

MONTANA TENTH JUDICIAL DISTRICT COURT, FERGUS COUNTY

MARTY PAULSON, WILLIAM J.)
 HAUGEN, HARRY FELTON, RAY)
 ROBINSON AND WARD BURLEIGH,)
 PRESIDENT; BURLEIGH ANGUS)
 RANCH, INC., INDIVIDUALLY)
 AND FOR ALL PERSONS)
 SIMILARLY SITUATED,)

PLAINTIFFS,)

) CAUSE NO. DV-2004-55

vs.)

) HON. KURT KRUEGER

MONSANTO CHEMICAL COMPANY)
 N/K/A PHARMACIA, MONTANA)
 DEPARTMENT OF FISH, WILDLIFE)
 AND PARKS, AND JOHN DOE PAINT)
 COMPANIES AND DISTRIBUTORS I)
 THROUGH X,)

DEFENDANTS.)

VIDEOTAPED DEPOSITION OF WILLIAM PAPAGEORGE
 TAKEN BY TORGER S. OAAS, ESQ.
 ON BEHALF OF THE PLAINTIFFS
 JUNE 27, 2006

VOLUME II

REPORTED BY CHRISTOPHER C. WIEGERS
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1 MONTANA TENTH JUDICIAL DISTRICT COURT, FERGUS COUNTY 2 3 MARTY PAULSON, WILLIAM J.) HAUGEN, HARRY FELTON, RAY) 4 ROBINSON AND WARD BURLEIGH,) PRESIDENT; BURLEIGH ANGUS) 5 RANCH, INC., INDIVIDUALLY) AND FOR ALL PERSONS) 6 SIMILARLY SITUATED,)) 7 PLAINTIFFS,)) CAUSE NO. DV-2004-55 8 vs.)) HON. KURT KRUEGER 9 MONSANTO CHEMICAL COMPANY) N/K/A PHARMACIA, MONTANA) 10 DEPARTMENT OF FISH, WILDLIFE) AND PARKS, AND JOHN DOE PAINT) 11 COMPANIES AND DISTRIBUTORS I) THROUGH X,) 12) DEFENDANTS.) 13 14 15 VIDEOTAPED DEPOSITION OF WILLIAM PAPAGEORGE, 16 produced, sworn and examined on the 27th day of June, 17 2006, between the hours of eight o'clock in the 18 forenoon and six o'clock in the afternoon of that day 19 at the offices of Husch & Eppenberger, LLC, 190 20 Carondelet Plaza, Suite 600, in the City of St. Louis, 21 State of Missouri, before CHRISTOPHER C. WIEGERS, 22 Certified Court Reporter, in a certain cause now 23 pending in the Montana Tenth Judicial District Court, 24 Fergus County, in the above-captioned matter. 25	1 INDEX 2 PAGE 3 Examination by Mr. Oaas 6 4 Examination by Mr. Brown 144 5 Examination by Mr. Miller 171 6 7 8 EXHIBITS 9 10 No. 31 - 9/28/70 Letter From D.K. Mitchell 6 11 No. 32 - 4/17/70 Letter From R.E. Keller 6 12 No. 33 - 6/20/69 Letter From Mr. John 6 13 No. 34 - 6/10/69 Letter From Mr. Springgate 6 14 No. 35 - Analytical Chemistry Special Study 6 15 No. 36 - 7/28/70 Letter From Mr. Papageorge 6 16 No. 37 - 10/29/70 Letter From Dr. Kelly 6 17 No. 38 - 3/31/71 Letter From Mr. Papageorge 6 18 No. 39 - Mother's Milk Sample Plan 6 19 No. 40 - Monsanto Application Data Bulletin 6 20 No. 41 - Excerpt From 3/31/98 transcript 6 21 No. 42 - 7/17/70 Letter To H.S. Bergen 6 22 No. 43 - 3/21/69 Report By Mr. Metcalf 6 23 No. 44 - Table Study 6 24 No. 45 - July, August, September Quarterly Report 6 25 No. 46 - Minutes of Aroclor Ad Hoc Committee 6
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1 (Deposition Exhibit Nos. 31 through 53
2 marked for identification.

3 THE VIDEOGRAPHER: We are back on the
4 record, June 28, 2006 with tape no. 1.

5 EXAMINATION

6 BY MR. OAAS:

7 Q. Good morning, Mr. Papageorge.

8 A. Good morning.

9 Q. We're ready to start our second session this
10 morning on June 28th at about 9:00. I just wanted to
11 ask you a few preliminary matters first. You -- you
12 recognize that you're still under oath, the same oath
13 that was administered yesterday?

14 A. I do.

15 Q. Okay. And again, you -- you feel that
16 you're mentally and physically ready to go for your
17 deposition this morning?

18 A. I think I am.

19 Q. All right. Great. You know, I think I was
20 on Exhibit 30 when we finished our session yesterday.
21 Let's go back to that for just a -- a minute if we
22 could, please, sir. And I had directed your attention
23 to page 128 of that exhibit. Are you there?

24 A. I have it.

25 Q. And I had read the second paragraph under

1 the heading biological effects which referred to an
2 incident of fish death at a Swedish hatchery?

3 A. Yes, I remember that.

4 Q. Okay. What I wanted to ask you was do -- do
5 you know what anti-fouling -- what is meant by the
6 phrase anti-fouling paint?

7 A. Well, I can give you my understanding of the
8 expression anti-fouling.

9 Q. That would be fine.

10 A. Anti -- the expression anti-fouling to me
11 implies that whatever is done prevents or reduces
12 fouling of anything, and by fouling, I mean
13 degenerating it or lowering its value or ruining it.
14 So it's a -- it's an overall expression, anti-fouling
15 of --

16 Q. All right.

17 A. -- any -- any lessening of properties of
18 any -- any material in any activity.

19 Q. All right. Well, based upon your
20 understanding of the normal uses for PCBs in paints,
21 would the use of a PCB as a plasticiser in anti-fouling
22 paint be considered a normal use?

23 MR. MILLER: Let me object to the form. Are
24 you talking about in Sweden?

25 MR. OAAS: Anywhere.

1 A. I do -- personally do not associate PCBs as
2 an anti-fouling ingredient in paints.

3 Q. (By Mr. Oaas) Well, I'm talking about being
4 used as a plasticiser --

5 MR. MILLER: Same -- same objection.

6 Q. (By Mr. Oaas) -- in an anti-fouling paint.

7 A. Well, to me, the expression plasticiser is a
8 broad -- a broadly covered expression for these
9 materials, so they're plasticisers as a category, and
10 the fact that they're PCBs -- there are many, many
11 plasticisers including some PCBs --

12 Q. All right.

13 A. -- so --

14 Q. Well, what I'm trying to get at -- let me
15 ask the question this way, Mr. Papageorge. In -- in
16 our case in Montana, it's alleged that the paint that
17 was painted on the concrete hatchery raceways of the
18 Big Springs Creek Trout Hatchery contained PCBs
19 specific -- and it's alleged that those PCBs were
20 Aroclor 1254 that would have been used as a plasticiser
21 in that paint. Now, with that background, the use of
22 that paint on concrete surfaces that contained PCBs as
23 a plasticiser, that would be considered a normal use
24 for -- for -- for that kind of paint, correct?

25 MR. MILLER: Object to the form.

1 A. At what time?

2 Q. (By Mr. Oaas) Oh, in the 1960s?

3 A. You said it would be a no -- no known use?

4 Q. A normal use.

5 A. There was no reason to believe at that time
6 that PCBs in that paint would result in anything un --
7 unappreciated or un -- unusual.

8 Q. Well, that isn't my question, but I -- my
9 question is, would the use of that kind -- would the
10 use of a paint that contained PCBs as a plasticiser be
11 considered a normal use as a coating on the concrete
12 surfaces of the -- of the hatchery raceways?

13 MR. MILLER: Let -- let me object to the
14 form. Normal use for a hatchery?

15 MR. OAAS: No.

16 Q. (By Mr. Oaas) Based upon the recommended
17 uses that we talked about in -- in these previous
18 exhibits, is a -- remember we had a previous exhibit
19 that talked about the use of PCBs in paint for a
20 protective or decorative coating on masonry surfaces in
21 wall -- floors and walls?

22 A. I remember that.

23 Q. Okay. And -- and my question is -- I'm
24 obviously not asking it very well -- is if the Montana
25 Department of Fish, Wildlife and Parks purchased a

1 paint that contained PCBs as a plasticiser for use on
2 their concrete hatchery raceways, wouldn't Monsanto
3 consider that to be an appropriate use for that kind of
4 paint?

5 MR. MILLER: Object to the form of the
6 question. It precedes Mr. Papageorge's involvement in
7 environmental control issues, but subject to that, you
8 can answer, Bill.

9 A. The use you just described in the '60s was
10 very normal.

11 Q. (By Mr. Oaas) All right.

12 A. It was not considered harmful.

13 Q. I understand.

14 A. There was no information to indicate it's
15 harmful.

16 Q. All right. Now, I wanted to go back to your
17 resume just for a minute and ask you about the
18 transition period between your -- your position as
19 Plant Manager in Anniston and the time when you
20 switched over to be -- to then become Manager of
21 Environmental Control for Monsanto. I believe you
22 testified that that took place in early 1970?

23 A. Yes.

24 Q. Okay. Can you just -- just tell me about
25 that -- how you be -- how you came to be moved from

1 Operations in 1977. Was that for all of Monsanto's
2 operations or was --

3 A. I -- I have to see that --

4 Q. -- that specifically limited to PCBs again?

5 And I -- I'll give you a copy of Exhibit 1. You can
6 use that if you want.

7 A. In '77?

8 Q. Right.

9 A. Are you talking about this Manager of
10 Product Acceptability?

11 Q. No. I was talking about your -- down in
12 1977 where it says Director of Environmental Operations
13 beginning in 1977.

14 A. Well, at -- at that time that job covered a
15 bigger part of Monsanto, and that part was called the
16 Chemical Intermediates Company, and it covered
17 environmental issues of all kinds relating to the
18 chemical manufacturing industry.

19 Q. All right. Now, when you first became
20 Manager of Environmental Control, other than what was
21 consistent with your duties of Plant -- Plant Manager
22 at -- at Anniston, did you ever have any education or
23 training with respect to environmental protection?

24 MR. MILLER: Let me object to the form.

25 When you say environmental protection, do you mean

1 Plant Manager at Anniston to Manager for Environmental
2 Control?

3 A. You're asking me to kind of speculate as to
4 what my bosses were thinking --

5 Q. Just from your point of view.

6 A. -- when they chose me. First of all, I
7 had -- I did have experience in the production of PCBs
8 and the shipment of PCBs to customers. I can only
9 speculate that that boss -- the bosses felt that that
10 was almost a necessary requirement for the job that
11 they newly created for someone to follow that PCB issue
12 closely in every respect.

13 Q. So you would have been the first Manager for
14 Environmental Control for Monsanto?

15 A. Yes.

16 Q. Okay. And -- and when I say for Monsanto,
17 you -- you were the -- your title was Manager of
18 Environmental Control, and that was for the entire
19 company?

20 A. I was the only one with that title --

21 Q. All right.

22 A. -- but my subject was limited when I was
23 assigned to PCB issues.

24 Q. All right. Same question with respect to
25 when you became the Director of Environmental

1 waste handling, things of that nature? I'm not sure --

2 MR. OAAS: Just in its broadest sense.

3 A. My education really didn't -- when I was
4 getting educated, the word environment was never in the
5 discussions, but the -- there were situations where the
6 control of vapors and fumes and spills and -- whether
7 by accident or on purpose, were discussed in my
8 training.

9 Q. (By Mr. Oaas) As the Plant Manager at
10 Anniston?

11 A. That's one of the positions. All -- all of
12 my positions involved control of material getting away
13 from the operation.

14 Q. All right. Let's go on to Exhibit 31.

15 A. I have scanned the exhibit.

16 Q. All right. Have you ever seen that document
17 before, sir?

18 A. Yes.

19 Q. Okay. And can you identify who D.K.
20 Mitchell and B.T. Dean are?

21 A. They were members of Monsanto's research
22 department involved with Dr. Scott Tucker in an -- in
23 the analytical studies relating to PCBs.

24 Q. Okay. In my reading of this exhibit, I take
25 it that in the 1970s Monsanto was interested in

1 compiling any reports across the United States that
 2 dealt with the finding of PCBs in the environment?
 3 A. Well, you said across the United States. As
 4 I recall this document and refresh my memory reading
 5 it, this involved a specific area of the country, not
 6 across the United States.
 7 Q. What areas are we talking about?
 8 A. The area around Pensacola, Florida and the
 9 Gulf of Mexico.
 10 Q. All right. And my understanding of -- of
 11 the exhibit -- and I just -- what lawyers do is they
 12 count. I counted up the 69 samples reported in this
 13 exhibit of the finding of the presence of PCBs in fish,
 14 water, and sediment in those areas.
 15 A. Yeah.
 16 Q. If my counting is correct, you would agree
 17 with that?
 18 A. Yes.
 19 Q. All right. Let's go on to the next exhibit,
 20 32, please.
 21 A. I have scanned the exhibit.
 22 Q. Okay. And I -- I believe you would have
 23 seen this exhibit before since it was a memo directed
 24 to you?
 25 A. Yes.

1 Q. The date of it is April 17, 1970, correct?
 2 A. Correct.
 3 Q. And I believe you identified R.E. Keller
 4 yesterday, but let's do it -- do it again one more time
 5 today. Would you --
 6 A. Dr. Keller was a chemist in Monsanto's
 7 research department located in St. Louis, and he
 8 supervised a group in the research department that was
 9 involved with analyzing for chemicals.
 10 Q. Okay. And Dr. Keller appears to be
 11 reporting to you a -- a summary of what Monsanto knew
 12 as of the date of this memo regarding the detection of
 13 PCBs in environmental materials?
 14 A. Well, when you use the expression what
 15 Monsanto knew, I don't know that this covers everything
 16 Monsanto, with its employees, knew.
 17 Q. Okay.
 18 A. It just covers the so -- reference to 167
 19 samples.
 20 Q. Okay. Okay. In the first paragraph -- and
 21 maybe I mis -- used a poor choice of words and it -- it
 22 just says this note summarizes work we have done to
 23 date on the detection of PCBs in environmental
 24 materials. That's all I was trying to get at. Okay?
 25 A. Yeah, I understand.

1 Q. It says that they -- you had found --
 2 detected PCBs in the environmental materials in the
 3 water and sediment from nine U.S. rivers, one UK river,
 4 and Lake Michigan, correct?
 5 A. Correct.
 6 Q. In the air at the Anniston plant?
 7 A. Yes.
 8 Q. Fish from Lake Michigan and three Midwest
 9 rivers?
 10 A. Correct.
 11 Q. Now, they -- would they be included in the
 12 nine U.S. rivers under the first bullet item or are we
 13 up to 12 -- 12 U.S. rivers or do you know?
 14 A. I don't know.
 15 Q. All right. Human fat from a Midwest biopsy
 16 specimen and -- and then the last item is milk from
 17 Maryland and Ohio dairy farms?
 18 A. Yes.
 19 Q. Was that the first indication, at or around
 20 this date, April 17, 1970, that PCBs had been found in
 21 milk produced on Maryland and Ohio dairy farms?
 22 MR. MILLER: Object to the form of the
 23 question. Is that the first time on this date that he
 24 had understanding? It was a nonsensical question,
 25 Torger. You may want to re-ask it.

1 Q. (By Mr. Oaas) Did you understand the
 2 question, sir?
 3 A. I think I do.
 4 Q. Okay. Go ahead.
 5 A. Yes, that is the first evidence of PCBs
 6 present in milk.
 7 Q. Okay. Let's go on to Exhibit 33 then,
 8 please.
 9 A. I have read the exhibit.
 10 Q. Okay. Can you identify Edward V. John,
 11 please, who appears to author the exhibit?
 12 A. I'm sorry?
 13 Q. Can you identify Mr. John?
 14 A. Oh, Mr. John --
 15 Q. Yeah.
 16 A. -- is an employee of Monsanto responsible
 17 for public relations for the part of Monsanto called
 18 the Organic Chemicals Division.
 19 Q. And was the production of PCBs part of the
 20 Organics Chemical Division?
 21 A. Yes.
 22 Q. Now, I want to just direct your attention to
 23 the next to the last paragraph of this exhibit. It
 24 says PCB is used in certain types of marine paints.
 25 The water leachability of these paints is so low,

1 however, that it seems incredible to us that this would
2 explain the source of PCB in the amounts that have
3 allegedly appeared in the water. Did I read that
4 correctly?

5 A. Yes, you did.

6 Q. Would you agree with that statement?

7 A. Yes.

8 Q. Let's go on to Exhibit 34.

9 A. I have read the exhibit.

10 Q. Okay. Have you ever seen this Exhibit 34
11 before today, sir?

12 A. It appears familiar to me, but --

13 Q. Okay. It appears to be dated in June of
14 1969?

15 A. Yes.

16 Q. You've identified Mr. Springgate
17 previously. Can you identify Mr. W.E. Schalk,
18 S-h-a-l-k (sic)?

19 A. Mr. Schalk is the Marketing Director of the
20 group referred to as Plasticiser Group which is headed
21 by Mr. Springgate.

22 Q. All right. Now, this letter concerns the
23 subject of -- appears to concern the subject of paint
24 containing PCBs being used to coat the interior of
25 drinking water reservoirs. Would that be correct?

1 A. That is correct.

2 Q. Okay. And the third paragraph down reads
3 one such use would be in paints for the interior of
4 water towers where the water is primarily for human
5 consumption. Howard Bergen was under the impression we
6 were asked about this specific use several years ago
7 and did approve it. Can you tell me who Howard Bergen
8 is?

9 A. Howard Bergen --

10 Q. Bergen, excuse me.

11 A. -- is the head of the part of Monsanto
12 referred to as the Functional Fluids Group, and at one
13 time in the earlier days that group included the
14 plasticisers that were PCB in origin, so it was
15 overlapping. Later on it was divided into --
16 Mr. Bergen kept the functional fluids, Mr. Springgate
17 got the plasticisers.

18 Q. All right. And then down at the bottom of
19 the letter there's a -- kind of a footnote. It says
20 Martin, colon, would you please have someone calculate
21 the probable level of PCB in water from a water tower
22 painted with Aroclor formulation. Did I read that
23 correctly?

24 A. Yes.

25 Q. Do you know who Martin would be?

1 A. Martin is M.W. Farrar who is copied in on
2 this.

3 Q. Okay. And he -- he would -- what was his
4 job title with --

5 A. He was -- he was the head of the group that
6 did research for the plasticisers group.

7 Q. All right. And apparently as of that date,
8 Monsanto knew how to calculate down to parts per
9 billion the amount of Aroclor in tap water?

10 MR. MILLER: Let me object to the form --
11 form of the question. Calculate the solubility or to
12 determine the level --

13 MR. OAAS: Yeah, calculate the solubility of
14 Aroclor in tap water.

15 MR. MILLER: All right. That's a different
16 question.

17 A. Well, the only reason I hesitate -- the new
18 methods of analyses brought about by Jensen's work were
19 not available in '69, so any studies in which they're
20 trying to develop a level of PCBs use the existing
21 analytical methods of the day.

22 Q. (By Mr. Oaas) Okay. Well, somebody has
23 handwritten down at the bottom of the letter Martin,
24 dated 6/23/69 the solubility of Aroclor in tap water
25 is -- and for Aroclor 1242, 200 parts per billion;

1 Aroclor 1248, 100 parts per billion; and Aroclor 1254,
2 50 parts per billion. Is that -- am I reading that
3 correctly?

4 A. Yes.

5 Q. Okay. Let's go on to Exhibit 35 then,
6 please.

7 A. I have read the exhibit.

8 Q. Thank you. Have you ever seen this exhibit
9 before, sir?

10 A. I don't remember it specifically, but it's
11 typical of the kind of information I had access to.

12 Q. Okay. Let's go to the second page just --
13 just to start with. I'm trying to orient a -- a date
14 to this exhibit. Do you see down in the bottom of the
15 left-hand corner the heading Monsanto Company, Organic
16 Chemicals Division, Applied Sciences Section,
17 St. Louis, Missouri. Do you see that -- do you see
18 that there?

19 A. Yes.

20 Q. And then -- then the numbers 3-70 appear
21 below that?

22 A. Yes, I see that.

23 Q. Would that be the date of this document,
24 March of 1970?

25 A. I would be guessing. I don't know.

1 Q. Okay. Can you identify -- I believe we've
 2 identified E.S. Tucker, correct?
 3 A. Yes.
 4 Q. Okay. Who is W.J. Litschgi?
 5 A. He is another chemist that belonged to the
 6 group headed by Dr. Keller.
 7 Q. Okay. And again, the Organic Chemicals
 8 Division referred to in this part of the exhibit is the
 9 division that encompassed the production and sale of
 10 PCBs?
 11 A. At that time, yes.
 12 Q. In -- in the 1970 time frame?
 13 A. Yes.
 14 Q. Okay. Now, the head -- let's go back to the
 15 front page of this document. It's titled Extraction of
 16 Aroclor 1254 From Painted Surfaces By Water.
 17 A. I see that, yes.
 18 Q. Okay. My understanding of this document
 19 as -- as a laymen is that -- is that an experiment was
 20 conducted by Dr. Keller's group where they took paint
 21 that had PCBs in it, painted tin plates, put it in
 22 water for certain periods of time, and then measured
 23 the water to see if there were PCBs in the water?
 24 MR. MILLER: Object to the form. It's
 25 incomplete as to what steps were taken.

1 Q. (By Mr. Oaas) Would that be -- would that
 2 be a rough characterization of the experiment?
 3 A. That's what they're trying to describe here,
 4 yes.
 5 Q. Okay.
 6 MR. MILLER: They were also put in an oven.
 7 There -- there wasn't a complete list of the steps.
 8 Q. (By Mr. Oaas) Was the -- I take it -- my
 9 understanding was they were just trying to see whether
 10 or not PCBs could be removed from the paints simply by
 11 the action of the water?
 12 MR. MILLER: Object to the form. That's
 13 incomplete. Water at 50 degrees Celsius.
 14 A. Well, it's -- it's a reaction of the water
 15 on the mixture.
 16 Q. (By Mr. Oaas) Okay.
 17 A. Not just the PCB itself.
 18 Q. But the entire --
 19 A. That whole mixture that's listed there
 20 starting with Parlon, then Aroclors.
 21 Q. Everything that was in the paint?
 22 A. Correct.
 23 Q. Including the PCBs?
 24 A. Correct.
 25 Q. Okay. And the results of the exhibit were

1 that they were able to find -- Dr. Keller's group was
 2 able to find measurable amounts of -- of Aroclor 1254,
 3 I think was the particular Aroclor involved in this
 4 exhibit, within two -- two weeks, correct?
 5 A. Yes.
 6 Q. Okay. And the -- and the results are
 7 reported there on the first page of the exhibit,
 8 correct?
 9 A. Yes.
 10 Q. All right.
 11 A. And you mentioned two weeks. It -- it goes
 12 on to six weeks.
 13 Q. Okay. Now, if this -- if this document
 14 was -- if this experiment was, in fact, done in the
 15 first part of 1970, would it be your testimony that
 16 this would be new information to Monsanto?
 17 MR. MILLER: Object to the form. There's no
 18 foundation.
 19 A. Well, it would be new because apparently
 20 this procedure wasn't previously followed --
 21 Q. (By Mr. Oaas) All right.
 22 A. -- and they had the analytical techniques.
 23 Q. Okay. And I take it as Manager of
 24 Environmental Control, which you would have been at
 25 that time, you would have been interested in -- in the

1 results of this kind of experiment?
 2 A. Well, certainly.
 3 Q. All right. Let's go on to Exhibit 36,
 4 please, sir.
 5 A. I have read the exhibit.
 6 Q. Okay. This -- this exhibit appears to be
 7 a -- a letter written by you on or about July 28th of
 8 1970, correct?
 9 A. Correct.
 10 Q. Okay. Who is it directed to?
 11 A. It's an individual, William Herman, with the
 12 Koppers Company.
 13 Q. Okay. And what do you know about Koppers
 14 Company -- or what did you know about Koppers Company
 15 at that time?
 16 A. As best I remember, they're involved with
 17 the construction of silos for storing grain and so on.
 18 Q. All right. Were they a PCB customer of
 19 Monsanto in the 1970s?
 20 A. Yes.
 21 Q. Okay. Now, the first paragraph references
 22 apparently he had written to you requesting information
 23 about the contribution of PCBs in paints to
 24 contamination of the environment?
 25 A. Would you repeat that again?

1 Q. Sure. It says in your letter dated July 17,
2 1970, you requested additional information on the
3 contribution of Polychlorinated Biphenyls in paints to
4 contamination of the environment?

5 A. Yes.

6 Q. Okay. And you were responding to that
7 inquiry?

8 A. Yes.

9 Q. Okay. The next paragraph says in addition
10 to the Ohio milk incident. Can you tell me what you
11 were referring to there, the Ohio milk incident?

12 A. There was an incident reported that cattle
13 fed grain from silos that were painted with a -- a
14 paint that contained PCBs were producing milk which had
15 PCBs present.

16 Q. Okay. Was there just one report or -- or
17 were there more than one reports concerning that
18 nature?

19 A. Well, there were -- there were reports of
20 many silos, so there would have been more than one
21 report.

22 Q. Okay. And that -- and I'm just referring to
23 the letter. That would have been in Ohio as well as in
24 Georgia and Florida?

25 A. Yes. At that time.

1 Q. And the reports from Georgia and Florida
2 were similar to what you just described as the report
3 about the Ohio milk incident?

4 A. Correct.

5 Q. And then you went on to say that you had
6 reports about oysters off the east coast of Georgia
7 containing PCBs?

8 A. Yes.

9 Q. Okay. Do you recall at this time where
10 those reports came from?

11 A. I have a hard time recalling specifically.

12 Q. All right. This -- that paragraph goes on
13 to say we suspect the source to be paint formulators
14 along the Savannah River. Do you see that?

15 A. I do.

16 Q. Was that ever confirmed -- that suspicion
17 ever confirmed?

18 A. Not to my knowledge.

19 Q. All right. How about the Ohio milk incident
20 report? Was that -- was it ever confirmed that the
21 coating on the inside of silage storage bins that
22 contained PCBs passed the PCBs from the paint to the
23 silage to the cows to the milk?

24 A. The report, as I understood it, was that the
25 paint peeled off and was scraped off, so it wasn't a

1 matter of PCBs moving into the feed. It's the -- the
2 paint flakes -- or the whole paint, whatever was in it,
3 was involved in this mixture with the feed --

4 Q. Okay.

5 A. -- that the cattle ate, and the PCBs were
6 detected in the milk produced by those cows.

7 Q. Okay. And I appreciate your clar --
8 clarifying that, but the point of my question was
9 those -- those reports were confirmed as being -- as
10 being accurate?

11 MR. MILLER: Let me object to the form.

12 A. I don't know about confirming it.

13 Q. (By Mr. Oaas) Is that --

14 A. It was determined by Monsanto's laboratory
15 after they received samples.

16 Q. All right. Okay. And would the same be
17 true about the reports from Georgia and Florida?

18 A. As best I remember, yes.

19 Q. Okay. All right. Now, in the third
20 paragraph you go on to say Monsanto's action regarding
21 the withdrawal of Aroclors from specific applications
22 was based on a number of incidents, all of which
23 indicated that any application which could not be
24 controlled would eventually create a problem. Okay.
25 Is that correct?

1 A. Yes.

2 Q. And that's something that you as Manager of
3 Environmental Control believe to be true as of the date
4 you wrote the letter, correct?

5 A. Yes.

6 Q. Okay. Regarding the milk -- the Ohio milk
7 incident reports, do you know how it came to be
8 determined that the -- the paint was suspected as being
9 the source of the PCBs?

10 A. I don't remember what triggered that -- that
11 interest.

12 Q. All right. Okay. Let's go on to Exhibit
13 37.

14 A. I have read the exhibit.

15 Q. Okay. And again -- again, it appears to be
16 authored -- authored by Dr. Kelly who you've identified
17 as being Head of the Medical Department, correct?

18 A. Correct.

19 Q. And again, it's written -- it's written to
20 an individual who appears to be employed at the
21 Kettering Laboratory who we've talked about before,
22 correct?

23 A. Correct.

24 Q. Okay. And Dr. Kelly is -- states at the
25 beginning of the letter dear Mitch, I find no record

1 that we have advised Aroclor for use in silo paints. I
 2 certainly hope we have not; however, I know it is in
 3 there, and certainly when it was put in there, nobody
 4 had any idea it would get out into the silage and
 5 proceed from there to the cow to the milk. At the time
 6 that statement was -- was made on October 29th of 1970,
 7 would you have agreed with that statement made by
 8 Dr. Kelly?
 9 A. Yes.
 10 Q. Okay. And I want to go down to the bottom
 11 of the letter. It says B -- BC -- this was -- you were
 12 giving a blind copy of this letter, I take it?
 13 A. Yes.
 14 Q. It says BCC: W.B. Papageorge, dash, Bill
 15 have we ever taken any positive steps to be sure people
 16 aren't still painting silos with paint that has Aroclor
 17 as a component. Do you see that?
 18 A. Yes.
 19 Q. Okay. My question to you is, as Manager of
 20 Environmental Control -- which I believe you -- you
 21 were at that time, correct?
 22 A. Yes.
 23 Q. For Monsanto, correct?
 24 A. Correct.
 25 Q. -- did you personally ever -- ever author

1 any letters to any dairy farmer in either Ohio or
 2 Georgia and Florida passing along any information about
 3 the existence of PCBs in silo paint?
 4 A. I personally, no.
 5 Q. Okay. Did you ever authorize anybody to do
 6 it on your behalf?
 7 A. Authorize on my behalf?
 8 Q. Right.
 9 A. No.
 10 Q. Let's go on to the next exhibit, 38.
 11 A. I have read the exhibit.
 12 Q. Okay. This appears to be a letter authored
 13 by you on March 31, 1971, correct?
 14 A. Correct.
 15 Q. This would be in your capacity as Manager of
 16 Environmental Control for Monsanto, correct?
 17 A. Correct.
 18 Q. And it's addressed to a D.W. Miller. Who is
 19 he?
 20 A. Yes.
 21 Q. Who is he?
 22 A. Oh, he was a member of the marketing team
 23 involved with the sale of materials which we called
 24 plasticisers.
 25 Q. Okay. In your own words, could you just

1 tell me what the subject is -- of this was about?
 2 A. Well, it's of course related to paints used
 3 in meat packing plants.
 4 Q. Okay. Here's -- here's some of the
 5 questions I have about the letter. In March of 1971,
 6 hadn't Monsanto ceased producing PCBs for use as
 7 plasticisers?
 8 A. Yes.
 9 Q. Okay. Do you know how it could be then that
 10 in March of 1971 the government appeared to be
 11 approving a formulation for paint in meat production
 12 facilities that contained PCBs?
 13 A. I do not.
 14 Q. Okay. Apparently, you had that information?
 15 MR. MILLER: What information?
 16 Q. (By Mr. Oaas) The information that the
 17 government had approved a for -- a paint formulation
 18 containing PCBs for use in -- in meat processing
 19 facilities?
 20 MR. MILLER: Ob -- object to the form. The
 21 document only refers to what was reported to him by a
 22 third party, not the government directly.
 23 MR. Oaas: Okay.
 24 A. I -- I'm confused by the question.
 25 Q. (By Mr. Oaas) Okay. How did you get the --

1 let me just ask you this. Do you recall how you got
 2 the information that the government had approved a
 3 paint formulation that apparently contained PCBs for
 4 use in a meat processing plant?
 5 MR. MILLER: Object to the form. It
 6 presumes the government made that approval.
 7 A. All I remember -- and this refreshed my
 8 memory -- is that I talked to somebody at Sherman
 9 Williams who relayed that information to me. I have no
 10 way of recalling at this time how accurate that was and
 11 how informed the individual was.
 12 Q. (By Mr. Oaas) Okay. As Manager of
 13 Environmental Control, do you recall doing any follow-
 14 up investigation concerning that information to see
 15 whether or not the government was actually recommending
 16 paints containing PCBs for use in meat processing
 17 plants?
 18 A. I don't recall what specifics followed this,
 19 but --
 20 Q. Okay. Okay. The next to the last paragraph
 21 says I -- I recognize that this does not directly
 22 relate to the Ohio silo cases, but it is the first
 23 example we have of a federal agency approving a coating
 24 containing Aroclor 1254 for use near food intended for
 25 human consumption. Perhaps Jacob Hess can use this

1 information. Did I read that correctly?
 2 A. Yes, you did.
 3 Q. Can you identify Jacob Hess for me, please?
 4 A. He was a member of the marketing team, a
 5 salesman out in the -- in the field --
 6 Q. Okay.
 7 A. -- contacting customers.
 8 Q. Okay. Let me ask you this question. As
 9 Manager of Environmental Control for Monsanto, did
 10 you -- did you think it would have been proper for the
 11 government to be approving of a paint formulation
 12 containing PCBs for use in meat processing plants where
 13 the meat was going to be used for human consumption.
 14 A. Well, since I supported the discontinuance
 15 of selling PCBs for coatings, I don't think I would
 16 support any agency approving it.
 17 Q. Okay. All right.
 18 A. It just wouldn't fit into our knowledge,
 19 experience, and intent.
 20 Q. All right.
 21 MR. MILLER: And the fact that the product
 22 wasn't on the market.
 23 Q. (By Mr. Oaas) Then it says in the last
 24 paragraph it appears to me that the possibility of a
 25 PCB problem arising in meat processing plants is

1 present. Do you recall if you did anything about that
 2 particular possibility as the Manager for Environmental
 3 Control for Monsanto?
 4 A. I don't recall any specific activity.
 5 Q. All right.
 6 A. That doesn't mean it didn't take place.
 7 Q. I understand that. Let's go on to Exhibit
 8 39.
 9 A. I have scanned the exhibit.
 10 Q. All right. Mr. Papageorge, at any time
 11 between 1970, when you first became the Manager of
 12 Environmental Control, until the end of your tenure as
 13 Director of Environmental Operations for Monsanto which
 14 I believe ended in 1985, did you ever become aware that
 15 PCBs were be -- being detected in mother's milk?
 16 A. Yes, I was aware of that.
 17 Q. All right. Have you ever seen Exhibit 39
 18 before?
 19 A. It looks familiar, but it's typical of the
 20 kinds of information that would come to my attention.
 21 Q. Okay. Can you -- can you just tell me in
 22 general terms what you knew about the existence of PCBs
 23 in mother's milk during that same time frame between
 24 1970 and 1985?
 25 A. All I knew is that it was being detected.

1 Q. Okay. Let's go on to Exhibit 40.
 2 A. I have scanned the exhibit.
 3 Q. All right. And it appears to be a Monsanto
 4 publication, correct?
 5 A. Correct.
 6 Q. Okay. It's entitled The Aroclors, Physical
 7 Properties and Suggested Applications, correct?
 8 A. Correct.
 9 Q. And then there -- there's reference to an
 10 application data bulletin number P-115. What does that
 11 reference refer to?
 12 A. That's the -- that's the number assigned to
 13 this particular bulletin.
 14 Q. All right. And I -- I included this exhibit
 15 in here because I wanted to ask you some questions
 16 about the physical properties of PCBs, and that's --
 17 that information would be contained in -- in this
 18 particular exhibit, correct?
 19 A. Yes.
 20 Q. All right. Let's just -- let's just go to
 21 page 7.
 22 MR. MILLER: Just -- just for the record,
 23 this is dated June 1945.
 24 MR. OAAS: All right.
 25 A. Yeah.

1 Q. (By Mr. Oaas) So this one would have been
 2 published on or after that date, June 1945?
 3 A. Correct.
 4 Q. All right. Okay. And let's go to page --
 5 if you turn to page 7.
 6 MR. MILLER: Numbered page 7?
 7 MR. OAAS: Num -- yeah, page 7.
 8 MR. MILLER: Thanks.
 9 A. Page 7, you say?
 10 Q. (By Mr. Oaas) Correct. And do you see the
 11 heading there stability on the right-hand side of that
 12 page?
 13 A. Correct.
 14 Q. Okay. Those -- those are the properties
 15 that I'm -- I want to talk about under that heading,
 16 and the first sub-heading indicates that the PC -- PCBs
 17 are stable toward alkalies, correct?
 18 A. Correct.
 19 Q. And so -- and that paragraph goes on to say
 20 the Aroclors are remarkably resistant to the action of
 21 either hydrol -- hydrolyzing agents or high
 22 temperature. They are not affected by boiling with
 23 sodium hydroxide solution. Did I read that correctly?
 24 A. That is correct.
 25 Q. Okay. And Monsanto marketed PCBs and -- and

1 promoted the marketing of PCBs because of their
 2 stability as referenced in that paragraph, correct --
 3 MR. MILLER: Object to the form.
 4 Q. (By Mr. Oaas) -- among other reasons?
 5 A. Yeah, that's one of the reasons --
 6 Q. Sure.
 7 A. -- they --
 8 Q. Yeah.
 9 A. -- marketed the material.
 10 Q. Okay. So the PCBs that were being detected
 11 in mother's milk as evidenced by the previous exhibit,
 12 39, would be the same PCBs that would not be affected
 13 by boiling with sodium hydroxide solution, correct?
 14 MR. MILLER: Object to the form.
 15 A. That is correct, yeah.
 16 Q. (By Mr. Oaas) Okay. And then the -- the
 17 next sub-heading is -- indicates -- talks about their
 18 stability towards acids?
 19 A. I see that.
 20 Q. Okay. If you just read through that
 21 paragraph, sir.
 22 A. I have read the paragraph.
 23 Q. Okay. And correct me if I'm wrong, but
 24 doesn't that indicate that Aroclor 1254 is basically
 25 unaffected after being treated with sulfuric acid for

1 the length of time described in that paragraph?
 2 A. And the concentration.
 3 Q. At the concentration.
 4 A. 10 percent --
 5 Q. Right
 6 A. -- sulfuric acid, yes.
 7 Q. Okay. And then going four lines up from the
 8 bottom of that paragraph, doesn't it read even
 9 prolonged treatment, 255 hours, with concentrated
 10 sulfuric acid indicated only a slight trace,
 11 parentheses, too small for quantity of measurement of
 12 hydrogen chlorate in the acid layer?
 13 A. It does say that, yes.
 14 Q. And that would mean even at concentrated
 15 levels, treatment of PCBs by sulfuric acid basically
 16 didn't affect the PCBs, correct?
 17 A. Correct.
 18 Q. Okay. And that would be the same PCBs that
 19 were being found in the -- in the mother's milk in the
 20 previous exhibit, correct?
 21 MR. MILLER: Object to the form.
 22 A. Well, previous exhibit -- I don't know if
 23 it --
 24 Q. (By Mr. Oaas) Exhibit 39.
 25 A. I understand that. I'm looking to see

1 whether the type of PCB is mentioned here.
 2 Q. All right.
 3 A. I don't recall any reference to the specific
 4 type.
 5 Q. All right. But assuming that Aroclor 1254
 6 was being found in mother's milk, then we're talking
 7 about the same type of PCB, correct?
 8 A. If you assume that, yeah.
 9 Q. All right.
 10 A. The 1254 --
 11 Q. Okay.
 12 A. -- applies.
 13 Q. I'm not -- I'm not a chemist and I don't
 14 have a degree in chemical engineering, but what would
 15 happen to my finger if I soaked it in a concentrated
 16 sulfuric acid bath for 255 hours?
 17 A. You would damage that finger quite a bit.
 18 It's like putting your finger in your car battery
 19 acid.
 20 Q. All right.
 21 A. It's the same acid.
 22 Q. Okay. And then let's go on to page 8. The
 23 next sub-heading is toward heat?
 24 A. I'm sorry?
 25 Q. Do you see that on page 8? Let's go to page

1 8 of Exhibit 40.
 2 A. Page 8.
 3 Q. Exhibit 40. The next sub-heading under --
 4 A. Oh, toward heat?
 5 Q. Yeah, toward heat.
 6 A. Okay.
 7 Q. That indicates that Aroclors are
 8 non-flammable up to 670 degrees Fahrenheit?
 9 A. That's true.
 10 Q. Okay. And then the next sub-heading is
 11 toward oxidation. Do you see that?
 12 A. Yes.
 13 Q. And that paragraph reads when Aroclor is
 14 subjected to a bomb test at 140 degrees Centigrade with
 15 250 pounds per square inch of oxygen, there is no
 16 evidence of oxidation as judged by development of
 17 acidity of formation of sludge. Did I read that
 18 correctly?
 19 A. Yes.
 20 Q. What does that mean to a laymen?
 21 A. It's not flammable.
 22 Q. All right. Isn't it true that PCBs --
 23 essentially one of the -- the characteristics of a PCB
 24 was that it was indestructible?
 25 MR. MILLER: Let -- let me object to the

Page 189 1 form. Are you talking about what was known and 2 knowable in 1945 when this publication was issued 3 or after -- 4 MR. OAAS: I'm talking about whatever 5 Mr. Papageorge knows about PCBs. 6 A. Well, when you use the expression was not 7 destructible -- 8 Q. (By Mr. Oaas) Indestructible? 9 A. Was not indestructible? 10 Q. The question was, isn't it true that PCBs 11 were virtually indestructible? 12 A. If -- if virtually means for all practical 13 purposes, the answer is yes. 14 Q. All right. 15 MR. OAAS: Is that a good place to stop? 16 THE VIDEOGRAPHER: We're off the record at 17 10:00 a.m. ending tape no. 1. 18 (A short break was taken.) 19 THE VIDEOGRAPHER: We are back on the record 20 at 10:18 a.m. with -- starting tape no. 2. 21 Q. (By Mr. Oaas) Mr. Papageorge, we just 22 completed about an hour of testimony. Are you ready to 23 continue? 24 A. Yes. 25 MR. OAAS: And just for the record, that	Page 191 1 hand corner which would -- would -- which would be page 2 117 of the deposition, I want to direct your attention 3 down to line 14 where there was a question propounded 4 to you that begins with okay, by January 1971. Are 5 you -- are you following me now? 6 A. Yes. 7 Q. Okay. If I read that correctly, it says 8 okay, by January of -- by January 1971, you had 9 concluded that high levels of PCBs would continue to 10 exist in the plant waste streams because of the PCBs 11 trapped in the soil and the -- and the sewer system, 12 correct? 13 And your answer was that is correct. 14 Next question. Okay. What did you mean 15 when you said that high levels will continue because of 16 the PCBs trapped in the soil, and if you go ahead and 17 read your answer to that question, Mr. Papageorge. If 18 you would read that out loud for the record, please? 19 A. What I had in mind was the fact that PCBs 20 tenaciously hang on to soil particles like little 21 magnets, and since they aren't destructible in the 22 environment, they will be there forever such that at -- 23 such that any time a water flow occurs in this soil, 24 the chances of that soil with its PCB being transported 25 will remain. And later, if a sample of that
Page 190 1 break took about 20 minutes, Adam, and I don't want to 2 raise a big fuss about it, but -- 3 MR. MILLER: I'm sorry about that. I was 4 that -- 5 MR. OAAS: -- I'm going to ask that we can -- 6 if it's okay with Mr. Papageorge, if we can limit the 7 next few breaks to about five minutes so we -- I still 8 have quite a bit of material to get through. 9 MR. MILLER: No, I -- I apologize. I was 10 talking with a colleague about The Daily Show, and 11 that -- that's the source of my news, so -- 12 MR. OAAS: All right. 13 Q. (By Mr. Oaas) Okay. If we can go to 14 Exhibit 41. 15 A. I have scanned the exhibit. 16 Q. Okay. And sir, apparently you gave a 17 deposition in a case in Alabama entitled Mars Hill 18 Missionary Baptist Church versus Monsanto Company. Do 19 you recall giving a deposition in that case on or about 20 March 31, 1998? 21 A. Yes. 22 Q. Okay. And I -- I just want to direct your 23 attention to the second page of this exhibit. 24 A. The second page. 25 Q. And I -- in the first box up on the left-	Page 192 1 contaminated water is taken, sure enough PCBs will be 2 found in it. 3 Q. Okay. And if I asked you that same question 4 today in 2006 rather than in 1998, would you give the 5 same answer? 6 A. Yes. 7 Q. All right. Let's go on to Exhibit 42, 8 please. Would you take a minute and look at that 9 exhibit, please? 10 A. I have read the exhibit. 11 Q. All right. This exhibit appears to be at 12 least part of a letter that you prepared and sent to a 13 gentleman by the name of H.S. Bergen, B-e-r-g-e-n, in 14 July of 1970, correct? 15 A. Yes. 16 Q. And there's a reference to a Monsanto-USA 17 studies, something called river die-away studies. Do 18 you see that on the front page? 19 A. I do. 20 Q. What -- what were those? 21 A. They were studies made of samples looking 22 for the presence of some of Monsanto's Aroclor 23 products. 24 Q. And where were you looking? 25 A. Why were --

Page 193 1 Q. Where? 2 A. I forget the -- the exact rivers. It's 3 nearby river streams near the plant. 4 Q. Near -- near the Anniston plant? 5 A. Correct. 6 Q. All right. Am I correct in assuming that 7 the purpose of this study would be able to see if any 8 of the Aroclors biodegraded in water? 9 A. Yes. 10 Q. Okay. And the conclusion was, at least 11 according to the co -- conclusion that you reported 12 here, was that Aroclor 1221 disappears, but Aroclor 13 1242, 1248 and 1254 were un-degraded. Do you see where 14 I was reading that? 15 A. Oh, the first sentence? 16 Q. First -- 17 A. Uh-huh. That's true. 18 Q. Okay. 19 A. You read it right. 20 Q. Okay. Were those findings ever contradicted 21 by later studies, that you know of? 22 MR. MILLER: If you remember. 23 A. I don't recall any contradicting studies. 24 Q. (By Mr. Oaas) Okay. Let's go on to Exhibit 25 43.	Page 195 1 your attention to the first page of this exhibit. The 2 first sentence reads from the background data 3 presented, it appears that something of the order of 80 4 million pounds of polychlorinated biphenyls, PCB, are 5 produced annually. Do you see that? 6 A. I do. 7 Q. Would you agree or disagree with that 8 statement? 9 A. I hesitate because I don't know if he's 10 referring to the -- the world production or the U.S. 11 production. 12 Q. Okay. All right. Let's go down to about 13 the middle of the exhibit on the first page. There's a 14 sentence that begins however, about 40 million pounds. 15 If you could just find that -- that sentence. 16 A. I found it. 17 Q. It reads however, about 40 million pounds 18 annually is stated to be used as plasticisers, 19 hydraulic fluid, adhesives, and in carbon paper. From 20 this amount a very substantial percentage must escape 21 into the environment as wastes. Because of the 22 apparent high stability of PCB, amounts entering the 23 environment would be degraded very slowly and it seems 24 possible that at least 10 million pounds annually may 25 become environmental contaminants. Would you agree or
Page 194 1 MR. MILLER: Torger, before you ask a 2 question, is this complete? 3 MR. Oaas: As far as I know. As far as I 4 know. 5 A. I have read the exhibit. 6 Q. (By Mr. Oaas) Okay. Have you ever seen 7 Exhibit 43 before? 8 A. It appears familiar -- 9 Q. All right. 10 A. -- yes. 11 Q. It indicates that it's a report and comment 12 by a gentleman by the name of Robert Metcalf of 13 Industrial Biotest Labs dated March 21, 1969, correct? 14 A. I'm trying to remember where Bob Metcalf -- 15 I guess he -- I have to believe he was with Industrial 16 Biotest, yes. 17 Q. Okay. Did you attend the presen -- this 18 particular presentation? 19 A. In 1969, no. 20 Q. Okay. Was this -- to your knowledge, was 21 this presentation made to other employees of Monsanto? 22 MR. MILLER: Object to the form, calls for 23 speculation since he wasn't present. 24 A. I don't know. 25 Q. (By Mr. Oaas) All right. I want to direct	Page 196 1 disagree with that statement? 2 A. Well, the only hesitation I have is that -- 3 the reference to 10 million pounds is this speaker's 4 estimate. I have no way of knowing how accurate that 5 is. 6 Q. Okay. Let's go down to the last sentence on 7 the first page. It reads because of the apparent 8 stability of these compounds, most of this amount may 9 still be circulating in the global ecosystem, and this 10 is suggested by the levels reported by Holmes, et al., 11 paren, 1967, close paren, and Risebrough, et al., 12 paren, 1968, in animal tissues which were quite 13 comparable to those found for DDT. Would you agree or 14 disagree with that statement? 15 A. Well, the -- the use of words may still be 16 and suggested by the statement -- I can support it, but 17 it's iffy. 18 Q. All right. Let's go to the second page of 19 the exhibit -- 20 A. Uh-huh. 21 Q. -- and direct your attention to the bottom 22 ex -- bottom of the second page under the heading 23 conclusions and suggestions. 24 A. I see it. 25 Q. It reads it seems to the writer that the

Page 197 1 evidence regarding PCB effects on environmental quality 2 is efficiently substantial, widespread, and alarming to 3 require immediate corrective action on the part of 4 Monsanto. Did I read that correctly? 5 A. You did. 6 Q. Okay. Would you agree or disagree with that 7 statement? 8 A. I agree with the sufficiently substantial, 9 yes. 10 Q. All right. And that statement was made 11 in -- in March of 1969. If we go to the next exhibit, 12 Exhibit 44, which for the record is a duplicate of 13 Exhibit 3, I believe. Exhibit 44 would indicate 14 that -- that in 1969, if these figures are accurate, 15 that Monsanto produced for domestic sales 67 -- a 16 little more than 67 million pounds of PCBs, correct? 17 A. That's what this indicates, yes. 18 Q. And in 1970, the year following 19 Mr. Metcalf's report, Monsanto produced 73 -- over 73 20 million pounds of PCBs for domestic -- in the domestic 21 sales category, correct? 22 A. Correct. 23 Q. And at least in the time frame between 1963 24 and 1970, the years 1969 and 1970 appear to be the 25 highest -- years that represent the highest volume of	Page 199 1 A. Well, I can't speak for the author of this 2 report, but -- 3 Q. All right. Okay. Let's go to page -- it's 4 actually the fourth page from the front, but it's 5 marked -- it has the number 2 at the top, and it's MONS 6 number at the bottom 036717. 7 A. I have it. 8 Q. Okay. The second paragraph reads during the 9 summer, we have received reports of PCBs in milk in 10 Georgia and Maryland in fish and water of Lake Michigan 11 and fish and oysters in the Gulf of Mexico. Did I read 12 that correctly? 13 A. Yes. 14 Q. And would -- would that sentence be typical 15 of the kind of reports that Monsanto was receiving 16 about the presence of PCBs in the environment during 17 the years 1969 and 1970? 18 A. Yes. 19 Q. And then it goes -- and then -- then 20 directing your attention to the next to last paragraph 21 of the same page. It reads other sources of 22 contamination, parentheses, in milk, etc., close paren, 23 have not been pinpointed, but it appears likely that 24 some of our customers' products will be responsible. 25 For example, our research effort, stimulated by a
Page 198 1 domestic sales for PCBs during that time frame, 2 correct? 3 A. Correct. 4 Q. All right. Let's go on to Exhibit 45. 5 A. I have scanned the article. 6 Q. All right. Before we get to it, 7 Mr. Papageorge, I wanted to as -- to ask you if you 8 knew what the cost of a pound of Aroclor 1254 average 9 grade was to a Monsanto customer in 1969 and 1970? 10 A. I do not. 11 Q. In reference to Exhibit 45, this appears to 12 be a quarterly report by the Medical Department of 13 Monsanto? 14 A. It is. 15 Q. For the months July, August, September of 16 '69? 17 A. Yes. 18 Q. The front page indicates it contains 19 confidential information? 20 A. It does. 21 Q. And then the last sentence on the front page 22 says please destroy this report when you are finished 23 with it? 24 A. It does. 25 Q. Do you know why that would be there?	Page 200 1 report that a dish washing compound was found to 2 contain PCBs by a federal government laboratory in 3 Michigan, revealed that four out of five electric dish 4 washing compounds purchased in a supermarket in 5 St. Louis contained up to five parts per billion of 6 Aroclor. Did I read that correctly? 7 A. Yes, you did. 8 Q. Okay. Would it -- would tho -- would -- the 9 reference to a dish washing compound, would that be 10 considered a household product -- 11 MR. MILLER: Object to the form. It calls 12 for speculation as to -- 13 Q. (By Mr. Oaas) -- if you know? 14 MR. MILLER: -- who was using it. 15 A. I don't know if it's limited to household or 16 total. 17 Q. (By Mr. Oaas) All right. We can go to the 18 next page. Directing your attention to the paragraph 19 above pollution control, starting with the words the 20 Organic Division. Do you see that? 21 A. I see that. 22 Q. It reads the Organic Division -- and again, 23 that's the division that produced PCBs? 24 A. Correct. 25 Q. Okay -- which produces this series of very

1 profitable products -- would you agree that PCBs were
2 very profitable products in 1969-1970?

3 A. Yes.

4 Q. Okay. The Organic Division which produces
5 this series of very profitable products has a concerted
6 effort underway to protect continued sales and uses.
7 Did I read that correctly?

8 A. Yes.

9 Q. All right. Let's go on to the next exhibit,
10 46?

11 A. I have scanned the exhibit.

12 Q. Thank you. It references the -- on the
13 first page minutes of the Aroclor, quote, Ad Hoc
14 Committee First Meeting. Do you see that, sir?

15 A. I do.

16 Q. I believe you were still the Plant Manager
17 in Anniston in September of 1969, but would it -- would
18 it be accurate to say that you became familiar with the
19 work of the Aroclor Ad Hoc Committee after you became
20 the Manager of Environmental Control for Monsanto in
21 1970?

22 A. I was aware of the existence when I was
23 Plant Manager --

24 Q. I understand that.

25 A. -- but I didn't know all of the details of

1 what they were discussing.

2 Q. Okay. Would it be true to say that after
3 you became Manager of Environmental Control, you became
4 more familiar with the work of the Aroclor Ad Hoc
5 Committee?

6 A. Yes.

7 Q. Okay. Can you tell me what -- what the
8 Aroclor Ad Hoc Committee was and what its purpose was?

9 A. As I understood it, this group was asked to
10 form this Ad Hoc Committee to help the management
11 within Monsanto understand the total situation as best
12 as they could describe it to determine what actions
13 should be taken and how quickly such action should be
14 taken.

15 Q. Okay. On Exhibit 46, on the first page
16 there's a heading objectives. Do you see that?

17 A. I do.

18 Q. And in parentheses, agreed to by the
19 committee. It goes on to say submit recommendations
20 for action which will, I, permit continued sales and
21 profits of Aroclors and Terphenyls. Did I read that
22 correctly?

23 A. Yes.

24 Q. No. 2, under the objective heading -- 2,
25 permit continued development of uses and sales. Did I

1 read that correctly?

2 A. Correct. Yes.

3 Q. And 3, protect the image -- protect image of
4 Organic Division and of the corporation. Did I read
5 that correctly?

6 A. Yes.

7 Q. I -- I didn't see anywhere under this
8 heading or anywhere in this document where any of
9 the -- where any of the objectives of the Ad Hoc
10 Committee at that time were protection of the
11 environment?

12 A. It is not specifically stated, no.

13 Q. All right. Then down under the same page,
14 background discussion of problem on the -- on the first
15 page of that exhibit under paragraph no. 2; again, you
16 receive -- again, the committee is indicating that
17 Monsanto has received reports of PCBs being found in
18 fish, oysters, shrimp, and birds, correct?

19 A. That's correct.

20 Q. And then -- and then in B, they state it's
21 being found along coastlines of industrial --
22 industrialized areas such as Great Britain, Sweden,
23 Rhine River, low countries, Lake Michigan, Pensacola
24 Bay, in western wildlife, parentheses, eagles, close
25 parentheses. It may be a global contaminant. Do you

1 see that?

2 A. Yes, I do.

3 Q. Would you agree with that statement that by
4 September of 1969, Monsanto was beginning to realize
5 that the PCB problem was a global situation?

6 A. Yes.

7 Q. And then if you go to page 3 of that
8 exhibit -- and by the way, I think it's self-evident,
9 but I'm going to ask the question. At the time that
10 statement was made, it may be a global contaminant,
11 being made in September of 1969 -- in September of
12 1969, Monsanto was still producing and selling PCBs at
13 full capacity, correct?

14 A. Yes.

15 Q. All right. Go to page 3. Under Roman
16 numeral 8, heading environmental contamination by
17 customers. Do you see that paragraph down the second
18 half of the --

19 A. Roman numeral?

20 MR. MILLER: No, it's --

21 Q. (By Mr. Oaas) Excuse me. I mean no. 8,
22 paragraph no. 8. I misspoke, and I apologize. Do you
23 see the heading environmental contamination by
24 customers?

25 A. I see it.

1 Q. Okay. It goes on to say our in-plant
2 problems are very small versus problems of dealing with
3 environmental contamination by customers. Would you
4 agree with that statement?

5 A. Yes.

6 Q. Okay. It goes on to say in one application
7 alone, parentheses, highway paints, close parentheses,
8 one million pounds per year are used. Through abrasion
9 and leaching, we can assume that nearly all of this
10 Aroclor winds up in the environment. Would you agree
11 with that statement?

12 A. Yes.

13 Q. And I take it again that in 19 -- September
14 of 1969, Monsanto was producing and selling Aroclors
15 for use in highway marking paints?

16 A. Yes.

17 Q. Let's go on to Exhibit 47.

18 A. I have scanned the exhibit.

19 Q. Thank you, Mr. Papageorge. It's entitled
20 PCB environmental pollution abatement plan, and I -- I
21 really couldn't find a specific date concerning the
22 origin of this document, but I -- I'm going to ask you
23 if you know whether or not this document would have --
24 would have been produced in the years 1969 or 1970?

25 MR. MILLER: Object to the form, calls for

1 speculation, but if -- if you know when it was
2 produced, Mr. Papageorge, you can respond.

3 A. 6 -- 1969.

4 Q. (By Mr. Oaas) 1969?

5 A. Yes.

6 Q. All right.

7 A. October 15th.

8 Q. All right. Let's go to page 3 of the
9 exhibit. Now, there's a Roman numeral III paragraph
10 titled Extensiveness, correct --

11 A. I see that, yes.

12 Q. -- about the middle of the page. This
13 report indicates the problem involves the entire United
14 States, Canada, and sections of Europe, especially the
15 United Kingdom and Sweden. As the investigation
16 broadens, other areas of Europe, Asia, and Latin
17 America will surely become involved. Evidence of
18 contamination have been shown in some of the -- in some
19 of the very remote parts of the world. Did -- did I
20 read that correctly?

21 A. Yes.

22 Q. Would you agree with that statement?

23 A. Yes.

24 Q. Monsanto had that information in 1969?

25 A. Yes.

1 Q. Okay. And at the time they were still
2 producing PCBs at -- at maximum capacity, correct?

3 A. Correct.

4 Q. And then under Roman num -- Roman numeral
5 IV, just under that, the heading nature of the problem,
6 there's a reference to Professors Widmark and Jensen,
7 correct?

8 A. Correct.

9 Q. And I just want to direct your attention to
10 the last paraphrase on the last part of -- the last
11 part of the sentence under that heading where it says
12 truly the PCBs are a worldwide ecological problem. Do
13 you see that?

14 MR. MILLER: Let me object to the form.

15 That -- that's not the complete sentence.

16 MR. OAAS: Well, I'll read the whole
17 sentence.

18 MR. MILLER: Thank you.

19 Q. (By Mr. Oaas) In February 1969, Professor
20 Risebrough of the University of California published an
21 article in the San Francisco Chronicle relaying his
22 findings of PCB in the environment of the United
23 States. Monsanto confirmed the presence of PCBs in mid
24 1969 and confirmed the adequacy of the work by Widmark
25 and Jensen and others; truly the PCBs are a worldwide

1 ecological problem. Did I read that correctly?

2 A. Yes.

3 Q. Would you agree with the statement that
4 truly, comma, PCBs are a worldwide ecological problem?

5 A. Yes.

6 Q. That's something that Monsanto recognized in
7 1969?

8 A. The Ad Hoc Committee recognized it, but I
9 cannot speak for Monsanto as a total entity. I don't
10 know --

11 Q. All right.

12 A. -- how far they communicated yet.

13 Q. All right. Fair enough. Let's go on to
14 page 4.

15 A. I have it.

16 Q. I'm going to start with the -- the sentence
17 just above paragraph 1, fish. The seriousness of the
18 problem can best be spelled out as following, paragraph
19 1, fish. Marine or aquatic species concentrate PCB in
20 the fatty tissue. Toxic in small quantities,
21 parentheses, down to five parts per million to
22 sensitive marine life such as shrimp. Did I read that
23 correctly?

24 A. Yes.

25 Q. And I notice that fish is the first -- the

1 first species mentioned under the -- following the
 2 sentence the seriousness of the problem can best be
 3 spelled out as follow, correct?
 4 A. Yes.
 5 Q. By this time, did Monsanto understand the
 6 concept of bio -- biomagnification or bioaccumulation
 7 with PCBs in fish?
 8 MR. MILLER: Are you talking about in
 9 October 1969?
 10 MR. OAAS: Right.
 11 A. You're talking about the general term
 12 biomagnification or PCB biomagnification?
 13 Q. (By Mr. Oaas) I'm talking about the term
 14 biomagnification or bioaccumulation of PCBs in fish.
 15 MR. MILLER: And Mr. Papageorge is here in
 16 his individual capacity. You're asking him what
 17 Monsanto knew or understood?
 18 MR. OAAS: Right.
 19 MR. MILLER: So just what you knew or
 20 understood, Mr. Papageorge, is what the question
 21 relates to.
 22 A. What did I know in '69?
 23 Q. (By Mr. Oaas) Uh-huh.
 24 A. I was aware of discussions on the subject --
 25 Q. Okay.

1 A. -- but I have no -- I had no idea at all how
 2 accurate they were or how significant they were.
 3 Q. What -- what are we talking about when we
 4 refer to -- we refer to biomagnification of PCBs in
 5 fish? Can you just describe what that means?
 6 A. Biomagnification?
 7 Q. Sure.
 8 A. To me, the word biomagnification means that
 9 biologically in this creature, the amount of this
 10 material continues to increase as long as that creature
 11 is exposed to that particular environment.
 12 Q. All right. Okay. Thank you. Let's go to
 13 page 5 of this exhibit. I want to draw your attention
 14 to paragraph A entitled Legal Liability. Do you see
 15 that?
 16 A. I see it, yes.
 17 Q. It reads direct lawsuits are possible. The
 18 material -- the materials are already present in nature
 19 having done their, quote, alleged damage, end quote.
 20 All customers using these products have not been
 21 officially notified about known effects nor do our
 22 labels carry this information. Would that -- and --
 23 and just referring to that sentence -- and I'll read it
 24 again. All customers using these products have not
 25 been officially notified about known effects nor do our

1 labels carry this information. Would that be a correct
 2 statement at that time?
 3 A. At that time, yes.
 4 Q. Then down to paragraph B, pub -- public
 5 image. I want to go to the second -- first sentence in
 6 the second paragraph. It reads the evidence proving
 7 the persistence of these compounds in their universal
 8 presence as residues in the environment is beyond
 9 questioning. Do you see -- do you see that sentence?
 10 A. I do.
 11 Q. And would you agree that at least the Ad Hoc
 12 Committee of that part of Monsanto believed that to be
 13 true?
 14 A. Yes.
 15 Q. Okay. And that would be -- again, been in
 16 October of 1969?
 17 A. Correct.
 18 Q. Okay. And at a time, again, when Monsanto
 19 was in full production capacity with respect to PCBs,
 20 correct?
 21 A. Correct.
 22 Q. Let's go to the next page, 6. I want to
 23 draw your attention to Roman numeral no. VII, the
 24 heading involvement with other producers. Do you see
 25 where I'm reading from, sir?

1 A. Yes.
 2 Q. It says although Monsanto is most probably
 3 responsible for the U.S. contamination and jointly
 4 responsible with MCL -- and I take it MCL means
 5 Monsanto in Great Britain, correct?
 6 A. Correct.
 7 Q. -- for the United Kingdom problem, we cannot
 8 accept responsibility for the world. Did I read that
 9 correctly?
 10 A. Yes.
 11 Q. Okay. To your knowledge, at any time when
 12 you were the Manager of Environmental Control up to the
 13 period of time that your position as Director of
 14 Environmental Operations ended in 1985 -- to your
 15 knowledge, did Monsanto ever re -- accept any
 16 responsibility for any U.S. contamination by PCBs?
 17 MR. MILLER: Hold on.
 18 Let me object to the form of the question.
 19 When you use the word responsibility, that may call for
 20 a legal conclusion, and aside from that, I think this
 21 paragraph merely refers to Monsanto being a number
 22 of -- one of a number of producers; and therefore, what
 23 this is referring to is the attribution to Monsanto of
 24 PCBs in the environment, not in terms of responsibility
 25 as you're using the term.

1 Q. (By Mr. Oaas) Did you understand my
2 question, Mr. Papageorge?
3 A. Would you mind repeating it?
4 Q. No, I don't mind a bit. This paragraph 7
5 reads although Monsanto is most probably responsible --
6 MR. OAAS: And I'll stipulate you can have
7 the same objection after I finish the question.
8 Q. (By Mr. Oaas) Although Monsanto is most
9 probably responsible for the U.S. contamination and
10 jointly responsible with MCL for the United Kingdom
11 problem, we cannot accept responsibility for the
12 world. Did I read that correctly? That's my first
13 question.
14 A. You did.
15 Q. Okay. Then I want to know at any point in
16 time between 1970, when you became the Manager of
17 Environmental Control for Monsanto, through 1985, when
18 your -- when your tenure as Director of Environmental
19 Operations ceased, did Monsanto ever accept
20 responsibility for any U.S. contamination by PCBs?
21 MR. MILLER: Same objection. Object --
22 object to the form.
23 A. Did Monsanto accept any responsibility?
24 Q. (By Mr. Oaas) Right?
25 A. Yes. Some of it, yeah.

1 Q. In what respect?
2 MR. MILLER: Same objections. Calls for a
3 legal conclusion, and the term responsibility is
4 undefined. It may call for a legal conclusion.
5 A. The identity chemically of the material
6 resembling what Monsanto produced, its source may or
7 may not have been Monsanto.
8 Q. (By Mr. Oaas) Okay. I didn't mean to
9 interrupt you. Did you finish your answer?
10 A. Yeah.
11 Q. All right. Could you turn to page -- it
12 doesn't have a number, but it -- I'm referring to this
13 number here, Mr. Papageorge, MONS035390. I'm just
14 going to show you what it looks like.
15 MR. MILLER: Yeah, I think he's there.
16 A. Yeah.
17 Q. (By Mr. Oaas) Have you ever -- go ahead and
18 take a look at this page for yourself.
19 A. I have looked it over.
20 Q. Have you ever seen this before?
21 A. Yes, I have.
22 Q. Do you know what it is?
23 A. My understanding, this was drawn up by one
24 of the members of the Ad Hoc Committee as to his
25 impression of what would happen under these three

1 different types of action, the do nothing, the
2 discontinue, and responsible approach, and this
3 individual presented his views by drawing these
4 handmade sketches of lines to show increase and
5 decrease.
6 Q. Do you know who that individual was?
7 A. I understand it was Bill Richards.
8 Q. Okay. And it appears to me that he was
9 comparing what would happen to profits and liability
10 over time depending on which course of action was
11 chosen by Monsanto with respect to PCBs?
12 A. Correct.
13 Q. All right. And do you know what position
14 Mr. Richards held with Monsanto at the time?
15 A. He was the Director of Research for the
16 Functional Fluids Group.
17 Q. Okay. Let's go to Exhibit 48.
18 A. I have read this --
19 Q. Okay.
20 A. -- exhibit.
21 Q. Have you ever seen Exhibit 48 before?
22 A. I don't recall this specific one, no.
23 Q. Okay. Let's go on to Exhibit 49.
24 MR. OAAS: And just for the record, I'll
25 advise counsel that as far as this exhibit goes, my

1 questions relate to the first five pages of the exhibit
2 and the last page of the exhibit.
3 Q. (By Mr. Oaas) You can certainly take as
4 much time to review the exhibit if you want,
5 Mr. Papageorge, but for the record I'll be referring to
6 the first five pages and the summary at the end.
7 A. You suggested that you're going to discuss
8 the first five pages?
9 Q. Yeah. My questions pertain just to the
10 first five pages and the -- and the summary at the
11 end.
12 A. And the summary. I have read the first five
13 pages and the -- and the summary --
14 Q. Thank you.
15 A. -- and scanned the rest of it.
16 Q. All right. And if -- if you feel you need
17 to refer to any part of the exhibit to -- to answer a
18 question, you go right ahead and do it. All right?
19 A. Thank you.
20 Q. The first page indicates that this is a -- a
21 Monsanto document entitled Company Confidential
22 Attorney/Client Privilege. That's at the top of the
23 document, correct??
24 A. Yeah -- yes, it does.
25 Q. And the date appears to be Oct -- the date

1 of the creation of this document was October 15, 1969?

2 A. Yes.

3 Q. And again, we're referring to the Aroclor,
4 quote, Ad Hoc, end quote, Committee, correct?

5 A. Correct.

6 Q. All right. Now, if you go to the first page
7 of the exhibit, which is really the third page. I'm
8 just referring to the no. 1 at the bottom. That's the
9 page I'm -- I'm going to, and I'll call it the first
10 page. Do you see it there?

11 A. I have it.

12 Q. Okay. And just directing your attention to
13 the bottom of page 1 of this exhibit. It reads in the
14 last six months, PCBs have been reported in, A, milk in
15 Georgia; B, waters of Lake Michigan; C, fish in
16 Connecticut; D, seafood along the Gulf Coast,
17 parentheses, toxic-fatal to shrimp at Pensacola, close
18 parentheses. Again, those -- my same question. Those
19 would be the type of reports that Mon -- Monsanto was
20 continuing to receive in the 1969-1970 time frame?

21 A. Yes.

22 Q. And then going on to the next page, page 2,
23 under the heading 1, evidence of problem, continued.
24 It says -- reports that PCBs are being found in
25 electric dish washing compounds, milk in Maryland, Bald

1 Eagles from the Midwest, and H, mother's milk,
2 parentheses, rumor-not confirmed, in Denver. Do you
3 see that?

4 A. I do.

5 Q. Again, those would be the kind of reports
6 that Monsanto was continuing to receive during that
7 same time frame, 1969-1970?

8 A. Yes.

9 Q. Okay. And then under the -- the -- no. 1,
10 after the next heading, which reads after
11 investigation, dash, not complete in all cases, dash,
12 the committee has concluded -- and no. 1 there reads
13 that the identification of PCBs as contaminants of the
14 environment is certain. Did I read that correctly?

15 A. Correct.

16 Q. Okay. And would you have agreed with that
17 statement at that time?

18 MR. MILLER: I'm -- I'm sorry. Can you
19 repeat the question?

20 MR. OAAS: Yeah

21 Q. (By Mr. Oaas) Would you -- do you agree
22 with that statement?

23 A. Yes.

24 Q. Okay. Let's go on to the -- page 5 under
25 the heading tox -- tox -- toxicological aspects.

1 A. I have it.

2 Q. And it appears to contain a summary of
3 toxicity considerations that are being reported by the
4 Ad Hoc Committee?

5 A. Yes.

6 Q. Okay. Under sub-A, it says the PCBs are,
7 quote, moderately, end quote, toxic to man. Would you
8 agree with that statement?

9 MR. MILLER: Object to the form. Lack of
10 foundation.

11 A. The word moderately in quotes is subject to
12 all sorts of definitions, so I don't know if I -- if I
13 can agree to it or not unless I see a more specific
14 wording.

15 Q. (By Mr. Oaas) Okay. Let's go to sub-B.
16 That reads although only, quote, moderately, end quote,
17 or, quote, slightly, end quote, toxic to adult birds
18 and fish on the basis of acute exposure, the, quote,
19 safe long-term, end quote, or, quote, chronic dose, end
20 quote, is less than 100 parts per million insofar as
21 reproduction is concerned. Do you agree with that
22 statement?

23 MR. MILLER: Object to the form, lack of
24 foundation. He's got no expertise.

25 A. There again --

1 Q. (By Mr. Oaas) Let me -- let me rephrase
2 that question. As -- as the Manager of Environmental
3 Control for Monsanto between 1973 and 1977, would you
4 agree with that statement?

5 MR. MILLER: Object to the form. Same --
6 same objections.

7 A. Again, when I became involved, I had to get
8 better definitions of what was meant by moderately and
9 slightly, so the statement is a little bit too broad to
10 make a concerted opinion about the seriousness of the
11 situation.

12 Q. (By Mr. Oaas) All right. And if I asked
13 you the same question with reference to the time frame
14 that you were Director of Environmental Operations,
15 would your answer be the same?

16 MR. MILLER: Object to the form. It still
17 implies he has expertise in aquatic or human toxicology
18 to either agree or disagree with those statements as
19 opposed to them just being taken as face value as being
20 reported.

21 A. Well, I find that I'm not totally in
22 agreement with the statement.

23 Q. (By Mr. Oaas) Okay. Let's go to page 23,
24 the summary. My question, sir, is as Manager of
25 Environmental Control for Monsanto, would you agree

1 with the four conclusions drawn there in the -- in the
2 summary on page 23 of this exhibit?

3 A. I do.

4 MR. MILLER: Object -- just show an
5 objection to the form. I know he responded before I
6 objected.

7 Q. (By Mr. Oaas) Would -- would you agree
8 that -- would you agree with those conclusions as the
9 Director of Environmental Operations for Monsanto?

10 A. Yes.

11 Q. Okay.

12 THE VIDEOGRAPHER: Take a break?

13 MR. OAAS: Yeah.

14 THE VIDEOGRAPHER: We're off the record at
15 11:14 a.m. ending tape no. 2.

16 (A short break was taken.)

17 THE VIDEOGRAPHER: We're back on the record
18 at 11:18 a.m. starting tape no. 3.

19 Q. (By Mr. Oaas) Thank you, Mr. Papageorge.
20 We've gone about halfway through our morning session.
21 Are you ready to continue?

22 A. Yes.

23 Q. All right. I think the next exhibit that we
24 want to look at was Exhibit 50. Do you have that
25 exhibit in front of you?

1 A. Yes, I do.

2 Q. Have you had a chance to look through that
3 exhibit?

4 A. Yes.

5 Q. Have you ever seen this exhibit before?

6 A. Yes.

7 Q. It appears to me to be a letter from the
8 Director of the US EPA to the -- to a Mr. Hanley. It
9 was from -- to -- who was an employee at Monsanto at
10 the time?

11 A. Yes.

12 Q. And what was Mr. Hanley's capacity as of the
13 date of this letter, which was December 22, 1975?

14 A. He was the President of Monsanto Chemical
15 Company.

16 Q. Okay. So this is a letter from the Head of
17 the EPA to the President of Monsanto, correct?

18 A. Correct.

19 Q. Okay. And I just want to direct your
20 attention to the first paragraph of the letter. It
21 reads for at least five years the federal government
22 and the manufacturing industry have been aware that
23 Polychlorinated Biphenyls, parentheses, PCBs, close
24 parentheses, pose a threat to human health in the
25 environment. Last month at EPA's national conference

1 on Polychlorinated Biphenyls in Chicago, leading
2 experts clearly documented the fact that PCBs are
3 pervasive in the environment, are causing disruption,
4 and economic -- economic harm to commercial fishing in
5 many areas, and are creating a serious potential health
6 hazard to the public. While certain voluntarily
7 measures have been initiated in the past, the
8 widespread and persistent occurrence of PCBs
9 underscores the failure of existing practices to
10 adequately control the escape of PCBs into the
11 environment. Did I read that correctly?

12 A. Yes.

13 Q. I just want to direct your attention to the
14 last sentence of that paragraph that starts with while
15 certain voluntary measures have been initiated in the
16 past. Do you see that part of that sentence,
17 Mr. Papageorge?

18 A. I do.

19 Q. Would it be -- would it be fair to say
20 that -- what -- let me ask you this question. What's
21 your understanding of what Mr. Train is referring to
22 there?

23 MR. MILLER: Object to the form. It calls
24 for speculation.

25 If you can speak on --

1 A. I interpreted that as reflecting Mr. Train's
2 understanding of what Monsanto and its customers and
3 eventual users were doing. That's the voluntary
4 measures he referred to --

5 Q. (By Mr. Oaas) All right.

6 A. -- and he's also im -- implying that the
7 widespread and persistent occurrence of PCBs
8 underscores the failure of the practices. That's his
9 impression of the situation at that time.

10 Q. Would you agree or disagree with it as the
11 Director of Environmental Operations for Monsanto?

12 A. At that time, I felt that he was overly
13 cautious.

14 Q. All right. I meant to ask you a question
15 before. I believe in -- in response to a previous
16 question you indicated that in the 1960 time frame that
17 there were a lot of other plasticisers around on the
18 market besides PCBs?

19 A. Yes.

20 Q. Okay. What did you mean by that?

21 A. Well, there are many, many chemicals that
22 serve the function of plasticising when they're used.
23 I'm familiar with some of them, not all of them. For
24 example, thallate esters is a group of chemicals. When
25 they're added to the basic plastic material, that

1 plastic material becomes flexible. It doesn't break
 2 when you try to flex it, and that's what the principle
 3 contribution of a plasticiser does. It gives
 4 flexibility.
 5 Q. Can you give me any idea of how many non-PCB
 6 plasticisers were available on the market in the 1960s?
 7 MR. MILLER: Object to the form. He just
 8 said he didn't know all of them, so --
 9 Q. (By Mr. Oaas) Do you have any idea?
 10 A. Do I have an idea?
 11 MR. MILLER: Calls for speculation.
 12 A. I can give you --
 13 Q. (By Mr. Oaas) Tell me the ones that you
 14 know about.
 15 A. The thallates, the -- I -- I mention those
 16 because I helped manufacture some of them. Golly.
 17 It -- they escape me now. There must be 50 or so --
 18 Q. Okay.
 19 A. -- chemicals that fit that.
 20 Q. Did -- was Monsanto manufacturing and
 21 producing a non-PCB plasticiser in the 1960 time frame?
 22 A. Well, I'm certain of the thallate esters.
 23 MR. MILLER: Are you talking about 1960?
 24 MR. OAAS: 1960s.
 25 MR. MILLER: That's a different question.

1 Q. (By Mr. Oaas) The time frame I was
 2 referring to in the last question was in the 1960s.
 3 Was Monsanto producing a non-PCB plasticiser during
 4 that time frame?
 5 A. Yes.
 6 Q. All right. Let's go to Exhibit 51.
 7 A. I have reviewed the exhibit.
 8 MR. OAAS: And just for the record, I want
 9 to point out to counsel that this exhibit contains
 10 three non-sequential MONS numbers. The first one being
 11 MONS090078, MONS090521, and MONS090080. The reason
 12 being that we pie -- I pieced this exhibit together,
 13 and I believe it's complete and accurate from the
 14 portions of exhibits that we obtained from the law firm
 15 in Greensboro when we went there. One of the first
 16 pages had the date blocked off on the front, and -- and
 17 one exhibit only had two pages, but --
 18 MR. MILLER: That's fine.
 19 MR. OAAS: -- I'm just pointing that out to
 20 you.
 21 MR. MILLER: And -- and you got it from
 22 Dr. Madson, so --
 23 MR. OAAS: Right.
 24 MR. MILLER: -- who has had it for years, so
 25 I don't see a problem.

1 MR. OAAS: Okay.
 2 Q. (By Mr. Oaas) Have you seen Exhibit 51
 3 before, Mr. Papageorge?
 4 A. I recall seeing it, yes.
 5 Q. Okay. Do you recall the first time that you
 6 would have seen it?
 7 A. Early 1970.
 8 Q. All right. And that would have been in your
 9 position as Manager of Environmental Control for
 10 Monsanto?
 11 A. Yes.
 12 Q. Okay. And again, we talked about Dr. Jensen
 13 yesterday, but he was significant in the PCB story
 14 for -- for what reasons? Would you go ahead and -- and
 15 just --
 16 A. He was significant for what reasons?
 17 Q. Yeah. For what reasons?
 18 A. Well, he's the individual that in his
 19 laboratory work involving DDT found material that was
 20 interfering with his analysis of DDT and eventually was
 21 able to initially identify it as a chlorinated
 22 biphenyl.
 23 Q. Okay. And Exhibit 51 appears to be a letter
 24 from a law firm in Sweden to -- and the address on the
 25 first page is Monsanto Europe, Brussels 3, Belgium. Do

1 you -- do you see that?
 2 A. Yes.
 3 MR. MILLER: Well, let me just object to the
 4 characterizations to the -- the -- whether or not it's
 5 a law firm. I don't -- I don't know whether that's the
 6 case.
 7 Q. (By Mr. Oaas) Well, it's not important
 8 anyway, but do you -- it was sent to Monsanto -- it
 9 appears to be sent to Monsanto Europe, Brussels 3,
 10 Belgium, correct?
 11 A. Correct.
 12 Q. What is Monsanto Europe?
 13 A. It was an entity describing Monsanto's
 14 activities which included the manufacturing units in
 15 Great Britain and all of the marketing activities in
 16 the rest of Europe.
 17 Q. Okay. Do you recall who at -- who the head
 18 of Monsanto Europe was in 1966?
 19 A. No, I don't.
 20 Q. Okay. In reference to the exhibit -- and
 21 I -- I'm just directing your attention to what appears
 22 to be a reproduction of Jensen's work that appeared in
 23 a Swedish newspaper, and I'm starting -- and I'll start
 24 with the paragraph it is found in salmon and pike. Do
 25 you see where I'm referring -- on the first page,

1 Mr. Papageorge.
 2 A. Oh, all right.
 3 Q. It reads it is found in salmon and in pike.
 4 It is found in sea eagle living on fish. It is found
 5 on the surface of the needles of the fur trees that
 6 is -- that is in the air. It is found in the hair of a
 7 five month baby. This is information you received in
 8 1970 concerning Dr. Jensen's work?
 9 MR. MILLER: You personally.
 10 Q. (By Mr. Oaas) You as -- you as the Manager
 11 of Environmental Control for Monsanto?
 12 A. Oh. In -- yes.
 13 Q. Okay. And it goes on to say the scientists
 14 working with biocides have for as long -- for a long
 15 time seen this something as unknown peaks on their gas
 16 chromatographs and at a meeting at the Wemmer-Gren
 17 Center, Research Assistant Soren Jensen of the
 18 Institute for ana -- analytical chemistry at the
 19 Stockholm University could reveal the identity of these
 20 peaks. It has been found that they consist of a group
 21 of poisons, Polychlorinated Biphenyls, parentheses, for
 22 short PCB which are closely related to and equally
 23 poisonous as DDT. Again, that was information you
 24 received as Manager of Environmental Control for
 25 Monsanto in -- in 1970, correct?

1 A. Correct.
 2 Q. Okay. And I -- and I'm not going to go
 3 through the entire report, but again, it contains
 4 excerpts like -- let's go to the middle of page 2, the
 5 fourth paragraph down where Jensen reports, quote, PCB
 6 is found in water and in air and not only in the
 7 Swedish air, but also in e.g. London air. Mr. Jensen
 8 has not yet been in London for sampling, but could
 9 identify the poison by studying a gas chromatogram of
 10 air published in a British technical journal. And he
 11 goes on to say Mr. Jensen has also examined the hair of
 12 his family and himself and has found PCB in all
 13 samples. Most PCB was found in the hair of his wife,
 14 but most sensational was that the girl, age five
 15 months, had more PCB in her hair than her brothers and
 16 sisters of three and six years. Probably the girl had
 17 got the poison via the mother's milk. Again, that was
 18 information you got from Mr. Jensen's work when you
 19 were the Manager of Environmental Control in 1970?
 20 A. Correct. Correct.
 21 Q. All right. Now, let's go on to Exhibit 52.
 22 MR. MILLER: Do you have 52?
 23 MR. Oaas: Yes.
 24 A. I have read the exhibit.
 25 Q. (By Mr. Oaas) Okay. Have you -- have you

1 seen Exhibit 52 before, Mr. Papageorge?
 2 A. Yes.
 3 Q. Okay. Do you recall when that would have
 4 been?
 5 A. Early 1970.
 6 Q. Okay. It appears to be a letter from D.V.N.
 7 Hardy who I think we previously identified as -- as
 8 being with Monsanto Great Britain, and he was writing
 9 to somebody else -- a D.V.N. Hardy in -- in -- in
 10 London, also, correct?
 11 A. Correct.
 12 Q. And a copy of this letter was sent to
 13 Dr. Emmett Kelly in St. Louis, it indicates, correct?
 14 A. Correct.
 15 Q. Okay. And Mr. Hardy states in -- in the
 16 letter on the third paragraph I discussed with
 17 Richardson the soundness of Jensen's claims and was
 18 assured that his work and findings are sound. Jensen
 19 is on the staff of the Institute of Analytical
 20 Chemistry, University of Stockholm. And -- and this
 21 is -- this is the information you would have received
 22 in 1970, correct?
 23 A. Yes.
 24 Q. And it -- it also indicates that Monsanto
 25 Great Britain was familiar -- familiar with the report

1 that Dr. Jensen had made in 1966, correct?
 2 A. Yes.
 3 Q. All right. Let's go to Exhibit 53.
 4 MR. MILLER: Yeah, that's what I'm thinking.
 5 A. I have read the article.
 6 Q. (By Mr. Oaas) The first page of Exhibit
 7 53 -- again, the date of the exhibit would be in July
 8 of 1968, correct, on the first -- first page of Exhibit
 9 53?
 10 MR. MILLER: He's referring to that up at
 11 the top.
 12 A. Oh. Yes.
 13 Q. (By Mr. Oaas) Okay. It appears to be
 14 authored by a man named Cumming -- Cumming Paton,
 15 C-u-m-m-i-n-g P-a-t-o-n?
 16 A. Yes.
 17 Q. Can you identify who he is, please?
 18 A. He's a Monsanto employee that was at the
 19 home office of Monsanto and related to technical
 20 support for a line of products which included the PCBs.
 21 Q. All right. And attached to his letter of
 22 July 31, 1968 appears to be a publication in a -- a
 23 publication called the New Scientist, the title of the
 24 report of a new chemical hazard referring to Soren
 25 Jensen's work discovering PCBs in the environment in

1 1966, correct?
 2 A. Correct.
 3 Q. This -- going back to the first page of
 4 Exhibit 53. The second paragraph of Mr. Paton's letter
 5 reads their article of PCB is the most opinionated we
 6 have seen so far on Aroclor toxicity, and I am sure
 7 their omission of the word Aroclor has prevented even
 8 greater repercussions. Their theory on how PCB finds
 9 it -- its way into fish, quote, and later humans, end
 10 quote, is an all embracing one. I only hope Rachel
 11 Carson never subscribed to the New Scientist and
 12 that -- and that Ralph Nader doesn't decide to. Did I
 13 read that correctly?
 14 A. Yes.
 15 Q. Okay. Apparently, Mr. Paton didn't think
 16 much of Mr. Jen -- Mr. Jensen's work on PCBs, did he?
 17 MR. MILLER: Object to the form of the
 18 question.
 19 A. It doesn't seem that way.
 20 Q. (By Mr. Oaas) Yeah. As -- as Manager of
 21 Environmental Control for Monsanto, were you familiar
 22 with Rachel Carson's work -- work with respect to DDT?
 23 A. Yes.
 24 MR. OAAS: Okay. Do you want to take a
 25 break now or keep going?

1 MR. MILLER: No, that's fine. It's about
 2 quarter to 12:00. Do you want to take a -- an hour or
 3 45 minutes? How long do you think you have before
 4 you're finished?
 5 MR. OAAS: Well, I'm -- it looks like I'm
 6 going to take all the way to 1:00.
 7 MR. MILLER: Well, even -- Steve's got
 8 questions. I've got questions.
 9 THE VIDEOGRAPHER: We're off the record at
 10 11:41.
 11 (A short break was taken.)
 12 MR. HOVEN: We've agreed that Torger is
 13 going to continue with his questions until he's
 14 completed, which is at 1:00, and then Steve's going to
 15 follow up with some questions, and then we've agreed to
 16 find a date in the near future to resume this
 17 deposition to allow Monsanto to redirect. Agreeable?
 18 MR. OAAS: Yes.
 19 MR. MILLER: We're talking about a matter of
 20 weeks.
 21 MR. OAAS: That's agreeable.
 22 MR. MILLER: Mr. Hoven is leaving the
 23 deposition for the remainder of the afternoon, and
 24 plaintiffs have no objection to our continuing the
 25 deposition in his absence.

1 THE VIDEOGRAPHER: We're continuing back on
 2 the record at 12:02 p.m. starting tape no. 4.
 3 Q. (By Mr. Oaas) Thank you, Mr. Papageorge.
 4 We're going to go for another hour. Are you -- are you
 5 ready to go?
 6 A. I am ready.
 7 Q. Okay. I'm going to hand you another set of
 8 documents that we're going to go through in this last
 9 hour. You can set aside all of the other exhibits that
 10 we've previously used.
 11 MR. MILLER: This starts with 54?
 12 MR. OAAS: Right.
 13 MR. MILLER: Okay.
 14 (Deposition Exhibit Nos. 54 through 68
 15 marked for identification.)
 16 MR. OAAS: If you want to just get those out
 17 of your way, Mr. Papageorge, so you have some more to
 18 operate back there, we'll -- we'll accommodate you.
 19 Thank you, Chris.
 20 Q. (By Mr. Oaas) Mr. Papageorge, I'm going to
 21 have you look at Exhibit 54 to start with and ask you
 22 to look through that exhibit, please.
 23 A. I have read the article.
 24 Q. Have you ever seen Exhibit 54 before --
 25 A. It --

1 Q. -- Mr. Papageorge?
 2 A. -- it appears familiar, yes.
 3 Q. On the first page of that exhibit it's
 4 titled Statement From: Monsanto Company, St. Louis,
 5 Missouri. By the way, I think we should establish for
 6 the head -- for the record at least some point in this
 7 deposition that Monsanto's headquarters in the United
 8 States is located in St. Louis?
 9 A. Correct.
 10 Q. All right. And the date -- date of this
 11 exhibit is October 29, 1969. Do you see that up in the
 12 upper right-hand corner?
 13 A. I do.
 14 Q. It -- it appears me -- and correct me if I'm
 15 wrong. This appears to be a statement created by
 16 Monsanto for public dissemination?
 17 A. Yes.
 18 Q. Would -- would it be fair to call this a
 19 press release?
 20 A. Yes, that's appropriate.
 21 Q. Was it given to newspapers by Monsanto --
 22 MR. MILLER: To your knowledge.
 23 Q. (By Mr. Oaas) -- for publication -- well,
 24 let me -- let me ask -- let me ask you this question.
 25 Who did Monsanto give this exhibit to for public

Page 237 1 dissemination? 2 MR. MILLER: Object to the form. Calls for 3 speculation, but if you know. 4 A. I don't know the specifics, but it's -- this 5 type of information handled by Monsanto's public 6 relations department was distributed to not only 7 newspapers, but journals, magazines, radio stations, 8 TVs, and so on. 9 Q. (By Mr. Oaas) All right. Anybody who 10 wanted to know about -- had a question about PCBs and 11 called up Monsanto might have gotten a copy of this 12 statement? 13 MR. MILLER: Object to the form, calls for 14 speculation as to the date he may have received it, but 15 to the extent you know. 16 A. When you say might have, yes. 17 Q. (By Mr. Oaas) All right. Let's go to page 18 2 of the -- 2 of the exhibit. The third paragraph from 19 the top reads, quote, the common uses of commercial PCB 20 would not normally lead to its release into the natural 21 environment. Do you see that sentence, Mr. Papageorge? 22 A. Yes. 23 Q. As the Manager of Environmental Control for 24 Monsanto and as the Director of Environmental 25 Operations for Monsanto, would you agree with that	Page 239 1 with that statement? 2 A. Yes. 3 Q. All right. Let's go to Exhibit 55 then, 4 please. Now, that's a great big thick exhibit, and I'm 5 going to tell you, in the interest of saving time, that 6 my only questions are going to refer to page 36 of 7 that -- well, the front page of the exhibit as well as 8 page 36. 9 A. The front page -- 10 Q. The front page -- 11 A. -- being this one? 12 Q. -- being the page that the exhibit sticker 13 is on. 14 A. And then -- 15 Q. Page 36. 16 A. I think I have page 36. 17 Q. The heading is Miscellaneous Applications of 18 Aroclors? 19 A. Yes. 20 Q. All right. 21 A. I have read page 36. 22 Q. All right. And if -- if you need to refer 23 to any other part of this exhibit to answer a question, 24 please feel free to do so. I'm not trying to limit 25 your information here. I'm just trying to save time.
Page 238 1 statement? 2 A. Yes. 3 Q. Okay. Then let's go to page 3. The second 4 paragraph from the top says, quote, Polychlorinated 5 Biphenyls are not sprayed or dusted on crops, 6 woodlands, or any other areas as are pesticides. As 7 Manager of Environmental Control for Monsanto and as 8 Director of Environmental Operations for Monsanto, 9 would you agree with that statement? 10 A. Yes. 11 Q. It goes on to say in the next sentence to 12 our knowledge, they are not used in tires, house 13 paints, household products, epoxy resins, or major 14 vinyl plastics as has been charged. Again, as Manager 15 of Environmental Control and Director of Environmental 16 Operations for Monsanto, would you agree with that 17 sentence? 18 A. Yes. 19 Q. And then down on the fourth and last 20 paragraph of that page the first sentence reads it has 21 also been implied that polychlorinated biphenyls are, 22 quote, highly toxic, end quote, chemicals, period. 23 This is not true. As Manager of Product -- as Manager 24 of Environmental Control and as the Director of 25 Environmental Operations for Monsanto, would you agree	Page 240 1 A. Thank you. 2 Q. The head -- the first page of the exhibit, 3 the one that has the exhibit -- exhibit -- exhibit 4 sticker on it indicates that that is a Technical 5 Bulletin No. PL-306, correct? 6 A. Correct. 7 Q. It's a Monsanto publication? 8 A. Yes. 9 Q. And it's dated December 1960, correct? 10 A. Correct. 11 Q. We discussed yesterday that a Technical 12 Bulletin was, in general terms, information gathered 13 and publicized by Monsanto for its PCB customers -- in 14 this -- in this case for its PCB customers? 15 A. That is correct. 16 Q. And specifically, this Technical Bulletin 17 refers to, as the head -- heading on the front page 18 indicates, Aroclor plasticisers, correct? 19 A. Correct. 20 Q. All right. And it's my understanding that 21 this Technical Bulletin was in effect -- excuse me -- 22 was being used by Monsanto and being given to 23 Monsanto's PCB cu -- customers throughout the 1960s. 24 Would you agree with that? 25 MR. MILLER: Object to the form. Lack of

1 foundation. Through the entire decade?

2 MR. OAAS: Yes.

3 A. Very likely, but I have no way of knowing
4 whether it reached 1969 --

5 Q. (By Mr. Oaas) All right.

6 A. -- or '68 or some other date in the '60s.

7 Q. All right. Okay. Let's go to page 36
8 then.

9 A. I have it.

10 Q. And it -- it indicates that this technical
11 bulletin is telling customers in general about
12 miscellaneous applications of Aroclors. That's the
13 heading on the top, correct?

14 A. That is correct.

15 Q. And then I want to go down to the -- the --
16 the topic which starts with vapor suppression, the
17 heading vapor suppression. Do you see that?

18 A. I see that.

19 Q. Parentheses, for longer insecticide kill
20 life, close -- close parentheses. Do you see that?

21 A. I do.

22 Q. Mr. Papageorge, wouldn't insecticides be
23 something that's sprayed on crops and woodlands as
24 pesticides are?

25 MR. MILLER: Object to the form of the

1 question. It mischaracterizes this document, the third
2 paragraph of that particular section.

3 Q. (By Mr. Oaas) Well, my question -- do you
4 want me to repeat my question?

5 A. I would appreciate it.

6 Q. Okay. Mr. Papageorge, aren't insecticides
7 sprayed on -- sprayed or dusted on crops and woodlands?

8 MR. MILLER: In general or those that
9 include Aroclors?

10 MR. OAAS: In general.

11 MR. MILLER: Object to the form.

12 A. Yes.

13 Q. (By Mr. Oaas) Okay. In the paragraph under
14 the heading it goes on to say the effective kill life
15 of expensive chlorinated in -- insecticides is extended
16 as much as ten-fold by the incorporation of equal parts
17 of Aroclor 5460 -- is that a PCB, Aroclor 5460?

18 A. No, it's not.

19 Q. No, it's not. What is it?

20 A. It's a chlorinated terphenyl --

21 Q. Terphenyl.

22 A. T-e-r-p-h-e-n-y-l.

23 Q. All right -- which acts as both a vapor
24 suppressant and as a sticking agent. Hard surfaces,
25 painted or metallic, sprayed with lindane or benzene

1 hexachloride fortified with Aroclor 5460 remain toxic
2 to flies, ants, roaches, and silver fish for as long as
3 three months compared with one week for unfortified
4 sprays. Did I read that correctly?

5 A. Yes.

6 Q. Okay. And then I want to skip the next
7 paragraph and go on to the -- the last para -- the
8 third paragraph under that heading. Aroclor 5460 is
9 also recommended for non-crop insect formulations
10 containing chlordane, aldrin, and dieldrin. Do you
11 know -- do you know what the reference would be for
12 non-crop insect formulations using Aroclor 5460 as an
13 insecti -- as an insecticide extender?

14 A. It refers to insect -- insecticides used
15 against insects that are not related to crops. For
16 example, termites in a home.

17 Q. Something you would use -- for example,
18 termite control for a residence?

19 A. Correct.

20 Q. Okay. And then it goes on to say
21 formulations -- for non-crop insect formulations
22 containing chlordane, aldrin, and dieldrin. The other
23 resinous Aroclor compounds, 1254, 1260, 1262, 4465, and
24 5442, also non-volatile and sticky or tacky, likewise
25 merit evaluation as insecticide extenders. Did I read

1 that correctly?

2 A. Yes.

3 Q. And -- and we've already established that
4 1254, 1260, and 1262 at least are PCBs, correct?

5 A. Correct.

6 Q. Okay.

7 MR. MILLER: I'm going to object to the form
8 of the question. Move to strike. Its -- you did not
9 include non-crop insecticides in your question --

10 MR. OAAS: All right.

11 MR. MILLER: -- which is the meaning of this
12 paragraph.

13 MR. OAAS: All right.

14 Q. (By Mr. Oaas) Let's go on to Exhibit 56.

15 A. I have read the exhibit.

16 Q. All right. I take it you've seen Exhibit 56
17 before, correct?

18 A. Yes.

19 Q. All right. This appears to be a memo or
20 letter to you from Cumming Paton who we just previously
21 identified to you dated April 13th of 1970, correct?

22 A. Correct.

23 Q. And this would have been sent to you in your
24 capacity as the Manager for Environmental Control of
25 Monsanto, correct?

1 A. Correct.
 2 Q. And it's directed to you marked personal and
 3 confidential, correct?
 4 A. Correct.
 5 Q. And right under the words personal and
 6 confidential -- and I'll read -- just read it into
 7 the -- is analysis of our Aroclor plasticiser survey
 8 reveals a number of questionable applications. Do you
 9 see where I'm reading from?
 10 A. Yes.
 11 Q. What -- what -- what did -- and it --
 12 reference at the top of the letter Aroclor plasticiser
 13 survey. What -- what is that referring to,
 14 Mr. Papageorge?
 15 A. It's referring to the group of products that
 16 were Aroclors that were sold by the Monsanto group
 17 referred to as a Plasticiser --
 18 Q. Okay.
 19 A. -- Group.
 20 Q. I understand that part, but I'm -- what --
 21 what was the survey? What does the word survey
 22 indicate in Aroclor -- Aroclor plasticiser survey?
 23 What does that refer to?
 24 A. That tells me that the business group made a
 25 survey of all of its customers and the applications,

1 and Mr. Paton summarized that.
 2 Q. Okay. And -- and Mr. Paton -- I guess I
 3 mispronounced it. It's pronounced Paton -- Paton?
 4 A. Well, Cumming Paton was the way we
 5 pronounced it.
 6 Q. Okay.
 7 A. He accepted it.
 8 Q. And he was a member of the business group in
 9 Monsanto?
 10 A. Yes. He was the -- the business group
 11 called plasticisers managed by Mr. Springgate.
 12 Q. Okay. And Mr. Springgate was the head of
 13 the --
 14 A. Plasticiser group.
 15 Q. Okay. Do you know -- do you know whether
 16 he's still alive or not, Mr. Springgate?
 17 A. The last I heard he's still around -- alive.
 18 Q. Do you know where he lives?
 19 A. West coast is all I know.
 20 Q. Okay. How about Mr. Paton?
 21 A. I don't know about Cumming.
 22 Q. All right. Now, I want to ask you some
 23 questions about the first page of this exhibit.
 24 There's a -- following the part I just referenced to,
 25 there's a chart indicating customer column and Aroclor

1 column of volume and column and an app -- application
 2 column. Do you see what I'm referring to?
 3 A. Yes.
 4 Q. And I'm just going to go through some of
 5 these, and I've highlighted and -- on my note Kiwi
 6 Polish; Aroclor, 1254; volume, unknown; application,
 7 shoe polish. Would shoe polish be considered a
 8 household product?
 9 MR. MILLER: Object to the form, calls for
 10 speculation as to how it was used.
 11 A. It could be in -- described as a household
 12 product.
 13 Q. (By Mr. Oaas) Okay. And Aroclor 1250 --
 14 excuse me -- Aroclor 1242, that's a PCB, correct?
 15 A. Yes.
 16 Q. Okay. And I'm going to go -- skip down to
 17 Florasynth Labs. They were apparently a plasticiser
 18 customer of Monsanto, correct?
 19 A. Yes.
 20 Q. And we're referring to Aro -- Aroclor 1262?
 21 A. Correct.
 22 Q. Is that a PCB?
 23 A. Yes.
 24 Q. Okay. And it indicates -- there's no number
 25 in the volume column, but it indicates that the

1 application was for perfumes?
 2 A. That's what it indicates.
 3 Q. Would that indicate that that -- that
 4 application was for a household product?
 5 MR. MILLER: Objection. Calls for
 6 speculation as to what Florasynth Labs was perfuming.
 7 A. I have no way of knowing if it was used as a
 8 perfume in other products other than used by people --
 9 Q. (By Mr. Oaas) Okay.
 10 A. -- on human beings.
 11 Q. If it was used by women as a perfume in --
 12 in the normal understanding of that word, we could
 13 consider it a household product, couldn't we?
 14 MR. MILLER: Object to the form. Still --
 15 still calling for speculation despite your assumption.
 16 A. It could be perfume in a -- in a spray can
 17 for --
 18 Q. (By Mr. Oaas) Okay. Let's go to the next
 19 one, U.S. Catheter Instruments. I take it they were a
 20 PCB customer?
 21 A. That's what's indicated here.
 22 Q. Okay. And they apparently -- apparently
 23 used PCBs in catheters? That seems to be an
 24 interesting application for it, but did you know that
 25 before April of 1970 that you had a customer that

Page 249 1 using -- was using PCBs in catheters? 2 MR. MILLER: Object to the form. 3 A. I did not. 4 MR. MILLER: It also doesn't suggest that 5 they were for human use. 6 Q. (By Mr. Oaas) Following that is Perry 7 Brothers appeared to be a PC -- a PCB plasticiser 8 customer of Monsanto? 9 A. That's what this -- 10 Q. Okay. 11 A. -- indicates. 12 Q. They -- they were purchasing Aroclor 1242? 13 A. Yes. 14 Q. That's a PCB, correct? 15 A. Yes. 16 Q. And again, the application is listed as 17 perfumes? 18 A. That's what this shows. 19 Q. Okay. And then the bottom one, you have a 20 customer listed as Chapman Chemical, correct? 21 A. Yes. 22 Q. And they were purchasing Aroclor 1262, which 23 is a PCB, correct? 24 A. Correct. 25 Q. And the application is listed as insecticide	Page 251 1 A. That's what it indicates. 2 Q. Okay. Do you have any independent knowledge 3 of the meaning of the word drop with respect to this 4 particular customer? 5 A. I do not. 6 Q. Okay. And then the next customer is John 7 Rooney -- listed as John Rooney, purchaser of Aroclor 8 1254 and 1260. Volume, unknown, and -- and the 9 application is a pesticide carrier. Do you see that? 10 A. Yes. 11 Q. Isn't a pesticide, Mr. Papageorge, something 12 that's sprayed on crops and woodlands? 13 MR. MILLER: Object to the form of the 14 question. That calls for speculation as to how it was 15 being used by Mr. Rooney. 16 A. I don't know if it's limited just to crops. 17 Q. (By Mr. Oaas) Okay. All right. And the -- 18 the next one is the -- the customer is identified as 19 McCloskey Varnish. Do you see that? 20 A. I do. 21 Q. And the vol -- the Aroclor purchase is 22 5460. Now, did -- did we identify that -- that's not a 23 PCB, correct? 24 A. That is correct. 25 Q. Okay. We'll skip that. Let's go down to
Page 250 1 carrier? 2 A. That's what it indicates. 3 Q. Okay. Would an -- an insecticide be 4 something that was sprayed on crops and woodlands? 5 MR. MILLER: Object to the form. Calls for 6 speculation as to how this insecticide was being 7 applied. 8 A. I don't know if it was limited to any 9 particular type of insecticide now. 10 Q. (By Mr. Oaas) All right. On the second 11 page then I'm going to again ask you the same kind of 12 questions. It indicates the first customer would be a 13 company called Chemagro -- and I don't know if I'm 14 pronouncing that correctly -- correct? 15 A. Yes. 16 Q. Chem -- Chemagro, maybe. I'm not sure. 17 A. Chemagro, uh-huh. 18 Q. Yeah. They were purchasing Aroclor 1254? 19 A. Yes. 20 Q. Okay. And the volume is listed as 120 21 pounds? 22 A. Yes. 23 Q. Okay. And the application was an 24 insecticide carrier, and then, parentheses, dropped, 25 close parentheses?	Page 252 1 the customer identified as Halvorson Tree Company about 2 in the middle of the -- middle of the second page. Do 3 you see that? 4 A. Halvorson Tree, yes, I do, uh-huh. 5 Q. And they apparently purchased Aroclor 1254 6 as well as 5460 for Monsanto? 7 A. Yes. 8 Q. In reference to Aroclor 1254, the volume is 9 listed as 7 M pounds, correct? 10 A. Yes. 11 Q. Would that be 7,000 pounds or 7,000,000 12 pounds, do you know? 13 MR. MILLER: M usually designates thousand. 14 A. Thousand. 15 Q. (By Mr. Oaas) It usually does, but I was 16 just -- 17 A. Thousand, yeah. 18 Q. Okay. And then the application is listed as 19 Xmas tree flame proofing. Do you see that? 20 A. I do. 21 Q. Would you think Xmas tree flame proofing 22 would be considered a household product -- or excuse 23 me -- would you consider Xmas trees to be considered a 24 household product? 25 MR. MILLER: Object to the form in terms of

1 how these particular trees were being displayed.
 2 A. It could be household. It could be
 3 commercial.
 4 Q. (By Mr. Oaas) Sure.
 5 A. It could be outdoors.
 6 Q. Okay. Let's go down to the second to the
 7 last customer on the page identified as Cooper &
 8 Nephew?
 9 A. I see that.
 10 Q. Again, we're dealing with 5460, so that
 11 would be a non-PCB, correct?
 12 A. Correct.
 13 Q. Okay. All right. Let's go to Exhibit 57,
 14 which is a duplicate of an exhibit we used earlier this
 15 morning, and I don't know what the number was, but I
 16 just had it remarked for convenience purposes.
 17 A. I have read the exhibit.
 18 Q. Okay. In -- in your capacity as Manager of
 19 Environmental Control for Monsanto, did you ever find
 20 out for sure whether or not your customers -- any of
 21 your customers were using paints containing PCBs as a
 22 coating for the interior of water towers, whether water
 23 was primarily used for human consumption?
 24 A. Yes.
 25 Q. They were, in fact, doing that?

1 A. Uh-huh. Some of them.
 2 Q. Some of them?
 3 A. Not many.
 4 Q. Okay. Would -- would you agree or disagree
 5 that water for human consumption would be considered a
 6 household product?
 7 A. Well, some of the water is used as a
 8 household product.
 9 Q. Would you agree that milk would be
 10 considered a household product?
 11 A. That what would be?
 12 Q. Milk.
 13 A. Yes, but I'm confused by the reference to
 14 milk.
 15 Q. Okay. I'll -- I -- I had in mind the
 16 Ohio -- the Ohio milk instance we were talking about,
 17 and I --
 18 A. Oh.
 19 Q. -- I just wanted to know whether you
 20 considered, as -- as the Manager of Environmental
 21 Control, whether or not milk would be considered a
 22 household product?
 23 A. Yes.
 24 Q. Okay. Let's go on to Exhibit 58.
 25 MR. MILLER: But PCBs weren't used in the

1 manufacture or production of milk. Okay. I'm sorry.
 2 Q. (By Mr. Oaas) Okay. Let's go on to Exhibit
 3 58.
 4 A. I'm sorry. 58?
 5 Q. Uh-huh.
 6 A. I have scanned the exhibit.
 7 Q. All right. Can you identify who Hercules
 8 Powder Company is? Were they a -- were they a PCB
 9 customer of Monsanto's? That's all I really want to
 10 know.
 11 A. Yeah. Yeah, they were.
 12 Q. They were. Okay. Were they a large
 13 customer?
 14 A. Not too large.
 15 Q. Okay.
 16 A. A modest amount of purchases.
 17 Q. Okay. Did you become aware at any time as
 18 the Manager of Envir -- of Environmental Control for
 19 Monsanto or the Director of Environmental Operations
 20 for Monsanto that Hercules Powder Company was
 21 recommending the use of Aroclor 1254 as an ingredient
 22 in coatings for aluminum foil, specifically Reynolds
 23 Wrap?
 24 MR. MILLER: Object to the form. Do -- do
 25 you have a date for this document?

1 MR. OAAS: No.
 2 MR. MILLER: This is a -- incidentally,
 3 Exhibit 58 is an undated document from a third party,
 4 Hercules Powder. And I'll object to the reference to
 5 Reynolds Wrap as being --
 6 A. Reynolds Wrap.
 7 MR. MILLER: -- something not -- not in the
 8 record.
 9 Q. (By Mr. Oaas) Well, why don't you look
 10 at -- let's go to paragraph A on the first page,
 11 adhesion of nitrocellulose lacquers. Do you see where
 12 I'm referring to, Mr. Papageorge?
 13 A. Yes.
 14 Q. Under that heading, is the -- it reads the
 15 Hercules Coatings Service Laboratory investigated the
 16 adhesion of four nitrocellulose-based formulations to
 17 two types of untreated foil, dash, quote, Reynolds
 18 Wrap, end quote, foil sold for household use. Do you
 19 see that reference?
 20 A. I do.
 21 Q. Okay. And then it goes on to say and heavy
 22 duty foil used as an over-wrap on cigarette cartons.
 23 Do you see that reference?
 24 A. Yes.
 25 Q. Okay. And then if you go to page 4 of the

Page 257 1 exhibit, do you not see under table 2 where Hercules is 2 recommending the use of Aroclor 1254 in its formulation 3 for the aluminum foil coating reference there? Page 4 4 of the -- page -- I don't think you're on the right 5 page. I think -- I think it's the next page. Let's go 6 to that page. 7 A. Page -- 8 Q. Page 4 of 6. 9 A. -- page 5. 10 Q. Well, I'm reading up in the top -- I -- I'm 11 read -- looking at the -- the right hand -- upper 12 right-hand corner. 13 A. Oh, okay. 14 Q. There we go. 15 A. All right. 16 Q. That's the page I want you to look at, yeah. 17 Great. 18 A. All right. 19 Q. Just take a minute and look at that page. 20 A. Okay. I've looked at it. 21 Q. And on page 4, it appears to indicate that 22 Hercules is recommending the use of Aroclor 1254 for -- 23 as an ingredient in the aluminum foil coating 24 referenced on that page, correct? 25 MR. MILLER: Object to the form. I don't	Page 259 1 Q. (By Mr. Oaas) All right. After looking at 2 that document, Mr. Papageorge, let me ask you whether 3 or not in your capacity as Manager of Environmental 4 Control, whether you ev -- ever became aware that 5 Hercules Powder Company was recommending the use of 6 Aroclor 1254 as a coating for Reynolds Wrap? 7 MR. MILLER: At what period of time? 8 MR. OAAS: When he was the Manager of 9 Environmental Control. 10 MR. MILLER: No. I'm sorry. At what period 11 of time was Hercules making that representation? 12 MR. OAAS: Any -- any time prior to the 13 time -- 14 Q. (By Mr. Oaas) The question implied any time 15 prior to the time you were Manager of Environmental 16 Control were you aware of that? 17 A. I was aware that the supplying of 1254 to 18 this application was terminated. 19 Q. Okay. Do you know when that occurred? 20 A. Late '71. 21 Q. All right. Do you know how long it had been 22 in existence -- 23 A. I do not. 24 Q. -- prior to its termination? 25 A. I do not.
Page 258 1 understand this table at all. Maybe Mr. Papageorge 2 does, but I don't. 3 A. It is referred to for one of their -- 4 Q. (By Mr. Oaas) One of their coatings? 5 A. One of their six coatings that's shown here. 6 Q. Correct. And you would agree, would you 7 not, that Reynolds Wrap would be considered a household 8 product? 9 MR. MILLER: Object to the form of the 10 question. 11 A. Generally, yes. 12 Q. (By Mr. Oaas) All right. Let's go on to 13 Exhibit 59, please. 14 MR. MILLER: What is -- what is 1? Do you 15 know what that 1 is in table 2? Do you know what that 16 refers to? 17 THE WITNESS: They've got six different 18 recipes with some of the ingredients in each. 19 MR. MILLER: Yeah. Do you know if that 20 refers to Reynolds Wrap, no. 1, that would have been 21 used for household use? There's nothing on the 22 document that says that, is there, Mr. Papageorge? 23 THE WITNESS: No, it -- it doesn't. It just 24 says Reynolds Wrap is involved, but I don't know which 25 of these six coatings apply.	Page 260 1 Q. All right. Let's go to Exhibit 59 then. 2 A. I have read Exhibit 59. 3 Q. All right. Do you know what that is? 4 A. I'm sorry? 5 Q. Do you know -- can you tell me what Exhibit 6 59 is? 7 A. It's a -- I'm going to call it a -- a 8 bulletin -- 9 Q. Put out by Monsanto? 10 A. -- put out by Monsanto -- 11 Q. Okay. 12 A. -- and signed by Cumming Paton -- 13 Q. Okay. 14 A. -- dated 1968. 15 Q. Okay. And it appears that -- on the front 16 page that the subject of the bulletin is Parlon 17 Promotion Means Aroclor Opportunities. Do you see 18 that? 19 A. Yes, I do. 20 Q. Okay. Wasn't it your understanding as 21 Manager of Environmental Control and Director of 22 Environmental Operations that Monsanto had sold in the 23 1960s Aroclor PCBs to the -- that were recommended as 24 an ingredient in Parlon paints? 25 A. Yes.

1 Q. And Parlon, is my understanding, was a
 2 chlorinated rubber manufactured by Hercules Powder
 3 Company, correct?
 4 A. Yes.
 5 Q. And then as we go down that exhibit, next to
 6 paragraph 2 there's the heading swimming pool paints --
 7 A. I see it.
 8 Q. -- on the front page.
 9 A. Yes. Yes.
 10 Q. Were you aware as the Manager of
 11 Environmental Control that during the 1960s Hercules
 12 had been recommending the use of Aroclor 1254 as an
 13 ingredient in its Parlon paints for swimming pools?
 14 MR. MILLER: Object to the form of the
 15 question. It's not founded by any particular time that
 16 recommendation may have been made.
 17 Q. (By Mr. Oaas) In the 1960s.
 18 A. Eventually, I was informed of that, yes.
 19 Q. All right. Okay.
 20 A. Early '70.
 21 Q. '71, in there?
 22 A. '70 is when I was informed of these uses.
 23 Q. Okay. All right. And -- and paints for
 24 swimming pools that contained PCBs, wouldn't that be
 25 considered a household use or a household product?

1 A. Some of the applications would fit that
 2 category.
 3 Q. Okay. And let -- let's go down to paragraph
 4 no. 4 where it lists paints for tiled roofs in
 5 Florida. Do you see that?
 6 A. I see that, yes.
 7 Q. Again, were -- did you become aware in 1970
 8 that Hercules Powder Company was recommending the use
 9 of Aroclor 1254 for use in a -- in a paint formulation
 10 that contained its chlorinated rubber product called
 11 Parlon?
 12 A. I don't recall that application.
 13 Q. If it -- if -- what I -- if it, in fact, was
 14 used for that application, the paint for tiled roofs,
 15 the paints containing PCBs for tiled roofs, that would
 16 be considered either a household use or a household
 17 product, correct?
 18 MR. MILLER: Object to the form. It calls
 19 for speculation and there's no foundation.
 20 A. I don't know if it's correct, but it's
 21 possible that it was considered a household product.
 22 Q. (By Mr. Oaas) Okay. Let's go to -- the
 23 se -- the next page of that exhibit, please,
 24 Mr. Papageorge. Going down to par -- to no. 7 where it
 25 says floor finishes.

1 A. I see that.
 2 Q. Did you become aware at any time you were
 3 Manager of Environmental Control in the 1970 -- or the
 4 1970 time frame that PCBs were being used as an
 5 ingredient in indoor floor paints?
 6 A. No. Uh-uh.
 7 Q. Let's go on to page 60 then -- excuse me.
 8 Let's go on to Exhibit 60.
 9 A. Okay. I have read the exhibit.
 10 Q. All right. Have you --
 11 MR. MILLER: Is there a reason you're not
 12 giving him the full copy of this that has the date?
 13 MR. Oaas: This is all we have. I mean,
 14 this is all we have in the -- I'm giving him all we
 15 have. This is what we got from Monsanto in North
 16 Carolina.
 17 MR. MILLER: All right. Well, I'll
 18 object --
 19 MR. Oaas: And I --
 20 MR. MILLER: -- to the use of this incomplete
 21 document --
 22 MR. Oaas: And if --
 23 MR. MILLER: -- and any questions relating to
 24 it.
 25 MR. Oaas: If you have any other parts of

1 this document, I would stipulate, even without looking
 2 at it, that this can -- that they can be attached to
 3 the exhibit and used in your questioning later on for
 4 any other purposes.
 5 MR. MILLER: No, I -- I don't need your
 6 stipulation to that effect. I just am a little puzzled
 7 why you wouldn't make an effort to get a complete
 8 document to show to Mr. Papageorge before you ask him
 9 questions unfairly about a partial document.
 10 MR. Oaas: We made quite an effort to get
 11 all of the documents we could, and I -- I don't think
 12 I'm going to ask any unfair questions with reference to
 13 this exhibit.
 14 Q. (By Mr. Oaas) And I want to direct your
 15 attention to the first page of the exhibit,
 16 Mr. Papageorge. Okay?
 17 A. I have it.
 18 Q. Okay. Isn't it true that in the 1960s PCBs
 19 were recommended by Monsanto for use in paints and
 20 varnishes and lacquers that were used by consumers to
 21 paint or varnish or lacquer household furniture?
 22 MR. MILLER: Let me object to the form of
 23 the question. It's two parts with respect to the
 24 recommendation and then with respect to the ultimate
 25 use. I'll object to the form and lack of foundation.

1 A. I think you mentioned use on furniture?
 2 Q. (By Mr. Oaas) Right. I can -- do you want
 3 me to re -- ask my question -- rephrase my question?
 4 A. Yeah, do that.
 5 Q. Okay. Sure. Isn't it true that in the
 6 1960s Monsanto was recommending and selling for use
 7 PCBs for use in paint, varnish, and lacquers that were
 8 used, for example, by the lady pictured in the picture
 9 on this front page of this exhibit to paint, varnish,
 10 or lacquer household furniture?
 11 MR. MILLER: Object to the form.
 12 A. Yes.
 13 Q. (By Mr. Oaas) Let's go to the third page
 14 of -- of that exhibit.
 15 MR. MILLER: Wait a minute. Is -- 4465 and
 16 5460, those are not PCB formulations, is that correct?
 17 THE WITNESS: 4465 is a blend --
 18 MR. MILLER: Okay.
 19 THE WITNESS: -- of a terphenyl with a
 20 biphenyl.
 21 MR. MILLER: Okay.
 22 MR. OAAS: Okay.
 23 THE WITNESS: I don't recall just which of
 24 the terphenyls and biphenyls, but it's a blend.
 25 MR. OAAS: Okay. All right.

1 Q. (By Mr. Oaas) The third page of that
 2 exhibit has the -- has a heading titled Chlorin --
 3 Chlorinated Rubber and Styrene -- you're going to have
 4 to help me pronounce that word.
 5 A. Butadiene.
 6 Q. -- Butadiene Copolymers, correct?
 7 A. Correct.
 8 Q. Okay. And then -- and I -- I'm going to
 9 draw your attention to this -- to the second paragraph
 10 which reads in rubber base coatings, Aroclor 1254 is
 11 used as a liquid flexibilizing plasticiser and commonly
 12 used in combination with Aroclor 5460 which serves as a
 13 resin fortifier. The outstanding chemical resistance,
 14 corrosion resistance, and oxidation resistance of
 15 rubber base Aroclor coatings make them outstanding
 16 protective coatings for chemical plants, boats, highway
 17 marking, and masonry. Do you see -- do you see that?
 18 A. I do.
 19 Q. Okay. Wouldn't it be true that the use of
 20 Aroclor 1254 in a coating for boat -- for boats would
 21 be a -- a use that would normally lead to the release
 22 of PCBs into the water environment?
 23 MR. MILLER: Object to the form of the
 24 question and lack of foundation.
 25 A. I don't know that I'd consider it normally

1 results.
 2 Q. (By Mr. Oaas) And with respect to highway
 3 markings, wouldn't -- the use of PCBs and coatings for
 4 highway markings would be a use that would lead to the
 5 release of PCBs into the environment?
 6 MR. MILLER: Object to the form.
 7 A. Very likely, yes.
 8 Q. (By Mr. Oaas) Okay. And the same question
 9 with respect to the use of PCBs in masonry coatings?
 10 That would be a use that would normally lead to the
 11 release of PCBs into the environment?
 12 A. Only if the surface is damaged.
 13 Q. Okay. Let's go on to page 61 -- excuse
 14 me -- Exhibit 61.
 15 A. Yeah.
 16 Q. I'm sorry. Slap me upside the head.
 17 Exhibit 61. We're done with 60. If we could go to 61,
 18 please.
 19 A. I have scanned through the exhibit.
 20 Q. All right. Thank, you sir. I would like to
 21 direct your attention to page no. 36, and we're -- I'm
 22 referencing the handwriting number at the bottom of the
 23 pages. It's page 36, and it has MON-MT no. 003366.
 24 MR. MILLER: Do you have a year on this?
 25 MR. OAAS: No.

1 MR. MILLER: You don't?
 2 MR. OAAS: No.
 3 Q. (By Mr. Oaas) Are you there,
 4 Mr. Papageorge?
 5 A. Page -- page 36?
 6 Q. Yeah. Right.
 7 A. Yes.
 8 Q. It has a -- a picture at the -- on the top
 9 half, and -- and the -- the wording on that page starts
 10 with this paint says one food-processing plant engineer
 11 in speaking of Parlon, stands up where other types just
 12 couldn't take it. Are you on that page?
 13 A. Yes, I am.
 14 Q. And Exhibit 61 is en -- is entitled
 15 Protection With Parlon, correct?
 16 A. Yes.
 17 Q. Okay. And we've already identified that
 18 Parlon -- what Parlon is, correct?
 19 A. Yes.
 20 Q. Okay. Were you aware at any time as Manager
 21 for Environmental Control of -- for Monsanto or the
 22 Director of Environmental Operations of Monsanto that
 23 one of your customers, Hercules Powder Company, was
 24 recommending the use of PCBs in its Parlon base paints
 25 for the use in the interior of food processing plants.

1 A. I was aware of the use in -- with Parlon,
 2 but I don't recall specifically a reference to food
 3 processing plants as distinguished from other uses of
 4 the same kind of mixture.
 5 Q. Okay. And what I'm referring to
 6 specifically -- let's go -- let's go on to the next
 7 page, page 37. Directing your attention to the up --
 8 the left-hand portion of page 37 up at the top where it
 9 reads Parlon finish applied to walls, ceiling, and
 10 mechanical equipment in processing plant producing
 11 synthetic blood plasma. Do you see where I'm reading
 12 from that?
 13 A. Yes.
 14 Q. Were you aware -- aware of that particular
 15 use for Parlon based paints?
 16 A. I was not.
 17 Q. Never at any time?
 18 A. I was not.
 19 Q. Okay. Let's go down to the next one. It
 20 reads a two-coat Parlon finish protects both fruit
 21 elevators and fruit storage bins, and peel storage and
 22 sugar bins at Golden Citrus Juices, Inc. Do you see
 23 where I'm reading there?
 24 A. Yes.
 25 Q. You -- were you aware of the Parlon -- the

1 use of Parlon for -- for use at that particular
 2 facility?
 3 A. No.
 4 Q. Okay. And then going down to the last one,
 5 it reads snow white Parlon finish of interior walls and
 6 ceiling of Vernell's Candy Factory, parentheses, right,
 7 close paren, makes it one of Seattle's show places.
 8 Were -- were you aware of that particular use?
 9 A. No.
 10 Q. And then if you go over to the right-hand
 11 side, again, at the bottom of the page starting with
 12 wo -- bakeries. It reads bakeries, too, stay clean and
 13 fresh-looking longer when protected by Parlon. Bakery
 14 equipment, parentheses, above, close parentheses, at
 15 Drake Bakeries, Roxbury, Massachusetts, has two-coat
 16 Parlon finish still in excellent condition after more
 17 than a year of daily cleaning and exposure in humid
 18 atmosphere at 100 degrees Fahrenheit. Do you see that?
 19 A. I do.
 20 Q. Were you aware of the -- that -- that
 21 particular use?
 22 A. I was not.
 23 Q. Okay. Let's go on to page 40 of the same
 24 exhibit?
 25 MR. MILLER: Your handwritten 40?

1 MR. OAAS: Handwritten 40.
 2 MR. MILLER: Why don't you sue Hercules?
 3 They seem like a better defendant than Monsanto.
 4 Q. (By Mr. Oaas) Have you had a chance to look
 5 at page 40?
 6 A. Yes.
 7 Q. Okay. Do you see where it's headed tra --
 8 the -- at the top of the page it reads Traffic and
 9 Floor Paints?
 10 A. I see it.
 11 Q. We've already discussed traffic paints, I
 12 think, enough, so let's go to floor paints. And I'm
 13 gonna -- I'm just going to start in the second
 14 paragraph down where it reads Parlon floor paints are
 15 easy to clean, richly colorful, applied to wood, metal,
 16 asphalt, and concrete, they give long-term protection
 17 against attacks from acids, mineral oils, caustic
 18 solutions, and moisture. Did I read that correctly?
 19 A. Yes.
 20 Q. Were you aware at any time you were Manager
 21 of Environmental Control or Director of Environmental
 22 Operation for Monsanto that Hercules was rec --
 23 recommending the use of Aroclor 1254 or other PCB
 24 Aroclors for its use in Parlon floor paints?
 25 A. No.

1 MR. MILLER: Did -- did Monsanto own
 2 Hercules?
 3 THE WITNESS: No.
 4 MR. MILLER: No. Separate company?
 5 THE WITNESS: Huh?
 6 MR. MILLER: Separate company all together?
 7 THE WITNESS: Yeah. Hercules eventually
 8 became the Hercules Chemical Company.
 9 MR. MILLER: They're the ones that made the
 10 paints. You didn't make the paints, isn't that right?
 11 THE WITNESS: No, we didn't.
 12 MR. MILLER: There you go.
 13 THE WITNESS: No.
 14 MR. OAAS: Are we going to get into another
 15 argument on the record?
 16 MR. MILLER: No. I'm just -- we're finished
 17 with that. It's like suing a -- suing the -- the tree
 18 grower when the McDonald's bag blows into your yard.
 19 MR. OAAS: I'm just going to move to strike
 20 for the record all those --
 21 MR. MILLER: They're not going to a jury.
 22 MR. OAAS: -- unnecessary comments.
 23 MR. MILLER: I'll withdraw the comments.
 24 Q. (By Mr. Oaas) Let's go to Exhibit 62.
 25 MR. MILLER: I'm sorry. Exhibit 62?

1 MR. OAAS: Yeah.
 2 Q. (By Mr. Oaas) I think I'll skip Exhibit 62,
 3 and just in the interest of saving time, let's go on to
 4 Exhibit 63.
 5 A. I have scanned the exhibit.
 6 Q. Have you ever seen Exhibit 63 before,
 7 Mr. Papageorge?
 8 A. Yes, I have.
 9 Q. Are you acquainted with Carl Gustafson?
 10 A. Yes.
 11 Q. And did you know him personally?
 12 A. Yes.
 13 Q. And what time frame would -- would we be
 14 talking about?
 15 A. 1970, '71, early '72.
 16 Q. And where was he employed during that time
 17 frame?
 18 A. Well, he initially started with the Water --
 19 as shown, the Water Quality Administration in Athens.
 20 Q. This Federal Water Quality Administration in
 21 Athens, Georgia?
 22 A. Yeah.
 23 Q. All right.
 24 A. And eventually, as I recall, that became
 25 part of EPA.

1 Q. All right. And he apparently published an
 2 article entitled PCBs-Prevalent and Persistent?
 3 A. Yes.
 4 Q. It appeared in the Journal of Environmental
 5 Science & Technology, I believe, in 1970?
 6 A. Yes.
 7 Q. All right. I just want to go to the last
 8 page of that exhibit. In the middle of the page
 9 there's a heading entitled research needs. Do you see
 10 that?
 11 A. I see that.
 12 Q. Then there's a number of bullet items below
 13 that?
 14 A. Yes.
 15 Q. And I'm referring to the third bullet item.
 16 I'm just going to read it into the record and ask you a
 17 question about it. It reads we need to know all of the
 18 uses for the PCBs. What is the annual production of
 19 PCBs? Our knowledge of these facts is limited and
 20 needs to be expanded. These facts should be known if
 21 we are to accurately determine how they get into the
 22 environment and take -- and take steps to prevent
 23 further environmental contamination by them. Did I --
 24 did I read that correctly?
 25 A. Yes.

1 Q. Okay. Would you agree with that statement?
 2 A. Yes.
 3 Q. Let's go on to Exhibit 64 then. You know,
 4 Mr. Papageorge, I think I can save you some reading
 5 time. Just let -- let me ask the questions this way
 6 with respect to Exhibit 64 and Exhibit 65. You are
 7 certainly familiar with Congressman William F. Ryan,
 8 correct?
 9 A. Yes.
 10 Q. Okay. And I believe he was a congressman
 11 from Illinois or --
 12 MR. MILLER: New York.
 13 Q. (By Mr. Oaas) -- excuse me -- New York --
 14 A. Yeah.
 15 Q. -- in the 1970s time frame?
 16 A. Yes.
 17 Q. Okay. And Exhibits 64 and 65, I'll
 18 represent to you, appear to be copies of letters from
 19 the president of Monsanto, John -- excuse me -- the
 20 Assistant General Manager of Monsanto, John Mason --
 21 A. Yes.
 22 Q. -- to Congressman Ryan?
 23 A. Yes.
 24 Q. Okay. The first one is dated April 28,
 25 1970?

1 A. Right.
 2 Q. If I can just direct your attention to
 3 the -- to page 3 of that letter, on the top left-hand
 4 corner of page 3, and draw your attention to the second
 5 paragraph. It appears that Mr. Mason is telling
 6 Mr. Ryan the following: Quote, in my opinion, to
 7 release a complete list of uses for Aroclor, names of
 8 products and manufacturers, as you suggest, would only
 9 cause undue alarm to the public and would make no
 10 contributions to this area. Do you see that?
 11 A. Yes. Yes.
 12 Q. Wasn't that Mon -- Monsanto's -- as you
 13 understood it, wasn't that Mon -- Monsanto's official
 14 position in 1970 that they were not going to release
 15 that type of information to Congressman Ryan or anybody
 16 else for that matter?
 17 A. That's true.
 18 Q. And with reference to the letter of June 30,
 19 1970, again, we appear to have a letter from John
 20 Mason, the Assistant General Manager from Monsanto, to
 21 Congressman Ryan dated June 30, 1970?
 22 A. Yes.
 23 Q. Okay. You were acquainted with John Mason,
 24 correct, I -- I take it?
 25 A. Oh, yes.

1 Q. Okay. And it -- it's correct that -- to
2 state for the record that he was the Assistant General
3 Manager of Monsanto in 1970?

4 A. Yes.

5 Q. Okay. And at this same time frame you were
6 the Man -- Manager of Environmental Control for
7 Monsanto, correct?

8 A. Correct.

9 Q. You were copied on both the -- both letters,
10 Exhibit 64 and 65, I believe -- at least 64 clearly
11 indicates you were copied. I -- I -- I guess I only
12 can ask you with reference to --

13 A. You're right. You're correct.

14 Q. Did you get -- were you copied on Exhibit 64
15 --

16 A. On both of them.

17 Q. Both of them. Okay. And if I could direct
18 your attention to page 5 of Exhibit 65, the next to the
19 last -- last paragraph on that page. I believe it's
20 the last sentence of the next to the last paragraph I
21 want to read and ask you a question about. It states
22 as you know, comma, we have issued warnings to all of
23 our customers using the chlorinated biphenyls,
24 period -- excuse me, two sentences. We have not issued
25 warnings to all potential users of chlorinated

1 biphenyls, but we have more than covered this point by
2 refusing to sell for application where control cannot
3 be established. Is that -- is that an accurate
4 statement by Mr. Mason concerning the warnings that
5 Monsanto gave?

6 A. Yes.

7 Q. As far as I know, Monsanto may -- never gave
8 any warnings to potential users -- or excuse me. To
9 your knowledge, when you were the Manager of Product --
10 when you were the Manager of Environmental Control or
11 the Director of Environmental Operations, did you
12 yourself ever issue any warnings to users or consumers
13 of products that contained PCBs?

14 MR. MILLER: Well, let me object. Are you
15 excluding press releases, communications to the public,
16 communications to FDA, to the Patuxent Research
17 Facility by the Department of Interior, communications
18 with the task force -- interdepartmental task force?

19 Are you excluding all of those communications with --

20 MR. OAAS: Yeah, I --

21 MR. MILLER: -- government, with
22 universities --

23 MR. OAAS: I'm talking --

24 MR. MILLER: -- with all those people?

25 MR. OAAS: -- about the people who needed to

1 biphenyls, but we have more than covered this point by
2 refusing to sell for applications where control can not
3 be established. Is that a correct statement as far as
4 you know?

5 A. What page are we on?

6 Q. Oh, I'm sorry, Mr. Papageorge. Page 5.

7 A. I have page 5.

8 Q. Okay. I -- I'm referring to page -- the --
9 at the top. I'm referring to -- no, that -- go to --
10 yeah. Go to page 5. Yeah, we have too many numbers on
11 the document.

12 MR. MILLER: Oh. You're talking about --
13 oh. I'm sorry. I was -- I made the same mistake. I
14 was referring to your --

15 MR. OAAS: That's my fault. That's my
16 fault. Page 5 in the upper left-hand corner.

17 A. Okay.

18 Q. (By Mr. Oaas) We can go to the next to the
19 last paragraph, and I'm going to read into the record
20 the last two sentences of page 5, and this is Mason
21 corresponding with Congressman -- United States
22 Congressman Ryan. As you are -- as you know, we have
23 issued warnings to all of our customers using the
24 chlorinated biphenyls, period. We have not issued
25 warnings to all potential users of chlorinated

1 know it most which would be the users and consumers of
2 products that contained PCBs.

3 Q. (By Mr. Oaas) Now, my question is,
4 Mr. Papageorge --

5 MR. OAAS: And we can banter back and forth
6 about this. If you have an objection, just go ahead
7 and state it.

8 Q. (By Mr. Oaas) I just want to know whether
9 or not you yourself issued any warnings directly to
10 users or consumers of products that contained PCBs, for
11 instance, like the Montana Department of Fish, Wildlife
12 and Parks?

13 MR. MILLER: You -- him personally?

14 MR. OAAS: Him personally.

15 MR. MILLER: Okay. Because I -- that --
16 that's fine.

17 Q. (By Mr. Oaas) At -- in the capacity as
18 Manager of Environmental Control or in your capacity of
19 Director of Environmental Operations.

20 MR. MILLER: That would include things
21 like -- I just want for clarification --

22 MR. OAAS: No. You've already stated it.

23 MR. MILLER: Patuxent Research Facility --

24 MR. OAAS: Do you have an object -- do you
25 have an objection?

1 MR. MILLER: Yeah. It's unclear. It's
2 vague and ambiguous when you referred to a category of
3 users, but then you exclude all of those that you know
4 Mr. Papageorge was involved in with meetings day after
5 day after day --

6 MR. OAAS: Okay.

7 MR. MILLER: -- and the question is --

8 MR. OAAS: I think jury -- I think the
9 under -- the jury would understand my question.

10 MR. MILLER: I -- I -- I think it's an
11 unfair question.

12 MR. OAAS: You're trying to prevent him from
13 answering it.

14 MR. MILLER: No. I'm trying --

15 MR. OAAS: Yes, you are.

16 MR. MILLER: I'm trying to get an accurate
17 answer.

18 MR. OAAS: You're trying to prevent him from
19 answering the question Mr. --

20 MR. MILLER: Miller.

21 MR. OAAS: Yes. Mr. Miller, you're trying
22 to prevent him from answering the question.

23 MR. MILLER: No. I'm trying to get an
24 accurate response.

25 MR. OAAS: Then state your objection and let

1 inform the users and potential users? Yes. Through
2 the company organization. They didn't all go out with
3 my signature on it. Thousands of letters.

4 Q. (By Mr. Oaas) Are you referring to the
5 letters that went to your PCB -- your direct PCB
6 customers?

7 A. And the potentials.

8 Q. Okay.

9 A. Anybody that made an inquiry, his name was
10 added to the addressee list.

11 Q. Okay. All right. My question is -- I want
12 to go back to the statement by Mr. Mason where he said
13 we have not issued warnings to all potential users of
14 chlorinated biphenyls. Would you agree with that
15 statement?

16 A. It depends on the timing.

17 Q. Well, I'm talking about as of the date of
18 the letter.

19 A. This one is June of '70 --

20 Q. June 30, 1970.

21 A. -- and I'm trying to recall -- I don't
22 remember the timing of this letter that I described.

23 Q. Okay. All right. Let's go on to Exhibit
24 65 -- 65A, excuse me.

25 A. I have read the exhibit.

1 him answer the question. That's the way the process
2 works.

3 MR. MILLER: It's an unfair question. It's
4 vague and ambiguous and it excludes a whole host of
5 communications.

6 Q. (By Mr. Oaas) Do you -- did you understand
7 the question?

8 A. I think I do.

9 Q. Okay.

10 A. I was involved in composing a letter which
11 was eventually mailed to all users and potential users,
12 but --

13 Q. Are you talking about the letter that you
14 sent to --

15 MR. MILLER: He's not done with his
16 response, Torger.

17 Q. (By Mr. Oaas) Go ahead --

18 MR. MILLER: Please let him finish.

19 Q. (By Mr. Oaas) Go ahead and finish. I
20 apologize if I cut you off.

21 MR. MILLER: You did.

22 A. I'm trying to recall the past here. There
23 was a letter prepared which was intended to be sent to
24 all users and potential users describing the total PCB
25 situation. So when you asked me did we -- did we

1 Q. Okay. Have you seen that before,
2 Mr. Papageorge?

3 A. I recall it, yes.

4 Q. Okay.

5 A. In fact, I received a -- it indicates I
6 received a copy.

7 Q. Okay. And the date of this exhibit is July
8 29, 1970, correct --

9 A. '71.

10 Q. -- excuse me -- '71. And it's authored by a
11 Willis S. -- S. Clark. Can you identify who he is?

12 A. He's a member of the marketing group with
13 the plasticisers group stationed in St. Louis.

14 Q. All right. And as I read this -- this memo,
15 it -- it -- it indicates that Monsanto was aware that
16 one of its customers was importing -- importing
17 Japanese PCBs?

18 A. That's the implication, yes.

19 Q. And the customer was named Sonnenborn, is
20 that correct?

21 A. Yes.

22 Q. Okay. All right. And I -- the first
23 paragraph of the letter indicates that -- and I'm
24 referring to the last sentence where it reads however,
25 if it comes to light that some companies are importing

1 Japanese PCBs, the pressure to cease and desist will be
 2 enormous. Do you see what I'm reading there?
 3 A. Yes.
 4 Q. This -- this letter appears to indicate that
 5 Monsanto was concerned about the fact that some of its
 6 customers were importing Japanese PCBs?
 7 A. Well, would you define the word concerned?
 8 I --
 9 Q. Just in its general common --
 10 A. -- just --
 11 Q. -- sense understanding?
 12 A. Just understanding?
 13 Q. Yeah.
 14 MR. MILLER: You mean worried about it?
 15 MR. OAAS: Yeah.
 16 A. Not necessarily. They were -- we were
 17 convinced that eventually the Japanese would back off.
 18 Q. (By Mr. Oaas) Okay. I'm gonna -- I'm gonna
 19 read the second paragraph into the record. It says
 20 please do not misunderstand the intent of these
 21 comments and please be very careful not to give
 22 Sonnenborn the wrong impression. Monsanto has no
 23 intention of disclosing the names of any organizations
 24 who are importing PCBs. We have withstood such
 25 pressures in the past, and I trust we will continue to

1 do so. Is it your understanding that that was
 2 Monsanto's policy at the time this letter was written?
 3 A. That's right, yeah.
 4 Q. Okay. You were familiar with that policy?
 5 A. I became familiar with it eventually, yes.
 6 Q. If somebody from the U.S. Government called
 7 you up and asked you about PCB imports, you wouldn't
 8 disclose any information to them?
 9 MR. MILLER: Who? Mr. Papageorge?
 10 MR. OAAS: Mr. Papageorge.
 11 A. Yeah, I wouldn't.
 12 Q. (By Mr. Oaas) Okay.
 13 A. I would leave that up to the marketing
 14 people.
 15 Q. This paragraph goes on to say the point is
 16 Japanese PCBs are an extremely unreliable source of
 17 plasticisers. The government could act very swiftly to
 18 eliminate all imports of these products. Incidentally,
 19 you may or may not know that Japan has banned the use
 20 of PCBs in Japan. They evidently just don't feel too
 21 concerned about exports. Did I read that correctly?
 22 A. Yes.
 23 Q. Okay. Can you tell me what Sonnenborn used
 24 PCBs for?
 25 A. No, I -- I don't remember.

1 Q. Okay. Can you tell me why Monsanto had the
 2 policy not to disclose whether or not any of its
 3 customers were importing PCBs?
 4 MR. MILLER: Object to the form. Calls for
 5 speculation.
 6 Q. (By Mr. Oaas) If you know.
 7 A. I don't really know. I can only guess.
 8 Q. Okay. Go ahead and give me your guess.
 9 A. Huh?
 10 MR. MILLER: Object to the form.
 11 Q. (By Mr. Oaas) Go ahead and give me your
 12 guess.
 13 MR. MILLER: It's a guess. It's unreliable,
 14 and it doesn't speak for the company and it's utter
 15 speculation and --
 16 Q. (By Mr. Oaas) What was your --
 17 A. It's my personal impression.
 18 Q. Sure. Right.
 19 A. It probably resulted from some unpleasant
 20 experiences that the marketing people went through on
 21 some other kinds of product changes and all, so --
 22 Q. All right.
 23 A. -- the decision was to avoid that kind of
 24 situation again.
 25 Q. All right.

1 MR. MILLER: I move to strike as being
 2 speculation.
 3 Q. (By Mr. Oaas) Okay. Let's go on to Exhibit
 4 66.
 5 MR. OAAS: And this is the last exhibit I'm
 6 going to refer to, and I'm going to reserve questioning
 7 on 67 and 68 when we come back. I think we're gonna --
 8 I'm going to finish so Steve can have -- have time to
 9 ask his questions.
 10 Q. (By Mr. Oaas) Would you just take a minute
 11 and look at Exhibit 66, please, Mr. Papageorge?
 12 A. I have reviewed this exhibit.
 13 Q. All right. Have you seen it before?
 14 A. I -- I believe I remember it. I -- I'm
 15 listed as a recipient.
 16 Q. All right. And it appears -- the title,
 17 Report of Meeting With Ministry of Agriculture,
 18 Fisheries and Food at Monsanto House, London, 10th
 19 March, 1970?
 20 A. Yes.
 21 Q. Okay. And down at the bottom there's a
 22 section that begins with the heading confidential, and
 23 a subheading summary. Do you see that?
 24 A. I do.
 25 Q. I'm just going to read it into the record.

1 By leading the discussion away from sensitive areas, by
2 prolonging the further exchange of analytical
3 techniques, and by encouraging debate as to why the PCB
4 residues commonly found in nature more closely
5 resembled pentachlorodiphenyl, we were able to preclude
6 the direct question, quote, who are the main users of
7 PCBs and where are they located, end quote. This was
8 one of the specific questions raised at our previous
9 meetings and repeated in the Ministry of Agriculture's
10 letter dated 30th January addressed to the Chemical
11 Industries Association. Accordingly, we did not name
12 any customers nor did we disclose the NCR paper
13 application. The Ministry are no wiser about the
14 applications for PCB or the major geographical areas of
15 usage than they were after our January meeting. Did I
16 read that correctly?

17 A. Yes.

18 Q. Okay. Was it the official policy of
19 Monsanto in 1970 to prevent the Ministry of Agriculture
20 to learn -- Ministry of Agriculture, Fisheries and Food
21 to learn who were the main users of PCBs and where they
22 were located?

23 MR. MILLER: Object to the form, calls for
24 speculation. It doesn't relate to U.S. operations.

25 A. The position of Monsanto is what you asked?

1 Q. (By Mr. Oaas) Right.

2 A. Well --

3 Q. Was it the position of Monsanto -- I'll --
4 I'll ask it again. Maybe it will be clearer and maybe
5 it's a bad question as far as being non-understandable,
6 but was it the position of Monsanto, as you understood
7 it on March 10th of 1970, that Monsanto did not want
8 the Ministry of Agriculture, Fisheries, and Food in
9 England to know who were the main users of PCBs and
10 where they were located?

11 MR. MILLER: Object to the form, lack of
12 foundation.

13 A. No, it wasn't.

14 MR. OAAS: Okay. Okay. I'm going to stop
15 there because I think it's about quarter after 1:00.
16 And for the record, I'm going to reserve questions that
17 I may have on Exhibit 67 and 68 when we reconvene. And
18 I would like to take about a 30 second break if I may.

19 MR. MILLER: Sure.

20 THE VIDEOGRAPHER: We're off the record at
21 1:19 p.m.

22 (A short break was taken.)

23 THE VIDEOGRAPHER: We are back on the record
24 at 1:30 p.m. starting tape no. 5.

25

EXAMINATION

2 BY MR. BROWN:

3 Q. Mr. Papageorge, my name is Steve Brown, and
4 I represent a company called Columbia Paint in this
5 litigation. Columbia Paint has also been sued along
6 with Monsanto, so we are a -- a defendant in the
7 litigation, also.

8 A. Uh-huh.

9 Q. Have -- have you ever heard of Columbia
10 Paint? To you -- is that a name that's familiar to you
11 at all? It's a company that does business in Montana
12 and Idaho and Washington primarily.

13 A. I have a suspicion I have heard it because
14 it's not totally strange to me, but --

15 Q. Okay.

16 A. -- it hasn't been often and --

17 Q. Okay. Do you -- do you recall how you might
18 have heard of it or just a name that sticks out at you
19 from along the way?

20 A. Just came up in general conversations.

21 Q. Okay. Well, what I want to do is just ask
22 you a couple of follow-up questions that came to mind
23 as you were answering questions yesterday and today,
24 and the first ones have to do with some clarifications
25 on terminology. Just so I'm clear and perhaps the

1 jury, if they ever look at this tape, is clear, when
2 you use the word Aroclor, is that a chemical substance
3 or is that a tradename of Monsanto's?

4 A. Oh. It's a tradename derived from chemical
5 expressions.

6 Q. Okay.

7 A. Aromatic describes chemicals that are like
8 the hexagon of biphenyl.

9 Q. Right.

10 A. Those are called aromatic.

11 Q. Okay.

12 A. Clor comes from chlorine. So the im --
13 impression that the word Aroclor leaves you with is it
14 -- it's an aromatic organic chemical, hydrocarbon with
15 chlorine.

16 Q. Okay.

17 A. That's where the Ar -- the word Aroclor
18 comes from.

19 Q. Okay. But it is a name that was developed
20 by Monsanto, is that right?

21 A. Yes.

22 Q. Okay. And it's also true, though, that not
23 all Aroclors are PCBs, right?

24 A. That is true.

25 Q. Okay. There are some Aroclors -- I think

1 you mentioned 5460 -- that is not a PCB, it's a
 2 terphenyl, I think you described?
 3 A. Terphenyl.
 4 Q. Okay. Now, we've thrown out a -- you talked
 5 about a number of PCBs, one of them being 1254 and one
 6 of them being 1260. I want to make sure I understand
 7 what that means when -- for instance, Aroclor 1254,
 8 what -- what makes it a 1254?
 9 A. Well, the 12 refers to the two hexagon
 10 rings --
 11 Q. Okay.
 12 A. -- that are connected with one of the
 13 carbons. The two digit number that follows represents
 14 the weight -- or percent by weight of the total
 15 chemical. So 54 is a -- 54 percent of that by weight
 16 is chlorine.
 17 Q. Okay. And then a 1260, 60 percent by
 18 weight --
 19 A. 60 percent.
 20 Q. Okay. And one of the other Aroclors that
 21 I've seen reference to a number of times in the
 22 documents is a 5460. Is that a blend of a 1254 and a
 23 1260 or is that just a -- something else?
 24 A. No. That's the terphenyl --
 25 Q. Right.

1 A. -- the 54, and then 60 percent chlorine.
 2 Q. Okay. So if we see a reference to a 5460,
 3 we can assume that that is not a PCB?
 4 A. Correct.
 5 Q. Okay. One of the other terms that got used
 6 quite a bit the last two days was the word
 7 plasticiser. In Mon -- in -- in your work with
 8 Monsanto, what do you mean when you use the term
 9 plasticiser? Can you describe that?
 10 A. It is an -- an ingredient. Many times it's
 11 a pure chemical, and I use the word ingredient --
 12 sometimes their mixtures that is added to other
 13 chemicals which without this plasticiser would end up
 14 being brittle.
 15 Q. Okay. So is the purpose of adding the
 16 plasticiser to give whatever the product is some added
 17 flexibility -- or added -- flexibility, would that be
 18 accurate or --
 19 A. Yeah. Different degrees of flexibility.
 20 Q. Okay.
 21 A. There's some that are very flexible and some
 22 just give it a little flexing. So the amount of
 23 plasticiser added to that total mixture determines how
 24 flexible the final mixture is.
 25 Q. Do you know what -- well, first of all, I

1 understand from -- from some of the documents and from
 2 the way you answered questions that PCBs have been used
 3 as plasticisers to give flexibility to paint, for
 4 example. Do you know when that first -- first came up
 5 or how long that's been -- that was done?
 6 A. I have no idea. It's --
 7 Q. Okay.
 8 A. It started long ago.
 9 Q. Okay. But that was one of the things that
 10 Monsanto sold its PCB products for was to -- as a
 11 paint -- a paint plasticiser?
 12 A. Yes.
 13 Q. And were there a variety of different
 14 Aroclors that were used as plasticisers or was it just
 15 a few?
 16 A. Well, there was a variety. In every case
 17 they were, of course, liquids, and it ranged from the
 18 21 percent, 1221, through the 1232, 1242, 1250, 1254,
 19 1260. They were all the type of material that would
 20 give flexibility, and it depended on what the end user
 21 was looking for. Was he looking for something very
 22 fluid or something very tarry, let's call it, very
 23 inflexibility.
 24 Q. Viscus?
 25 A. Very viscus.

1 Q. Okay.
 2 A. Uh-huh.
 3 Q. And as -- just so I'm clear, as the
 4 percentage of chlorine goes up, the Aroclor becomes
 5 more viscus, more thick, is that correct?
 6 A. Yes.
 7 Q. Okay. Now, I want to refer you to some of
 8 the documents that you answered questions about and
 9 just ask you some follow-up questions if I could.
 10 A. Sure.
 11 Q. The first one is Exhibit No. 9, if you could
 12 find that.
 13 A. I have it.
 14 Q. And on the second page of that toward the
 15 bottom -- and I -- I recognize that this is a document
 16 that was put together in 1955, and you may not have had
 17 any involvement with this document, putting it
 18 together, did you?
 19 A. That's true.
 20 Q. Okay. But on the second page toward the
 21 bottom it -- it talks about the rate of migration of
 22 Aroclors in dry paint. Do you see that in the very
 23 last paragraph?
 24 A. Yes, I found -- I see the word migration
 25 now. I see.

1 Q. From what you know about Aroclors as they're
2 used in plasticisers and paint, once the paint dries,
3 is it possible for the Aroclor to migrate out of the
4 paint -- or what would have to happen for it to migrate
5 out of the paint?

6 A. You'd have to heat it --

7 Q. That's one way?

8 A. -- to mobilize it to help release it from
9 its surroundings, so to speak. I can't think of any
10 other way.

11 Q. So based on what you know about Aroclors,
12 were they intended to be relatively stable once -- once
13 the paint dried if they were used as a paint
14 plasticiser?

15 A. Definitely. Yes.

16 Q. Okay. What happens if a -- if a surface is
17 painted with Aroclor containing paint, and then it's
18 painted over again with another type of paint? Is it
19 possible for the Aroclor to migrate that way -- or to
20 be re -- to be somehow re-suspended in any way?

21 MR. MILLER: Let -- let me just object to
22 the form of the question. It may call for speculation,
23 and there's no foundation necessarily.

24 Q. (By Mr. Brown) Okay. Well, let me -- let
25 me -- let me maybe start over again. You're familiar

1 that paint was used with Aroclors in them, correct?

2 A. Yes.

3 Q. And if that paint surface was then
4 re-painted with something else that didn't have
5 Aroclors in it, is it -- do you know whether it's
6 possible for the Aroclors to somehow migrate that way?

7 MR. MILLER: Same -- same objections. There
8 may -- no -- be no foundation here. You haven't
9 established that.

10 A. It's possible that the new coating, the new
11 paint --

12 Q. (By Mr. Brown) Right.

13 A. -- has an ingredient in it that's a solvent
14 for the old coat --

15 Q. Okay.

16 A. -- and it could soften that old coat and
17 release the PCB, and that PCB could migrate into the
18 new coat.

19 Q. And are there certain chemical solvents that
20 would be more likely to do that than others?

21 A. It all depends on the principle ingredient
22 in that first coat --

23 Q. Okay.

24 A. -- and what it responds to, like benzene and
25 ethyl alcohol, and all kinds of other chemicals.

1 Q. Okay. Okay. Well, that helps.

2 The next document is Exhibit No. 23.

3 A. I have it.

4 Q. If you could turn to page 8. The page
5 numbers -- page numbers are on the bottom.

6 Well, first of all, are you -- are you
7 familiar with this document? Is this -- you might have
8 to look at the first page to see that.

9 A. Well, I recall seeing this document.

10 Q. It appears to be dated May of 1957. What --

11 A. Yeah.

12 Q. Were you with Monsanto in May of 1957?

13 A. Yes --

14 Q. Okay.

15 A. -- but I became aware of this document in
16 1970 -- late -- late '60s at best.

17 Q. Now, what's the purpose of this document, to
18 the best of your knowledge?

19 A. Customer information.

20 Q. This is a marketing kind of --

21 A. It's -- it's a promotion document.

22 Q. Okay. Okay. So if you flip to page 8, and
23 there's a table there. And do you see where it says
24 formula 3 and then it has swimming pools in
25 parentheses. This is in the --

1 A. I see that.

2 Q. Okay. Can you -- can you describe what that
3 purpose -- if you know, do you know what the purpose of
4 that table is?

5 A. The purpose of what?

6 Q. Of the table there. It -- it appears to --
7 it says table 6, paint formulation for alkaline
8 surface. Do you know whether that is designed to help
9 a customer with some formulations?

10 MR. MILLER: Object to the form.

11 A. The -- the intent is to have the reader of
12 this sales bulletin get some idea of what has been used
13 by others.

14 Q. (By Mr. Brown) Okay.

15 A. And it's really almost a recipe.

16 Q. Right.

17 A. How much -- how much of each of these
18 ingredients do you add to that mixture? It still
19 doesn't tell you when do you add it and how much do you
20 stir it up or how much do you heat it and all of the
21 other steps in the process.

22 Q. Okay. So where it says Aroclor 1254 in the
23 column under swimming pools --

24 A. Uh-huh.

25 Q. -- do you see where it says 4.4 there?

1 A. I'm sorry?
 2 Q. Do you see where it says --
 3 A. Yes, I see that. Uh-huh.
 4 Q. Is it correct to say that that is
 5 Monsanto's, at least -- I don't know if we'd really
 6 call it an instruction or if -- it's -- basically, does
 7 that 4.4 mean that's 4.4 percent by weight?
 8 A. Yes. It all adds up to 100 percent at the
 9 bottom --
 10 Q. Okay.
 11 A. -- by weight. This is all by weight.
 12 Q. Okay. And I guess what I'm wondering is if
 13 somebody followed this recipe, for lack of a better
 14 word, and added 4.4 percent Aroclor --
 15 A. Uh-huh.
 16 Q. -- is that what Monsanto was kind of telling
 17 the customer was necessary to give the paint a -- the
 18 plasticising properties that -- that are being
 19 marketed?
 20 MR. MILLER: Object to the form. There's no
 21 foundation for this document.
 22 A. It's not necessarily the only mixture that
 23 will fit that category, formula 3, but this is an
 24 example.
 25 Q. (By Mr. Brown) Okay. Thank you. I assume

1 then -- would it be fair to say that at some point
 2 there is a -- it's more of a range, that there might be
 3 a low end of the range where you just -- there's not
 4 enough Aroclor to really add any value to the paint and
 5 there's a high end of the range where it just doesn't
 6 make sense to add anymore? Is that -- would that be
 7 fair to say?
 8 A. That is possible, yes.
 9 Q. Okay.
 10 A. Very possible, uh-huh.
 11 Q. And then would it be fair to say, also, this
 12 4.4 somehow falls into that range?
 13 A. Yes.
 14 Q. Okay. Do you know how Monsanto -- what it
 15 did to derive this table?
 16 A. Not specifically, but it had to come from
 17 either Monsanto laboratory studies or customer
 18 feedback.
 19 Q. Okay. Do you know, based on your knowledge
 20 of Aroclors, at what low end would it no longer make
 21 sense -- what -- what the low end of the range would be
 22 just roughly where Aroclors wouldn't give paint
 23 plasticising properties anymore?
 24 A. I -- I don't know.
 25 Q. Okay. But you would assume that there is

1 some low end of the range? In other words, if it's,
 2 let's say, .1 percent, would it -- if someone added .1
 3 percent of Aroclor, just dribbled a little bit in the
 4 paint, would that have any plasticising properties?
 5 A. Well, your guess is as good as mine, but I
 6 would suspect that that would be like using a dirty pot
 7 to put it in.
 8 Q. Okay. And -- and let me give you some
 9 foundation for why I'm asking the questions. In this
 10 lawsuit, it involves a fish hatchery in Montana, and
 11 there's been a variety of paint samples taken. Some
 12 samples have a lot of PCBs in them. Some have just a
 13 little bit of PCBs in them. And the reason I'm asking
 14 the question is -- or what I'm trying to find out is if
 15 you had a paint sample that had a small amount of PCBs
 16 in it, would that more likely be because it was
 17 formulated that way or because it got there some other
 18 way or do you know?
 19 A. If the sample that you looked at to get the
 20 amount --
 21 Q. Right.
 22 A. -- was, say, a -- a flake of that paint, the
 23 chances are good that that's what it -- originally, but
 24 if your sample is -- what's the word I want? If the
 25 sample is not typical of what's on that surface

1 initially, you're going to get the wrong impression.
 2 And by -- and a sample that's not typical, that would
 3 have to be exposed to different -- other materials to
 4 change the recipe, if you will.
 5 Q. Okay. Okay. That helps. Okay. If you
 6 look at document No. 26, do you remember that document
 7 from --
 8 A. Yes --
 9 Q. -- earlier?
 10 A. -- I do, uh-huh.
 11 Q. Okay. And the only question I have about
 12 that is it discusses some levels in there at which fish
 13 died, and it says levels of 1 to 10 ppm for 1242 and
 14 1254. Do you see that?
 15 A. I do.
 16 Q. Do you know whether that is a concentration
 17 in the water or in the concentration of something that
 18 these fish might have ingested? In other words,
 19 ingested as food. Can you tell from that document?
 20 A. The document really doesn't clarify that
 21 except that the studies are always made in the
 22 contaminated water --
 23 Q. Okay.
 24 A. -- so with the -- that amount of PCBs
 25 present, 1 to 10 parts per million, that would imply

1 that the PCBs were pretty well dispersed in that water
2 either by agitation or movement of the aquarium in
3 which the -- the fish are confined; otherwise, that --
4 eventually that PCB just settles to the bottom it's so
5 heavy.

6 Q. Okay. So your assumption then is that this
7 number refers to concentrations in the water?

8 A. In the water.

9 Q. Okay. If you could look at document No. 33,
10 Exhibit 33. Do you see the paragraph that starts PCB
11 is used in certain types of marine paints?

12 A. I see it.

13 Q. And then the next sentence says the
14 leachability of these paints is so low -- and it goes
15 on. Is it your understanding that the leachability of
16 PCB containing paints is very low?

17 A. Yes.

18 Q. And why is that? Chemically, what is it
19 about PCBs in paint that makes the leachability low?

20 A. Well, first of all, PCBs are not soluble in
21 water, so it's difficult to extract them out of the --
22 the rest of the coating formulation, and --

23 Q. When you say PCBs are not soluble in water,
24 just from a laymen's perspective, just somebody sitting
25 in a jury, what -- what do you mean by that?

1 Q. Okay.

2 A. There's -- it goes to someone else who makes
3 that paint.

4 Q. Okay. And then if you could go to Exhibit
5 No. 40. Do you know what year this document was
6 drafted?

7 A. I thought I saw -- there's a note here of
8 1945.

9 Q. Okay. And do you -- do you know what the
10 purpose of this document was?

11 A. It's, again, advertising to the customer.

12 Q. Okay. It's a Monsanto document to try and
13 market material to its customers?

14 A. Yeah, to -- to advertise it, to promote it.

15 Q. Okay. And if you go to page 18 of that
16 document, and do you see the section that says paints
17 and varnishes? It's down in the lower right-hand -- in
18 the right-hand column, page -- page 18.

19 A. 18?

20 Q. Yeah. Sorry.

21 A. Okay. Paints and varnishes, I see it.

22 Q. And then if you flip over to page 19, it
23 talks about Aroclors 4465 and 5460. I had asked you
24 some questions a few minutes ago about Aroclor 5460.
25 What is Aroclor 4465?

1 A. Well, let me try to think of an example. Of
2 course, you know sugar is soluble in water.

3 Q. When you mix it up, it dissolves?

4 A. It gets -- you don't see it, but it's in
5 there.

6 Q. Right.

7 A. Alcohol, if you pour it in water, it
8 dissolves. It gets diluted, spread out. With PCBs,
9 they don't mix in water.

10 Q. Okay. So if the PCBs are used in paint, one
11 of the things that -- is it fair to say that one of the
12 things that makes the paint attractive to a -- somebody
13 who is using the paint is the fact that the PCBs are
14 going to stay there and give it the qualities --
15 it's -- it's not going to wash away with water? Is
16 that fair to say?

17 A. Exactly right.

18 Q. Okay.

19 A. That's the primary benefit.

20 Q. And do you know, is that one of the reasons
21 why, at least for a time, Monsanto marketed PCBs as a
22 swimming pool paint is because, obviously, it's going
23 to be used in water and it was --

24 A. Well, I was not aware that Monsanto ever
25 marketed PCBs as a swimming pool paint.

1 A. It's a mixture, as I remember, of Aroclor
2 1242 plus Aro -- Aroclor 5460.

3 Q. Okay. So would 4465 be a -- a PCB?

4 A. It's a got a PCB ingredient in it.

5 Q. It does?

6 A. Uh-huh.

7 Q. Okay. And then if you flip back to page 14,
8 a few pages back. In that -- the -- in the first
9 column there's a -- the second sentence says -- it
10 talks about Aroclors. It says the degree of
11 flexibility imparted by the Aroclors diminishes
12 progressively in order of liquid Aroclor.

13 A. Where?

14 Q. It's the second sentence in the first
15 column. Maybe just read that sentence.

16 A. Okay. Uh-huh.

17 Q. What I guess I want to understand is, just
18 so, you know, we can all understand how Aroclors work
19 is, as the percentage of chlorine goes up, does the
20 hardness of the -- the chemical also go up, increase?

21 A. Of the PCB?

22 Q. Yeah.

23 A. Yes.

24 Q. So --

25 A. It's not so much hardness as it is

1 viscosity.
 2 Q. Okay. So when this sentence -- the next
 3 sentence says the hardness of the resulting
 4 compositions increases, what you're saying is that it
 5 becomes thicker?
 6 A. The hardness of the final product --
 7 Q. Okay.
 8 A. -- that includes other ingredients other
 9 than the PCBs.
 10 Q. Okay. And why would that be attractive to
 11 someone who is using these products, for instance,
 12 as -- as a paint application?
 13 A. A paint application -- an example would
 14 be -- let's use the road lane paint.
 15 Q. Right.
 16 A. You want something that's long lasting;
 17 therefore, you look for what we might at this point
 18 call the harder type paint. It's -- it's thicker. It
 19 takes a little more effort to apply, but the sought-
 20 after advantage is that it will last longer. It will
 21 just take that much longer for the rubber tires of cars
 22 to rub it off and --
 23 Q. So it won't -- won't have to be re-painted
 24 as often?
 25 A. That's true.

1 Q. Okay.
 2 A. That's the purpose.
 3 Q. Now, I'm going to have you go to Exhibit No.
 4 49. And on this one you were asked some questions
 5 about pages 1 through 5 and the summary, but I'm
 6 actually going to ask you a couple of questions about
 7 page 19 of this. Do you see the -- paragraph no. 6
 8 where it says coatings there?
 9 A. Yes.
 10 Q. Okay. And in that paragraph it identifies
 11 two customers of which I assume are Monsanto customers,
 12 two large customers. Do you have any personal
 13 knowledge of those two customers as being customers of
 14 Monsanto?
 15 A. Personal in what way?
 16 Q. I mean, based on your work with the Monsanto
 17 Company, do you have any knowledge of the Sherwin-
 18 Williams Company and Koppers buying a large quantity --
 19 A. I was made aware of that eventually, yeah.
 20 Q. Okay. And so do you believe it to be true
 21 that the biggest direct customers in the coatings
 22 market were Sherwin-Williams and Koppers?
 23 A. Yeah, there's -- there's no reason for me
 24 to --
 25 Q. Disagree with that?

1 A. -- to disagree with it.
 2 Q. Okay. And the 1.3 M pounds, I assume, does
 3 that mean 1.3 million pounds, from what -- if you know?
 4 A. It's -- M with a bar on top is million.
 5 Q. Okay. And that's what you understand to be
 6 1.3 million pounds?
 7 A. Yes.
 8 Q. Okay.
 9 A. The first line there, uh-huh.
 10 Q. So just so I'm clear, would you understand
 11 the first sentence to mean in 1968, Monsanto sold 1.3
 12 million pounds to the coatings market, and that's --
 13 A. Yes.
 14 Q. Okay. The next document I would like you to
 15 take a look at is Exhibit No. 55, and I think it's
 16 right by your right hand there. If you look at page 21
 17 of that document -- and what I'm using for page numbers
 18 is -- it's numbered a couple different ways -- the
 19 actual page number that's in the lower left side. It's
 20 probably the original page number. If you look at page
 21 21.
 22 A. I find it -- I found it.
 23 Q. Okay. And this is similar to a table we
 24 were talking about a couple of minutes ago. Is this
 25 also -- well, first of all, is this document also a

1 marketing document that was --
 2 A. Yes.
 3 Q. Used? Okay. And it's -- on the cover it
 4 says Technical Bulletin No. PL-306. That's a Monsanto
 5 document that's given to customers, is that right?
 6 A. Yes.
 7 Q. During the 1960s?
 8 A. Yes.
 9 Q. And I think I -- I recall your testimony is
 10 you don't know how long in the 1960s this may have been
 11 used, but it was used -- you do know it was used
 12 sometime during the 1960s?
 13 A. Correct.
 14 Q. Okay. And what is the general purpose of
 15 this document? Is it --
 16 A. I'm sorry?
 17 Q. The general purpose of the -- the overall
 18 document, what is it for?
 19 A. It's to promote the use of the Aroclor
 20 products to a potential customer or to a -- a customer
 21 who's already using one of the Aroclors, but could
 22 replace it with another or a blend of a couple
 23 Aroclors.
 24 Q. Okay.
 25 A. It all depends on how his workers or

1 employees evaluate this information.
 2 Q. Okay. So if you look at the table on page
 3 21 there, is this also just an example that Monsanto
 4 was providing potential customers of a kind of a recipe
 5 for different types of paint formulations?
 6 A. Yes.
 7 Q. Okay. And if a customer wanted to deviate a
 8 little bit from that, that's certainly up to the
 9 customer, right?
 10 A. Certainly. Yes.
 11 Q. And again, do -- do you know what Monsanto
 12 did to produce these -- this example?
 13 MR. MILLER: Object to the form. Calls for
 14 speculation.
 15 A. I do not know how they came up with these --
 16 I'm calling them recipes.
 17 Q. (By Mr. Brown) Okay. Now, if you look at
 18 Exhibit No. 65 -- are you there?
 19 A. I have it, yes.
 20 Q. Okay. And as I understand this document,
 21 it's a letter from Monsanto that went to Congressman
 22 Ryan in about -- at the end of June of 1970. Is that
 23 your understanding?
 24 A. Yes.
 25 Q. Okay. And at -- at the bottom of the first

1 page in paragraph 1 it seems to indicate that Monsanto
 2 made a decision that as of August 30th, what I assume
 3 to be 1970, that Monsanto was no longer going to be
 4 selling PCBs for plasticiser applications. Is that
 5 your understanding?
 6 A. Yes.
 7 Q. Okay. And to the best of your knowledge, is
 8 that approximately when Monsanto did stop selling PCBs
 9 for plasticiser applications?
 10 A. Yes.
 11 Q. Are you familiar with what the reason was
 12 why Monsanto stopped selling PCBs for plasticiser
 13 applications?
 14 A. The principle reason was that the
 15 plasticiser applications were open to the environment.
 16 They were not contained in equipment, for example, like
 17 hydraulic fluids or heat transfer fluids, but these
 18 were applications that resulted in a product that found
 19 its way out there in the environment. Imme --
 20 immediately it's used.
 21 Q. Okay. Do you know whether Monsanto had any
 22 specific concerns with dry paint -- PCBs migrating out
 23 of dry paint as one of the reasons for discontinuing
 24 the sale?
 25 A. It wasn't the migration of PCBs from a

1 painted surface. It was the removal from that painted
 2 surface and transferring it out, such as car tracks on
 3 a traffic lane and moving it away from its original
 4 position to some other uncontrollable situation.
 5 Q. Do you know if Monsanto had any specific
 6 concerns about paint used in swimming pools that led to
 7 that decision?
 8 A. Well, yes, because even in that type of
 9 application the -- the surface is abraded either in the
 10 actual water action or the cleaning of the pool.
 11 Q. And when you say abraded, you mean -- I
 12 assume you mean paint chipping off and --
 13 A. Sep -- separating it from its original
 14 surface.
 15 Q. Okay. Not the PCBs coming out of the paint,
 16 but the paint --
 17 A. No, no. It's the whole paint chip or --
 18 or -- or mixture.
 19 Q. Okay. Was Monsanto aware of paint -- or
 20 were you aware in your work with Monsanto of paint
 21 being used in fish hatcheries?
 22 A. I never personally heard of that, but --
 23 Q. Okay. Were you aware of -- I take it you
 24 wouldn't be aware then of paint used in fish hatcheries
 25 where the hatchery walls were scraped and the chips of

1 paint were washed into a river or anything like that?
 2 A. No.
 3 Q. Okay. If you did know of something like
 4 that, would that be a concern to you?
 5 A. Oh, yes.
 6 Q. Would you -- would -- would you regard that
 7 as something that's not really something Monsanto would
 8 expect their customers to do?
 9 MR. MILLER: Object -- object to the form.
 10 There's no foundation.
 11 A. Well, it depends again on the timing. Once
 12 we found out how to analyze for PCBs and found them
 13 present in the environment, then that would not have
 14 been acceptable, but if you go back to 1940, the
 15 Aroclors were considered a very attractive product,
 16 doing a wonderful job, no problems, but as we picked up
 17 more knowledge, you begin to see the problems.
 18 Q. (By Mr. Brown) Okay. The last question I
 19 want to ask you. In your work as an environmental
 20 manager, would -- would you agree that the -- the --
 21 kind of the state of awareness of environmental
 22 contamination -- people became more aware of that as a
 23 concern over time as -- especially during the 1970s?
 24 That's when people became really aware of environmental
 25 contamination kinds of issues?

1 MR. MILLER: Object to the form.
 2 A. That continues to this day.
 3 Q. (By Mr. Brown) Right. But is that
 4 something that evolved over time, in other words?
 5 A. Yeah. The more information people or -- or
 6 societies get, the more sensitive they become to some
 7 of these things that at one time might have been
 8 perceived as harmless.
 9 Q. Okay. So -- I'm sorry. I have to ask one
 10 more follow-up. So something that might have been
 11 acceptable as a practice in 1960 as more information
 12 was generated might not be acceptable anymore in 1970?
 13 Is that fair to say from an environmental management
 14 perspective?
 15 A. Yes. That's expectable.
 16 MR. BROWN: Okay. Great. That's all of the
 17 questions I have. Thank you.
 18 THE WITNESS: Thank you.
 19 MR. MILLER: If I can, we're -- we're going
 20 to break in a few minutes and reconvene, but I just --
 21 I just wanted to start with five minutes worth of
 22 questions, if that's all right with everybody. I don't
 23 see the problem with that.
 24
 25

1 EXAMINATION
 2 BY MR. MILLER:
 3 Q. Mr. Papageorge, my name is Adam Miller. I
 4 represent Monsanto Company. For our purposes today, I
 5 just want to ask you a few questions relating to some
 6 of the topics that were addressed by other counsel
 7 today and yesterday. From what I understand,
 8 Mr. Papageorge, is it your recollection that issues
 9 associated with the environmental persistence of PCBs
 10 really started with the information that came overseas
 11 from Sweden?
 12 MR. OAAS: Object to the form of the
 13 question as leading.
 14 A. Yes.
 15 Q. (By Mr. Miller) And were -- was that
 16 information in part information obtained from the
 17 Swedish -- Swedish res -- researchers that you
 18 identified, Jensen and Widmark?
 19 MR. OAAS: Object to the form of the
 20 question as leading.
 21 A. Yes.
 22 Q. (By Mr. Miller) And Mr. Papageorge, was it
 23 your -- is it your recollection that when that
 24 information was obtained by Monsanto, that Monsanto
 25 engaged in a series of activities to verify what had

1 been reported by these researchers in Europe?
 2 A. Definitely --
 3 MR. OAAS: Object to the form of the --
 4 A. Yes.
 5 MR. OAAS: -- object to the form of the
 6 question as leading.
 7 Q. (By Mr. Miller) And is it your
 8 recollection, Mr. Papageorge, that some of that work
 9 included obtaining some of the most sophisticated
 10 analytical tools then available at the time for that
 11 purpose?
 12 MR. OAAS: Object to the form of the
 13 question as leading.
 14 MR. MILLER: I'll -- I'll -- you can -- I'll
 15 accept a running objection to your leading.
 16 MR. OAAS: That's not allowed in Montana.
 17 You have to make them to the question.
 18 MR. MILLER: I'm stipulating to the fact
 19 that you don't have to keep doing it.
 20 MR. OAAS: I can't do it.
 21 Q. (By Mr. Miller) All right. Well, then
 22 you're going to have to wait until this counsel here
 23 makes a redundant objection before you answer these
 24 questions.
 25 A. Okay.

1 Q. It's gonna -- it's gonna mean that we're
 2 going to take a few more minutes to finish this, but
 3 that's what counsel has told me he intends to do.
 4 Were the analytical tools that we just
 5 mentioned available in the United States at the time?
 6 MR. OAAS: Object to form of the question as
 7 leading.
 8 MR. MILLER: It's not leading.
 9 Go ahead.
 10 A. No.
 11 Q. (By Mr. Miller) How did Monsanto obtain the
 12 analytical tools it used to verify the information that
 13 was coming overseas from researchers like Jensen and
 14 Widmark?
 15 A. Monsanto contacted Drs. Widmark and Jensen
 16 and asked them where they purchased their equipment,
 17 and Monsanto placed an order, and as I remember, it was
 18 a German company, and we had to wait several months
 19 before it was delivered.
 20 Q. And around that time -- well, have you ever
 21 heard of a gentleman by the name of Risebrough?
 22 A. Yes.
 23 Q. And was he, to your recollection, a
 24 researcher from the University of California?
 25 A. Yes.

1 Q. And was he also publishing around this time
2 reports of the environmental presence of PCBs in the
3 United States?

4 A. Yeah, but the timing is -- he was a little
5 bit behind. I don't know what equipment he used, but I
6 met with Dr. Risebrough at Berkeley.

7 Q. And did you also meet with Dr. Widmark in
8 Sweden?

9 A. Yes.

10 Q. And did you exchange during your meetings
11 with Dr. Risebrough and Dr. Widmark the analytical
12 information that Monsanto had been developing?

13 MR. OAAS: Object to the form of the
14 question as leading.

15 A. Yes, we did.

16 Q. (By Mr. Miller) And did you attempt to
17 learn as much as you could from those researchers about
18 the work that they were doing?

19 MR. OAAS: Object to the form of the
20 question as leading.

21 A. Yes.

22 Q. (By Mr. Miller) And would you
23 characterize -- how would you characterize that
24 exchange of information? Was it in the spirit of
25 mutual cooperation?

1 MR. OAAS: Object to the form of the
2 question as leading.

3 A. Very much so. To me, it was a pleasant
4 surprise how willing they were to exchange ideas.

5 Q. (By Mr. Miller) And was Monsanto willing to
6 exchange ideas with those researchers?

7 A. Very much.

8 Q. You had indicated that the analytical tools
9 weren't available in the United States. Did Monsanto
10 work as quickly as it could to obtain the analytical
11 tools it needed to assess the environmental persistence
12 of PCBs?

13 MR. OAAS: Object to the form of the
14 question as leading.

15 A. For the first piece of equipment that we
16 needed, yes. Later on, companies in this country
17 started replicating, let's call it, the equipment, and
18 improving on it, also.

19 Q. (By Mr. Miller) To your knowledge,
20 Mr. Papageorge, were the techniques that were used by
21 Risebrough and Jensen and Widmark for assessing the
22 persistence or presence of PCBs in the environment
23 off-the-shelf kind of techniques?

24 MR. OAAS: Object to form of the question as
25 leading.

1 A. I don't know what you mean by off-the-shelf.

2 Q. (By Mr. Miller) In other words, did these
3 researchers and did Monsanto have to develop the
4 analytical techniques to identify and quantify PCBs in
5 the environment?

6 MR. OAAS: Object to the form of the
7 question as leading.

8 A. Yes.

9 Q. (By Mr. Miller) Your answer was yes to that
10 question?

11 A. Yes.

12 Q. And that's the kind of information, I take
13 it, that you would share with the researchers in
14 California and in Europe about the development of
15 analytical techniques?

16 MR. OAAS: Object to the form of the
17 question as leading.

18 A. Correct.

19 Q. (By Mr. Miller) All right. You began your
20 work in St. Louis in -- I think you mentioned early
21 January of 1970?

22 A. Yes.

23 Q. And by that time, had Monsanto hired folks
24 like Scott Tucker, a Ph.D. in analytical chemistry to
25 help develop and implement the techniques that we've

1 just talked about?

2 MR. OAAS: Object to the form of the
3 question.

4 A. Yes.

5 Q. (By Mr. Miller) Go ahead and answer again.

6 A. Yes.

7 Q. And also you had mentioned that shortly
8 after you began work in St. Louis that you assisted in
9 the development of letters that were sent to customers?

10 MR. OAAS: Object to the form of the
11 question as leading.

12 A. Yes.

13 Q. (By Mr. Miller) Okay. And that you had
14 developed letters that went to potential customers of
15 Monsanto's plasticiser uses?

16 A. Yes.

17 Q. And did the letters that you developed for
18 customers and potential customers also include
19 customers and potential customers of Aroclors for all
20 kinds of uses, not just plasticiser uses?

21 MR. OAAS: Object to the form of the
22 question as leading.

23 A. The subjects included in those letters tried
24 to cover the field, but the intent in both types of
25 letters was the same.

1 Q. (By Mr. Miller) Was the intent to provide
2 customers and potential customers of Aroclors the
3 latest information available to Monsanto and in the
4 scientific press about the emerging science of finding
5 PCBs in the environment?

6 MR. OAAS: Object to the form of the
7 question as leading.

8 A. Yes.

9 Q. (By Mr. Miller) And did you, in the course
10 of your work in the early 1970s in the preparation and
11 dissemination of those letters, send out information to
12 customers and potential customers about toxicology
13 studies and studies that were being conducted around
14 the world about finding PCBs in the environment?

15 MR. OAAS: Object to the form of the
16 question as leading.

17 A. Yes.

18 Q. (By Mr. Miller) And is it your
19 recollection, Mr. Papageorge, that those letters went
20 out in early 1970, shortly after you started your work
21 at Monsanto in St. Louis?

22 MR. OAAS: Object to the form of the
23 question as leading.

24 A. When you say early, I'm not talking about
25 January, February, but --

1 Q. (By Mr. Miller) Well --

2 A. -- in the first six months or so, as I
3 remember.

4 Q. Well, you -- well, we'll -- we'll cover this
5 next time. I'll show you the specific letters, but it
6 wouldn't surprise you if you had letters dated February
7 of 1970?

8 MR. OAAS: Object to the form of the
9 question as leading.

10 A. It wouldn't surprise me, but --

11 Q. (By Mr. Miller) All right. I wanted to ask
12 you -- during the course of 1970, before Monsanto
13 voluntarily withdrew the manufacture and sale of
14 Aroclors as plasticisers, were you, Mr. Papageorge,
15 communicating with individuals in government about the
16 use of PCBs and their environmental persistence?

17 MR. OAAS: Object to the form of the
18 question as leading.

19 A. Yes.

20 Q. (By Mr. Miller) Were your communications
21 with organizations like the Bureau of Commercial
22 Fisheries in the United States?

23 MR. OAAS: Object to the form of the
24 question as leading.

25 A. Yes.

1 Q. (By Mr. Miller) Were you communicating with
2 organizations like the Federal -- the Food and Drug
3 Administration?

4 MR. OAAS: Object to the form of the
5 question as leading.

6 A. Yes.

7 Q. (By Mr. Miller) Were you communicating with
8 the Federal Water Pollution Control Administration?

9 MR. OAAS: Object to the form of the
10 question as leading.

11 A. Yes.

12 Q. (By Mr. Miller) Which was -- is now a part
13 of the United States Environmental Protection Agency?

14 A. That is correct.

15 MR. OAAS: Objection to the form of the
16 question as not being a question.

17 MR. MILLER: There's a -- Chris will have a
18 question mark after that sentence in the record so
19 it -- it will read as a question.

20 Q. (By Mr. Miller) Were you communicating with
21 organizations like the U.S. Department of Interior
22 during the course of 1970 about the environmental
23 persistence of PCBs?

24 MR. OAAS: Object to the form of the
25 question as leading.

1 A. Yes.

2 Q. (By Mr. Miller) Were you communicating with
3 organizations like the Fish Pesticide Research
4 Laboratory in Columbia, Missouri during that time
5 period?

6 MR. OAAS: Object to the form of the
7 question as leading.

8 A. Yes.

9 Q. (By Mr. Miller) Were you communicating with
10 organizations like the Water Chemistry Laboratory at
11 the University of Wisconsin?

12 MR. OAAS: Object to the form of the
13 question as leading.

14 A. Yes.

15 Q. (By Mr. Miller) And organizations like the
16 Fisheries Research Board of Canada during that time
17 period, Mr. Papageorge?

18 MR. OAAS: Object to the form of the
19 question as leading.

20 A. Yes.

21 Q. (By Mr. Miller) Would that also be true for
22 an organization called the Southeast Water
23 Laboratory --

24 MR. OAAS: Object to the form of the
25 question as leading.

1 A. Yes.
 2 Q. (By Mr. Miller) -- which is now part of the
 3 United States Environmental Protection Agency?
 4 MR. OAAS: Object to the form of the
 5 question as leading.
 6 A. That is correct.
 7 Q. (By Mr. Miller) Were you communicating with
 8 organizations like the Department of Animal Science at
 9 Utah State University during this time period?
 10 MR. OAAS: Object to the form of the
 11 question as leading.
 12 A. Yes.
 13 Q. (By Mr. Miller) Were you reporting your
 14 findings and the science with folks like the Patuxent
 15 Wildlife Research Centery -- Center which is part of
 16 the Bureau of Sport Fisheries and Wildlife which is
 17 part of the Department of Interior during this time
 18 period?
 19 MR. OAAS: Object to the form of the
 20 question as leading.
 21 A. Yes.
 22 Q. (By Mr. Miller) And was it your
 23 understanding during this time period that these kinds
 24 of organizations, the ones that we've just mentioned,
 25 were doing -- doing their own independent research on

1 the affects of PCBs in the environment on wildlife and
 2 the persistence of PCBs in the environment?
 3 MR. OAAS: Object to the form of the
 4 question as leading.
 5 A. They were.
 6 Q. (By Mr. Miller) And did they communicate to
 7 you the nature of their research?
 8 MR. OAAS: Object to the form of the
 9 question as leading.
 10 A. Yes.
 11 Q. (By Mr. Miller) And were they looking, for
 12 example, at the affects of PCBs in the environment on
 13 creatures like fish and birds?
 14 MR. OAAS: Object to the form of the
 15 question as leading.
 16 A. Yes.
 17 Q. (By Mr. Miller) And were you communicating,
 18 Mr. Papageorge, with organizations like the U.S. Bureau
 19 of Commercial Fisheries during the 1970 period about
 20 what you had been finding, the nature of the research
 21 results that you were obtaining and the methodologies
 22 that were -- you were using regarding the environmental
 23 presence of PCBs?
 24 MR. OAAS: Object to the form of the
 25 question as leading.

1 A. Yes.
 2 Q. (By Mr. Miller) In fact, Mr. Papageorge,
 3 you attended meetings with all of those organizations,
 4 isn't that correct?
 5 MR. OAAS: Object to the form of the
 6 question as leading.
 7 A. That is correct.
 8 Q. (By Mr. Miller) And at those meetings, did
 9 you share with these organizations the information that
 10 Monsanto had obtained up to that point regarding the
 11 affects of PCBs on wildlife and fish and the
 12 persistence of PCBs in the environment?
 13 MR. OAAS: Object to the form of the
 14 question as leading.
 15 A. Yes.
 16 Q. (By Mr. Miller) And I take it during this
 17 time period that the information that they had shared
 18 with you and that you had shared with those types of
 19 organizations solidified in your mind the notion that
 20 Monsanto ought to go out of the business of providing
 21 PCBs for uses such as in things like paint, is that
 22 correct?
 23 MR. OAAS: Object to the form of the
 24 question.
 25 A. That is correct.

1 Q. (By Mr. Miller) And as I understand it,
 2 that occurred in -- at the end of August in 1970?
 3 MR. OAAS: Object to the form of the
 4 question as leading.
 5 A. That is correct.
 6 Q. (By Mr. Miller) And at that time -- or
 7 prior to that time, Mr. Papageorge, did any of these
 8 organizations that we've just talked about, the USDA,
 9 the Fish Pesticide Research Laboratory, the Fisheries
 10 Research Board of Canada, the Departments of Fisheries
 11 and Forestry, the Food and Drug Administration, the
 12 Department of Interior, the Bureau of Sport Fisheries
 13 and Wildlife, or the U.S. Bureau of Commercial
 14 Fisheries, ever come to Monsanto, to your knowledge,
 15 and say you need to stop selling PCBs for use as a
 16 plasticiser?
 17 MR. OAAS: Object to the form of the
 18 question as leading.
 19 A. I'm not aware of anything like that, no.
 20 Q. (By Mr. Miller) In other words, your
 21 decision -- Monsanto's decision to go out of the
 22 business of selling PCBs as a plasticiser was a
 23 voluntary action taken by the company, is that correct?
 24 MR. OAAS: Object to the form of the
 25 question.

1 A. That is correct.
 2 Q. (By Mr. Miller) And to your understanding,
 3 there was no law or regulation or legislation that
 4 required Monsanto to stop selling PCBs as a plasticiser
 5 in 1970, is that correct?

6 MR. OAAS: Object to the form of the
 7 question.

8 A. That is correct.

9 Q. (By Mr. Miller) And if I understand the
 10 information that you were shown by plaintiff's counsel
 11 during the course of the deposition, Monsanto, as a
 12 result of that voluntary action, essentially cut back
 13 the production of PCBs roughly in half, is that
 14 correct?

15 MR. OAAS: Object to the form of the
 16 question as leading?

17 A. That is correct.

18 Q. (By Mr. Miller) So as I understand your
 19 prior testimony, PCB -- or Aroclor sales were a
 20 profitable part of Monsanto's business at that time, is
 21 that right?

22 MR. OAAS: Object to the form of the
 23 question as leading.

24 A. That is right.

25 Q. (By Mr. Miller) And so what Monsanto did is

1 was the Department of Interior?

2 A. Yes.

3 Q. Now, you -- are you aware, Mr. Papageorge,
 4 that in addition to the research that was being
 5 conducted by the organizations that we've already
 6 mentioned, the FDA and the US EPA and the USDA and the
 7 Sport Fisheries and Wildlife Bureau and the Fish
 8 Pesticide Research Lab and the Bureau of Commercial
 9 Fisheries, that that research was in part being
 10 published in the scientific literature?

11 MR. OAAS: Object to the form of the
 12 question as leading.

13 A. Yes.

14 Q. (By Mr. Miller) And you at Monsanto had
 15 access to the published literature that was being
 16 produced by these organizations during that time?

17 MR. OAAS: Object to the form of the
 18 question as leading.

19 A. Yes.

20 Q. (By Mr. Miller) And certainly the
 21 interdepartmental task force had access to that
 22 literature?

23 A. Yes.

24 Q. And the Bureau of Fish and Wildlife would
 25 have had access to that liter -- literature?

1 essentially voluntarily cut off half of the profits it
 2 was going to be making and half of the revenue it would
 3 be making from the sale of Aroclors entirely as a
 4 result of a voluntary action?

5 MR. OAAS: Object to the form of the
 6 question as leading?

7 A. That is correct.

8 Q. (By Mr. Miller) And you -- you mentioned
 9 that you are familiar with the interdepartmental task
 10 force on PCBs in the environment?

11 A. I am.

12 Q. And you've looked at a report that
 13 plaintiff's counsel showed you dated May of 1972?

14 A. Yes.

15 Q. And that report summarized what was known in
 16 the community -- the scientific community at that time
 17 regarding the hazards of PCBs and their presence of --
 18 presence in the environment, as you understood it?

19 A. Yes.

20 Q. And you understand that that
 21 interdepartmental task force was made up of a number of
 22 federal agencies within the United States Government?

23 A. That is correct.

24 Q. And is it your understanding that one of the
 25 organizations within the interdepartmental task force

1 MR. OAAS: Object to the form of the
 2 question as leading, vague.

3 A. Yes.

4 Q. (By Mr. Miller) In addition to the
 5 literature that was being published in the scientific
 6 community and the information that was being
 7 disseminated through the report of the
 8 interdepartmental task force, you saw, I take it,
 9 during your tenure at Monsanto in the early 1970s that
 10 there were articles in the popular press, newspapers
 11 like the New York Times and Time Magazine and Newsweek,
 12 about the environmental persistence of PCBs?

13 MR. OAAS: Objection to the form of the
 14 question as leading.

15 A. Yes.

16 THE VIDEOGRAPHER: We have approximately one
 17 minute of tape left.

18 Q. (By Mr. Miller) I take it -- my last
 19 question, Mr. Pap -- for today, Mr. Papageorge -- and
 20 we'll go through this in more detail when we're
 21 together next time, but you would kind of have to have
 22 been living under a rock in 1970-'71 not to be aware of
 23 the environmental persistence of PCBs, isn't that
 24 correct?

25 MR. OAAS: Object to the form of the

Page 337 1 question as leading. 2 A. That is -- 3 MR. BROWN: And I join in that objection. 4 A. -- correct. 5 MR. MILLER: All right. 6 MR. OAAS: It's also insulting to the 7 Montana Department of Fish, Wildlife and Parks and the 8 people who operated the fish hatchery at the time, and 9 irrelevant and malicious, and that's all I have. 10 THE VIDEOGRAPHER: We are off -- 11 MR. OAAS: I want to offer, for record for 12 the -- the deposition -- plaintiff's Exhibits 1 through 13 68. I move that they be made a part of the record of 14 the deposition. 15 MR. MILLER: I don't think you have to move 16 for that, but they're made part of the record. 17 THE VIDEOGRAPHER: We are off the record at 18 2:30 p.m. ending tape no. 5. 19 (Wherein, the taking of the videotaped 20 deposition concluded.) 21 22 23 24 25	Page 339 1 2 3 I, WILLIAM PAPAGEORGE, do hereby state that the 4 foregoing statements are true and correct to the best 5 of my knowledge and belief. 6 7 _____ William Papageorge 8 9 10 11 Subscribed and sworn to before me this ____ day 12 of _____, 2006. 13 14 _____ Notary Public 15 16 17 My Commission expires: 18 19 _____ 20 21 22 23 24 25
Page 338 1 CERTIFICATE 2 3 I, Christopher C. Wiegiers, Certified Court 4 Reporter, DO HEREBY CERTIFY that pursuant to agreement 5 between the parties, the aforementioned witness came 6 before me at the time and place hereinbefore mentioned, 7 and having been duly sworn to tell the whole truth of 8 his knowledge touching upon the matter in controversy 9 aforesaid; that he was examined on the day, and his 10 examination was taken in shorthand and later reduced to 11 printing; that signature by the witness is reserved and 12 said deposition is herewith forwarded to the taking 13 attorney for filing with the Court. 14 IN WITNESS WHEREOF, I have hereunto subscribed my 15 name this 10th day of July, 2006. 16 17 18 19 20 21 _____ Christopher C. Wiegiers 22 23 24 25	Page 340 1 WILLIAM PAPAGEORGE 2 3 NAME OF DEPONENT 4 DEPOSITION CORRECTION SHEET 5 Re: Marty Paulson, et al., vs. Monsanto Chemical 6 Company, n/k/a Pharmacia, et al., No. DV-2004-55 7 Reported By: Christopher C. Wiegiers 8 Upon reading the deposition and before subscribing 9 thereto, the deponent indicated the following 10 changes should be made: 11 Page Line Should read: 12 Reason assigned for change: 13 14 Page Line Should read: 15 Reason assigned for change: 16 17 Page Line Should read: 18 Reason assigned for change: 19 20 Page Line Should read: 21 Reason assigned for change: 22 23 Page Line Should read: 24 Reason assigned for change: 25 _____ SIGNATURE OF DEPONENT

July 10, 2006

HUSCH & EPPENBERGER, LLC
Adam Miller, Esq.
190 Carondelet Plaza, Suite 600
St. Louis, Missouri 63105

Re: Marty Paulson, et al., vs. Monsanto Chemical
Company n/k/a Pharmacia, et al., No. DV-2004-55

Dear Mr. Miller:

Enclosed is the transcript of Mr. William
Papageorge's deposition testimony given on June 28,
2006. Please have Mr. Papageorge review the
transcript, make any corrections, and return one copy
of the corrections as well as the signature page
directly to Torger S. Oaas, Esq. If the transcript is
not signed within thirty days, the original transcript
may be filed with the Court as if signed.

If you have any questions please do not hesitate
to contact me.

Respectfully,

Christopher C. Wiegers

ccw
Enclosures

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