

1756

1 (1:20 p.m.)

2 (All parties present.)

3 (Jury present.)

4

5 (AFTERNOON SESSION

6 THE COURT: Are we just going to

7 pick up where we left off?

8 MR. FELL: Yes, Your Honor.

9 (Video resumed.)

10 Q. Appears to be either a memorandum or a
11 letter from Mr. R. Emmet Kelly -- Dr. R.
12 Emmet Kelly, M.D. to W. B. Papageorge,
13 correct?

14 A. That is correct.

15 Q. And you became aware from this memo that
16 the Ohio Health Department had found
17 PCBs, particularly Aroclor 1254, in
18 samples of milk from at least three
19 herds in Ohio, correct?

20 A. That is correct.

21 Q. Had you ever become aware before this
22 memo of the possibility of milk being
23 contaminated with PCBs?

1 A. Yes.

2 Q. When?

3 A. Early 1970, as best I recall.

4 Q. And how did that come about?

5 A. I received a report of the findings of
6 milk in cattle in Georgia that was later
7 attributed to the fact that cattle were
8 grazing under -- on land under power
9 lines. And these areas were sprayed
10 with oils to discourage dense weed
11 growth. And it was eventually
12 determined that these oils contained
13 PCBs in them.

14 Q. Okay. In seeing what's reported here,
15 the Ohio Health Department traced the
16 contamination to the PCBs in the paint
17 in the silos, correct?

18 A. That is correct.

19 Q. The last paragraph states, "This brings
20 us to a very serious point. When are we
21 going to tell our customers not to use
22 any Aroclor in any paint formulation
23 that contacts food, feed, or water for

1 animals or humans? I think it is very
2 important that this be done." Do you
3 see that?

4 A. I do.

5 Q. Before this incident in Ohio, did
6 Monsanto ever consider telling its
7 customers not to use PCBs in any paint
8 formulation that contacted food, feed,
9 or water for animals or humans?

10 A. At this point in time there was serious
11 consideration given to those very
12 thoughts of PCBs in relationship to food
13 for animals or humans.

14 MR. PRATER: Your Honor, the next
15 question was,

16 "QUESTION: When you say at this
17 point in time, do you mean
18 after receipt of the memo,
19 before receipt of the memo?

20 "ANSWER: Before. We were in the
21 process of coming up with a
22 PCB phase-out program.
23 Dr. Kelly was not aware of

1 that activity. So what he
2 was proposing was already
3 being seriously considered
4 and resulted in Monsanto's
5 program that was announced in
6 -- oh, in a couple of months
7 after that, about May of 1970
8 or thereabouts. Early summer
9 is the best I can recall now.
10 And the part I have in mind
11 here is that reference to the
12 termination of sales of PCBs
13 to the open uses, including
14 paints."

15 (Video resumed.)

16 Q. Let me show you Papageorge Thirty for
17 identification. This is a two-page
18 document dated February 10th, 1967,
19 apparently a letter from Dr. Kelly to
20 Mr. D. Wood in London. And it bears
21 Bate's number NEV 0237645 and NEV
22 0236 --

23 MR. PECK: I think you said that

1 wrong.

2 MR. ATKIN: 023645?

3 MR. PECK: Yeah.

4 Q. And NEV 023646. I'd ask you to review
5 that if you could.

6 A. I have reviewed the exhibit.

7 Q. Okay. Who was Mr. Wood?

8 A. Mr. Wood was a Monsanto employee in the
9 marketing department working out of
10 Brussels, Belgium.

11 Q. Okay. Was he responsible for the
12 marketing of Aroclor products?

13 A. He was one of several, yes.

14 Q. Do you recall any discussions with
15 Mr. Wheeler about this document?

16 A. Of course not word for word, but in
17 essence this document was Mr. Wheeler's
18 way of bringing up the subject of how
19 PCBs were being found in environmental
20 samples at a Swedish laboratory and how
21 Monsanto received the first information
22 regarding that study.

23 Q. That was a study done by Jenssen?

1 A. Yes.

2 Q. Okay. This memo reflects that by 1967
3 Monsanto was getting concerned about
4 PCBs in the air and in fish and other
5 living reservoirs, correct?

6 A. Correct.

7 Q. The next sentence states, "We feel our
8 customers, especially NCR, may ask us
9 for some sort of data concerning the
10 safety of these residues in humans." Do
11 you see that?

12 A. I do.

13 Q. Was this the first time to your
14 knowledge that Monsanto first considered
15 that its customers might ask for some
16 sort of data concerning the safety of
17 these residues in humans?

18 A. No. The questions regarding health
19 effects of PCBs were shared with
20 customers like NCR. They already knew
21 what Monsanto knew.

22 Q. When was this, as of 1967?

23 A. Yes.

1 Q. When you talk about the warnings that
2 had been provided to customers by
3 Monsanto, you mentioned certain health
4 hazards, correct?

5 A. Yes.

6 Q. Did those warnings also include
7 information about liver problems?

8 A. In some cases, yes. I remember some
9 reference to continued excessive
10 exposure could damage the liver to the
11 point where it could no longer recover
12 itself.

13 Q. Did those warnings ever talk about
14 possible systemic injury from PCB
15 exposure?

16 A. Yes.

17 Q. Do you recall when for the first time
18 the warnings included information about
19 possible liver trouble?

20 A. I don't remember a specific date. It
21 seems like it was in product brochures
22 and product literature for decades. I
23 just don't remember a date.

1 Q. And I guess the same would hold true for
2 possible systemic injury, that you
3 wouldn't recall the exact date?

4 A. That is correct.

5 Q. Did you have any involvement in
6 formulating the warning labels that
7 Monsanto put on its PCB products?

8 A. Some of them.

9 Q. Okay. What was your involvement?

10 A. I was involved in the wording of the
11 paragraph that referred to the findings
12 of PCBs in the environment and the
13 precautionary statements included in
14 that paragraph, to handle it carefully
15 and not allow it to escape into the
16 environment. And eventually there was a
17 phrase or a sentence included referring
18 to prevention of entry into animal feed
19 and human food.

20 Q. And one of the things that Monsanto did
21 tell its customers was they should avoid
22 prolonged breathing of PCB vapors or
23 mists, correct?

1 A. Oh, yes, definitely.

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

3 Before we go on to Thirty-one, did
4 Monsanto ever provide the residents of
5 Anniston with any data concerning the
6 health hazards of PCBs in humans?

7 A. Uh-uh (indicating no). Why would they?

8 Q. The answer is no?

9 A. No.

10 Q. For identification purposes, this is a
11 document bearing Bate's number MONS
12 096865 and MONS 096866 dated February
13 14th, 1969, either a memorandum or
14 letter written from Mr. -- written by
15 Mr. Roush, R-o-u-s-h, Don Roush, to
16 J. J. Roder, R-o-d-e-r, in Chicago;
17 subject, inquiry from Vapor Corporation
18 on toxic effects of chlorinated
19 biphenyl. Have you had a chance to look
20 at this?

21 A. I am reading it, reviewing it now.

22 Q. Take your time, please.

23 A. I have read the exhibit.
011802C

1765

1 Q. This memo apparently concerns inquiries
2 that were being made by a customer,
3 Vapor Corporation, about the toxic
4 effects of PCBs, correct?

5 A. Yes.

6 Q. In the second sentence of the first
7 paragraph Mr. Roush says that Monsanto
8 was advised of the bran oil poisoning of
9 quite a number of Japanese citizens
10 attributed to PCBs. That's what became
11 known as the Yusho incident, correct?

12 A. You meant the first paragraph. I think
13 you said the second.

14 Q. I'm sorry. The second sentence of the
15 first paragraph.

16 A. I see that, yes, sir.

17 Q. And that's what became known as the
18 Yusho incident?

19 A. Correct.

20 Q. How many people got sick in the Yusho
21 incident?

22 A. Oh, I don't recall the number.

23 Q. Several hundred?

1 A. That's a good estimate.

2 Q. Do you know how many people died?

3 A. I don't recall any deaths.

4 Q. Okay. Did Monsanto ever tell customers
5 about the Yusho incident?

6 A. I know personally that starting in 1970
7 we instructed the field representatives
8 at their sales meetings of the incident
9 and what occurred and what was found. I
10 know I personally talked to groups of
11 customers.

12 Q. I understand. But was there a corporate
13 policy either to tell or not to tell
14 Monsanto's customers about the Yusho
15 incident?

16 A. The policy was to share whatever
17 information we had.

18 Q. So to your knowledge, Monsanto did share
19 that information with its customers?

20 A. Yes.

21 Q. Did Monsanto ever tell any of the
22 residents of Anniston, Alabama about the
23 Yusho incident?

1 A. Not that I know of.

2 Q. Can PCBs cause certain toxic and
3 systemic effects as indicated in
4 paragraph two of this memorandum?

5 A. Yes.

6 Q. Okay. And did Monsanto ever tell any of
7 the residents of Anniston, Alabama, that
8 PCBs could cause certain toxic and
9 systemic effects?

10 A. No.

11 Q. Take your time to look at this. This is
12 a memo from Mr. Richard of the research
13 center to Mr. Wheeler, dated September
14 9th, 1969, regarding subject, defense of
15 Aroclor fluids.

16 A. I have scanned the exhibit.

17 Q. Okay. Part of the strategy that
18 Monsanto devised to defend PCBs was to
19 question the evidence that PCBs were
20 harmful to the environment and to fish;
21 isn't that right?

22 A. That's correct.

23 MR. PRATER: The next question

1 was:

2 "QUESTION: The last sentence on
3 the first page indicates that
4 Monsanto decided that it had
5 to clean up as much PCBs as
6 it could, starting
7 immediately, correct?

8 "ANSWER: I don't know that I
9 can -- This represents a very
10 rough draft of some
11 preliminary thoughts brought
12 together by a group. So it's
13 a first pass attempt to jot
14 down all the thoughts that
15 were shared at the time. So
16 when you use the expression
17 'this is Monsanto's
18 decision,' at this point in
19 time it wasn't an official
20 Monsanto program as displayed
21 in this document.

22 (Video resumed.)

23 Q. Well, Mr. Richard expressed the opinion

1 in this document that Monsanto would
2 have to clean up as much as we can,
3 starting immediately, correct?

4 A. I don't know if it is Dr. Richard
5 personally or whether copying from the
6 blackboard where the notes were jotted
7 down. Someone else might have offered
8 this as a thought.

9 Q. Okay. How much of the PCBs in Anniston,
10 Alabama did Monsanto in fact clean up?

11 A. I have no idea. I don't think anybody
12 does.

13 Q. In terms of pounds, how many pounds of
14 PCBs were put into the landfill on
15 Monsanto's property in Anniston,
16 Alabama?

17 A. I don't know.

18 Q. How long did Monsanto manufacture PCBs
19 for in Anniston, Alabama?

20 A. Monsanto itself from early '30, '31 or
21 thereabouts, until 1971. Forty years.

22 Q. How about in the 1960s, on average? Do
23 you know how many pounds per year

1 Monsanto was manufacturing?

2 MR. PECK: In --

3 MR. ATKIN: In Anniston, Alabama,

4 yes. Thank you.

5 A. They were approaching the thirty million
6 pound a year quantity.

7 Q. Is it accurate to say that there were at
8 a minimum millions of pounds of PCBs
9 manufactured by Monsanto in Anniston,
10 Alabama from --

11 A. Yes.

12 Q. -- the 1930s through 1971?

13 A. Yes.

14 Q. Okay. You would agree with me, sir,
15 wouldn't you, that Anniston, Alabama and
16 Sauget, Illinois should have been
17 treated with equal levels of concern and
18 precaution by Monsanto?

19 A. They were.

20 Q. And the same goes for the workers at the
21 two plants, right?

22 A. Yes.

23 Q. And were the workers at the two plants

1 protected with ventilation systems?

2 A. Certainly.

3 Q. And were they given gloves and booties
4 to wear?

5 A. Yes, sir.

6 Q. And were they told to change their
7 clothes?

8 A. Yes, sir.

9 Q. And was there any medical monitoring
10 done?

11 MR. PRATER: Objection, Your

12 Honor. That's okay.

13 (Video resumed.)

14 A. Yes, sir.

15 Q. And they were given advice and warnings
16 about PCBs?

17 A. Yes.

18 Q. Okay. Did Monsanto ever conduct an
19 epidemiological or health study of the
20 residents of Anniston?

21 A. Not to my knowledge.

22 Q. Did Monsanto ever determine or attempt
23 to determine the body burdens of PCBs in

1 Anniston residents?

2 A. Not to my knowledge.

3 Q. Did Monsanto ever tell the residents of
4 Anniston that they might have elevated
5 body burdens of PCBs?

6 A. Not that I know of.

7 Q. Would you let your daughter eat fish
8 that were contaminated with seventeen
9 hundred parts per million of PCBs?

10 A. Yes, because I have nothing that tells
11 me it is going to hurt her.

12 Q. Now, sir, even if PCBs weren't
13 considered an environmental contaminant,
14 you would agree with me, wouldn't you,
15 that it wasn't prudent or responsible
16 for Monsanto to discharge PCBs or any
17 other materials straight into the
18 environment?

19 A. I'd like to make a clarification or a
20 distinction between the deliberate
21 introduction into the environment of a
22 stream resulting from a process as
23 compared to the occasional incident that

1 occurs due to a repair or maintenance
2 problem or a leak that was not
3 anticipated and was corrected. There is
4 a difference between the occasional
5 introduction and the deliberate
6 continual introduction.

7 Q. Okay. We are going to mark as an
8 Exhibit, Number Thirty-five to your
9 deposition pages of testimony that you
10 gave in a case called Commonwealth of
11 Kentucky versus Rockwell International
12 Corporation and apparently several other
13 cases consolidated with that case on
14 September 23rd, 1993.

15 I'm referring specifically to the
16 question and answer at the bottom of
17 page fifty-nine and the top of page
18 sixty. Or I will be referring to that
19 in a minute.

20 A. Okay. I've read it.

21 Q. The question reads: "(By
22 Mr. Cunningham) I guess I'm curious as
23 to why you would have bothered putting

1 that stuff out in the lagoon, why you
2 wouldn't just let it get out into a
3 drainage ditch and go out to the creek
4 or whatever. Was it your perspective
5 that good engineering practices in the
6 '60s would have mandated that a waste
7 stream that potentially would have
8 contained PCBs should have been
9 segregated in the manner that you have
10 described that you all did in that
11 facility, at a minimum?"

12 The answer: "At a minimum, it is
13 just not prudent to discharge knowingly
14 any kind of industrial chemical, whether
15 it be PCBs or any other material, and
16 the sediment that collected in that pond
17 was just the type thing you wouldn't
18 want to discharge out into the
19 environment. It just wasn't a practice
20 that was considered to be responsible.
21 That's all."

22 Do you remember giving that
23 testimony?

1 A. Yes. This is another way of describing
2 what I just described to you earlier,
3 the deliberate disposal continuously,
4 openly, as compared to the leak caused
5 by a mishap of some sort.

6 Q. Mr. Papageorge, we are going to hand you
7 Exhibit Thirty-nine in a second. For
8 identification purposes, this is a
9 document bearing Bate stamp number --
10 It's two sets. I'll give you one set.
11 The first set is -- The second set is
12 FGL 0011379 through FGL 0011402. Okay?

13 A. I have it.

14 Q. Okay. This appears to be a rough draft,
15 11-10-69, of an outline for the PCB
16 environmental pollution abatement plan,
17 correct?

18 A. Correct.

19 Q. Do you know who drafted this?

20 A. There were several authors putting
21 together portions.

22 Q. Can you tell me who put together what?

23 A. I don't know that I can do it quite that

1 precisely. I know that Mr. Elmer
2 Wheeler was involved and Dr. Richard.

3 Q. Doctor --

4 A. W. R. Richard.

5 Q. What was Dr. Richard's title?

6 A. He was director of research for the
7 functional products group.

8 Q. Okay. Anybody else?

9 A. And Dr. Farrar, who was Dr. Richard's
10 counterpart in the plasticizer group,
11 and Mr. Hodges, Paul Hodges.

12 Q. Okay. Have you ever seen this document
13 before?

14 A. Yes, I have.

15 Q. Can you turn to page FGL 011387, please?

16 A. I have it.

17 Q. Section A there is called "Legal
18 Liability." Do you see that?

19 A. I see it.

20 Q. It says, "Direct lawsuits are possible.
21 The materials are already present in
22 nature, having done their alleged
23 damage." Do you know what the alleged

1 damage being referred to here is?

2 A. There were several allegations made
3 regarding the kinds of things that PCBs
4 could do in the environment. They were
5 all at that point in time unconfirmed.
6 This is why the expression "alleged
7 damages" in this document appears in
8 quotation marks.

9 They referred to effects on the
10 reproduction of wild birds in
11 particular. The other allegations were
12 suspected ailments, similar to the kinds
13 of things the DDTs were being accused of
14 at that time.

15 Q. What kinds of things were those?

16 A. Presence in wild creatures and the
17 possible effects on their ability to
18 reproduce properly. That's the primary
19 one.

20 MR. PRATER: The next question was

21 "QUESTION: Okay. Any other
22 allegations?

23 "ANSWER: I can't think of

1 any right now.

2 "QUESTION: Were those
3 allegations subsequently
4 borne out?

5 "ANSWER: No.

6 "QUESTION: When you say no,
7 do you mean that PCBs were
8 not shown to have effects on
9 reproduction of wild birds
10 or other creatures?

11 "ANSWER: The allegations
12 that it affected wild bird
13 reproduction were later
14 attributed by the leaders of
15 the study groups that
16 published these reports,
17 were attributed to DDTs and
18 its degradation product,
19 DDD.

20 (Video resumed.)

21 Q. Okay. At some point in time were PCBs
22 linked -- or PCBs shown, rather, to in
23 fact have reproductive effects on

1 certain animals?

2 A. Yes.

3 Q. Okay. Which ones?

4 A. There was the study sponsored by
5 Monsanto which demonstrated that some of
6 the PCBs had an effect on the
7 reproduction ability of chickens.

8 Q. And what do you mean by it had an effect
9 on the reproductivity of chickens?

10 A. The eggs would not hatch. I have
11 forgotten the levels of PCB in the diet.
12 But there was a level before the effect
13 was noted.

14 Q. Okay. Other than the chickens, any
15 other animals or species that you recall
16 were shown -- that PCBs were shown to
17 have an effect, reproductive or
18 otherwise?

19 A. Off Pensacola, there is an island, a
20 laboratory in which they conducted a
21 study and determined that low levels of
22 PCBs affected newly hatched shrimp,
23 juvenile shrimp, the very young.

1 Q. When you say affected, what do you mean
2 by affected?

3 A. Killed them.

4 Q. What levels of PCBs?

5 A. I don't remember the number. It is a
6 very low level.

7 Q. Okay. If you look at that paragraph we
8 were just looking at, the next sentence
9 says, "All customers using the products
10 have not been officially notified about
11 known effects, nor do our labels carry
12 this information."

13 Is it accurate to say that as of
14 November 1969 Monsanto's customers had
15 not been notified about the known
16 effects of PCBs?

17 A. In '69, no, because those effects were
18 recent news.

19 Q. So it is accurate to say that?

20 A. Yes.

21 Q. I'm going to hand you two documents
22 together as the next exhibit and mark
23 them together as Exhibit Forty-one.

1 They are -- The first document -- It is
2 two pages. The first document bears
3 Bate's number DSW 013810. It appears to
4 be handwritten notes. And the second
5 document is page three of another
6 document. I don't have the first couple
7 of pages here with me. It is page three
8 of a document that is signed by
9 Mr. Landwehr, bearing Bate's number DSW
10 013776.

11 I was actually referring to the
12 first part, which states, "Clean up Snow
13 Creek." On the handwritten part it
14 states, "Clean up Snow Creek, PCB
15 removal from any specified area from our
16 fence to Choccolocco." And then it
17 says, "1971, avoid if possible, but
18 prepare for action."

19 And when you compare that to the
20 text under item 4(c) on page DSW 013776,
21 that states, "Clean up Snow Creek and
22 area monitoring, PCB removal from any
23 area from our fence to Choccolocco,

1 avoid if possible, but be prepared for
2 action." That is the part I'm referring
3 to.

4 Okay. Is it true, sir, that in
5 1971 Monsanto wanted to avoid cleaning
6 up Snow Creek if at all possible?

7 A. Not Monsanto, no.

8 Q. Well, Mr. Landwehr?

9 A. Somebody.

10 Q. Somebody at Monsanto?

11 A. Handwrote that thought on this first
12 page.

13 Q. And that thought is actually also
14 expressed on the second page that is
15 signed by Mr. Landwehr, is it not?

16 A. That is true.

17 Q. And that brings us to Papageorge Exhibit
18 Number Forty-three.

19 Do you know what this document is?

20 A. Yes.

21 Q. What is it?

22 A. This is a copy of a special undertaking
23 between General Electric and Monsanto

1 regarding the continued supply of
2 polychlorinated biphenyls to General
3 Electric Company.

4 Q. This is a hold harmless agreement?

5 A. That is an expression that is used to
6 describe it, yes.

7 Q. Do you know when Monsanto first
8 requested that its customers sign a hold
9 harmless agreement in connection with
10 their purchase of PCBs?

11 A. It started in December of 1971, when
12 they were first approached.

13 Q. Did Monsanto begin asking its customers
14 to sign hold harmless agreements because
15 it was concerned about being held liable
16 for PCB-related injuries?

17 A. Well, that was one of the concerns, but
18 there were other concerns that were
19 deemed much more important.

20 Q. I hand you what will be marked as
21 Papageorge Forty-four for
22 identification. It's a document bearing
23 Bate's number DSW 014379 through DSW

1 014382, which is a three-page document
2 with a cover memo, a document written by
3 Mr. D. B. Hosmer, H-o-s-m-e-r, and
4 numerous recipients, including
5 Mr. Papageorge.

6 Okay. Now, subparagraph one on
7 that page --

8 A. I see it.

9 Q. -- states that Mr. White had recommended
10 that a suit be initiated against the
11 Anniston plant for PCB emissions under
12 the Federal Refuse Act, correct?

13 A. That's what it states, yes.

14 MR. PRATER: The next question
15 was: "And had emissions been
16 detected at the Anniston
17 plant that were in fact in
18 violation of the Federal
19 Refuse Act?

20 "ANSWER: Not to my
21 knowledge.

22 (Video resumed.)

23 Q. Well, did Mr. White represent that

1 emissions had been detected from the
2 Anniston plant that were in violation of
3 the Federal Refuse Act?

4 A. Yes, he did represent that.

5 Q. In the paragraph that is paragraph one
6 on that page --

7 A. Yes.

8 Q. It says, "As a result of the meeting the
9 following agreements were reached: One,
10 Mr. Crockett and Mr. White will agree
11 upon an interim permissible level for
12 PCB emissions to be provided in the
13 Refuse Act permit. Obviously,
14 Mr. Crockett will press for a number in
15 excess of our zero point three pounds
16 per day current level." Do you see
17 that?

18 A. I do.

19 Q. How did Monsanto know that Mr. Crockett
20 was going to press for an emission limit
21 above Monsanto's then existing emissions
22 limit?

23 A. Since I wasn't there, sir, I don't know

1 personally.

2 Q. The subparagraph three on that page
3 states, "A summary report outlining our
4 past work and future plans will be
5 written and sent to the EPA office via
6 Mr. Crockett's office." Do you see
7 that?

8 A. I do.

9 Q. Do you know if such a summary was ever
10 sent?

11 A. I know a summary was sent to
12 Mr. Crockett's office.

13 Q. Do you know why it was sent to
14 Mr. Crockett's office before going to
15 the EPA? Why wasn't it sent directly?

16 A. Well, we got the impression that
17 Mr. Crockett was representing the PCB
18 activity in the state, and he's the one
19 that had the contact with EPA. And we
20 felt that we would continue that
21 procedure of working through
22 Mr. Crockett's office.

23 Two-page document bearing Bate's

1 number DSW 018254 and DSW 018255. It is
2 a letter from Mr. Papageorge to Mr. D.
3 E. Cavanaugh dated July 6, 1970.

4 Do you recognize this document,
5 sir?

6 A. I do, yes.

7 Q. Do you remember writing it?

8 A. Yes.

9 Q. If the first paragraph it states, "Last
10 month when Randy Graham and I visited
11 your plant to discuss the PCB problem,
12 we did not intend to cause undue alarm
13 or create any panic concerning the use
14 and handling of polychlorinated
15 biphenyls."

16 Did you have a sense from
17 Mr. Cavanaugh that you had in fact
18 caused undue alarm or created panic
19 concerning the use and handling of PCBs?

20 A. I don't recall if it was Mr. Cavanaugh,
21 but somebody in his organization
22 expressed this concern.

23 Q. In the second paragraph you state that

1 Aroclors do affect some species of birds
2 and marine life. Do you see that?

3 A. Yes.

4 Q. Was that information ever conveyed by
5 Monsanto to the residents of Anniston,
6 Alabama?

7 A. No.

8 Q. On page two of the letter, in the second
9 paragraph, you state that unusable
10 Aroclors should be disposed of by
11 incineration. Do you see that?

12 A. Yes.

13 Q. Is incineration the most effective
14 method of disposing of PCBs?

15 A. Under the proper conditions, yes.

16 Q. In that same paragraph you caution that
17 improper incineration of PCBs can result
18 in the production of highly toxic
19 materials. What types of highly toxic
20 materials can be produced by the
21 improper incineration of PCBs?

22 A. Well, as I understood it, there are many
23 chemicals that could be formed when you

1 have of course carbon, hydrogen,
2 chlorine, and oxygen. And depending of
3 course on the rates of destruction and
4 the amount of oxygen present and the
5 temperatures, one could get a real
6 mixture of chemicals.

7 Q. Are you talking about chemicals such as
8 furans?

9 A. That is an example, yes.

10 Q. And dioxins?

11 A. Dioxins, yes.

12 Q. Now, you also indicate in this letter it
13 is also important that contamination of
14 the atmosphere be eliminated, correct?

15 A. Certainly.

16 Q. This is Bate's numbers NEV 003895
17 through 003896, a two-page document, a
18 letter, from Mr. Papageorge to
19 Mr. Viland, V-i-l-a-n-d, dated October
20 1st, 1970, with CCs to -- with BCs to
21 Mr. Benignus and Mr. Graham.

22 Do you recognize this?

23 A. I do, yes, sir.

1 Q. Do you remember writing it?

2 A. Yes, sir.

3 Q. At the bottom of the first page and on
4 to the top of the second page, you
5 discuss a study that was undertaken by
6 Monsanto of soil in which PCBs were
7 deposited approximately thirty years
8 earlier. Actually, it is thirty-two
9 years earlier, correct?

10 A. Yes.

11 Q. The results show on page two -- the
12 results shown on page two indicate that
13 after thirty years the Aroclor 1242 was
14 still present in the soil, correct?

15 A. Correct.

16 Q. Let me give you what will be marked as
17 Papageorge Fifty for identification.

18 For identification purposes, this
19 is a memo or a letter from D. B. Hosmer
20 to Mr. Papageorge, dated August 11th,
21 1971, with a cc to Mr. John. Have you
22 had a chance to look at that?

23 A. I have.

1 Q. Do you recognize this document?

2 A. I do.

3 Q. Do you recall receiving it?

4 A. Yes.

5 Q. Have you reviewed it any time in the
6 recent past?

7 A. No.

8 Q. In the first paragraph, Mr. Hosmer
9 states that he was contacted by a John
10 Piccorello of Science Magazine
11 concerning PCBs?

12 A. Yes.

13 Q. And that Piccorello had asked about the
14 incident at East Coast Terminals.

15 What was the incident at the East
16 Coast Terminals that was being referred
17 to here?

18 A. East Coast Terminals is a facility
19 located in North Carolina, as I
20 remember, which received fish meal.

21 Q. I'm sorry. Received what?

22 A. Fish meal from Peru and introduced it
23 into a heat treating system to

1 pasteurize it. The system was heated
2 with PCB type fluid.

3 The material, as it was processed,
4 was conveyed by screw conveyers in
5 troughs that were jacketed. And between
6 the trough and the outer jacket the
7 heated PCB fluid would circulate. And
8 the material as it traversed through
9 this system would be heated long enough
10 to pasteurize out the other end.

11 A leak developed between the outer
12 jacket and the trough, and PCBs were
13 introduced into the fish meal. The
14 operators of the unit continued to
15 operate. The fish meal of course
16 contained PCBs now. It was eventually
17 sold to poultry feed formulators, and in
18 turn the poultry feed was sold to the
19 poultry operators, and it got into the
20 poultry. That is in general the
21 situation that occurred.

22 Q. What happened to the poultry?

23 A. There were several symptoms noted. For

1 one, the eggs wouldn't hatch. Another
2 was the -- as I recall, that the
3 chickens showed symptoms of illnesses,
4 like water accumulation. I believe it's
5 called edema by medical people.

6 Q. Swelling?

7 A. Swelling, because of water retention.

8 In fact, I believe some of the poultry
9 actually died. That's what happened to
10 the poultry.

11 Q. Do you know how many died?

12 A. I don't recall anymore.

13 Q. Okay. In the second paragraph of this
14 memo --

15 A. Yes.

16 Q. It states as follows: "Finally,
17 Mr. Piccorello brought up the testimony
18 about PCBs in Washington. He said he
19 understood that fish in a river in
20 Alabama contained a great deal more PCBs
21 than was permitted and our plant
22 discharged to this river. Three hundred
23 parts per million were quoted." Do you

1 see that?

2 A. I do.

3 Q. Do you know what river in Alabama was
4 being referred to here?

5 A. Right or wrong, I assume he was
6 referring to the Coosa River.

7 Q. Okay. And Hosmer states, "I said the
8 stream was a creek, not a river. And
9 there were many other discharges to it
10 and doubted if I would want to wade in
11 the creek for many reasons."

12 Is the Coosa River a creek?

13 A. Not in my understanding.

14 Q. What difference, if any, does it make if
15 the body of water being referred to as
16 being contaminated by PCBs was a creek
17 or a river?

18 A. It doesn't.

19 Q. It doesn't make any difference?

20 A. In my way of thinking, there could be
21 differences. Not all creeks are capable
22 of supporting fish, for example; whereas
23 a river is more capable of supporting

1 several species. So when they are
2 talking here about contaminated fish, I
3 tend to think of a river as
4 distinguished from a creek. That
5 doesn't make it right, but that is the
6 way it struck me.

7 Q. Okay. He refers to the fact that there
8 were many other discharges to this --
9 what he calls a creek. Do you know what
10 other discharges he is talking about?

11 A. I believe I do, yes.

12 Q. What are they?

13 A. In the area in which the Anniston plant
14 -- Monsanto's plant is located, it is an
15 industrial area and had several
16 foundries, for example, that spewed all
17 kinds of materials, quench waters,
18 acids, fires blazing with fumes going
19 out in the atmosphere. It was quite a
20 site at night at that time, a lot of
21 industrial activity. So I can
22 understand why Mr. Hosmer, who
23 incidentally used to be a plant manager

1 at Anniston, was aware of the conditions
2 in that industrial area.

3 Q. Okay. And Mr. Hosmer indicated that he
4 doubted if he would want to wade in the
5 creek for many reasons, correct?

6 A. Yes, he did.

7 Q. And is that because the creek was so
8 contaminated that he believed it was
9 dangerous?

10 A. I can't speak for Mr. Hosmer, but it was
11 an industrial area with many materials
12 present in that neighborhood.

13 Q. Did you ever ask -- Did you ever discuss
14 the contents of this letter with
15 Mr. Hosmer?

16 A. Yes, I did. I don't remember the
17 specifics any longer.

18 Q. Do you remember whether or not you
19 discussed that specific statement about
20 doubting whether he would want to wade
21 in the creek?

22 A. He said, "Oh, man, there is all this
23 stuff in there, Bill. It would chew the

1 skin off of my legs," that kind of talk.

2 Q. I hand you what will be marked for
3 identification as Papageorge Fifty-one.

4 I hand you for identification what
5 will be marked as Papageorge Fifty-one.
6 And for identification purposes, this is
7 a letter dated August 15th, 1971, with
8 two pages of attachments. The
9 designation -- the Bate's designation on
10 the letter -- Here we go. The
11 designation is MONS 0N899 -- 089995
12 through 089999. And I'd ask you to take
13 a look at that, please, sir, if you
14 could.

15 A. I have scanned the exhibit.

16 Q. Thank you. Do you recognize this
17 letter?

18 A. I do.

19 Q. Dr. Suttkus indicates that fish exposed
20 to PCBs did not show a decrease in PCBs
21 in their system, is that correct,
22 compared with the controls?

23 A. At the very bottom of the first page?

1 Q. Yes. The part that states, "This
2 comparison shows that the fishes in the
3 experimental area do not show a
4 corresponding decrease in PCB residue
5 levels, as Aroclor 1254, compared with
6 the controls. There is a seventeen
7 percent difference." Do you see that?

8 A. Yes.

9 Q. On page two of the letter, in the middle
10 section, Dr. Suttkus refers to a second
11 test in which fish exposed to PCBs
12 similarly did not show a reduction in
13 their PCB levels compared to the
14 controls. Is that correct?

15 A. Yes. The word "similar" is your word.
16 I was looking for it in the text.

17 Q. Okay.

18 A. That's correct.

19 Q. In fact, it indicates and states
20 specifically, "However, the results are
21 not good since both analyses show us
22 that Aroclor 1254 residues have not
23 reduced as we had hoped they would,"

1 correct?

2 A. That's what it states, yes.

3 Q. It then goes on to refer to analysis

4 three, correct?

5 A. It does.

6 Q. Okay. And the final sentence in that

7 section states, "At this point we would

8 have to say that the data are

9 detrimental to Monsanto," correct?

10 A. It does say that, yes.

11 Q. Okay. On the last page of this letter

12 it indicates that the fish in the

13 Anniston area not only had high levels

14 of PCBs but also were deformed, sick,

15 and listless, correct, referring to

16 the --

17 A. I do see it, yes.

18 Q. In the first paragraph?

19 A. That is correct.

20 Q. Specifically it states, "Of course

21 visual observations won't tell us what

22 caused these fishes to become deformed

23 or sick, but we must consider the total

1 observations as a crude indication that
2 something is indeed wrong in these
3 areas," correct?

4 A. Yes.

5 Q. Okay. In that same paragraph -- Well,
6 hold on. In that same paragraph, he
7 states -- Dr. Suttikus states, "Certainly
8 you would not want to give the discharge
9 figures" -- Well, he doesn't say -- "you
10 would not want to give the figures in a
11 news release," correct?

12 A. It does say that, yes.

13 MR. PRATER: The next question
14 was: "Were the discharge
15 figures, the discharge levels
16 that he is referring to, ever
17 released publically in a news
18 release?

19 "ANSWER: I think the local
20 newspaper had reference to
21 them, but I don't recall the
22 specifics anymore.

23 THE FELL: Take a break? We are

1 going on to a different day.

2 THE COURT: How much longer?

3 MR. FELL: I would hope not longer

4 than forty-five minutes.

5 THE COURT: Let's keep going.

6 (Video resumed.) {} {}

7 MR. ATKIN: Okay. Let us mark for

8 identification purposes as

9 Benignus Fifty-three -- I'm

10 sorry -- as Papageorge

11 Fifty-three a February 2nd,

12 1972, letter from

13 Mr. Papageorge to

14 Dr. Posefsky and Mr. Raab of

15 General Electric Company.

16 Q. Okay. Is it your opinion that allowing
17 PCBs to escape into the environment in
18 1972 constituted a violation of the
19 proper standard of care in the chemical
20 production industry?

21 A. That is dependent, sir, on the
22 accidental versus deliberate type of
23 allowing and also is dependent on the

1 amount that is involved.

2 Q. Okay. Let's look at question six, if we
3 could, which asks, "Does PCB cause birth
4 defects?" And the answer is, "Again,
5 some studies have shown it can be
6 detrimental to the reproductive cycles
7 of certain species of wildlife,"
8 correct?

9 A. That's what it says, yes, sir.

10 Q. And you authored that?

11 A. Yes.

12 Q. Did Monsanto ever undertake any studies
13 to determine whether PCBs can cause
14 reproductive disorders in humans?

15 A. In humans?

16 Q. Yes.

17 A. No, sir.

18 MR. PRATER: The next question,
19 Your Honor, "Why not?"

20 "There was nothing
21 known to anybody, not only
22 Monsanto, to indicate a need
23 for such a study.

(Video resumed.)

Q. If you could take a look at question eight, it states, question, "How can PCB be disposed of?" And the answer discusses, "Under high temperature, controlled incineration, PCB break down into hydrochloric acid, carbon dioxide, and water."

This answer doesn't mention landfilling at all, does it?

A. It does not.

Q. Let us mark as Exhibit Fifty-five for the Papageorge deposition a May 4th, 1973, letter from Mr. Papageorge to Ms. Mary A. Appelhof, A-p-p-e-l-h-o-f, of the Environmental Health Committee in South Central Michigan Health Planning Council, bearing Bate's number MONS 091681 through 091682.

Q. I'd ask you to take a look at that, sir, if you could.

A. I have read the exhibit.

Q. Okay. Let me ask you first, have you

1 seen this letter before?

2 A. Certainly. I wrote it.

3 Q. When did you last see the letter?

4 A. About the date of the letter.

5 Q. Okay. Fine. Do you recognize the
6 letter?

7 A. I do.

8 Q. Do you recall writing it?

9 A. Yes.

10 Q. Do you know why Ms. Appelhof was writing
11 to Monsanto?

12 A. Not really.

13 Q. Okay. Do you know who at Monsanto she
14 wrote to, she addressed her inquiry to?

15 A. As best I recall, it was addressed to
16 some broad title, such as Chief
17 Operating Officer of Monsanto Company or
18 something. It was not addressed to a
19 specific person.

20 Q. Okay. And who referred the letter over
21 to you?

22 A. I don't recall the individual. It was a
23 marketing representative at Monsanto

1 involved with PCBs, but I don't recall
2 the specific person.

3 Q. Do you know why the letter was referred
4 to you?

5 A. Well, I was involved with the issue.
6 Why that particular individual brought
7 it to me, I don't know.

8 Q. Okay. Fair enough.

9 Do you recall generally what type
10 of information Ms. Appelhof was looking
11 for from Monsanto?

12 A. Generally she was interested in learning
13 more about PCBs. I don't know how else
14 to put it. She had heard of PCBs and
15 didn't quite understand everything she
16 had heard and was trying to get up to
17 date.

18 Q. Okay. In the second paragraph of the
19 letter you state, "With increasing
20 evidence that polychlorinated biphenyls
21 were being identified as environmental
22 contaminants and that some mammals,
23 birds, and marine life were being

1 affected" -- Which mammals, birds, and
2 marine life were being affected, as to
3 the time you wrote this letter, on May
4 4th, 1973?

5 A. Well, Monsanto studies themselves by '73
6 reported that some of the PCBs at high
7 levels fed to test animals did result in
8 some effects. And I'm talking here now
9 about the white rat studies.

10 Q. The ones that were done by IBT?

11 A. Yes. And then there were some studies
12 done with -- Again, IBT did some studies
13 with poultry, chickens. And those
14 studies indicated that some of the PCBs
15 would result in eggs that wouldn't
16 hatch.

17 The marine life reflected such
18 studies as were conducted in Gulf
19 Breeze, Florida, by the Federal
20 Commercial Fisheries Laboratory and
21 established that juvenile shrimp
22 represented a very sensitive species.
23 It's that kind of information.

1 Q. Now, in the last sentence of that
2 paragraph, you state, "It is our
3 considered opinion that as long as the
4 polychlorinated biphenyl waste is not
5 exposed to water and thereby
6 transported, adverse effects to the
7 environment will be essentially
8 eliminated." Do you see that?

9 A. I do.

10 Q. What adverse effects to the
11 environment were you referring to could
12 be prevented by preventing PCB waste
13 from coming in contact with water?

14 A. Well, it's the -- An example is this
15 juvenile shrimp injury or harm that we
16 just talked about. That's just one
17 example.

18 And at that time, since the
19 chickens were affected by some PCBs, in
20 terms of egg hatching, the idea was
21 extended to say this could possibly
22 apply to wild birds, so let's avoid that
23 exposure.

1 MR. PRATER: The next question
2 was: "Okay. Now, if PCB
3 waste is exposed to water and
4 transported, then adverse
5 effects to the environment
6 can be expected to occur?

7 "ANSWER: No. All I say with that
8 is it's relocated. It
9 doesn't necessarily mean that
10 the end result is any
11 different than before the
12 relocation.

13 Q. Let's mark for identification as
14 Papageorge Fifty-six a March 18th, 1975,
15 letter from Mr. Papageorge to Mr. Dan A.
16 Albert, Staff Supervisor, Personal
17 Relations of the Westinghouse Electric
18 Corporation. It appears to be an
19 eight-page letter bearing Bate's number
20 GBRN 001641 through GBRN 001648.

21 A. I've scanned the exhibit.

22 Q. Mr. Papageorge, under the first page --
23 on the first page of the attachment,

1 under question one, the question states,
2 "Does Inerteen have permanent effects on
3 the human body? If so, what type of
4 permanent damage and how long a period
5 of time does it take for this to
6 develop; if not, explain why, if
7 possible."

8 And these are responses that you
9 are giving to questions that were
10 written to you by Mr. Albert of
11 Westinghouse; is that right?

12 A. Yes.

13 Q. Okay. Now, the answer that you give --
14 And by the way, did you draft the
15 answers to these questions?

16 A. No.

17 Q. Who did?

18 A. Mr. Elmer Wheeler.

19 Q. Okay. If Mr. Wheeler drafted the
20 answers to the question, then why were
21 you addressing the response to
22 Mr. Albert?

23 A. Well, Mr. Albert had contacted me via a

1 letter with a list of questions. And
2 since they were medically-oriented type
3 of questions, I asked Mr. Wheeler, who
4 was a member of Monsanto's medical
5 department, if he would draft the
6 responses. And Mr. Wheeler did that and
7 sent them to my office, and I forwarded
8 them to Mr. Albert.

9 Q. Okay. The answer to that first question
10 states at the beginning, "The
11 polychlorinated biphenyls in Inerteen
12 can have permanent effects on the human
13 body."

14 What was Inerteen, by the way?

15 A. Inerteen is a Westinghouse trademark
16 used with products that are liquids that
17 are used in Westinghouse electrical
18 equipment.

19 Q. Okay. Now, when it states here that the
20 polychlorinated biphenyls in Inerteen
21 can have permanent effects on the human
22 body, what kind of permanent health
23 effects was Mr. Wheeler referring to?

1 To your knowledge.

2 A. Well, he was referring to -- Excuse me.

3 I hesitate because I'm trying to define
4 the word "permanent" in a way that's
5 understood by both of us.

6 Continued exposure can in a way
7 result in this chloracne that is
8 described in a person. And as far as
9 that person is concerned, it's
10 permanent. That's an example of a
11 permanent effect, health effect. I
12 don't know how else to describe it.

13 The enlarged liver is another
14 effect that could be included under the
15 definition of a permanent effect.

16 Q. Okay. Now, in the middle of that page,
17 in the paragraph beginning "The
18 potential toxic effects," it says --

19 A. I haven't found it yet.

20 Q. I'm sorry. In the -- I'm sorry -- the
21 one, two, three, four -- the fifth
22 paragraph of the answer.

23 A. Oh, okay. And what was your question,

1 sir?

2 Q. It refers to the fact that chloracne may
3 be an external symptom of overexposure
4 preceding serious liver injury. I just
5 wanted to ask you if you know what -- is
6 it Mr. Wheeler or Dr. Wheeler?

7 A. Mister.

8 Q. -- what Mr. Wheeler meant when he was
9 referring to serious liver injury?

10 A. Well, it does refer to increased liver
11 weights.

12 Q. Okay. Anything else that you're aware
13 of other than increased liver weight
14 when he's referring to serious liver
15 injury?

16 A. No. You mean other than what we are
17 discussing here?

18 Q. Yeah.

19 A. Well, I understand that continued high
20 exposures can result in that liver being
21 damaged to the point where it cannot
22 recover.

23 Q. Did Monsanto -- I'm sorry. Did Monsanto

1 ever tell the residents of Anniston,
2 Alabama, that PCBs can cause serious
3 liver injuries in humans?

4 A. No more than your service station would
5 tell the neighborhood about the used
6 motor oils that can cause these very
7 things.

8 MR. ATKIN: Okay. That's all I
9 have on that document.

10 Let us mark -- Let us
11 mark for identification as
12 Papageorge Fifty-seven a
13 March 25th, 1969, letter from
14 Mr. Eugene C. Wright,
15 Pollution Control Engineer of
16 Monsanto, to W. A. Kuhn,
17 K-u-h-n, and several
18 recipients, including
19 Mr. Papageorge, bearing
20 Bate's number MONS 097308.

21 Q. Okay. In the middle of the second
22 paragraph it says, "In each of these
23 reports there is mention of the fact

1 that there are no fish or other aquatic
2 life in Snow Creek.

3 When did Monsanto first learn that
4 there was no fish or aquatic life in
5 Snow Creek?

6 A. I don't know that I could speak for
7 Monsanto. I can only speak for myself.

8 Q. Okay. When did you first learn of that?

9 A. I was first exposed to Snow Creek in
10 1965. And from that point on -- My
11 personal observation and discussions
12 with plant people, we were all under the
13 definite impression that it was
14 lifeless.

15 Q. Did Monsanto ever tell the residents of
16 Anniston that it knew that there was no
17 fish or aquatic life in Snow Creek?

18 MR. PRATER: The answer was: "That
19 would be an irrational -- No,
20 because there was a lot of
21 industry around there, not
22 just Monsanto's plant.

23 (Video resumed.)

1 Q. The answer is no?

2 A. That is right.

3 Q. Okay. The next sentence says, "Snow
4 Creek receives all of the waste water
5 and sewerage acid from our Aroclor
6 process."

7 Do you know when Snow Creek first
8 began receiving all of the waste water
9 from Monsanto's Anniston plant?

10 A. No. When I arrived, that was the
11 practice. I have no way of knowing when
12 it really started.

13 Q. Okay. The next sentence says, "Although
14 there are many other factors which could
15 adversely affect Snow Creek, the fact
16 that we dump into Snow Creek should
17 certainly be of great interest to us."

18 As this memo reflects, Monsanto
19 was dumping PCBs into Snow Creek; isn't
20 that right?

21 A. No, sir, it doesn't say that. And you
22 left out a parenthetical expression
23 there referring to organic dyes and

1 foundry waste and so on that contribute
2 to the conditions of that creek.

3 Q. But my question is, sir, regardless of
4 whatever else might have been dumped
5 into the creek, this memo reflects that
6 Monsanto -- Mr. Wright, Pollution
7 Control Engineer, his recognition that
8 Monsanto was dumping into Snow Creek;
9 isn't that right?

10 A. I would suggest, sir, that Monsanto was
11 discharging a water stream that had gone
12 through a collection pit and a limestone
13 bed that deacidified that waste water
14 before it was discharged into a -- I'm
15 going to call it a local ditch that
16 eventually ended up in Snow Creek.

17 Q. Okay. Is it fair to say, sir, that you
18 disagree with Mr. Wright's
19 characterization and use of the word
20 "dumping"?

21 A. I'm having a hard time finding that
22 word, sir. Can you help me?

23 Q. Sure. As I just read previously, the

1 sentence, "Although there are many other
2 factors which could adversely affect
3 Snow Creek" -- and then there is the
4 parenthetical that you referred to --
5 "the fact that we dump into Snow Creek
6 should certainly be of great interest to
7 us."

8 A. Yeah. I personally would not use the
9 word "dump." I would use the word
10 "discharge."

11 MR. PRATER: The next question
12 was: "Let me ask you this,
13 sir: Was the fact that
14 Monsanto was dumping -- to
15 use Mr. Wright's language,
16 characterization -- into Snow
17 Creek, was that of interest
18 to Monsanto?

19 "ANSWER: Well, it certainly is of
20 interest in that they had to
21 dispose of this water, and it
22 had to go somewhere. So
23 naturally they are interested

1 in the method of discharge,
2 which included that waterway.
3 So there was interest in
4 that. Of course, the fact
5 that Monsanto installed the
6 limestone neutralization
7 catch basin reflects the
8 interest in avoiding any
9 undesirable contaminants
10 being in that water that
11 finds its way to Snow Creek."

12 (Video resumed.)

13 Q. Okay. Did Monsanto ever tell the
14 residents of Anniston, Alabama, that it
15 was dumping PCBs into Snow Creek?

16 A. I don't know that Monsanto even knew it
17 was dumping PCBs. It was discharging a
18 treated waste water.

19 Q. Did Monsanto ever tell the residents of
20 Anniston that it was discharging PCBs
21 into Snow Creek?

22 Do you think they had a right to
23 know that information, that Monsanto was

1 discharging PCBs into Snow Creek?

2 A. If there is no harm in that, it's no
3 different than telling them we are
4 discharging dirty laundry water.

5 Q. Do you think Monsanto should have told
6 the residents of Anniston, Alabama, that
7 it was discharging PCBs into Snow Creek?

8 MR. PRATER: The answer was:

9 "ANSWER: There was no reason
10 to, therefore --"

11 And the next question
12 was: "The answer is no.

13 (Video resumed.)

14 Q. That brings us to the next document for
15 identification, which I believe is
16 Papageorge Fifty-eight, which is a
17 four-page document. It's a memorandum
18 written by Mr. Papageorge to -- I'm
19 sorry -- written by Mr. Keller to
20 Mr. Papageorge, dated April 17th, 1970,
21 with a number of other recipients. And
22 the memo is dated personal and
23 confidential. I'd ask you to mark this.

1 Now, the types of samples taken by
2 Monsanto included samples from water,
3 sediment, air, fish, human fat, and
4 milk, correct?

5 A. You used the expression "taken by
6 Monsanto." These samples were taken by
7 others and sent to Monsanto's
8 laboratory.

9 Q. For analysis.

10 A. For analysis.

11 Q. Thank you for clarifying that.

12 But those samples included water,
13 sediment, air, fish, human fat, and
14 milk?

15 A. Yes.

16 Q. And in fact, PCBs were detected in
17 water, sediment, air, fish, human fat,
18 and milk, correct?

19 A. It is correct generally, but not in
20 every sample.

21 Q. Okay. Did Monsanto ever tell the
22 residents of Anniston, Alabama, that
23 PCBs had been found in water samples

1 from Snow Creek and Choccolocco Creek?

2 A. No.

3 Q. How about sediment samples?

4 A. No.

5 Q. How about the air?

6 A. No.

7 Q. How about fish?

8 A. No.

9 Q. How about human fat? And how about
10 milk?

11 MR. ATKIN: Okay. That's all I
12 have on that document.

13 Q. Let us mark for identification as
14 Papageorge Sixty a one-page memorandum
15 from Mr. Wheeler to D. S. Cameron,
16 C-a-m-e-r-o-n, Brussels, dated January
17 29th, 1970, regarding status of Aroclor
18 toxicological studies.

19 Now, according to this memorandum,
20 the paragraph states, "Our
21 interpretation is that PCBs are
22 exhibiting a greater degree of toxicity
23 in this chronic study than we had

1 anticipated."

2 What were the results of the
3 studies that showed a greater degree of
4 toxicity than had been anticipated?

5 A. It has to do with the observed results
6 on the livers of the test animals at the
7 high levels of exposure and for the
8 higher chlorinated types of PCBs.

9 Q. The higher chlorinated, referring to
10 1254 and 1260?

11 A. 1260, yes, sir.

12 Q. What results had been anticipated?

13 A. Well, up to this point there was nothing
14 to indicate that PCBs would have any
15 results, and we expected the test
16 animals to reflect that belief. And it
17 didn't do so.

18 Q. The next sentence in that paragraph
19 states, "Secondly, although there are
20 variations, depending on species of
21 animals, the PCBs are about the same as
22 DDT in mammals." Do you know what
23 Mr. Wheeler meant by that?

1 A. No, I don't.

2 Q. The next paragraph states, "We have
3 additional interim data which will
4 perhaps be more discouraging." Do you
5 know what data Mr. Wheeler was referring
6 to in that sentence?

7 A. He was referring to the results in the
8 chicken studies.

9 MR. STEWART: Are we at a good
10 breaking point now?

11 MR. FELL: Yes.

12 THE COURT: We will go ahead and
13 take about a ten -- try to
14 keep it to about a ten-minute
15 break.

16 (A break was taken.)

17 (All parties present.)

18 (Jury present.)

19 THE COURT: All right.

20 MR. FELL: Judge, I have one thing
21 to read in that we agreed to.

22 QUESTION: "Okay. You
23 haven't done work directly as

1 a consultant for Monsanto
2 since you retired; is that
3 correct?"

4 ANSWER: "That is
5 correct."

6 QUESTION: "And you
7 began as a consultant in
8 1987, is that correct?"

9 "That's correct."

10 QUESTION: "How much
11 have you been paid per year
12 in connection with your
13 consulting work that you have
14 provided to Smith Helms?"

15 ANSWER: "I'd suggest
16 about \$100,000 a a year."

17 QUESTION: "Since
18 1987?"

19 ANSWER: "Yes."

20 THE COURT: Ladies and gentlemen,
21 just for further
22 clarification -- I'm sure you
23 already know this -- each

1 side went through and picked
2 out parts of three days of
3 depositions, rather than us
4 having to sit here and watch
5 three days of this
6 deposition. They picked out
7 the parts they thought were
8 most important. And each
9 side has prepared a video
10 based upon that. But in
11 looking over those videos,
12 each side has also seen other
13 portions that they wish they
14 had put in those videos.
15 That is why they are reading
16 those portions in at this
17 time rather than watching
18 them. Let's pick up where
19 you left you.

20 (Video resumed.)

21 Q. The paragraph states, "Our
22 interpretation is that PCBs are
23 exhibiting a greater degree of toxicity

1 in this chronic study than we had
2 anticipated."

3 What were the results of the
4 studies that showed a greater degree of
5 toxicity than had been anticipated?

6 A. It has to do with the observed results
7 on the livers of the test animals at the
8 high levels of exposure and for the
9 higher chlorinated types of PCBs.

10 Q. The higher chlorinated, referring to
11 1254 and 1260?

12 A. 1260, yes, sir.

13 Q. What results had been anticipated?

14 A. Well, up to this point there was nothing
15 to indicate that PCBs would have any
16 results, and we expected the test
17 animals to reflect that belief. And it
18 didn't do so.

19 Q. The next sentence in that paragraph
20 states, "Secondly, although there are
21 variations, depending on species of
22 animals, the PCBs are about the same as
23 DDT in mammals." Do you know what

1 Mr. Wheeler meant by that?

2 A. No, I don't.

3 Q. The next paragraph states, "We have
4 additional interim data which will
5 perhaps be more discouraging." Do you
6 know what data Mr. Wheeler was referring
7 to in that sentence?

8 A. He was referring to the results in the
9 chicken studies.

10 Q. What results specifically was he
11 referring to when he said that data
12 would perhaps be more discouraging?

13 A. Hatchability of eggs.

14 Q. Okay. Now, in the last sentence in this
15 memorandum, Mr. Wheeler says, "We are
16 repeating some of the experiments to
17 confirm or deny the earlier findings and
18 are not distributing the early results
19 at this time."

20 Let me just ask you. Did Monsanto
21 have the experiments repeated?

22 A. Yes.

23 Q. Okay. And did they confirm or deny the

1 earlier findings?

2 A. They confirmed.

3 MR. ATKIN: Okay. Let us mark for
4 identification purposes for
5 your deposition as Papageorge
6 Sixty-one a May 7th, 1970,
7 memorandum from G. W. Miller
8 to G. L. Jessee. And
9 Mr. Papageorge is a recipient
10 of this memoranda. The
11 memorandum is dated May 7th,
12 1970. It bears -- It's a
13 two-page memorandum bearing
14 Bates number MONS 099533
15 through 099534.

16 A. I have scanned the exhibit.

17 Q. Okay. This discusses a visit by
18 Mr. Landwehr, Mr. Wright, and Mr. Miller
19 to Mr. Crockett at the Alabama Water
20 Commission -- Water Improvement
21 Commission in or about May 1970. Were
22 you aware of that visit?

23 A. Eventually, yes.

1 Q. What does eventually mean?

2 A. When I got a copy of this letter or
3 memorandum.

4 Q. Okay. Have you seen this memorandum
5 anytime in the recent past?

6 A. By recent, if you mean the past couple
7 of months, yes.

8 Q. Do you know what position the AWIC was
9 looking to protect?

10 A. I do not.

11 Q. Okay. Now, in the recommendations that
12 Mr. Crockett made that are referred to
13 in the third paragraph of this
14 memorandum, one of the things that he
15 recommended, number three, is "Give no
16 statements or publications which would
17 bring the situation to the public's
18 attention." Do you see that?

19 A. I see that.

20 Q. Okay. Do you recall learning about the
21 fact or discussing the fact that
22 Mr. Crockett had recommended that
23 Monsanto should give no statements or

1 publications which would bring the
2 situation to the public's attention?

3 A. I recall that, yes, sir.

4 Q. What do you recall about that?

5 A. I can share with you my impressions at
6 the time.

7 Q. Okay.

8 A. This confirmed my experience and belief
9 that individuals in this type of
10 assignment are very sensitive to what is
11 revealed to the public; and therefore,
12 they -- this is almost an expected
13 request.

14 Q. Okay. That was your impression at the
15 time?

16 A. That is my impression.

17 Q. Okay. Did Monsanto follow this
18 recommendation?

19 A. No.

20 Q. Okay. Well, did it ever make any
21 statements to the public about the fact
22 that it knew that Aroclors reaching the
23 watershed from the Anniston plant were

1 entering Snow Creek?

2 A. I don't know about those specific words,
3 but I do recall -- Yes, they did. The
4 plant manager addressed that.

5 Q. How did he address that?

6 A. Well, I have a vivid recollection of an
7 article in a local paper that appeared
8 in 1970, as best I recall.

9 Q. Anything else?

10 A. That's all that comes to mind right now.

11 Q. Okay. Do you recall being told of a
12 recommendation that Mr. Crockett made
13 that if approached by news media, either
14 the AWIC or Monsanto is free to state
15 the situation is under study by the
16 staff of AWIC at the direction of the
17 technical director, Mr. Crockett?

18 A. Yes.

19 Q. Okay. And was that recommendation
20 adopted by Monsanto?

21 A. Yeah.

22 MR. ATKIN: Okay. That's all I
23 have on that document, which

1 brings us to Papageorge
2 Sixty-five for identification
3 purposes.

4 And this is a four-page
5 document called Executive
6 Summary, PCB Pollution, dated
7 10-29-69, bearing Bates
8 number STR 018891 through STR
9 018894.

10 MR. PRATER: The next question,
11 Your Honor, was: "Okay.
12 This is an executive summary
13 on PCB pollution. Do you
14 know who prepared this
15 executive summary?"

16 ANSWER: "I do not."

17 QUESTION: "It wasn't
18 you?"

19 ANSWER: "Correct."

20 QUESTION: "Do you
21 recall receiving this
22 executive summary?"

23 ANSWER: "I did not."

1 QUESTION: "You did not
2 receive it?"

3 ANSWER: "That is
4 correct."

5 And we would renew the
6 objection stated earlier,
7 Your Honor.

8 THE COURT: Overruled.

9 (Video resumed.)

10 Q. Now, this summary reflects that by 1969
11 Monsanto was aware of the ecological
12 problems caused by PCB pollution,
13 correct?

14 A. That's what it states, yes, sir.

15 Q. In fact, it states that by mid 1969
16 Monsanto knew that PCBs had created a
17 worldwide ecological problem; isn't that
18 right? I'm referring to the last
19 sentence of the first section, Problem
20 Definition and Timing, "Monsanto
21 confirmed PCBs in mid 1969 and confirmed
22 the adequacy of work by Widmark and
23 Jennsen and others, a worldwide

1 ecological problem."

2 A. I don't understand the question. Am I
3 supposed to agree that it's here, that
4 that is what we are reading?

5 Q. I'm asking you whether or not -- Well,
6 obviously it states that here, correct?

7 A. That's what's typewritten here.

8 Q. Do you have an understanding as to
9 whether or not Monsanto knew in mid 1969
10 that PCBs had created a worldwide
11 ecological problem?

12 A. Well, the presence of PCBs in many, many
13 samples imply worldwide ecological
14 problem.

15 Q. And you knew that in 1969, right?

16 A. Did I personally know it in '69?

17 Q. Yes.

18 A. No.

19 Q. But others at Monsanto knew that?

20 A. Yes, there were others.

21 Q. Certainly the person who prepared this
22 executive summary knew that?

23 A. Correct.

1 Q. Well, this executive summary reflects
2 that in 1969 Monsanto was weighing the
3 risk of producing PCB products which
4 cause a worldwide ecological problem
5 against a potential loss of business?

6 A. Yes. Those are the factors that enter
7 into the decision making.

8 MR. ATKIN: Let us mark for
9 identification purposes for
10 this deposition as Papageorge
11 Sixty-seven a -- It looks
12 like an eleven-page document,
13 but the last page has
14 absolutely nothing on it. So
15 it's probably a ten-page
16 document bearing Bates number
17 SCM 037621 through SCM
18 037630, a document authored
19 by Mr. Benignus on January
20 26th, 1970, regarding the PCB
21 pollution problem, January 21
22 and 22, 1970, St. Louis
23 meeting with General Electric

1 Company.

2 Q. I'd ask you to take a look at that, if
3 you could.

4 Okay. Let me ask you first. Did
5 you attend this -- Well, this memorandum
6 reflects that you attended a meeting
7 that was held with General Electric on
8 January 21st and 22nd, 1970?

9 A. Yes, I was there.

10 Q. Do you recall that meeting?

11 A. Yes.

12 Q. On page two, D, it discusses the status
13 of Aroclor studies at IBT?

14 A. It does.

15 Q. And it mentions the fact that the
16 chronic animal toxicity test and animal
17 reproducibility studies that were being
18 done by IBT were not as favorable as
19 Monsanto had hoped or anticipated?

20 A. It does.

21 Q. And it also says that the studies on the
22 effect of PCBs on the hatchability and
23 production of eggshells of white leghorn

1 chickens was particularly alarming,
2 correct?

3 A. It does.

4 Q. Do you know exactly what the results
5 were that were considered to be
6 particularly alarming?

7 A. The fact that the eggs would not hatch,
8 and some of the eggs that were farmed
9 were so thin-shelled, which was another
10 new piece of information.

11 Q. Okay. Now, it then goes on to state,
12 "The studies involved Aroclor 1242,
13 1254, and 1260. Some of the studies
14 will be repeated to arrive at better
15 conclusions."

16 Did Monsanto have PCB toxicity
17 tests and animal reproducibility studies
18 repeated by IBT in order to get better
19 results?

20 A. I don't know that I would call them
21 better results.

22 Q. Well, results that have better
23 conclusions?

1 A. Yes. The tests were repeated to confirm
2 the reliability of the first results.
3 And by looking at both sets of tests,
4 the intent was to arrive at a better
5 conclusion.

6 Q. Okay. If you could look at page six for
7 one second, I have one other question
8 for you, under number eight there on
9 page six.

10 A. Page six, number eight, I have it.

11 Q. It says, "To date and for the
12 foreseeable future, our only effective
13 disposal is to a landfill. While this
14 is not desirable, it is better than
15 indiscriminate dumping."

16 Why did Monsanto feel in 1970 that
17 it was not desirable to dispose of PCBs
18 in a landfill?

19 A. I don't know that it says it's not
20 desirable in a landfill. That's the
21 only effective method available.

22 Q. Well, why don't we just read the words,
23 if we could. It says, "While this is

1 not desirable, it is better than
2 indiscriminate dumping."

3 A. The -- Although it's not specifically
4 stated, what they are referring to here
5 is liquid, unrecoverable scrap PCBs.
6 And the hope at that time was that
7 incineration would eventually be
8 developed, incineration technology would
9 be developed. So depositing in a
10 landfill was perceived to be really
11 make-do until the technology is
12 available, lacking anything better.

13 MR. ATKIN: Let us mark for
14 identification purposes for
15 the Papageorge deposition as
16 Exhibit Number Sixty-eight a
17 July 27th, 1970, letter from
18 Mr. Papageorge to Mr. Fred R.
19 Viland, senior buyer at
20 Westinghouse Electric
21 Corporation. And I don't
22 know why I don't have any
23 Bates numbers on it, but I

1 don't.

2 A. I have read the exhibit.

3 Q. Okay. Now, you were telling Monsanto's
4 customers in 1970 that landfills for
5 PCBs should not be located near surface
6 and underground water, correct?

7 A. Correct.

8 Q. And you're also telling your customers
9 that it's important to monitor bodies of
10 water near the landfill, especially
11 after heavy rainfall, to assure that
12 PCBs are not escaping into the
13 environment?

14 A. I was.

15 Q. Did Monsanto ever monitor the bodies of
16 water near the Anniston plant after
17 heavy rainfall to ensure that PCBs were
18 not escaping into the environment?

19 MR. PRATER: The answer was:

20 "Yes. Once we got the
21 methodology."

22 The next question was:

23 "When was that?"

1 And the answer to that
2 was: "About 1969 or
3 thereabouts."

4 (Video resumed.)

5 A. Yes, once we got the methodology. About
6 1969 or thereabouts.

7 MR. PRATER: I'm just glad I read
8 it right.

9 (Video resumed.)

10 MR. ATKIN: This is a September
11 27th, 1974, memorandum from
12 J. G. Bryant to D. Wood.
13 It's a five-page memorandum
14 bearing Bates number MONS
15 029193 through 029197.

16 Q. Did Monsanto ever share the data on the
17 soil studies with the public?

18 A. You mean through the popular media and
19 so on?

20 Q. Through any means.

21 A. Well, we shared it, I know, with the
22 EPA.

23 Q. When I say the public, I'm referring to

1 private citizens.

2 A. Not directly, no.

3 MR. ATKIN: Okay. Thank you.

4 Let us mark for
5 identification purposes
6 Papageorge Seventy, a March
7 6, 1970, memorandum from
8 Mr. Papageorge to J. R.
9 Durland in Tokyo about the
10 Aroclor environmental problem
11 -- program. I'm sorry.

12 A. I have reviewed the exhibit.

13 Q. Okay. Now, Mr. Papageorge, you knew in
14 March 1970 that disposing of PCBs in
15 dumps wasn't the ultimate solution for
16 disposing of PCBs because the PCBs could
17 eventually enter the environment; isn't
18 that right?

19 A. Could, yes, eventually, when disturbed
20 and so on.

21 Q. Okay. Now, in -- On page two, the
22 paragraph headed Aroclor Toxicity,
23 Anniston Plant --

1 A. I see that.

2 Q. It states there, "Aroclors have been
3 found in Snow Creek near the plant.
4 There is no record of any water life
5 observed in this creek for many years.
6 We've assumed other plant wastes were to
7 blame; for example, muriatic acid.
8 Aroclors could be involved also."

9 Did Monsanto ever make a
10 determination as to whether the fact
11 that there was no water life in the
12 creek -- whether that was due in part to
13 muriatic -- muriatic acid that had been
14 dumped into the creek?

15 A. No. That was just a guess on my part.

16 MR. PRATER: The next statement
17 was: "Okay."

18 And the continued
19 answer was: "Now, recall
20 earlier, I recalled the use
21 of the term "Snow Creek" to
22 describe that ditch, the
23 unnamed ditch, which many

1 times during the year would
2 run dry. That ought to be
3 telling us something about
4 the viability of any life in
5 a dry creek."

6 (Video resumed.)

7 MR. ATKIN: Let us mark for
8 identification purposes for
9 your deposition as Exhibit
10 Seventy-three a progress
11 report bearing Bates numbers
12 MONS 202097 through MONS
13 030358. No. That doesn't
14 make sense. Let's just take
15 that off for a second and
16 take that back. Through MONS
17 202106.

18 Q. This report reports on an environmental
19 analytical study undertaken by Monsanto
20 in 1971, correct?

21 A. It does.

22 Q. And part of the purpose of the study was
23 to identify, locate, and assess the

1 magnitude of the PCB pollution problem;
2 is that right?

3 A. Correct.

4 Q. Okay. And Monsanto's study showed that
5 PCBs typical of Monsanto's Aroclor
6 products had been found at levels below
7 and above recommended guidelines in
8 coated paper and paper coatings,
9 correct?

10 A. Yes.

11 Q. And in machine oils and plant effluents?

12 A. From a customer's site.

13 Q. From a customer's site?

14 A. Yes.

15 Q. And from fourteen Monsanto Industrial
16 Chemical Company products from
17 manufacturing sites, from four different
18 manufacturing sites?

19 A. Yes.

20 Q. And from chicken chow used as feed by
21 IBT?

22 A. Yes.

23 Q. And from sewer effluents from a Monsanto

1 plant?

2 A. Yes.

3 Q. Do you know which plant that's referring
4 to?

5 A. I didn't read it that carefully. On
6 page seven, MONS 202103.

7 Q. Uh-huh (indicating yes).

8 A. At the top of the page is J. F. Queeny
9 plant.

10 Q. Okay. And where was that?

11 A. That's located right -- in East St.
12 Louis.

13 Q. And it also reflected -- the summary
14 reflects that PCBs typical of Monsanto's
15 Aroclor products have been found in
16 tissue turkey extracts from the USDA?

17 A. It does.

18 Q. And also in two competitive products.
19 Do you know which competitive products
20 it's referring to?

21 A. I thought I saw them. It was on page
22 ten, which is MONS 202106, at the bottom
23 section. You will see reference to

1 Prodelec Phenoclor DP6, Prodelec
2 Phenoclor DP6 again, and Bayers Clophen
3 A60 and Kaneclor KC-300.

4 Q. Okay. Did this study that was done by
5 Monsanto confirm for Monsanto the
6 magnitude of the PCB problem?

7 A. I don't know that it confirmed it. It
8 just -- it's just a little bit more
9 information added to their -- let's call
10 it data bank regarding PCB and presence.

11 Q. Who at IBT worked on the tests that were
12 conducted for Monsanto?

13 A. There were several individuals involved.
14 There was of course the head of the
15 laboratory, Dr. Calandra --

16 Q. All right.

17 A. Then there was a Keplinger,
18 Dr. Keplinger, and a Dr. Otis Fancher,
19 Dr. Gordon. The pathologist -- I think
20 his name was Richter or something like
21 that, Dr. Richter, the pathologist. I'm
22 sure there were others. I just can't
23 remember them all.

1 Q. Was Mr. Wright involved?

2 A. I understood he was, but I personally
3 never saw him at the laboratory or
4 didn't get to know him until he joined
5 Monsanto.

6 Q. Do you know if a person named Philip
7 Smith was involved in the studies?

8 A. Phil Smith, yes, yes. He was one that I
9 forgot.

10 Q. Now, who from Monsanto was involved with
11 the studies that were done by IBT?

12 A. Of course, Dr. Kelly, as the director of
13 the medical department, Elmer Wheeler,
14 and Bill Hunt. Those are the people I
15 worked with.

16 Q. How about Dr. Levinskas?

17 A. Oh, yeah. Dr. Levinskas came later,
18 yes.

19 Q. Was what the nature of the involvement
20 of Monsanto's -- of the people you told
21 us about, the nature of their
22 involvement with the IBT studies?

23 A. Well, they would keep tuned in as to

1 what was going on and how well things
2 were going and whether further studies
3 would be proposed. They would supply
4 the material to be tested. They would
5 also help determine whether or not more
6 animals should be added to the test
7 population or the dosages be altered or
8 changed. They would also review the
9 drafts of the reports. That's the type
10 of involvement that I'm aware of.

11 Q. Do you recall discussions about that,
12 about the bio-accumulation effect of
13 PCBs?

14 A. Yes, that was part of our general
15 discussions.

16 Q. What do you recall about those general
17 discussions?

18 A. The only recollection I have is that
19 this is expected in a biological system,
20 especially that has fat involved in its
21 tissues.

22 Q. Why is it expected?

23 A. Because the material is fat soluble.

1 And once it finds its way into that part
2 of the test animal's body, it stays put.
3 It's again, inert, unreactive.

4 Q. Let us have you take a look, if you
5 could, at what has been previously
6 marked as Levinskas Six for
7 identification. That's the November
8 12th, 1971, report to Monsanto Company
9 from IBT, IBT number B-7298, two-year
10 chronic oral toxicity with Aroclor 1260
11 in albino rats.

12 Q. Do you recall any discussions at
13 Monsanto about the results of this
14 study?

15 A. In general, yes.

16 Q. What do you recall?

17 A. I recall really that this report was
18 telling us or telling the reader that
19 exposure to Aroclor 1260 resulted in
20 enlarged livers.

21 Q. And did Monsanto reach any conclusions
22 about the toxicity of Aroclor 1260 as a
23 result of this study?

1 A. Yeah. The fact that at high levels of
2 the higher chlorinated type of PCB, you
3 can get liver effects.

4 Q. Let's take a look, if we would, at
5 Levinskas Seven for identification
6 purposes. And this is again apparently
7 an executive summary report to IB -- It
8 says report to IBT research. It's
9 actually a report to Monsanto from IBT
10 on the toxicity and reproduction study
11 with Aroclor 1242 on white leghorn
12 chickens dated June 7th, 1973, IBT
13 number J-1291. And did you in fact read
14 this exhibit in or about June 1973?

15 A. Yes.

16 Q. Okay. And is this the study that you
17 were telling us about earlier, about the
18 white leghorn chickens that discussed
19 the hatchability -- the effect of PCBs
20 on the hatchability of eggs in white
21 leghorn chickens?

22 A. This is the -- Yeah. This reflects the
23 study of the effects of Aroclor 1242 on

1 the hatchability at the higher level.

2 Q. Okay. For the -- At the higher level,
3 meaning the group that was fed ten parts
4 per million?

5 A. That is correct.

6 Q. Do you recall any discussions at
7 Monsanto about the results of this
8 study?

9 A. Yes.

10 Q. What do you recall?

11 A. I recall that, as we just said, the
12 higher feeding level of Aroclor 1242 to
13 white leghorn chickens affected their
14 hatchability of their eggs.

15 Q. Okay. And is that -- Was that also the
16 conclusion that Monsanto reached
17 regarding the toxicity of Aroclor 1260
18 as a result of this study?

19 A. 1260?

20 Q. I'm sorry. 1242.

21 A. 1242 at that higher level.

22 Q. Yes.

23 A. With this test animal, this bird.

1 Q. I'll ask you to take a look, if you
2 could, at what was marked as Levinskas
3 Thirteen for identification at
4 Dr. Levinskas' deposition. Now, who was
5 Dr. Roush?

6 A. Dr. Roush was, at this point in time, in
7 April of '75, the Monsanto Company
8 medical director.

9 Q. Okay. And you received a copy of this
10 letter, correct?

11 A. Yes.

12 Q. Now, in the first sentence of this
13 letter, Dr. Calandra says to Dr. Roush,
14 "I fully appreciate that the meeting on
15 PCBs today was not completely
16 satisfactory and that many nagging
17 questions remain."

18 Were you at that meeting referred
19 to?

20 A. Yes.

21 Q. Do you recall what was discussed at that
22 meeting?

23 A. It was a discussion on the findings by

1 pathologists of liver samples from
2 Dr. Kimbrough's studies and Industrial
3 Bio-Test studies.

4 Q. Do you know what Dr. Calandra meant when
5 he said that the meeting wasn't
6 completely satisfactory?

7 A. He was referring to the fact that the
8 two laboratories -- or the
9 representatives of the two laboratories
10 left the meeting still disagreeing as to
11 the findings.

12 Q. Okay. Now, at the end of the page four
13 summary -- I'm sorry -- at the end of
14 the four-page summary, one, two, three
15 four -- or is it five -- the last thing
16 he says -- number five, it says,
17 "Bio-Test studies on PCBs meet the
18 scientific standards of toxicology and
19 pathology, and we are prepared to assist
20 Monsanto in any adversary situation in
21 or out of government."

22 Do you know what Dr. Calandra
23 meant by that? Did you have an

1 understanding when you got this letter
2 as to what Dr. Calandra meant by that?

3 A. I had an understanding, yes.

4 Q. What was it?

5 A. That he would join Monsanto individuals
6 in any discussions on this subject
7 brought on by anyone.

8 Q. Brought on by anyone? Did you interpret
9 that to mean litigation also?

10 A. Yeah. I could see that as a
11 possibility.

12 MR. PRATER: And the following
13 question was: "Okay. Did
14 Monsanto ever ask IBT to
15 assist it in any adversary
16 situation in or out of
17 government?"

18 ANSWER: "I'm not aware
19 of any such requests."

20 MR. FELL: That's the end of the
21 plaintiffs' designation, Your
22 Honor. They have a video to
23 play also.

1 MR. PRATER: Ours is about
2 twenty-five to thirty minutes
3 long, Your Honor.

4 THE COURT: That last part was
5 supposed to be about thirty,
6 and it wound up being about
7 forty-five.

8 MR. PRATER: We can do whatever
9 Your Honor would like for us
10 to do.

11 THE COURT: You say it is twenty
12 to thirty?

13 MR. PRATER: About twenty-five to
14 thirty minutes, yes, sir. We
15 can cut the commercials.

16 THE COURT: I'd like to go ahead
17 and finish this. Does anyone
18 need to be excused earlier?
19 (No audible response.)

20 THE COURT: I don't see any heads
21 nodding. So go ahead and
22 proceed.
23 (Video resumed.)

1 Q. There was no reason that Monsanto
2 couldn't have done audits of the Aroclor
3 department before 1969; is that correct?

4 A. There was one very limiting shortcoming.

5 Q. Okay.

6 A. The ability to measure PCBs in part per
7 million or less levels was not available
8 until roughly 1968. And even then there
9 was some difficulty experienced in
10 duplicating results. And it depended an
11 awful lot on the laboratory and the
12 experience of the chemist. And so it
13 was undergoing a period of development
14 in '68.

15 So without that technology being
16 available, a true audit -- Well, an
17 audit could have been held, but the
18 answers would have come out zero PCBs.

19 Q. Prior to 1968?

20 A. Yes. And even during '68. We would
21 have gotten some answers that always
22 would have a question mark after them.

23 Q. Okay. Looking at Papageorge Four --

1 A. I have it.

2 Q. Okay. Was a determination made as to
3 how much the average total loss -- the
4 average daily losses of organic PCBs
5 were?

6 A. Well, I see --

7 Q. I'm actually referring you to the
8 summary on the first page, to the second
9 sentence, which reads, "The average
10 total losses of organic material from
11 these departments is approximately
12 twenty-seven pounds per day."

13 A. My hesitation is due to the fact that
14 there are many chemicals involved in
15 this particular operating unit that are
16 called organics. Some of them are PCBs.
17 There is also, as I remember, benzene
18 and biphenyl and hydrogenated biphenyl
19 and many other materials which would
20 come out as organic material.

21 Q. Okay.

22 A. So I just don't know how much of that,
23 if any, is PCB.

1 Q. Well, according to this document, I
2 believe it says the major sources of
3 organic -- primarily Aroclors, but with
4 smaller amounts of biphenyl, Santowax,
5 and HB-40.

6 Does that refresh your
7 recollection as to whether the major
8 component of the organic waste was from
9 Aroclors?

10 A. Not really, because when they speak of
11 Aroclor, at that point in time, at the
12 Anniston plant within Monsanto, the word
13 "Aroclor" covered chlorinated biphenyls
14 as well as chlorinated terphenyls.

15 Also, within that operation,
16 because of their use as starting
17 materials, there were other organic
18 materials present.

19 So again, the expression "organic
20 materials" is not really definitive.

21 Q. I'm going to show you another document,
22 which we will mark as Papageorge Five
23 for identification. This document is a

1 memo -- Let me just identify it for the
2 record. This is a one-page memorandum
3 from Mr. Wright dated November 14th,
4 1969, addressed to yourself; is that
5 correct?

6 A. That is correct.

7 Q. And the subject is Aroclor spill on
8 March 6, 1969.

9 A. It is.

10 Q. Okay. And this reflects that in
11 November 1969 there was a loss of
12 fifteen hundred gallons of Aroclor 1242
13 to the plant acid sewer; is that
14 correct?

15 A. That is correct.

16 Q. And it also reflects how this happened,
17 correct?

18 A. It does.

19 Q. And it says that the line on the bottom
20 of the number three Aroclor still
21 receiver failed, correct?

22 A. Yes.

23 Q. And did you first learn about this spill

1 in this memorandum?

2 A. This confirmed an oral report that was
3 given to me back when it happened.

4 Q. By Mr. Wright?

5 A. No. I believe it was the supervisor of
6 the Aroclor operation that told me.

7 Q. And who was that?

8 A. Jack Malloy.

9 Q. And do you recall how many gallons of
10 PCBs Monsanto was able to recover from
11 the fifteen hundred gallons that had
12 been lost?

13 A. I had to refresh my memory. It does
14 refer to three hundred fifty gallons of
15 material recovered for reuse.

16 Q. Okay. What happened to the remainder of
17 the PCBs that had spilled?

18 A. As best I recall --

19 Q. You may want to refresh your
20 recollection from the document. If your
21 recollection is different from this,
22 that is okay.

23 A. As I recall, there were efforts made to

1 recover any material they could from the
2 sewer itself, and then there were
3 cleanup efforts of the neutralization
4 pit to which some of this leakage went.
5 And in both of those situations the
6 material would normally be put in drums
7 and hauled to the landfill for disposal.

8 Q. Okay. This memo reflects that the
9 remainder of the PCBs was probably lying
10 in the sewer and had been mixed with the
11 dirt and sand at the head of the acid
12 neutralization pit.

13 A. It does say that.

14 Q. Is that consistent with your
15 recollection?

16 A. Yes. There are ways to absorb the
17 liquids in sewers and then shovel them
18 out.

19 Q. Okay. Was a portion of this material
20 leaking through the limestone at the
21 effluent end of the pit, the limestone
22 pit?

23 A. Through the limestone?

1 Q. Yes.

2 A. Yes. It has to trickle down through the
3 limestone until it reaches the clay bed.

4 Q. And Mr. Wright believed it was highly
5 unlikely that Monsanto would be able to
6 recover any more of this material,
7 correct?

8 A. Yes. And keep in mind recovering means
9 reuse, profitable recovery.

10 Q. Okay. Was Monsanto concerned about how
11 much of the spilled PCBs might be
12 getting into Snow Creek?

13 A. At this point in time, yes, we were very
14 careful in monitoring that kind of
15 activity.

16 Q. I'm talking specifically as a result of
17 this spill.

18 A. Sure. That's no different than any
19 other accident or event.

20 Q. Okay. And Monsanto in fact collected
21 samples from Snow Creek to determine how
22 much of the spill material had entered
23 Snow Creek; is that right?

1 A. How much, if any, correct.

2 Q. Yes. Who collected the samples; do you
3 recall?

4 A. No, I don't.

5 Q. Do you know where they were sent?

6 A. At that point in time they were probably
7 sent to this group we referred to
8 earlier, the organic research analytical
9 group.

10 Q. Do you know what the results were?

11 A. No, I don't remember.

12 Q. And did Mr. Wright make any
13 recommendations to prevent a recurrence
14 of this type incident?

15 A. Well, a recommendation is reflected in
16 the memorandum, Exhibit Five.

17 Q. Okay. And what was the recommendation?

18 A. The recommendation he refers to there is
19 the installation either of a second
20 catch basin, which is this limestone
21 pit, or what he calls another device
22 between the PCB producing department and
23 the neutralization pit.

1 Q. Okay. Was that recommendation ever
2 implemented?

3 A. Yes.

4 Q. Okay. Do you know when?

5 A. About 1970. They installed a second
6 neutralization pit, and they also
7 installed a catch basin underneath the
8 operation to catch any leak of this
9 type.

10 Q. Okay. To your knowledge, sir, was this
11 incident the first time that hundreds of
12 gallons of PCBs had spilled into the
13 acid sewer?

14 A. To my knowledge, yes, this is the only
15 incident I'm aware of.

16 Q. Are you aware of any incidents like this
17 occurring after this point in time?

18 A. There were no other incidences like
19 this.

20 Q. To your knowledge, Mr. Papageorge, did
21 Monsanto ever withhold information
22 regarding PCB emissions data from any
23 governmental agency?

1 A. No, sir, not to my knowledge.

2 Q. Is it fair to say, sir, that Monsanto
3 had a lack of control over the PCB
4 problem throughout the history of the
5 Anniston plant?

6 A. Lack of control, no, sir. We did a
7 better job than any industry has ever
8 done with any chemical.

9 Q. Okay. Were air samplings ever done at
10 the Anniston plant?

11 A. Yes.

12 Q. Okay. When?

13 A. We took some samples, as I remember, in
14 1970.

15 Q. Okay. Do you know how many samples you
16 took?

17 A. I don't remember now. We took enough to
18 assure ourselves that the releases were
19 below the acceptable for the worker who
20 is right on top of the fuming tank, so
21 to speak. And then the air program, the
22 technology for developing the sampling
23 of air was transferred to the Krummrich

1 plant to develop the technology. And
2 then the intent was to share that
3 technology with anybody, including the
4 Anniston plant.

5 Q. Okay. You say that the samples were
6 done in 1970 to the best of your
7 recollection, correct?

8 A. Some sampling was done at the Anniston
9 plant, yes.

10 Q. And were there any samples done at the
11 Anniston plant after 1970?

12 A. I'm hesitating because the unit was shut
13 down in '71.

14 Q. Which unit?

15 A. The PCB unit in Anniston was shut down
16 in '71. I think it was about the middle
17 of the year. So the technology that was
18 developed at Krummrich did not get a
19 chance to be implemented at Anniston
20 before the unit shut down.

21 Q. Okay. Do you know if air samples were
22 ever done in Anniston, outside the
23 plant?

1 A. No. Because the samples taken right
2 near the source of the PCBs showed us
3 that safe levels were there, and we
4 couldn't imagine that they would be any
5 worse at a distance from the plant.

6 Q. Did there come a point in time,
7 Mr. Papageorge, that Monsanto began
8 reporting daily -- daily PCB losses to
9 the Alabama Water Improvement
10 Commission?

11 A. Yes.

12 Q. Do you recall when that was?

13 A. Starting at about the time of these
14 memos, the middle to latter part of
15 1970.

16 Q. And what Aroclor losses were reported,
17 for which Aroclors?

18 A. Any that the analysts detected.

19 Q. Okay. Do you recall seeing any
20 memoranda, internal memoranda, stating
21 that Monsanto would only report certain
22 Aroclors to the Alabama Water
23 Improvement Commission?

1 A. The only memo of that type or only
2 incident of that type that I recall was
3 the attempt to clarify the difference
4 between Aroclors that were chlorinated
5 biphenyls and Aroclors that were
6 chlorinated terphenyls.

7 Q. Okay.

8 A. And the idea was to communicate with the
9 Alabama authorities the chlorinated
10 biphenyls, not to confuse the picture
11 with this other line of products.

12 Q. I'm talking within the chlorinated
13 biphenyl group. Do you recall seeing
14 any memoranda, letters, anything, or
15 having any discussions with anyone
16 regarding the reporting of only certain
17 Aroclors within that group to the
18 Alabama Water Improvement Commission?

19 A. I remember the distinction made between
20 the polychlorinated biphenyls and the
21 monochlorinated biphenyls. Is that what
22 you have in mind?

23 There was one of the -- Aroclor

1 1221 is a -- strictly speaking, a
2 monochlor biphenyl. It doesn't really
3 fit under a PCB category.

4 Q. Okay.

5 Q. By the way, did Monsanto ever set a
6 specific target for the quantity of PCBs
7 that would be tolerated in the plant in
8 the ambient air, atmospheric
9 concentration of PCBs?

10 A. Monsanto didn't set that. The American
11 Conference of Industrial -- I mean of
12 Governmental Industrial Hygienists set
13 the standard for the amount of PCB
14 vapors in the air that a person should
15 be exposed to during his normal
16 eight-hour working day, five days a
17 week, for a lifetime of exposure.

18 Q. Do you recall what that level was in or
19 about January 1971?

20 A. For the PCB that represented Aroclor
21 1242, it was one milligram per cubic
22 foot of air.

23 Q. Okay.

1 A. And for the PCB that was a similar to
2 Aroclor 1254 --

3 Q. What do you mean by similar to 1254?

4 A. Chemically it contains those types of
5 PCBs that are in this commercial mixture
6 which Monsanto called Aroclor 1254.

7 Q. Thank you.

8 A. The vapor for such a mixture was limited
9 by this group of industrial hygienists.

10 Q. By the HCGIH?

11 A. HCGIH, to a half of a milligram per
12 cubic meter of air. I believe that's
13 the standard that exists today.

14 MR. PECK: Just for clarification,
15 I first heard you on 1242 --
16 you said one milligram per
17 cubic foot of air.

18 THE WITNESS: I'm sorry. Cubic
19 meter.

20 MR. PECK: In the second you said
21 point five per cubic meter.

22 THE WITNESS: All of the units are
23 in metrics. So it's

1 milligrams and meters.

2 MR. ATKIN: Thank you for

3 clarifying that.

4 Q. Did Monsanto ever tell the FDA about the
5 Yusho incident?

6 A. I know we discussed it with the FDA, but
7 my exposure to that discussion -- The
8 FDA knew about it already. I don't know
9 where they found out.

10 Q. Do you know when Monsanto first
11 discussed the FDA -- with the FDA the
12 Yusho incident?

13 A. It was in 1970. My hesitation is
14 because it wasn't specific FDA. FDA
15 representatives were in the room along
16 with the Department of Agriculture and
17 so on, the Interagency Task Force on
18 PCBs. This was one of the subjects
19 discussed.

20 Q. And that was sometime in 1970?

21 A. Yes.

22 Q. Do you remember if it was the earlier or
23 latter part of 1970?

1 A. I would suggest late summer, early fall.

2 Q. You mentioned Interagency Task Force on
3 PCBs. What was that?

4 A. The government agencies were attempting
5 to learn what they could about the PCB
6 environmental issue in 1970, and they
7 had informally formed a study group at
8 the encouragement of the head of the --
9 it is the office of science and
10 technology, but I don't recall exactly
11 what its title was at that time. And it
12 included representatives from the
13 Department of Agriculture, the Interior
14 Department, the Department of Commerce,
15 FDA. I'm sure I left out some, but it
16 was supposedly representative of any
17 federal activity that might be involved
18 with PCBs.

19 Q. Did Monsanto ever ship PCBs from other
20 sites to the landfill in Anniston,
21 Alabama?

22 A. Not to my knowledge, no.

23 Q. If you turn to page NEV 027590 --

1 A. I have it.

2 Q. According to this page, the second full
3 paragraph specifically, it indicates
4 that part of Monsanto's plan in
5 September 1969 was to set up an
6 incinerator to handle Aroclor disposal,
7 correct?

8 A. Correct.

9 Q. Did Monsanto ever set up an incinerator
10 in Anniston to dispose of PCBs?

11 A. No.

12 Q. Why not?

13 A. When the unit was installed, which was,
14 as I remember, the '71 period, 1971 or
15 thereabouts, the decision had been made
16 to limit the sale of PCB products to
17 many uses, which in turn required the
18 shutdown of one of the two U.S. plants.
19 And it was decided that the Anniston
20 plant would be the one to go out of
21 production. And the incinerator was
22 then put at the East St. Louis, Illinois
23 plant or Sauget, S-a-u-g-e-t, Illinois

1 plant because that is where the
2 operation was perceived to continue.

3 Q. Okay.

4 A. I'm sorry. I misunderstood.

5 Q. No. I guess what I'm trying to
6 understand is why did Monsanto not put
7 an incinerator in Anniston?

8 A. Because Anniston was no longer going to
9 be a PCB center of activity.

10 Q. What about the millions of pounds of
11 PCBs that were in the landfill?

12 A. I think there is a definite
13 misunderstanding. The incinerator will
14 burn pumpable liquids. It was not
15 designed to incinerate solid material.

16 Q. Were all the materials in the landfill
17 at Anniston solids?

18 A. The vast majority were solidified or
19 absorbed on solids.

20 Q. What do you mean by the vast majority?

21 A. Let me put it a different way. At no
22 time were liquid PCBs put in drums and
23 hauled up to the landfill. If the

1 material was a liquid, it was introduced
2 back into the manufacturing process to
3 be recycled, to be recovered, because it
4 was a product. It had some value. The
5 only material sent to the landfill was
6 the material for which there was no
7 known use or no known way to make it
8 useful. And it included the tars that
9 looked like road asphalt. It included
10 dirty rags. It included sawdust with
11 drippage on them, that kind of material.
12 And they in turn were put in sealed
13 containers. So it's erroneous to
14 conceive of leaking, oozing liquid out
15 of drums.

16 (Video concluded.)

17 MR. PRATER: We are done, Your
18 Honor. I can't take any
19 more.

20 MR. FELL: Just one designation to
21 that.

22 QUESTION: "Monsanto
23 landfilled some returned

1 Aroclors to its own landfill,
2 correct?"

3 ANSWER: "Yes."

4 THE COURT: Anything else at this
5 time?

6 MR. FELL: Judge, I need to
7 proffer those exhibits into
8 evidence.

9 THE COURT: Okay. Ladies and
10 gentlemen, we will be in
11 recess until nine o'clock
12 Tuesday morning. So y'all
13 have a good weekend.
14 (Jury not present.)

15 MR. FELL: Judge, at this time, I
16 would like to offer
17 Plaintiffs' Exhibit 1052,
18 185, 190, 197, 201, 208, 216,
19 206, 225, 995, 1224, 996 997,
20 2048, 1578, 161, 10,092, 108,
21 998, 176, 255, 271, 265,
22 2146, 205, 2055, 273, 305,
23 117, 165, 154, 153, 187, 296

1 and 309.

2 THE COURT: Do those include the

3 two I said I was going to

4 reserve ruling on?

5 MR. FELL: Actually, Your Honor,

6 those were, as I understand

7 it Plaintiffs' Exhibit 391,

8 withdrawn at this time,

9 Plaintiffs' Exhibit 431,

10 which I have not proffered,

11 but I think they have

12 actually been introduced.

13 MR. COX: 439 has not. That was

14 the Rockwell.

15 THE COURT: You are withdrawing

16 that one?

17 MR. FELL: We are withdrawing that

18 one and 146.

19 THE COURT: You are withdrawing

20 all three of those?

21 MR. FELL: Not to the extent they

22 are already into evidence.

23 But I'm not going to offer

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