5 Q Follow my question.

6 When did you begin this journey backwards where you
7 began this testing for effects of PCB's on the environment
8 and animals and humans?

9 A. You keep confusing me when you talk about analytical method-
10 ology we shared and the effects of two different programs.

11 Q Start out with analytical. When did you begin that?

12 A. That program started, as best I can determine, in '67.
13 1967, '68. So that by 1970 about midyear our professionals
14 felt confident that their method was giving them the answers
15 that were reliable.

16 Q Okay. What do you mean by the analytical program? What
17 does that entail?

18 A. That entails the proper taking of a sample, the proper
19 storage of that sample in shipping it, the handling of that
20 sample once it arrives in the laboratory to extract the
21 PCB's that might be present, and the introduction of that
22 extract into the proper instruments to get the instrument's
23 reaction and the analysis of that instrument reaction by the
24 chemist in terms of quantifying the amount of PCB's and
25 also determining what type.

1 Q. Okay. So what you're telling me is that now it took you
2 from 1967 or 8 to mid-70, two years, or two and a half years,
3 to find out how to take a sample, how to store it, and how
4 to ship a sample?

5 A. And then analyze it.

6 Q. And then analyze it?

7 And did you have this all written up and put into a
8 recommended analytical programming so that you would mail
9 this out to the federal governments in all the 48 states
10 and all the customers you dealt with?

11 A. Well, we would mail it out to those laboratories that were
12 involved in the analysis of PCB's, yes.

13 Q. Federal government and state governments?

14 A. At anybody's interest or request.

15 Q. All right. Did you do it voluntarily just to everybody?

16 All 48 states? All 50 states?

17 A. No. That would not have been appropriate.

18 Q. So just those whoever came up against the PCB problem or
19 thought they did contacted you, then you would give them
20 this information?

21 A. Correct.

22 Q. But until you had a contact from the outside world you
23 didn't make an effort to tell them what you did in those
24 years?

25 A. Not directly, no. But we did communicate to the analytical

1 community in an informal way that we were --

2 Q. How?

3 A. Analytical chemists in Monsanto know many of their counter-

4 parts in government and in industry and they communicate

5 with each other informally. Via telephones.

6 Q. But are your chemists getting on the phone and saying, hey,

7 Bill, your buddy over in Tucson, Arizona, here's the way we

8 take care of PCB's. Get a pencil and paper and write down

9 our analytical approach?

10 A. That's not the way it's done, necessarily, no.

11 Q. In other words, the input has to come back? Somebody has to

12 call Monsanto or its lab and say we think we got PCB's, what

13 do we do about them? How do we analyze them? Then you give

14 them this recipe?

15 A. That's one way it happens.

16 Q. What's another way?

17 A. Another way is they meet each other at meetings throughout

18 the country.

19 Q. And if it's brought up, they --

20 A. They compare notes and say I'll send you a copy of our

21 method, send me yours and we'll compare notes.

22 Q. Did you have such a protocol or program of analytical

23 programming typed up, printed up, or anything else so that

24 if anybody made these inquiries you'd say here it is,

25 fellows, here's what we developed through two and a half

1 years of research?

2 A. Yes.

3 Q. Where is that document?

4 A. I don't know where it is today.

5 Q. Do you think you know where to go to try to find it?

6 A. Well, the easiest way for me to go would be to go to the

7 American Society of Testing Materials, which adopted our

8 method as the standard method. That's a public document

9 now.

10 Q. Okay. When is the last time you saw that before your

11 testimony today?

12 A. About 1975.

13 Q. And where?

14 A. It was in my file.

15 Q. Okay. And that file, you don't know where it is, either?

16 A. That's right.

17 Q. Okay. When did you begin to get the toxicology programming

18 as to the effects of PCB's on live animals, or humans, or

19 environment?

20 A. It was in a document we saw yesterday. I think the studies

21 -- preliminary studies were started in 1968.

22 Q. What documents were you referring to, Mr. Papageorge?

23 A. You showed me an exhibit or a document which listed the

24 studies of PCB's sponsored by Monsanto in the section

25 referring to the long-term or chronic studies.

1 Q. Was that Willett's study?

2 A. No. No. No. These are tests placed with Industrial

3 Biotest Laboratory with three of the Aroclor mixtures,

4 testing with rats, beagle dogs, chickens, long-term lifetime

5 feeding studies, reproduction studies.

6 Q. Is it Exhibit 2 that you're referring to?

7 A. Yes. This is it.

8 Q. You're beginning with IBT and when?

9 A. This Exhibit 2, page six, starting with the third item.

10 Q. Where it says the author James Stephens?

11 A. Yes.

12 Q. Completed 6-4-70?

13 A. Yes.

14 Q. Of Aroclors 42, 54 and 60?

15 A. Yes.

16 Q. Which describes toxicity reproduction and residue study in

17 white Leghorn chickens?

18 A. With that item. And the following reflects the extensive

19 testing program that Monsanto undertook.

20 Q. With an outside laboratory?

21 A. With an outside laboratory, yes.

22 Q. And again these we should get in your medical department?

23 A. Yes.

24 Q. Okay.

25 (Whereupon Plaintiff's Deposition Exhibits 8-C

1 through 8-H were marked for identification
2 purposes.)
3 Q. Mr. Papageorge, we just remarked some pages in this
4 Plaintiff's Exhibit 8, which was given to us in discovery
5 by Monsanto. It's a sales summary of the years '50 through
6 early 60's. We earlier saw page 8-A, which was an indication
7 that a Michigan Silo, White Marsh, Maryland, had had a
8 thousand pounds of PCB sold to them, correct?
9 A. That's what it says.
10 Q. And that Michigan Silo, Massillon, Ohio, was sold 2,000
11 pounds?
12 A. That's what it indicates.
13 Q. Okay. Do you know anything about a Michigan Silo, White
14 Marsh, or Michigan Silo, Massillon, as being the same
15 Michigan Silo, but different locations?
16 A. I know nothing about the relationships between the two.
17 Q. All right. Then B we looked at before. That was a sale in
18 1981 to Michigan Silo, Massillon, of 1,800 pounds of PCB's?
19 A. That's what it indicates.
20 Q. Okay. And do you know whether or not the parties were at
21 either Massillon or White Marsh? Do you know the names of
22 the owners or operators?
23 A. I associate an individual by the name of Robert Egan with
24 Michigan Silo, Massillon, Ohio. I do not know any others.
25 Q. Does a Mr. Ralph Baird --

1 A. Oh, yeah. Yes. Mr. Baird I understood was a former employee
2 of Michigan Silo Company. But I don't know of what location.
3 Q. Do you ever deal with him or talk with him?
4 A. I talked with -- I was present when we talked with Mr. Baird.
5 Q. Where?
6 A. In his offices at C & B Silo Company. I believe it's
7 Charlotte, Michigan.
8 Q. When?
9 A. 1975.
10 Q. Why?
11 A. To gather any information available regarding the indication
12 that PCB's were being found in some milk and dairy farms in
13 Michigan.
14 Q. What did you learn from Mr. Baird about the Michigan Silo
15 Company?
16 A. Well, he indicated he was a former employee.
17 Q. Maybe an officer present or shareholder?
18 MR. JUNGERHELD: Which of the Michigan Silos are
19 were talking about now?
20 MR. MC GRAW: Well, I'm working on that.
21 A. I do not recall any reference to position in the company and
22 I do not know which Michigan Silo Company he was referring
23 to.
24 Q. He was at that time with C & B and Michigan Silo in
25 Charlotte?

1 A. No. At that time he was with C & B Silo Company. He
2 indicated he was formerly associated with a Michigan Silo
3 Company and it's my understanding from his comments that
4 the C & B Silo Company had purchased assets of a Michigan
5 Silo Company which included some contracts relating to the
6 erection of silos or extensions to silos.

7 He also indicated strongly that C & B Silo never used
8 the coating referred to as Cumar.

9 Q. Did he indicate that those contracts that they acquired from
10 Michigan Silo were contracts whereby the materials for the
11 silo in their entirety was for Michigan Silo?

12 A. It's my understanding that is true.

13 Q. And in those materials and in those silos that they built
14 with the Michigan Silo Company equipment Cumar was part of
15 the ingredients as a coating?

16 A. There was a reference to Cumar, but I was somewhat confused
17 as to whether that Cumar was eventually used in the
18 construction of the silos because I remember vividly the
19 statement made there was no Cumar around.

20 In fact, they used the last of it to do some roof
21 repair work somewhere. It's not clear in my mind just where
22 the Cumar for Michigan Silo ended up.

23 Q. All right. But you did learn that they had maybe approxi-
24 mately eight contracts whereby the materials of Michigan
25 Silo would be used to erect silos in Michigan?

1 A. That was my understanding.

2 Q. And again which equipment included Cumar?

3 A. That was implied. It was not mentioned specifically.

4 Q. Okay. Did you ever see the contracts for the silos?

5 A. I recall seeing a contract because it was questioned by the

6 person with me as to why the contract had Michigan Silo's

7 name on it.

8 Q. Who was with you then?

9 A. An attorney, Mr. Ron McFarland.

10 Q. Where was he from?

11 A. Columbia, Tennessee.

12 Q. And when you made that visit up here, what was the purpose

13 of coming up to Charlotte, Michigan? How did you get there?

14 I mean what did you find that led to come up there and ask

15 about silos and Cumar and Michigan Silo?

16 A. As I remember, when we visited the representatives of the

17 state agency in Lansing, we were told that C & B Company

18 was located in Charlotte and Mr. McFarland placed a telephone

19 call and made an appointment and we then drove to Charlotte

20 to talk with Mr. Baird.

21 Q. Okay. Why was C & B picked out to call and go see?

22 A. I don't know at this time whether Mr. McFarland knew of

23 C & B Silo at the beginning of our trip or whether it came

24 up in our discussions in Lansing.

25 Q. Was it supposedly though a firm that had built silos which

1 probably or possibly used Cumar which included 1254?
2 Is that why you were investigating it?
3 A. Well, certainly.
4 Q. In other words, to trace down where your 1254 might be
5 located and where coatings might be involved?
6 A. Correct.
7 Q. Because of your experience in '70 and so on?
8 A. Correct.
9 Q. Did you find out at that time that there had been silos
10 built with Cumar used?
11 Q. From our conversation with Mr. Baird he did indicate that
12 he was aware of silos built with Cumar coating.
13 Q. And did he tell you where they were located?
14 A. I don't remember any specific discussion regarding location.
15 Q. And he told you they were Michigan Silo materials?
16 A. He referred to a Michigan Silo and he repeatedly stated that
17 C & B Silo never used Cumar.
18 Q. All right. He didn't say or repeatedly otherwise that the
19 Michigan Silos' material didn't include Cumar, though, did
20 he?
21 A. No.
22 Q. Okay.
23 (Whereupon Plaintiff's Deposition Exhibits 19
24 through 29 were marked for identification purposes.)
25 Q. Before we get into these, now, I'll just back up and finish

1 up with this exhibit. Maybe you can just stand here with
2 me, if you don't mind.

3 We had 8-B, which was the sales summary search made
4 for us in discovery by Monsanto, Michigan Silo, Massillon,
5 Ohio, 1,800 pounds of PCB's?

6 A. Yes. That's what's indicated.

7 MR. MC GRAW: Can we have from Counsel an agreement
8 that this is the sales summary search made by Monsanto of
9 Monsanto's records and they are correct as purported to be
10 here?

11 MR. JUNGERHELD: I think we can agree to that
12 to the extent that that's what the records show.

13 MR. MC GRAW: Okay. So we can assume the truth
14 of these -- this document that was furnished to us?

15 MR. JUNGERHELD: I would think so. As of the
16 date of the production of that.

17 Q. All right. Then in 8-F, 1962, there's a sale of PCB's,
18 5,000 pounds to Concrete Silo of Bloomfield?

19 A. That's what's indicated.

20 Q. And a sale of 2,000 pounds in 1962 to Concrete Silo of
21 Monteagle, Tennessee?

22 A. That is right.

23 Q. Okay. And 8-G, of 1963 here, there's a sale to Concrete
24 Silo of Bloomfield of 5,400 pounds of PCB's?

25 A. That is correct.

1 Q. And on 8-H, 1964, there's a sale of 5,000 pounds of PCB's
2 to Concrete Silo of Bloomfield?

3 A. That is correct.

4 Q. Okay. So that we have as a compilation, 1955, Michigan Silo,
5 6,600 pounds;

6 '56, Michigan Silo, 6,000 pounds;

7 '57, Michigan Silo, 4,800, and also 600;

8 And then '58, 3,600 to Michigan Silo of Massillon, Ohio
9 and 1,200 pounds to Michigan Silo, White Marsh, Maryland;

10 And in 1960, Concrete Silo Company, 4,000 pounds;
11 to Michigan Silo, White Marsh, Maryland, 1,000 pounds; to
12 Michigan Silo, Massillon, Ohio, 2,000 pounds;

13 And in 1961, Concrete Silo of Bloomfield, 7,000 pounds;
14 Concrete Silo of Monteagle, Tennessee, 2,000 pounds;
15 Michigan Silo of Massillon, Ohio, 1,800 pounds;

16 1962, Concrete Silo of Bloomfield, 5,000 pounds; and
17 Concrete Silo of Monteagle, Tennessee, 2,000 pounds;

18 1963, Concrete Silo of Bloomfield, 5,400 pounds;

19 And 1964, Concrete Silo of Bloomfield of 5,000 pounds.

20 Assuming those match with all those they had, that's
21 at least what we know of Monsanto's records of sale of
22 PCB's to these various organizations?

23 A. I haven't had the chance to compare the two lists.

24 Q. Assuming those are the correct ones and we can verify them.

25 A. All right.

1 Q Now, let's jump over here to Exhibit 19.
2 Exhibit 19 purports to be an invoice. Would you agree
3 to that?
4 A It appears to be so.
5 Q And it's entitled "Michigan Silo Company" and where do they
6 list factories?
7 A Reading from the document under the words "Factories At",
8 there are six locations listed which include Charlotte,
9 Michigan; Peoria, Illinois; White Marsh, Maryland;
10 Bloomfield, Indiana; Massillon, Ohio; Monteagle, Tennessee.
11 Q As to all of those factories of Michigan Silo as of August
12 5th of 1965, Monsanto sold to a Michigan Silo located at
13 White Marsh, Maryland, is that correct?
14 A That's what the record indicates.
15 Q And to Bloomfield, Indiana?
16 A I'm trying to recall. I don't recall any Michigan Silo,
17 Bloomfield, Indiana.
18 Q Concrete Silo?
19 A That's another company.
20 Q All right. And Michigan Silo of Massillon, Ohio?
21 A That I remember, yes.
22 Q All right. And a Michigan Silo of Monteagle -- that's a
23 Concrete Silo?
24 A That is correct. Concrete Silo.
25 Q An invoice purports to be an invoice in Exhibit 20, too,

1 does it not? Dated September 14, 1966, from Michigan Silo
2 Company?
3 A. The word "invoice" doesn't appear on the document. But it
4 does have --
5 Q. Characteristics of?
6 A. -- characteristics of an invoice.
7 Q. All right. And that's of both 19 and 20 are sales to a
8 Clayton Gemmell of Owendale, Michigan?
9 A. That's what it indicates.
10 Q. And in 19 it's a sale of material for a 20 by 60 silo?
11 A. It doesn't refer to any --
12 Q. And in invoice 20 it appears it's a 20 by 60 silo with a
13 chute, ladder, and basket?
14 A. That's what it indicates.
15 Q. That's to Clayton Gemmell?
16 A. Yes.
17 Q. And invoice 21 is a similar invoice of Michigan Silo Company
18 to Clayton Gemmell, October 31, 1966, to rebuild a 16 by
19 57-1/2 silo?
20 A. That's what it indicates.
21 Q. Okay. Now, on Exhibit 22 what would you say this purports
22 to be? Kind of a work order?
23 A. To me this is a bill of materials.
24 Q. Okay. That would go into the making up of a product of some
25 kind?

1 A. That's what I would infer.

2 Q. And it would be for silos?

3 If you look up on the upper right-hand corner they
4 describe the bill of materials are for a size of silo and
5 they list the size 20 by 60 by 50 foot?

6 A. There is that reference, yes.

7 Q. Okay. And that these materials would you recognize as
8 belonging to and going into the makeup of a silo?

9 A. From my limited knowledge of silos, it appears to be a
10 reference to silo material.

11 Q. And this is for March 11, 1965 sold to and shipped to
12 Clayton Gemmell?

13 A. It's shipped to Clayton Gemmell.

14 Q. And that's Exhibit 22?

15 A. Yes.

16 Q. And what is the top identity of the billing?

17 A. It refers to two companies by name, Concrete Silo Company
18 -- the Michigan Silo Company.

19 Q. And does it give the locations of those companies?

20 A. The fourth line down. Starting with the fourth line and
21 into the fifth line there are three locations listed.
22 Bloomfield, Indiana; Charlotte, Michigan; Monteagle,
23 Tennessee.

24 Q. And we see from your sales records that Concrete Silo of
25 Bloomfield was sold a number of pounds of PCB's through

1 the years?

2 A. In '63.

3 Q. '63 and '64?

4 A. And '62.

5 Q. '62?

6 A. '61.

7 Q. And '61?

8 A. Yes.

9 Q. And then we also see Concrete Silo of Monteagle, Tennessee,

10 in '62?

11 A. Yes.

12 Q. And in '61?

13 A. Yes.

14 Q. Okay. And on that sheet does it show any identity of an

15 ingredient called Cumar?

16 A. The fourth line from the bottom.

17 Q. It indicates a quantity of pieces numbering 10?

18 A. Yes.

19 Q. Could that be 10 pounds?

20 A. I have no way of knowing.

21 Q. 10 gallons?

22 A. I have no way of knowing.

23 Q. Cumar as I think you mentioned earlier yesterday came in

24 containers of 10 pounds -- pardon me, five gallons and 55-

25 gallon drum. What was the one in the middle?

1 A. I don't know anything of how Cumar comes.
2 Q. I'm sorry. You're right. 1254 came in five-gallon
3 containers, 55-gallon drums. What was the one in the middle?
4 A. 30-gallon.
5 Q. And the five-gallon, could you give us a physical description
6 of that in circumference and height and color?
7 A. Oh, it's a black container about a foot or so in diameter
8 and about 18 inches or so in height.
9 Q. Okay. It's made out of a --
10 A. It's made out of steel.
11 Q. And did it have a cover that would clamp on and squeeze
12 around?
13 A. Yes, it had a cover that would be clamped around the upper
14 edge of the lid of the container.
15 Q. Okay. That was number 22.
16 I'll show you Exhibit 23 and what does that purport to
17 be?
18 A. This appears to be a similar bill of materials for a silo.
19 The same companies are at the heading. Shipped to a Mr.
20 Clayton Gemmell.
21 Q. And likewise containing identity of Cumar?
22 A. There is a reference to Cumar with the number 10 under the
23 column entitled "Pieces".
24 Q. When you were down there with Mr. Baird in Charlotte, did
25 you see these work orders and look at those and examine them

1 at that time?

2 A. I don't recall seeing that type of document.

3 Q. Do you recall seeing a document which had at least the
4 identities at the top Concrete Silo, Michigan Silo, and
5 those addresses of Indiana, Michigan and Tennessee?

6 A. Well, the document I recall had only a reference to Michigan
7 Silo Company.

8 Q. Would it be a document similar to Exhibits 19, 20 and 21?

9 A. No.

10 Q. Was it a printed -- preprinted document with the identifica-
11 tion on it similar to 19, 20, 21? Or was it a typed sheet?

12 A. It was a preprinted form with many words on it closely spaced
13 and it appeared to be typical of a contract. An agreement
14 between parties.

15 Q. We haven't marked this yet, but would it be similar to this
16 form entitled C & B?

17 A. Yes. Similar to that.

18 MR. MC GRAW: Mark this as an exhibit, Jim.

19 (Whereupon Plaintiff's Deposition Exhibit No.

20 30 was marked for identification purposes.)

21 Q. Then, Mr. Papageorge, this Exhibit 30 that we have just
22 looked at, that's entitled C & B, kind of appears to be
23 contract terms?

24 A. Yes.

25 Q. Okay. And is this something similar to what you have seen

1 in 1975 with Mr. Baird at Charlotte?

2 A. Similar, except that the reference was to Michigan Silo
3 Company. Not to C & B Silo.

4 Q. Okay. And did it have any identification as to where
5 Michigan Silo was located?

6 A. Not that I recall.

7 Q. Did you read the form?

8 A. At that time it was in Mr. McFarland's hands. I just looked
9 over his shoulder and the questioning had to do with why
10 the company named did not reflect the current company.

11 Q. Was there any comment as to why by Mr. Baird?

12 A. The explanation given was that the secretary just used any
13 available form that was in her supply cabinet.

14 Q. Did they tell you directly that Michigan Silo Company was
15 a company that was acquired by C & B Company?

16 A. They had told us that before.

17 Q. Okay. And they were just what, using some forms they had
18 on hand?

19 A. Yes.

20 Q. All right. Now, did you see this document while you were
21 there? Exhibit 24?

22 A. I don't recall this document, no.

23 Q. Contract by Mr. Baird?

24 A. No. This is not familiar to me.

25 Q. Where they acquired the assets, that is C & B acquired the

1 assets of Michigan Silo?

2 A. This was not shown to us.

3 Q. The reason I'm asking you, reference -- maybe you talked
4 about it, is on this Exhibit 24, paragraph 1-D. It says,
5 "Seller shall assign all right, title and interest in and
6 to the following eight orders for new silos of 'old style'
7 stave".

8 Among the names is Gemmell. Did that give you some
9 lead as to where these silos were going?

10 A. At that time I didn't see this document then so it would not
11 have been --

12 Q. It wasn't discussed then?

13 A. Not in my presence.

14 Q. Okay. Did you see this document at the time you were with
15 Mr. Baird in 1975?

16 A. No.

17 MR. JUNGERHELD: Which document is that?

18 MR. MC GRAW: Document 25. Exhibit 25.

19 Q. Again, that purports to be an invoice of Michigan Silo?

20 A. Yes, it does.

21 Q. And sold to Clayton Gemmell August 5th, 1965?

22 A. That's what it indicates.

23 Q. And Exhibit 26 similarly, a Michigan Silo invoice of 9-14-66
24 to Clayton Gemmell?

25 A. That's what it indicates.

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1 Q. With a 20 by 60 silo?

2 A. Yes.

3 Q. And then we have Exhibit 27 which is entitled C & B Silo,
4 Charlotte, dated October 13, 1966, to Clayton Gemmell of
5 Owendale?

6 A. That's what it shows.

7 Q. And then another invoice purports to be an invoice, Michigan
8 Silo, dated October 31, 1966 to Clayton Gemmell for 16 by
9 57-1/2 rebuild?

10 A. Yes.

11 Q. Is that correct?

12 A. That's the same subject as the previous.

13 Q. And then Exhibit 29 is a 20 by 70 silo on C & B letterhead
14 to Clayton Gemmell dated September 25, 1967?

15 A. That's what it indicates.

16 Q. Had you seen any of these documents here 19 through 30 at
17 the time you were in Mr. Baird's office?

18 A. No.

19 Q. Have you told us all that you discussed at the time you were
20 in Mr. Baird's office?

21 A. I think I have covered the general topics. There were two
22 other individuals we talked to.

23 Q. Who was that?

24 A. Covering the same subjects.

25 There was a gentleman that I understood was a field

1 foreman, or some such activity, with the C & B Silo Company.
2 Q. Do you remember his name?
3 Would it have been a Mr. Cole?
4 A. Yes, I believe.
5 Q. Red-haired fellow?
6 A. Yes.
7 Q. Did you enter into any discussions with him as to how they
8 built the silos and where and what was put into them?
9 A. I don't know that it was with him specifically, but he
10 was part of a group of people out there in the outside area
11 where the materials were stored and he was pointing out the
12 different staves and the steel work that goes with them and
13 some brief explanation of how they all fit.
14 Q. Did he indicate that he was part of the crew that put up
15 the Michigan silos at the Gemmell farm?
16 A. No farm names were mentioned to my knowledge. No.
17 Q. Did he indicate at least they put up some of the old
18 Michigan silos and their equipment and he was part of it
19 and the foreman?
20 A. I don't recall getting any impression that Mr. Cole was
21 part of the Michigan Silo organization.
22 With Mr. Baird, yes, I got that impression.
23 Q. Okay. In recent answers to our requests for you to bring
24 documents one of your answers, number seven, was as to
25 silo coating called Cumar, all Monsanto memorandums and

1 reports have already been produced with the exception of
2 the attached document. Additional memorandum exists to
3 and from attorneys subject to attorney-client or work
4 product privileges.

5 Describe the additional memorandum so we know what that
6 was.

7 A. I don't know that I have been privileged to see these
8 attorney-client documents.

9 Q. Well, you signed this?

10 A. Yes.

11 Q. And signed it under oath that these are true answers?

12 A. That's still a truthful answer.

13 Q. Okay. But what did you mean when you said under oath
14 additional memorandum exists to and from attorneys?

15 A. I was relaying to you information passed on to me.

16 Q. By whom?

17 A. By attorneys.

18 Q. By what attorneys? For the company?

19 A. Yes.

20 Q. In St. Louis?

21 A. Yes.

22 Q. Did they describe to you what the additional memorandum was?

23 A. No.

24 Q. Do you know what it was?

25 A. No.

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1 Q. Did you ever give out any memorandum to other people in
2 other lawsuits?
3 A. I personally never gave out.
4 Q. It's all gone through your legal department?
5 A. That is correct.
6 Q. So if anybody knows what additional memorandums exists that
7 were sent out, it would have to be through your legal
8 department?
9 A. Yes.
10 Q. Is there, in your opinion, any reason or necessity to keep
11 any materials with regard to Monsanto's production,
12 manufacture and testing of PCB's confidential and away from
13 everybody's sight at this time?
14 A. You covered, as I recall, manufacturers?
15 Q. Production?
16 A. Production?
17 Q. Testing?
18 A. Testing?
19 Q. And -- go with those at first.
20 A. Well, I'm familiar with sharing of production data with the
21 public. We have shared all of our toxicity data.
22 What was the third category?
23 Q. Testing.
24 A. The testing data, we shared all of that.
25 Q. With the public and other groups and testing laboratories

1 and the government and so on?

2 A. Yes.

3 Q. Or private people that want to know?

4 A. Yes.

5 Q. Is there anything that you can think of that you would

6 consider with regard to the Monsanto's PCB production and

7 manufacture and sales that would be of a confidential nature

8 at this time now that you have finished producing it all in

9 '77?

10 A. I can see where --

11 MR. JUNGERHELD: I don't think he talked about

12 sales before.

13 Q. All right. Include that.

14 A. There is good reason to maintain some of the sales information

15 as being confidential.

16 Q. Why?

17 A. Well, one reason is the customer has asked us not to divulge

18 their name.

19 Q. All customers that dealt with Monsanto have contacted you

20 and said don't tell them who we are?

21 A. Not all customers. Many. In fact, it's our policy not to

22 divulge customers' names without their permission.

23 Q. Other than the policy of the company then, would there be

24 any reason not to have those lists disclosed as to the

25 production and sales and to the customers' names?

1 A. Yes.

2 Q. Why?

3 A. Because this could well represent a market that we are now

4 satisfying with alternative materials and we do not see fit

5 to share with the competition our business.

6 Q. Okay. Are there any of these customers that bought and

7 purchased PCB's buying an alternative product from you to

8 PCB's?

9 A. Many are, yes.

10 Q. And are there other companies making alternative materials

11 to PCB's?

12 A. Yes.

13 Q. And you're maintaining on behalf of Monsanto that you don't

14 want the competitors to know your customers?

15 A. That is correct.

16 Q. Are these same customers those that would have existed from

17 1960 to 1970? Or is this a whole new customer line you're

18 talking about?

19 A. It consists of both types.

20 Q. Including customers that ran up and purchased old PCB's from

21 '77 backwards?

22 A. Yes.

23 Q. Is that the only type of document that you can conceive of

24 that you would not want on behalf of Monsanto to disclose

25 is a customer list?

1 A. I can think of other documents.

2 Q. What?

3 A. Well, the one that comes to mind is the medical report of
4 employees that were involved in the production of PCB's.
5 That's confidential information.

6 Q. Are the records with regard to the employees of Monsanto
7 kept in a -- in such a nature that there's a report on the
8 testing without any specific names of employee A, employee
9 B? John, Bill, Mary? Is there a compilation of tests and
10 results that are made by your medical department and reports
11 as to what you can do to maintain safety and health on your
12 premises where you manufacture PCB's?

13 A. I have not seen such a report so I don't personally know.

14 Q. So what you're saying is the individual health records and
15 medical records of each of the employees in your opinion is
16 confidential to them?

17 A. Yes.

18 Q. Okay. Anything else?

19 A. I believe the records that relate to the -- I don't know
20 that I'll come up with the right expression, but the business
21 impact of this line of products on Monsanto are considered
22 confidential.

23 Q. Why?

24 A. There again, it displays to the competitors the potential
25 market and the opportunities that exist there.

1 Q I don't quite understand that. How does it affect the market
2 if you disclose what Monsanto has done with PCB's in the
3 market prior to this dissolution of production?
4 A Well, the business records contain selling prices and
5 profits and that type of information.
6 Q That all goes back to '77 and backwards, doesn't it?
7 A True.
8 Q From '77 on up to '82 there's been a vast change in marketing
9 and pricing so that what's here today wouldn't make any
10 difference what you sold something for in '70, '72, '75,
11 '76?
12 A Not necessarily.
13 Q Why wouldn't it?
14 A Well, many of those applications still exist and it doesn't
15 take too much of an effort given some basic information to
16 calculate back and determine the size of a potential market,
17 be it heat transfer systems, dielectric systems, plasti-
18 cizers, on and on.
19 Q In other words, you don't want anybody to know what your
20 profits and losses are in those areas?
21 A That's one of the pieces of information.
22 Q Do you file profit and losses with the state as part of your
23 annual reports?
24 A I don't know that. I'm not involved.

25 (Whereupon Plaintiff's Deposition Exhibit No. 31

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1 was marked for identification purposes.)

2 Q I have marked another exhibit, No. 31. It's Aroclor

3 Plasticizers Technical Bulletin 306 A, which I think you're

4 all familiar with from Monsanto. You produced it. .

5 I would ask you to look at Exhibit 31 and see if you

6 recognize it?

7 A. Yes. I recognize this.

8 Q. Is it there in its entirety, Mr. Papageorge?

9 A. It appears to be here in its entirety.

10 Q. Are you familiar with it?

11 A. Yes.

12 Q. I get a date on the back here it's put out about 1970?

13 A. That is correct.

14 Q. Who put it out? Who put all this material together?

15 A. Well, it's a -- it reflects the combined efforts of several

16 individuals. The principal author is -- the marketing

17 manager of the plasticizers sales group. In this instance

18 I believe it was Dr. Cumming Paton was the principal author

19 with help from the research department, the medical

20 department, with review by me and by the legal staff, which

21 is routine in the issuance of such documents.

22 Q. The technical bulletin?

23 A. Yes.

24 Q. Okay. And is whatever that technical bulletin 306 A has to

25 say about plasticizers is the combined efforts of Monsanto

1 Company itself?

2 A. Yes.

3 Q. It represents Monsanto Company's thinking and beliefs with
4 regard to Aroclor plasticizers?

5 A. That is correct.

6 Q. And whatever is contained in that 306 A bulletin, Exhibit 31,
7 is that true and correct?

8 A. To the best of my knowledge.

9 Let me review once more. To the best of my knowledge
10 all of this is true and correct at that point in time.

11 Q. In March of 1970?

12 A. That is right.

13 Q. All right. And there's no question in your mind as far as
14 Monsanto is concerned that this document was prepared by
15 Monsanto or Monsanto and on the basis of all knowledge that
16 they knew at that time of Aroclor plasticizers?

17 A. When you mention -- when you use the word all information
18 it does not include interim status information associated
19 with the ongoing toxicity testing.

20 Q. But as of March, '70, that's the position of the company
21 technical bulletin 306 A?

22 A. Supplemented by a toxicity status report which was issued
23 periodically in an attempt to keep abreast of the results of
24 the ongoing studies.

25 Q. Where are the toxicity reports and interim reports that

1 you're speaking of.

2 A. I don't know where they are today.

3 Q. What are they called?

4 How would you identify them if I were to ask for anything

5 beyond that document? Are they called technical bulletins?

6 A. No. No. It was a memorandum issued under Monsanto letter-

7 head and if my memory serves me right, the title was some-

8 thing like Polychlorinated Biphenyls Interim Report Toxicity

9 Studies.

10 That's the gist of the title. Those may not be the

11 exact words.

12 Q. And how often were those made?

13 A. Roughly every six months.

14 Q. Up until the time you phased out in '77?

15 A. No. Up until the time the final reports were issued that

16 covered the ultimate conclusions of those studies.

17 Q. When was that?

18 A. It's in that list of studies that we saw in the earlier

19 exhibit. I believe they started coming out in 1971. There

20 were many in 1972 and a few in 1973.

21 Q. Was that about when they ended? '73?

22 A. Most of the studies were completed by then.

23 Q. And then if I were to ask for those documents -- say it

24 again.

25 A. I believe the title --

1 Q. Yes.

2 A. -- was polychlorinated biphenyls toxicity studies interim
3 reports.

4 Q. And about every six months from 1970 up to '73?

5 A. Roughly, yes.

6 Q. Do you know where we can get ahold of those?

7 A. I would start in the medical department.

8 Q. Okay. And the custodians there would presumably know where
9 to find them?

10 A. Yes.

11 Q. Are there any more, what we might call technical bulletins,
12 that would refer to Aroclors other than that 306?

13 A. Yes.

14 Q. What are they called?

15 A. I don't recall their titles. But I believe there was one
16 that addressed the die electric applications and how to
17 handle the material and its properties. They focused on
18 the dielectric use. There were others that addressed
19 the heat transfer application and the hydraulic fluids
20 application. The use in -- I believe I recall one that
21 referred to its use in rubber, synthetic. I believe it
22 was chlorinated rubber applications. It had to do with
23 rubber.

24 Q. Did you ever have a technical bulletin or interim report
25 on Aroclors used as coating or sealants in the farm industry

1 or especially with silos?

2 A. I'm not -- no. I have never seen such a report. I'm not
3 aware of any.

4 Q. Any other lawsuits that you told us about, maybe some
5 pending and some settled, did the Monsanto Company disclose
6 certain documents and materials with regard to the PCB's
7 to the lawyers for the plaintiffs in those cases?

8 A. I believe so, but I personally was not involved in that
9 transaction.

10 Q. When your depositions were taken in those, were documents
11 referred to from Monsanto?

12 A. Oh, yes. Yes.

13 Q. So you knew that they had been supplied? Some materials?

14 A. Yes.

15 Q. Would you on behalf of Monsanto Company object to us having
16 any and all documents that were supplied to all other
17 attorneys in all the other suits?

18 MR. JUNGERHELD: That's not for him to object.

19 MR. MC GRAW: He could be. He's from Monsanto
20 Company.

21 MR. JUNGERHELD: You know there's a lot of people
22 that work for Monsanto Company and they have various areas
23 of responsibilities and it's not up to this witness to take
24 a position on that. That's up to the legal department.

25 MR. MC GRAW: He can answer --

1 MR. JUNGERHELD: I don't think he can.

2 MR. MC GRAW: -- if he objects personally or not.

3 He's talking here in representing Monsanto Company.

4 MR. JUNGERHELD: Well, that's a little overbroad.

5 Q. Can you answer that question, Mr. Papageorge?

6 A. Would you read it back to me?

7 (Whereupon the question was read back by the

8 reporter.)

9 A. I cannot speak on behalf of Monsanto in that area. I do

10 not have that authority.

11 Q. Who does?

12 A. The legal department.

13 Q. Can you personally see any objection to us seeing the

14 documents of Monsanto that other lawyers have seen?

15 MR. JUNGERHELD: Well, I'll object. This goes

16 into various legal questions as you full well know that would

17 be within the knowledge of this witness.

18 Q. Let's put it another way.

19 When you were giving your depositions were you talking

20 about and were inquiries made of you relative to documents

21 that Monsanto had furnished to those other lawyers?

22 A. Yes.

23 Q. Were any of the documents -- did you look at the 306

24 technical bulletin in any of those other suits?

25 A. I don't remember.

WILLIAM B. PAPAGEORGE DEPOSITION
JANUARY 19, 1983

<u>PAGE</u>	<u>LINE</u>	<u>IS</u>	<u>SHOULD BE</u>
7	4	acceptibility	acceptability
7	6	accepti bility	acceptability
10	21	masters	master
10	23	masters	master
12	11	chromotography	chromatography
12	14	chromotography	chromatography
14	3	quadrphenyls	quaterphenyls
17	23	quadrphenyls	quaterphenyls
18	12	quadrphenyls	quaterphenyls
18	23	quadrphenyls	quaterphenyls
22	2	biphenyl	polychlorinated biphenyl
25	5	chlorinated content as PCB	chlorine containing PCB
25	8	fireability	flammability
26	22	Yes	No.
29	15	impacting	influenced
36	9	producting	producing
43	18	nonuse	nonelectrical use
55	13	phenyl	phenol
55	13	chlorinated phenyl	chlorinated phenol
75	15	retaining	reclaiming
76	19	one time	one of them
86	9	and	in
120	16	farmhands	farmland
122	7	Beverly Hemming	Bethlehem Mink
124	8	Spear County	Intercounty
124	16	Be	The
126	10	transformer and all	transformer oil
127	7	fee formula for	feed formulator
127	8	contractor	contributor
133	13	conaclors	Phenciors
138	6	Monsanto's	Monsanto
140	13	recommend a	recommend to a
142	3	Indiana	Columbiana
193	16	Monsanto chlorobiphenyl	monochlorobiphenyl
198	2	Quadrphenyls	Quaterphenyls
213	16	building	buildings
223	18	Aroclors	Aroclors
249	8	E. D. John	E. V. John
252	9	ozone bodies	?
269	25	1154	1254
274	7	wate	waste
275	24	intestine	test animal
278	12	2.5	0.2
295	13	Ranata	Renata
299	11	the	at

WILLIAM B. PAPAGEORGE DEPOSITION
JANUARY 19, 1983

<u>PAGE</u>	<u>LINE</u>	<u>IS</u>	<u>SHOULD BE</u>
307	11	wan't	wasn't
313	1	Engineers	Engineering
313	4	Chemical Engineering	Chemical and Engineering
313	17	documented address	document addressed
336	9	Ron	Lon
353	4	alterniative	alternative
359	16	die electric	dielectric