

IN THE MATTER OF:

**TENNESSEE GAS PIPELINE CO.
vs.
MONSANTO COMPANY**

Cause No. 94-CI90145

*Deposition of DAVID WOOD
NOVEMBER 9, 1995*

*Gore & Perry Reporting Company
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Full GLOSSARY included with this DepoScript

TENNESSEE GAS V MONSANTO

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COMMONWEALTH OF KENTUCKY
ROWAN CIRCUIT COURT
CIVIL BRANCH

TENNESSEE GAS PIPELINE COMPANY,

Plaintiff,

vs. NO. 94-CB90145

MONSANTO COMPANY,

Defendant.

Deposition of DAVID WOOD, taken on behalf of
the Plaintiff, at the offices of Gore & Perry
Reporting Company, 100 North Broadway, in the City
of St. Louis, State of Missouri, on the 9th day of
November 1995 before Ronald A. Gore, Registered
Professional Reporter and Notary Public.

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APPEARANCES OF COUNSEL:

FOR THE PLAINTIFF:

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Examination by MR. DUFF

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(1) DAVID WOOD, (2) of lawful age, having
been first duly sworn to (3) testify the truth, the
whole truth, and nothing but (4) the truth in the
case aforesaid, deposes and says in (5) reply to
oral interrogatories propounded as follows, (6)
to-wit:

(7) EXAMINATION

(8) QUESTIONS BY MR. DUFF:

(9) MR. DUFF: Kevin Duff, representing
Tennessee (10) Gas Pipeline Company.

(11) MR. CHAMBERS: Rolly Chambers,
representing (12) Monsanto and Mr. Wood.

(13) VIDEOGRAPHER: Sir, can you state
your name?

(14) A: I'm David Wood.

(15) MR. DUFF: Mr. Wood, would you please
state (16) your full name for the record?

(17) A: David Wood.

(18) Q: And where do you reside, Mr. Wood?

(19) A: In Chesterfield, Missouri.

(20) Q: What is the address of your residence?

(21) A: 15414 Country Ridge Drive,
Chesterfield, (22) Missouri 63017.

(23) Q: What is your social security number?

(24) A: 497-70-7571.

(25) Q: Mr. Wood, have you had your
deposition taken

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(1) before?

(2) A: Yes, I have.

(3) Q: How many times?

(4) A: Total, five or six.

(5) Q: Do you recall the matters in which you
gave (6) depositions?

(7) A: Not precisely.

(8) Q: Do you remember any of them?

(9) A: There was a California case involving (10)
Transwestern Pipeline. There was a Chicago
case (11) which was involving plasticizers in the
food (12) packaging industry. There was another
San Francisco (13) case involving some fire
damage relating from -- (14) related to damage
from askarel transformers. There (15) were
others. I don't recall the others in any (16) detail.

(17) Q: I'd like to review some groundrules for
you (18) today, for today's deposition. I
understand that (19) you have had your
deposition taken previously, but (20) I'd like to
just remind you of a couple (21) groundrules.
I'll be asking you a series of (22) questions, and
I'll ask you that give verbal (23) answers. Our
court reporter will not be able to (24) pick up any
non-verbal responses, and while we have (25) the
videotape running today, I'd appreciate it if

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(1) you could give verbal responses, so a
gesture or (2) something along those lines won't
be picked up.

[3] A: I understand.
[4] Q: Also, if you would -- if I'm asking a [5] question, I'd appreciate it if you'd allow me to [6] finish asking my question. If you -- and I'll also [7] try and extend the same courtesy to you and not step [8] on your words when you're trying to give me an [9] answer. Do you understand that?
[10] A: Yes, I do.
[11] Q: And if you have any -- if you don't [12] understand a question, or would like to ask me to [13] clarify a question, please feel free to do so and I [14] will attempt to so.
[15] A: Thank you.
[16] Q: Also, at times counsel will offer -- will [17] wish to state an objection and we'll also try and [18] not step on his words as well. Do you understand [19] that?
[20] A: Yes, I do.
[21] Q: And if at any time during today you feel [22] that you need to take a break, please feel free to [23] let me know and I'll try and accommodate you.
[24] A: Thank you.
[25] Q: Do you have any questions at the outset of

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[1] the deposition about the groundrules that will be [2] governing us today?
[3] A: No.
[4] Q: Would you please state your educational [5] background, beginning with when you completed -- [6] when you matriculated from high school?
[7] A: When I matriculated from high school, I [8] attended university at Cambridge University in [9] England, where I completed an honors degree in [10] chemistry and part two of the law degree at [11] Cambridge, graduating with a degree under English [12] designation as a BA in chemistry and law.
[13] Q: What type --
[14] A: Let me correct that. They classify it as a [15] BA in natural sciences and law.
[16] Q: You said that you were an honors student in [17] chemistry, is that correct?
[18] A: Yes.
[19] Q: What chemistry courses did you take when you [20] were at the university at Cambridge?
[21] A: Organic chemistry, inorganic chemistry, [22] physical chemistry, analytical chemistry. The other [23] science courses were not so much strictly chemical [24] courses, they were physics, quantum mechanics, [25] mathematics, geology, mineralogy.

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[1] Q: And did the various chemistry courses that [2] you just listed include laboratory time?
[3] A: Yes.
[4] Q: What sort of laboratory experience did you [5] have in chemistry?
[6] A: Very basic physical chemistry, some basic [7] analytical chemistry, some inorganic

synthesis and [8] inorganic product designation type of work. Some [9] organic synthesis. This was an undergraduate [10] chemistry degree even at the honors level, so, I [11] mean, that was the basic type of laboratory work [12] supporting the theoretical courses that I was [13] taking.
[14] Q: When you graduated from the university, what [15] did you do next?
[16] A: I joined Monsanto Chemicals in their [17] European organization headquartered in London.
[18] Q: And how is it that you chose to begin [19] working for Monsanto Chemicals?
[20] A: I wanted to work within the chemical [21] industry, and I interviewed with a number of [22] British, European and American chemical companies. [23] I was offered positions by several of them. [24] Monsanto at that particular point was growing its [25] European business, and offered me a position that

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[1] would involve me in that European growth, and I [2] chose to join them.
[3] Q: What was the size of Monsanto Chemicals in [4] London at the time that you began working there?
[5] MR. CHAMBERS: I object to the form. When [6] you say size, you mean number of employees, [7] physical --
[8] MR. DUFF: Let me clarify. How many [9] employees worked in Monsanto Chemicals when you [10] began working there?
[11] A: I don't know.
[12] Q: Was it more or less than a hundred?
[13] A: It was more than a hundred. It was [14] probably, totally in Europe at that time, less than [15] a thousand.
[16] Q: And just so we're clear, what year did you [17] graduate from the university?
[18] A: 1960.
[19] Q: Did you begin working for Monsanto in the [20] same year?
[21] A: I began working as an entrant late in 1960, [22] took my first formal position as a technical sales [23] assistant in the spring of 1961.
[24] Q: As an entrant in late 1960, were you based [25] in London?

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[1] A: Yes.
[2] Q: And did you receive training during that [3] time period that you were an entrant?
[4] A: Essentially, that was a period of [5] orientation when they were telling me something [6] about what Monsanto was, what Monsanto did, what [7] type of functions made Monsanto work in Europe, how [8] they saw Europe developing, introducing me to my [9] peers and my superiors at that time. Say, [10] generally, giving me an orientation to what my role [11] might become within Monsanto.
[12] Q: Was it limited to what your role was to be [13] as a sales person or did it go beyond that?
[14] A: At that point it was focused very much on [15] how they saw the sales role developing.

[16] Q: Did you receive orientation regarding the [17] products that Monsanto sold at that time?
[18] A: In a very general fashion. Obviously, when [19] I was assigned a product as I became an assistant [20] technical salesman, then I was given much more [21] specific training related to the product area that I [22] was to handle.

[23] Q: Were you given training in -- with respect [24] to functional fluids at that time?

[25] A: We're talking at the time that I was an

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[1] entrant?

[2] Q: Yes.

[3] A: Very little.

[4] Q: What type of products did you receive [5] orientation regarding?

[6] A: Monsanto was in the plastics business at [7] that time, we were in the fibers businesses, we were [8] involved in certain of the stearinic derivatives. [9] We were involved in fine chemicals and generic [10] pharmaceuticals like aspirin. And there were a [11] range of specialty type chemicals such as the [12] Skydral aviation fluids, the Aroclor fluids, the [13] ethyl silicate binder fluids. Monsanto at that [14] stage, I say, was beginning to introduce into Europe [15] some specific products which it had generated [16] markets for in the United States and was planning to [17] try to evolve those markets in Europe, and so they [18] gave me a very broad general description of products [19] within which Monsanto was active.

[20] Q: Did you receive orientation with respect to [21] Pydraul fluids?

[22] A: No.

[23] Q: Do you know if Monsanto sold Pydraul fluids [24] in Europe at that time?

[25] A: At that time, I don't really recall.

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[1] Q: Your sales training period lasted [2] approximately how long?

[3] A: We haven't -- can I try to ask you to [4] clarify the distinction you're making between my [5] entry level orientation and sales training? I think [6] I referenced that when I became assigned as an [7] assistant technical salesman, I then received more [8] specific sales training.

[9] Q: I understand. I'm talking about the period [10] where you classified yourself as an entrant. How [11] long was that period?

[12] A: Well, I joined them, I think it was [13] September or October of 1960, and I was assigned to [14] a product and a territory in the spring of 1961, so [15] at that stage I became more focused. I was still [16] receiving ongoing sales training.

[17] Q: When you became a technical sales assistant, [18] what sort of training did you receive?

[19] A: Product training for the products that I was [20] assigned to sell. And some selling training related [21] to how you approached potential customers and how [22] you managed the job of selling in a territory.

[23] Q: What products did you receive product [24] training for?

[25] A: At that particular point in time, in the
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[1] spring of 1961, I was assigned to sell ethyl [2] silicate products, organic silicates, and I received [3] product training in those products.

[4] Q: What application are ethyl silicates used [5] in?

[6] A: The major application, by far, is the lost [7] wax casting process, which is a technology and [8] process for producing very precise shaped castings [9] in high alloy steels for subjects such as the blades [10] in turbine engines.

[11] Q: And as a technical sales assistant, did you [12] then move into other product areas after the -- [13] after the time that you were selling ethyl [14] silicates?

[15] A: Later, yes.

[16] Q: What products did you begin selling and [17] when?

[18] A: Sometime between 1961 and 1965 my product [19] line was extended to include dielectric fluids.

[20] Q: What are dielectric fluids?

[21] A: Dielectric fluids are liquid insulants which [22] have a capability of enhancing the performance of [23] specific commercial electrical equipment such as [24] capacitors and transformers. Monsanto sold a [25] capacitor dielectric called Aroclor, A-r-o-c-l-o-r,

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[1] and it delivered to the marketplace a transformer [2] coolant dielectric which in Europe we called [3] Pyroclor, P-y-r-o-c-l-o-r.

[4] Q: What were the ingredients in Aroclor at that [5] time?

[6] A: Aroclor was sold in a number of product [7] forms, mainly distinguished by the difference in the [8] viscosity of the various fluids and their dielectric [9] constants. But they were -- the Aroclor fluids [10] were essentially based on biphenyl, chlorinated to [11] various levels.

[12] Q: And did Pyroclor also contain chlorinated [13] biphenyls?

[14] A: It did. But the transformer fluid was a [15] blend of chlorinated biphenyl with other components.

[16] Q: Was Aroclor pure chlorinated biphenyl?

[17] A: I'm going to have to ask you to clarify that [18] question in terms of how do you use the word pure in [19] this context?

[20] Q: Was there anything else in Aroclor other [21] than chlorinated biphenyls?

[22] A: No. It was a mixture of isomers of [23] biphenyl, chlorinated to different chlorination [24] degrees.

[25] Q: So the difference between different types of

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[1] Aroclor depended on the type of mixture of isomers, [2] is that correct?

[3] A: Yes.

[14] Q: And the level of or degree of chlorination, [15] is that right?

[16] A: Yes.

[17] Q: And as a result, also, the differences in [18] viscosity were apparent, is that right?

[19] A: They were an outcome of the degree of [10] chlorination.

[111] Q: A characteristic -- they had different [112] characteristics, depending on the level of [113] chlorination, is that right?

[114] A: Yes, that's correct.

[115] Q: Pyroclor was a blend that included PCBs, is [116] that right?

[117] A: Pyroclor was a blend which contained Aroclor [118] -- I mean, at that time the term PCB that you just [119] used was not really a current -- in current usage. [120] The designation of Aroclor as being a PCB came later [121] in time. We always defined Pyroclor as a blend of [122] Aroclor with other components.

[123] Q: Monsanto at that time referred to its [124] polychlorinated fluids and other products as [125] Aroclors, is that right?

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[11] A: Or Pyroclor. If we were talking about [12] something that was a chlorinated biphenyl, then we [13] used the term Aroclor at Monsanto. In that we sold [14] Pyroclor, which was a blend of Aroclor with other [15] constituents, I mean, if somebody said what is [16] Pyroclor, we would say it is a blend of Aroclor with [17] trichlorobenzene, tritetrachlorobenzene and other [18] additives.

[19] Q: Do you recall what the other additives were [10] that went into Pyroclor?

[11] A: Yes. They were additives which were [12] referred to as scavengers. And they were tin [13] compounds or a resin designated as PPO. They were [14] added in very small percentages with the role of [15] collecting and holding any small amounts of hydrogen [16] chloride which were generated within the Pyroclor.

[17] Q: When you say a small percentage, do you mean [18] less than one percent?

[19] A: In the case of the tin compound, I seem to [20] recall that it was about that one percent type of [21] level. I think the level for the PPO was -- if [22] that was used instead of the tin compound, that that [23] was somewhat lower.

[24] Q: Were the different types of Pyroclor defined [25] by whether or not they had the scavenger as opposed

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[1] to the tin compound as opposed to the PPO?

[2] A: For the main part, in Europe, we sold [3] straight forward Pyroclor without any [4] recategorization or amplification, and that was the [5] product that contained the tin compound. If we were [6] supplying material to a Westinghouse subsidiary in [7] Europe, and the PPO scavenger was a Westinghouse [8] development, then we would refer to that as Pyroclor [9] PPO. But the product which was the general [10] transformer coolant was just

designated as Pyroclor.

[11] Q: Other than Aroclor and Pyroclor, were there [12] any other dielectric fluids that you sold at that [13] time? And I'm talking in the period in the early [14] '60s.

[15] A: There was some highly specialized aviation [16] related dielectric coolants which were silicate [17] related, but they were very different nature of [18] business and very different function.

[19] Q: Did they contain any chlorinated biphenyls?

[20] A: No.

[21] Q: Is that because they were silicate related?

[22] A: Yes. They were different chemistry.

[23] Q: Who were your customers when you sold [24] dielectric fluids from the time you began working [25] for Monsanto through 1965?

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[1] A: In England there were essentially a small [2] number of major capacitor manufacturers such as [3] BICC, that's B boy, I indian, C Charlie, C Charlie, [4] British Industrial Calendar Cables. They were the [5] largest capacitor manufacturer in England, and were [6] our largest customer in Great Britain for Aroclor. [7] There were a number of smaller companies involved [8] with making large power capacitors. There were a [9] number of companies that were specializing in small [10] fluorescent lighting capacitors. In transformers, [11] there were a number of the large electrical [12] manufacturers such as British GE, GE Company of [13] Great Britain, English Electric, Brush Electric, all [14] of whom manufactured distribution transformers, and [15] they formed the customer base. In Europe, our [16] customers tended to be the major electrical [17] equipment producers in the various European [18] countries. I refer, therefore, to companies like [19] Sieman's in Germany, Asea in Sweden. Asea is [20] A-s-e-a.

[21] Q: What percentage of your -- strike that.

[22] How long did you stay in the position of an [23] assistant technical salesman?

[24] A: Somewhere between 1961 and 1965, I guess we [25] -- somehow we knocked the assistant off and I

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[1] gained my first stripe and became a fully fledged [2] technical salesman. I can't remember exactly what [3] date that happened.

[4] Q: Would you please mark this as the next [5] exhibit in number order. [6] (Discussion off the record). [7] (Plaintiff's Exhibit 273 [8] marked for identification).

[9] MR. DUFF: Mr. Wood, I'm handing you what's [10] been marked as Plaintiff's Exhibit Number 273. And [11] I have a copy for counsel.

[12] MR. CHAMBERS: Thank you.

[13] MR. DUFF: Mr. Wood, do you recognize this [14] document?

[15] A: Yes, I've seen it before.

[16] Q: Can you please identify this document

for (17) the record?

(18) A: This is a curriculum vitae of my life and (19) career with Monsanto up until May 1st of 1982. It (20) doesn't include the later parts of my career with (21) Monsanto.

(22) Q: And do the items listed under professional (23) activities accurately state the various positions (24) that you held in Monsanto from the time you began (25) until you -- until 1982?

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(1) A: No, not entirely. Because I note it doesn't (2) reflect the move from assistant technical salesman, (3) which I assumed that responsibility in May the 1st (4) of 1961, but I said gained my first stripe and (5) became a technical salesman sometime between 1961 (6) and 1965.

(7) Q: And, also, this does not reflect the time (8) when you were an entrant at Monsanto, is that (9) also --

(10) A: That's also correct.

(11) Q: Other than those two discrepancies, --

(12) A: And the fact that I mentioned that it only (13) goes as far as May 1st, 1982. It seems to be (14) accurate.

(15) Q: So you were a salesman -- you were either (16) an assistant technical salesman or a technical (17) salesman from May of 1961 to June of 1966, is that (18) correct?

(19) A: Yes.

(20) Q: And during that time period, what reporting (21) responsibilities did you have to anyone at St. (22) Louis? Let me step back a moment. Was Monsanto (23) headquartered in St. Louis?

(24) A: At that point Monsanto and the businesses (25) with which I was involved was headquartered in St.

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(1) Louis.

(2) Q: And during that time period from 1961 to (3) 1966 what reporting responsibilities did you have to (4) anyone in St. Louis?

(5) A: In the early part of that period, none. My (6) reporting relationship was to my superiors in the (7) European organization headquartered in the same (8) office in London in which I was based.

(9) Q: Who were those individuals that you reported (10) to at that time in London?

(11) A: When I was first appointed as an assistant (12) technical salesman, I was reporting to a senior (13) technical salesman called Dennis Hope, and later (14) when I assumed additional responsibilities involving (15) dielectric fluids I was reporting to a Dr. John (16) Campbell. But both of these individuals were part (17) of the European staff and based in London.

(18) Q: And you mentioned a moment ago that later (19) during that period your reporting responsibilities (20) changed, is that right?

(21) A: During this particular period through 1966, (22) and even beyond that, I had no direct

reporting (23) responsibility to Monsanto in St. Louis. Since we (24) were selling products which were themselves managed (25) from St. Louis, there was not a formal reporting

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(1) relationship, but there would be contacting, talking (2) about the business, escorting American visitors from (3) the business groups as they made European trips to (4) update us on product information, to allow them to (5) meet the European customers and to exchange ideas (6) about what was going on in that particular industry (7) in America and in Europe so that we could optimize (8) our market presence in America in expanding our (9) European presence. But to precisely get back to (10) your question, no, I had no direct reporting (11) relationship to St. Louis.

(12) Q: From 1961 to 1966, is that right?

(13) A: That's correct, yes.

(14) Q: After you reported to Dr. John Campbell, who (15) did you report to next?

(16) A: When I moved to Belgium in 1966 I was (17) reporting, still, to Dr. John Campbell, but through (18) Dr. John Campbell to a Mr. Donald Cameron, (19) C-a-m-e-r-o-n.

(20) Q: What was Mr. Cameron's position at that (21) time?

(22) A: He was the manager for functional fluids, I (23) believe we were calling the business at that time.

(24) Q: Prior to your move to Belgium, did Mr. (25) Campbell report to anybody in the functional fluids

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(1) business?

(2) A: He was reporting to Don Cameron.

(3) Q: And then after your move, were you -- how (4) did your reporting --

(5) A: The reporting relationships didn't change (6) with the move. Just to make sure that we're on the (7) same page on this one, Monsanto decided to move its (8) European headquarters as Britain was entering the (9) common market, from London to Brussels so that we (10) had a more central European presence. And so a lot (11) of the staff that had been headquartered in London (12) upped and moved to Brussels. So it didn't really (13) change the role -- reporting roles within the (14) business, it purely changed the location of where we (15) had our central European office.

(16) Q: Does this CV accurately reflect that when (17) you moved to Brussels your position also changed in (18) that you became a sales supervisor at that time?

(19) A: Yes. Because as I left England and moved to (20) Brussels, we needed to appoint somebody who was (21) resident in England to act as the day-to-day contact (22) with our important British list of customers for (23) dielectric fluids, and they needed to be supervised (24) and mentored in that role, and so I took on an (25) additional supervisor capacity. I

moved one stage up

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[1] the totem pole at that point.
[2] Q: At sales supervisor did you still report to
[3] Dr. John Campbell or did you then report
to Donald [4] Cameron?
[5] A: At that stage I believe I was still [6]
reporting to John Campbell.
[7] Q: What responsibilities did you take on
that [8] you had not had previously when you
became sales [9] supervisor?
[10] A: The major change in role was that I had
[11] subordinates to supervise for the first time.
[12] Q: I'm sorry, I didn't hear the last thing
you [13] said.
[14] A: I had subordinates to supervise for the
[15] first time in my career. As opposed to
being an [16] individual salesman, I now had a
salesman reporting [17] to me.
[18] Q: How many salesmen did you have
reporting to [19] you at that time?
[20] A: Initially, it was one, the one that we had
[21] in England. Later, we added additional
sales people [22] for other countries in Europe.
[23] Q: Who was the first individual in England?
[24] A: Peter Marsh, M-a-r-s-h.
[25] Q: And did Monsanto expand into markets
in

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[1] other countries during the period that you
were [2] sales supervisor?
[3] A: Again, I'm going to have to ask you to
[4] clarify how you're using the word expand
in this [5] context.
[6] Q: A moment ago you noted that you
initially [7] had one subordinate that reported to
you and then [8] thereafter you had other
subordinates from other [9] countries, I believe,
is that correct?
[10] A: Let me try to place that into context. As
[11] Monsanto moved from London to Brussels,
[12] simultaneously with that move we were
also changing [13] from our previous
configuration, which was selling [14] through
agencies in many countries, to gradually [15]
establishing a direct Monsanto presence in
some [16] countries. And that happened not
immediately across [17] Europe, but over time
we gradually developed a [18] number of
independent Monsanto sales offices as [19]
opposed to working through outside
independent [20] agents. And so there was a
need as we went through [21] that progression,
which was establishing a stronger [22] Monsanto
presence in total Europe, of having [23] salesmen
who were Monsanto employees who would be
[24] carrying out a role of selling themselves in
some [25] countries and acting as a liaison with
the agencies

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[1] in other countries until the agencies were [2]
discontinued and we added additional
salesmen. So [3] this was a progressive
expansion of Monsanto's [4] direct presence in

Europe. Does that clarify what [5] you were
looking for?

[6] Q: Yes, I think so.
[7] A: Good.
[8] Q: As a sales supervisor for dielectric fluids
[9] in 1966, was one of your responsibilities to
[10] correspond with agents in other European
countries?
[11] A: Yes.
[12] Q: And what countries did you have agents
in [13] who you corresponded with in 1966?
[14] A: The list is very long.
[15] Q: Would it be easier to say were there any
[16] countries in Europe that you did not -- in
which [17] Monsanto did not enjoy a presence?
[18] A: No. In fact, that wouldn't be any
easier. [19] I mean, we obviously had agencies in
the major [20] economic centers in Europe;
France, Germany, [21] Benelux, Italy, Spain,
Norway, Sweden, Denmark. Our [22] contact
with eastern Europe was a direct presence of
[23] Monsanto salesmen working with the state
purchasing [24] agencies in those countries.
Agencies that were of [25] a different nature,
they were not our commercial

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[1] agents, they were the procurement agents of
the [2] state. North Africa was handled through
agencies [3] based in one country, but who
would handle a number [4] of the North African
countries. So here you have an [5] entity that is
growing and expanding and the [6] structure
was changing year by year. So those [7]
European countries where we had agencies,
part of my [8] sales supervision role at that point
in time was, in [9] part, giving them support in
their country.
[10] Q: In 1966 did -- at the end of 1966 did
your [11] position within Monsanto change?
[12] A: Yes, it did. Because recognizing the
nature [13] of the support I was giving to not
only the internal [14] sales force, but to the
agency structure as that was [15] evolving, we
recognized that my role was becoming [16] one
more of product management than purely sales
[17] management, and so the role was changed
-- the [18] title was changed and the role was
modestly changed [19] to that of product
supervisor for dielectric [20] fluids. Whereas I
had been sales supervisor, I was [21] assigned to
be product supervisor.
[22] Q: What additional responsibilities did you
[23] have when you became a product
supervisor?
[24] A: As product supervisor there, the type of
[25] responsibilities which became additional
were those

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[1] of saying if we had received notification
from the [2] United States of a particular
application for the [3] range of fluids which I
was involved, and they had [4] produced some
technical literature around that [5] application,
then I would have a responsibility for [6]

making sure that that technical literature was [7] modified so that it was usable within our European [8] client base. So there was a literature, there was a [9] greater responsibility for coordination of sales [10] forecasts with manufacturing to make sure that we [11] had appropriate production scheduling and inventory [12] of products. So the type of things which become [13] slightly less focused on the customer and making [14] sure that the product is being centrally managed in [15] an effective and efficient way, were the changes in [16] emphasis. It wasn't that I hadn't had any [17] involvement with any of these previously, but they [18] became a more focused accountability.

[19] Q: With respect to the responsibilities you [20] undertook regarding technical literature, was it [21] your responsibility to ensure that adequate and [22] accurate information about the products you were [23] selling was given to your customers?

[24] A: Yes.

[25] Q: And at that time was it important that your

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[1] customers understand such things as toxicity and [2] safe handling of products?

[3] A: Very much.

[4] Q: And why was that important?

[5] A: Even at that stage, I think Monsanto was [6] being recognized around the world as being a [7] corporation that took very seriously its [8] responsibilities in terms of the safe handling of [9] chemicals that it was delivering to the user [10] market. And, therefore, yes, it was an important [11] feature of our selling to a customer that we could [12] tell him about the appropriate handling of those [13] fluids within his process.

[14] Q: Was it important at that time for Monsanto [15] to convey to its customers all information relating [16] to toxicity that Monsanto believed to be valid?

[17] MR. CHAMBERS: I object to the form.

[18] A: If we've got an objection here, I mean --

[19] MR. CHAMBERS: If you're able to respond to [20] his question, you may do so.

[21] MR. DUFF: You may answer.

[22] MR. CHAMBERS: Would you like to have the [23] question --

[24] A: I'd like it repeated.

[25] MR. DUFF: Would you please read the

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[1] question back to the witness. [2] (The requested portion of the [3] record read by the reporter).

[4] A: I'm going to ask you to clarify the form of [5] the question in terms of how you're using "valid" [6] and "all". There were two words you used there [7] which I'm having a little bit of difficulty in [8] knowing how to be responsive.

[9] Q: One was --

[10] A: You used "all" and you used "valid".

[11] Q: Let me see if I can rephrase the question [12] for you. Do you agree that at that point in time it [13] was important for Monsanto to convey to its [14] customers information relating to toxicity that [15] Monsanto's medical department had determined was [16] scientifically valid?

[17] MR. CHAMBERS: I object to the form, again. [18] But if you're able to answer --

[19] A: I can answer that. It was important that [20] Monsanto convey to its customers information that [21] would enable them to gain the benefits of the [22] application of our chemicals in a manner which -- [23] that they would not incur harm in their use of the [24] product.

[25] Q: And by the phrase incur harm, what do you

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[1] mean?

[2] A: I think I can best answer that by the [3] example that in the case of capacitor manufacturing [4] technology, you would impregnate the capacitor [5] winding in -- with Aroclor at elevated temperatures [6] and we didn't want people being exposed to Aroclor [7] vapors at elevated temperatures, and so we would [8] include in our literature and in our discussions [9] with their manufacturing supervision at the time we [10] made visits to their plants suggestions of how they [11] might ventilate their work areas to ensure that [12] there was no contact with the vapors of Aroclor at [13] elevated temperatures. So, that is the nature of [14] the type of thing where I -- I'm trying to [15] exemplify what I'm saying about not incurring harm.

[16] Q: So in your example, are you saying that you [17] agree that at that time it was important for [18] Monsanto to convey to its customers information [19] relating to inhalation of Aroclor vapor that [20] Monsanto's medical department had determined was [21] scientifically valid?

[22] A: Monsanto had worked with various industrial [23] hygiene institutions and authorities, and there were [24] sort of suggested workplace standards for [25] concentrations of vapor that should not be exceeded

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[1] over an eight hour working day, and, yes, we felt it [2] important that people should understand that those [3] levels had been set, not with precision, but that [4] they had been set as seemingly providing safety [5] guidelines and good work practice and good [6] industrial hygiene, and the people, therefore, could [7] accommodate their work practices to sustain those [8] safe working standards.

[9] Q: So that's what you meant when you said that [10] you -- that it was important for Monsanto to help [11] its customers use products in a way which would [12] avoid harm?

[13] A: Yes, that's correct.

[14] Q: You also stated that one of your [15]

responsibilities when you became product supervisor [14] was to coordinate sales forecasts with [17] manufacturing, is that right?

[18] A: Yes, I did.

[19] Q: Were there any other responsibilities that [20] you undertook when you became product supervisor for [21] dielectric fluids in 1966?

[22] A: As I tried to portray earlier, it was really [23] an extension and a slight change of focus rather [24] than it being undertaken abaniscio. But there are [25] many facets, and to try to delineate every one of

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[1] them in what goes into the day to day function of [2] sales management and product management, I find it a [3] little bit difficult to give you a complete shopping [4] list of them. Obviously, as I say, managing [5] inventories, managing production schedules, [6] literature support, advertising support, talking to [7] agencies about the architectural benefits of the [8] customers' applications, preparing case histories. [9] There are many features of the job, and I'm not sure [10] how helpful this is being to you.

[11] Q: Well, is it fair to say that you were [12] responsible at this time for all facets of [13] dielectric product sales and product supervision [14] that Monsanto was engaged in in Europe at that time?

[15] A: Yes.

[16] Q: When you became product supervisor, did you [17] still report to John Campbell?

[18] A: I think at that stage -- it was at that [19] point or very shortly thereafter that I was [20] reporting to Don Cameron directly.

[21] Q: When exactly did you become product [22] supervisor?

[23] A: I'd have to go back to my --

[24] Q: If that helps, that's -- feel free to refer [25] to that.

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[1] A: I feel that that was accurately stated here, [2] so, I mean, it would have to have been late in [3] 1966. And this states November, and I have no [4] reason to believe that the personnel record does not [5] accurately reflect that that was the date they put a [6] notice on the board.

[7] Q: Did you prepare Exhibit 273?

[8] A: No. I reviewed it. It was prepared by the [9] personnel group.

[10] Q: At Monsanto?

[11] A: Yes. Or it was a joint effort. I mean, we [12] went back through the records to get the appropriate [13] dates. There was at no point that I have sat down [14] and with accuracy have said it was May the 1st that [15] that announcement was made and it was -- so --

[16] Q: Do you have any reason to believe that you [17] did not become product supervisor for dielectric [18] fluids in Europe on November 1, 1966?

[19] A: No, I believe that's when it happened.

[20] Q: And at this time after you had become [21] product supervisor, was one of your responsibilities [22] still corresponding with Monsanto's agents in other [23] European countries?

[24] A: Yes.

[25] Q: Who was Monsanto's agent at that time in

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[1] Sweden?

[2] A: A company called Rising and Strand. [3] R-i-s-i-n-g and Strand, S-t-r-a-n-d.

[4] Q: Was there one individual or more than one [5] individual from Rising and Strand with whom you [6] corresponded when you were in the position of [7] product supervisor?

[8] A: Depending on the particular communication, I [9] could have been writing to one or two people. Most [10] of the correspondence involving dielectrics would [11] have been sent to Ola Palm. O-l-a, Palm, P-a-l-m.

[12] Q: When you were product supervisor, were you [13] responsible for any Monsanto products that contained [14] chlorinated biphenyls other than dielectric fluids?

[15] A: No.

[16] Q: Were you responsible for any products other [17] than dielectric fluids?

[18] A: At that point, no. I was the king of [19] dielectric fluids at that point.

[20] Q: For Monsanto in Europe?

[21] A: For Monsanto in Europe. Let's be quite [22] clear, I mean, I was only a small king of a minor [23] European kingdom.

[24] Q: Who was Ola Palm?

[25] A: Ola Palm was a long term general sales

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[1] representative for the agency that we had in Sweden, [2] Rising and Strand. I gave you a spelling.

[3] Q: How long had you corresponded with Mr. Palm [4] in 1966? Let me rephrase that.

[5] A: Yes.

[6] Q: When did you -- prior to 1966, had you and [7] Mr. Palm corresponded before?

[8] A: Yes.

[9] Q: When did you first begin corresponding with [10] Mr. Palm?

[11] A: Sometime in the period between 1963 and [12] '65. When I began handling dielectric fluids in [13] England initially, I learned something of the [14] business in the English marketplace, and then [15] sometime in that period between '63 and '65, before [16] I moved to Belgium, I was handling European [17] marketplaces for dielectric fluids from England, and [18] so sometime in that period I would have begun a [19] communication and a relationship with Ola Palm. But [20] I can't place it with any more accuracy than that.

[21] Q: How frequently did you correspond with Mr. [22] Palm during that time period from the time you began [23] corresponding with him

to 1966?

[24] A: Depending on what was going on in the
[25] Swedish marketplace with dielectric fluids,
I might

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[1] have occasion to write to him, say, in one
quarter [2] three times, and then I might not
write to him again [3] for three more quarters.
So, there was no routine [4] frequency. But
there were a small number of [5] significant
users of chlorinated biphenyls in the [6]
Swedish marketplace, which was a very
competitive [7] marketplace between ourselves
and the major European [8] manufacturers of
chlorinated biphenyls. Unlike the [9] United
States where Monsanto was the -- for many [10]
years, the sole producer of chlorinated
biphenyls, [11] there were a much larger number
of producers of [12] chlorinated biphenyls
equivalent to Monsanto's in [13] Europe.

[14] Q: Is it fair to say that you corresponded
with [15] Mr. Palm several times a year?

[16] A: I think that would typify it. Not on a [17]
regular basis, but it would be several -- it
would [18] probably be more than one and it
would probably be [19] less than ten.

[20] Q: But sometimes it might have been once a
[21] month for a few months in a row?

[22] A: Yes.

[23] Q: And when you corresponded with Mr.
Palm, did [24] you write to him or did you speak
with him?

[25] A: Both.

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[1] Q: And did you meet with Mr. Palm
personally at [2] times?

[3] A: Yes, I did.

[4] Q: How many times a year would you
travel to [5] Sweden to meet with Mr. Palm?

[6] A: I didn't visit Sweden to visit with Mr.
[7] Palm. I --

[8] Q: Let me rephrase the question for you.
How [9] many times did you meet with Mr.
Palm in Sweden?

[10] A: At least once a year. If commercial [11]
considerations demanded, more than that.

[12] Q: And during this competitive period did
you [13] meet with him in Sweden more
frequently than once a [14] year?

[15] A: The whole of that period was
competitive. [16] Europe was a very competitive
marketplace for [17] chlorinated biphenyls. The
French were particularly [18] aggressive at that
particular point commercially. [19] The Germans
felt that mainland continental Europe [20] was
theirs and Monsanto shouldn't be trying to gain
[21] a toehold in Europe. So, it was a very
competitive [22] period in chlorinated biphenyls
in Europe.

[23] Q: Did Mr. Palm ever meet with you in
London or [24] in Brussels?

[25] A: He didn't meet with me in London, I
know

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[1] that. When I had made the move to
Brussels, Mr. [2] Palm would probably make
one trip per year to the [3] Brussels
headquarters office to talk with a number [4] of
product managers, because he handled -- he
was [5] not a specialist in dielectric fluids, he
was, as I [6] said, a general representative, and
so he would [7] visit Brussels and meet with me
amongst several [8] other product line managers.

[9] Q: What was Rising and Strand's role as [10]
Monsanto's agent in Sweden?

[11] A: They would handle the day-to-day
contact [12] with Monsanto's customers for all
its products. [13] They would coordinate with
customers the acquisition [14] of the appropriate
import documentation and payment [15]
documents, that is, credit and the like. They
would [16] arrange for appropriate unloading of
cargoes of [17] chemicals moving into Sweden.
They had very limited [18] warehousing, but they
could hold reserve inventories [19] of some
products for customers who chose not to [20]
inventory themselves the whole of their [21]
requirements. They did the sort of things
which a [22] good professional sales agency did.
[23] Q: Did they monitor the market in Sweden?
[24] A: In that they met, and, as I said, had that
[25] day-to-day interface with the customer
base, yes.

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[1] They were expected to give us feedback on
was demand [2] growing in Sweden or certain
product lines.

[3] Q: Did they handle press relations in
Sweden?

[4] A: No.

[5] Q: Who handled Monsanto's press
relations in [6] Sweden?

[7] A: We would normally in that type of
situation [8] -- if there was a need for Monsanto
to make a [9] press release of its own in a
number of European [10] countries, we would
have worked through our internal [11] public
relations department and then to an external [12]
agency that would be capable of knowing how
to [13] prepare and place a press release in a
number of [14] different languages in different
European countries [15] with different media.
We would certainly involve a [16] Rising and
Strand, in the specific example of [17] Sweden,
if we were going to make a press release. [18]
We would be sure that they knew it was going
to [19] happen. But we did not depend or rely
upon them in [20] any way of having,
themselves, public relations [21] expertise.
[22] Q: Did you rely on Rising and Strand to
monitor [23] what the press was saying?
[24] A: No. We understood that they were [25]
intelligent, well educated individuals, and

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[1] therefore, they much more so than, say,
America at [2] that point in time -- Europeans
read a lot more [3] newspapers than Americans,
and they, therefore, tend [4] to be pretty well

versed in what's going on in the [5] media in their country, and if they saw something [6] which they felt was pertinent to the business that [7] they were conducting for Monsanto, they would bring [8] it to Monsanto's attention. But there was no formal [9] responsibility of our talking to them and saying did [10] you check the newspaper this morning to see if there [11] was something about a Monsanto or a product line in [12] which Monsanto had any involvement, no.

[13] Q: But a good agent would do that, is that [14] right?

[15] A: Yes. And they were a good agency.

[16] Q: Was Mr. Palm the only person at Rising and [17] Strand who handled dielectric fluid -- the [18] dielectric fluid business for Monsanto?

[19] A: No. There would have been other people who [20] would have been in departments involved with customs [21] clearance, shipping and handling, and that sort of [22] thing, who would have been involved with [23] dielectrics. In terms of the interface with the [24] customers of Monsanto's or of customers of our [25] competitors for this product line in Sweden, Mr.

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[1] Palm would have been the general sales [2] representative who had Aroclor as one of his product [3] line responsibilities.

[4] Q: Who were the users of dielectric fluids in [5] Sweden at that time?

[6] A: The major user of chlorinated biphenyl based [7] dielectrics were a company called Liljeholmens. Do [8] you want that spelled? L-i-l-j-e-h-o-l-m-e-n-s. [9] Liljeholmens manufactured a wide range of electrical [10] capacitors. There was a very large transformer [11] manufacturer in Sweden called Asea, A-s-e-a. They [12] were a large manufacturer of transformers, but they [13] did not figure largely in the market for chlorinated [14] biphenyls insulated transformers. They tended to [15] make standard oil filled transformers and air cooled [16] transformers. They had only a very small business in [17] chlorinated biphenyl transformers. And those two [18] companies, essentially, were the major Swedish [19] potential for the type of dielectric fluids that we, [20] Ruan Cologne and Bayer sold based on chlorinated [21] biphenyls.

[22] Q: Were there any other users of dielectric [23] fluids other than the two you mentioned?

[24] A: I seem to remember there might have been a [25] couple of real small ones, but you're taking me too

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[1] far back.

[2] Q: But those two were the major users?

[3] A: If I were going to visit Sweden, I would try [4] to charge discussion with those two companies.

[5] Q: And there weren't other companies at

that [6] time who you made a special point of meeting with if [7] you were to travel to Sweden, is that right?

[8] A: Not in Sweden. Normally, my trips would be [9] Scandinavian in nature, and there were other [10] manufacturers of electrical equipment in other [11] Scandinavian countries. But Rising and Strand were [12] a Swedish agency.

[13] Q: Did Rising and Strand serve as Monsanto's [14] agent in any other country other than Sweden?

[15] A: No. They were a -- they were a Swedish [16] company working in Sweden.

[17] Q: Who were the other manufacturers of [18] dielectric fluids that competed with Monsanto in the [19] Swedish market?

[20] A: The German -- the large German chemical [21] manufacturer that I would call Bayer, that you may [22] know as Bayer, B-a-y-e-r. That's my European [23] background, again. And a company in France called [24] Prodelec, P-r-o-d-e-l-e-c. There was an Italian [25] company called Caffaro, C-a-f-f-a-r-o. And I believe

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[1] at a time there was a small Spanish producer. And [2] in eastern Europe there was a state producer of [3] dielectrics based on chlorinated biphenyl.

[4] Q: In 1966 when you were a product manager -- [5] excuse me. In 1966 when you were product [6] supervisor, what share of the Swedish market did [7] Monsanto enjoy?

[8] A: Less than my supervisors would have liked. [9] At that stage the major user of dielectric fluids in [10] Sweden was Liljeholmens, and they were delighted by [11] the emerging competition for chlorinated biphenyls, [12] and was swinging their contracts between the three [13] major suppliers, the French supplier, the German [14] supplier and beginning to use Monsanto's presence in [15] continental Europe as leverage with those two [16] suppliers. So, if we had more than 20 or 30 percent [17] on an annualized basis -- that's the number I have [18] in mind. But, again, this is a lot of years ago, [19] we're going back 30 years.

[20] Q: At that time did you view the Swedish market [21] as ripe for expansion of Monsanto's dielectric [22] business?

[23] A: Yes. Because historically at that point in [24] time the Scandinavian countries were part of a [25] European trading group called EFTA, European Free

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[1] Trade Association, which had duty-free entry for [2] products between the member countries of EFTA, and [3] England and Scandinavian were part of the European [4] Free Trade Organization, whereas France and Germany [5] were part of the emerging EEC, or European Economic [6] Community, so for the

first time there were some [7] trade region benefits to be gained by Sweden [8] importing dielectric fluids that had been [9] manufactured in Great Britain, and Monsanto [10] manufactured its European chlorinated biphenyls in [11] Great Britain, so as EFTA and EEC emerged, there was [12] a temporary opportunity there for Monsanto to [13] potentially be able to become a more interesting [14] trading partner for the Swedish economy.
[15] Q: And was Brussels -- excuse me, was Belgium [16] also in the EFTA.
[17] A: No. Belgium -- the Benelux, Italy, France, [18] Germany were part of the origins of the European [19] community.
[20] Q: Where in Great Britain did Monsanto [21] manufacture dielectric fluids?
[22] A: Our plant was -- we had two major [23] manufacturing facilities. The Aroclors were [24] manufactured, I think, in Newport, Wales.
[25] Q: You mentioned that there was a second

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[1] manufacturing facility, is that right?
[2] A: There was a second manufacturing facility of [3] size in north Wales, and a product line which I [4] handled later in my career was manufactured -- I'm [5] just trying to remember which line was manufactured [6] at which location.
[7] Q: Did the northern Wales facility manufacture [8] any chlorinated biphenyl products?
[9] A: No, it didn't.
[10] MR. DUFF: Off the record. [11] (Recess).
[12] MR. DUFF: Mr. Wood, after -- strike that. [13] How long did you hold the position of product [14] supervisor for dielectric fluids in Europe?
[15] A: Until early in '68.
[16] Q: And at that time how did your [17] responsibilities change?
[18] A: Monsanto had a totally separate line of [19] products which we called the food and fine [20] business. Just to describe that, a fine chemical is [21] something which might find a use in a pharmaceutical [22] type of application, it might be a pharmaceutical [23] raw material, something of that nature. And [24] Monsanto at that time was the world's largest [25] producer of the chemical entity aspirin. You've

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[1] never seen an aspirin tablet with Monsanto's name on [2] it, but something like 60 percent of the aspirin in [3] the world was manufactured by Monsanto. And that [4] was a very large business in Europe. And they [5] decided that there were things that needed to be [6] done with the marketplace development of that [7] business that I had the skills to be able to handle, [8] and, therefore, they assigned me to that food and [9] fine business.
[10] Q: And your position was what at that time?
[11] A: Market supervisor for food and fine [12]

chemicals, later to become product manager.
[13] Q: And how long were you a supervisor in the [14] food and fine chemicals business for Monsanto?
[15] A: If I take your term supervisor to include [16] the market supervisor role and the product manager [17] role, I was in that role from 1968 until 1974.
[18] Q: Did you become market -- excuse me. Did [19] you become market manager after you were market [20] supervisor?
[21] A: Yes, I did.
[22] Q: And you were product manager during what [23] period?
[24] A: I was product -- in the product manager [25] role, which, again, was the heading up that business

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[1] in the European arena, from 1972 to '74.
[2] Q: Are you relying on the CV which has been [3] marked as Exhibit 273?
[4] A: To make sure I give you those dates [5] accurately. I could have given you the years [6] without referring to it, but I needed to check the [7] dates.
[8] Q: And what position did you hold next after [9] you were product manager for fine chemicals?
[10] A: I held at that stage the position of [11] international market manager for fluids in St. [12] Louis, Missouri.
[13] Q: And by fluids, what do you mean?
[14] A: Fluids were the dielectric fluids which I [15] had had previous experience with in Europe. [16] Aviation fluids. Monsanto makes a product called [17] Skydrol, S-k-y-d-r-o-l, which is the hydraulic fluid [18] in commercial aircraft, which we sell around the [19] world. There was some minor involvement with [20] Pydraul, some minor involvement with Therminol. And [21] then there were three or four very specialized small [22] fluids involved with the space program and military [23] avionics which took a small part of my time.
[24] Q: What involvement did your position have with [25] Pydraul fluids?

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[1] A: If we were selling a Pydraul fluid, for [2] example, in Australia, and I were visiting Australia [3] to talk about our dielectric fluids business and our [4] aviation fluids business, I had to have sufficient [5] knowledge of what the Pydraul group were doing in [6] Australia to be able to be an accurate carrier of [7] messages and to talk with the people in Australia, [8] to use that example, about what they might do to [9] extend the business or -- so, the major part of the [10] international assignment was related to the major [11] product lines of dielectrics and aviation fluids.
[12] Q: During the time that you were the [13] international market manager for fluids, were any of [14] those fluids -- did any of those fluids contain [15] PCBs?

[16] A: I think by the time I assumed that position [17] Monsanto had already changed the formulations of the [18] pydrauls to be non-containing of chlorinated [19] biphenyls.
[20] Q: Is it correct to say that at that time [21] Monsanto's Pydraul fluids were phosphate ester [22] based?

[23] A: Yes.

[24] Q: And that is because they had had -- strike [25] that. That is because Monsanto's Pydraul fluids at

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[1] that time had been reformulated to remove PCBs and [2] PCTs, is that right?

[3] A: I believe that's right.

[4] Q: And by PCBs you understand me to mean [5] polychlorinated biphenyls, is that right?

[6] A: Yes.

[7] Q: By PCTs you understand me to mean [8] polychlorinated terphenyls?

[9] A: Yes.

[10] Q: You stated a minute ago and correct me if I [11] misstate what you just testified to, that you needed [12] to know about other products such as Pydraul in [13] order to be fully informed for the benefit of your, [14] predominantly, dielectric customers, is that right?

[15] A: No. No. You did misunderstand me. If you [16] look at Monsanto's presence in the non-U.S., [17] non-European marketplace for products which were [18] encompassed in the business of functional fluids, [19] dielectric fluids were the largest international [20] business. The aviation fluids were the second [21] largest aviation business. The heat transfer fluids [22] were probably the third largest business. The [23] hydraulic fluids were probably the fourth largest [24] business. And then there were a smattering of these [25] highly specialized avionics, aerospace, space, high

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[1] vacuum fluids which were very a specialized category [2] of products. So, in most cases if I were addressing [3] a particular international market situation, the [4] major component of my focus and effort would be on [5] the dielectric business. I probably was -- I was [6] traveling to that country to talk about dielectrics [7] business, I would talk to the national airline about [8] aviation fluids, and depending on which specific [9] country it was, I might or might not get involved in [10] a discussion on heat transfer fluids or Pydraul. So [11] if I were to break down the time and effort in my [12] assignment, it would have been in the sequence that [13] I've just outlined. But I was not taking [14] information about hydraulic fluids for the benefit [15] of dielectric customers, which is the way you [16] portrayed it.

[17] Q: I understand.

[18] A: Okay?

[19] Q: Were you responsible for any customers in [20] the United States when you

were international market [21] manager?

[22] A: I wasn't responsible for companies in the [23] United States. I was responsible for familiarizing [24] myself with dielectric customers in the United [25] States who would have -- who might have

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[1] subsidiaries in other countries. So that if I were [2] to visit South America, Brazil, and visit the [3] General Electric subsidiary, that they would feel [4] that, yes, I knew something about what General [5] Electric and Monsanto were doing in the United [6] States.

[7] Q: So your responsibilities with respect to [8] companies in the United States was limited to [9] situations where those U.S. companies had [10] subsidiaries, affiliates or facilities outside of [11] the U.S., is that right?

[12] A: Yes.

[13] Q: Did you ever have any contact with Tennessee [14] Gas Pipeline during your career at Monsanto?

[15] A: No, I didn't.

[16] Q: Did you ever speak with anybody at Tennessee [17] Gas Pipeline?

[18] A: Not that I can recall doing so. Not in a [19] business context. I mean, I may have met them at [20] some industrial gathering, but --

[21] Q: Do you recall meeting with anybody at [22] Tennessee Gas Pipeline at any time?

[23] A: I don't.

[24] Q: As an international marketing manager, did [25] you work with any customers who were solely Pydraul

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[1] customers?

[2] A: Yes. This was a period of time when [3] offshore drilling was an important world-wide [4] development, and there were specific phosphate [5] ester-based Pydraul fluids that we used in the [6] offshore drilling industry to clamp down the caps on [7] drilled wellheads, and to move the rig up and down. [8] Some of these floating rigs, they were getting very [9] large and very sophisticated at that point in time. [10] So there would be some companies around the world [11] involved in offshore drilling that by the very [12] nature of my travel program, if I was in that [13] country where offshore drilling was at a high level, [14] then I would talk to some of the drilling companies [15] specifically about Pydraul and I would have no need [16] to talk to them about dielectrics or aviation fluids [17] or anything else.

[18] Q: Were any of your Pydraul customers -- [19] strike that. Did you ever work with customers at [20] Monsanto -- strike that. While you worked for [21] Monsanto, did you ever work with any customers who [22] used Monsanto fluids in air compressors?

[23] A: I won't say that I never met one, but [24] certainly it was a tiny part of my role. I mean, [25] air compressor lubricants were a very small

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[1] component of hydraulic fluids, and hydraulic fluids, [2] as I said, were a very small part of my work.

[3] Q: Do you recall any customers who used [4] Monsanto fluids in air compressors?

[5] A: No.

[6] Q: What type of Pydraul fluids were used in the [7] offshore drilling industry at the time -- excuse [8] me, I'm sorry. At the time, what type of Pydraul [9] fluids were used in the offshore drilling industry, [10] at the time that you were international market [11] manager?

[12] A: The major fluid of use in that particular [13] application was a Pydraul 29 ELT, which was a [14] phosphate ester-based fluid.

[15] Q: Was one of your responsibilities as [16] international marketing manager to discuss with [17] customers the historical presence of chlorinated [18] compounds in functional fluids?

[19] A: No.

[20] Q: Were there times when you did discuss with [21] Monsanto's customers the fact that functional fluids [22] in the past had contained chlorinated hydrocarbons?

[23] MR. CHAMBERS: Let me object to the form. [24] When you say functional fluids, you mean more than [25] pydrauls now?

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[1] MR. DUFF: Yes.

[2] MR. CHAMBERS: Okay. It included dielectrics [3] and heat transfer and --

[4] MR. DUFF: Yes.

[5] A: As I say, the dielectric fluids still did [6] contain PCBs at this point in time. To the extent [7] that -- most of my conversations, as I traveled [8] internationally, were dielectrics based, so I [9] certainly had discussions as I went around my [10] international business at that time about PCBs in [11] dielectrics and Monsanto's view of PCBs in [12] dielectrics. I said the second area of emphasis was [13] to talk about aviation fluids. Aviation fluids, for [14] technology reasons, never had contained PCBs. They [15] had to work at very low temperatures, because planes [16] get cold up there in the sky. To the extent that I [17] met occasionally, as I portrayed, with people who [18] were involved in hydraulic fluid use, I mean, they [19] were aware that Monsanto had reformulated its fluids [20] and that the fluids that Monsanto was then selling [21] did not contain any PCBs. So, did we occasionally [22] get into some dialogue about well, what do you think [23] about PCBs? I can't say it never happened, but I [24] was not part of the dialogue that went on with [25] Pydraul users as Monsanto reformulated. That had

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[1] happened before I got involved with functional [2] fluids after six years away from that business.

[3] Q: After you were international marketing [4] manager, what position did you hold next?

[5] A: Then I became -- what title did we use?

[6] Market manager, dielectrics.

[7] Q: And when did you become market manager for [8] dielectrics?

[9] A: In 1975.

[10] Q: And what were your responsibilities when you [11] were market manager for dielectrics?

[12] A: To relate to the market for dielectric [13] fluids around the world, to understand customer and [14] marketplace needs for the types of dielectric fluids [15] that Monsanto manufactured, to be able to [16] communicate with our customers as new fluids were [17] being developed to potentially replace [18] PCB-containing fluids, to represent a proper balance [19] between Monsanto's desire to disengage from PCBs and [20] our responsibility to the electrical industry to [21] make sure that the -- both our immediate customers [22] and their customers were able to satisfactorily [23] conduct business as this transition away from PCBs [24] was occurring.

[25] Q: And what position did you hold next?

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[1] A: I became industry manager, dielectrics. And [2] that was January 1st of 1976 and went for a two year [3] period through '77.

[4] Q: What were your responsibilities as industry [5] manager for dielectrics?

[6] A: Responsibility then was to make sure that [7] Monsanto exited PCBs responsibly and that we [8] appropriately evaluated if Monsanto could supply any [9] alternative fluid to the industry to replace those [10] dielectrics containing PCBs in the applications [11] where they had been used, and to make sure that [12] Monsanto was in tune with the conversion timetables [13] of electrical equipment producers and electrical [14] equipment users, and talk with the EPA as [15] regulations were beginning to be formulated about [16] identification, location, dismantling and disposal [17] of PCB-containing electrical equipment as it went [18] out of service in the future. And to make sure that [19] approach was appropriately conducted simultaneously [20] on a world-wide basis.

[21] Q: Any other responsibilities?

[22] A: That kept me very busy.

[23] Q: Did Monsanto -- what did Monsanto determine [24] about whether or not it could supply replacement [25] fluids for the dielectric fluids that contained

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[1] PCBs?

[2] A: We came up with some interesting molecules [3] to be replacement transformer coolants, but the [4] industry ultimately decided to go to a greater use [5] of non-fire retardant transformers, coupled with an [6] increased use in resituated dry type air cooled [7] transformers. And in a couple of situations to use [8] a newly developed silicone fluid to insulate [9] transformers, even though its properties were seen [10] to be inferior to those

of the chlorinated [11] biphenyl-based fluids from an insulation [12] characteristic standpoint. And there was a high [13] viscosity, high flash point oil that was produced by [14] a company called RTE Corporation, which had a [15] limited -- very minor success and then failed [16] because it really wasn't fire-resistant. So we [17] tried and failed, but we had already made a [18] commitment that when the industry said that it could [19] change, then we retained the right to cease [20] production, as we did, irrespective of whether [21] Monsanto was selling a replacement fluid. Equally, [22] in capacitors, different solutions were found for [23] -- whereas the PCB-containing dielectrics had [24] characteristics which made their use very universal [25] between small and large capacitors, the industry

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[1] splintered in the stage of transition and came up [2] with a number of different solutions for different [3] sectors of the capacitor marketplace, and we, again, [4] had two fluids that were of interest to major [5] capacitor producers, but the economics of producing [6] those and using those proved to their evaluation to [7] be inferior to some alternatives that they looked at [8] and so, ultimately,, when they sort of said we're [9] now ready to make the transition, we stopped [10] producing askarels and exited the dielectrics [11] business.

[12] Q: Was askarel the name that Monsanto used for [13] its dielectric fluids?

[14] A: Oh, I'm sorry. I knew we were going to [15] reach a point where I suddenly, habit after [16] life-time, dropped in askarel. Askarel was an [17] industry term for a -- I've got to remember the [18] definition. It's a fire resistant fluid which does [19] not produce fire resistant -- does not produce [20] inflammable gases under arc conditions. And so the [21] chlorinated biphenyl dielectrics were a member of [22] the class of askarels. There were other fluids that [23] would fall within the definition of askarel that [24] were not PCBs.

[25] Q: Such as what?

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[1] A: Some of the liquid gas type coolants such [2] as, I think, sulphur hexafluoride was considered [3] that it could be designated as an askarel. The [4] major askarel were the chlorinated [5] biphenyl-containing dielectrics, and so a lot of [6] people even in the industry and well familiar with [7] askarel tended to use chlorinated biphenyl [8] dielectrics and askarels almost interchangeably. I [9] shouldn't have ever mentioned the word askarel, we [10] wouldn't have gotten that definition.

[11] Q: After you were marketing manager for [12] dielectrics, what position did you hold next?

[13] A: I thought we had gone -- I went from market [14] manager dielectrics to industry manager, dielectrics [15] and you asked me what was my role as industry [16] manager dielectrics.

Am I sort of getting out of [17] sequence here?
[18] Q: No, I think you're correct. What time [19] period were you industry manager for dielectrics?

[20] A: '76 and '77.

[21] Q: We did cover that. And what position did [22] you hold next?

[23] A: Market manager, heat transfer and process [24] chemicals. I had almost forgotten that one.

[25] Q: And how long did you hold that position?

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[1] A: From January '78 to December '79.

[2] Q: What were your responsibilities as market [3] manager for heat transfer and process chemicals?

[4] A: Two major responsibilities. I was now in [5] what we termed the specialty chemicals division, [6] which we referred to earlier as the functional [7] fluids division. A rose by any other name. It [8] really was the same collection of products, but it [9] had become known as specialty chemicals. Two [10] components of that specialty chemical business were [11] a range of fluids which were used in industrial [12] indirect heating applications. And a second area [13] were what we referred to as process chemicals, which [14] were -- the larger part of the process chemical [15] business was the production of solvents for [16] carbonless paper systems.

[17] Q: Did you have any other responsibilities in [18] that position when you were market manager for heat [19] transfer and process chemicals, other than those [20] that you've stated?

[21] A: I said those were the major products. There [22] were two or three other tiny products which were in [23] the development phase, but that was the major part [24] of the assignment.

[25] Q: Did you have any other responsibilities

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[1] other than with respect to those two categories of [2] products when you were marketing manager for heat [3] transfer and process chemicals?

[4] A: Yes. I also had responsibility at that time [5] for ethylene maleic anhydride copolymers.

[6] MR. CHAMBERS: We may need to spell that.

[7] A: Ethylene, e-t-h-y-l-e-n-e. Maleic, [8] m-a-l-e-i-c. Anhydride, a-n-h-y-d-r-i-d-e. [9] Copolymers, c-o-p-o-l-y-m-e-r-s. EMA copolymers [10] were used as thickeners in pigment systems which [11] were used for coloring fabrics such as cotton. They [12] were used as resins to adhere active coatings to [13] some parts of the carbonless paper system, which was [14] why they were included in the same business area as [15] the solvents used in the carbonless paper business, [16] and they were used as an essential component in the [17]

compounding of Polaroid film. I had responsibility [18] for the finally divided carbon business that we had [19] at that time, which was used as a mold release in [20] producing copper ingots by the primary copper [21] producers around the world. That's about it.

[22] Q: And after you were marketing manager for [23] heat transfer and process chemicals, what position [24] did you hold next?

[25] A: I made a major career move, I swing across

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[1] the desk from marketing to purchasing, at my request [2] and with Monsanto's agreement.

[3] Q: Why did you request that change?

[4] A: Monsanto and I had mutually decided that I [5] would stay in America and not go back to Europe and, [6] therefore, I needed to find out more about the U.S. [7] chemical industry. And because you will note that [8] most of my career to that point had been in rather [9] small volume specialty type chemical areas, and if I [10] was to make a career in the U.S. chemical industry I [11] needed to learn something about the -- some of the [12] larger volume chemical businesses in the United [13] States, and we agreed that what better place to [14] learn about those than in the purchasing role, which [15] gave me access to a dialogue with many of the -- [16] many of America's leading chemical producers.

[17] Q: So was your position one of purchasing [18] materials for Monsanto to produce products?

[19] A: Raw materials. Raw material chemicals.

[20] Q: What sort of raw material chemicals were you [21] responsible for purchasing for Monsanto?

[22] A: I was responsible for buying the propylene [23] and ethylene. Do you want any spellings? Monsanto [24] had at that time been operating a major cracker, [25] c-r-a-c-k-e-r, down in Texas in the Gulf, and this

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[1] was in a joint venture with Conoco, and when DuPont [2] reached out and bought Conoco, they bought us out of [3] that Olefin operation in the Gulf, and so we needed [4] to buy major amounts of olefins, o-l-e-f-i-n-s, [5] which is the collective name for propylene and [6] ethylene. So that was -- strategically placed [7] Monsanto in a position of needing to talk at that [8] point in time to all the major Gulf coast [9] petrochemical producers, and so I was very involved [10] with that as part of my career development and [11] learning more about the U.S. chemical industry. I [12] also bought precious metals for Monsanto, I bought [13] catalysts for Monsanto, I bought the most broad [14] range of oxalalcohols, I bought --

[15] Q: So you were responsible for all raw chemical [16] purchases?

[17] A: No.

[18] Q: Is that right?

[19] A: No. No. No. No. That isn't right.

You [20] left to a conclusion. There were plenty of things I [21] didn't buy. But I -- Monsanto organized its [22] purchasing department at that time into a small St. [23] Louis based group that bought the major chemical raw [24] materials for the corporation, so I was one of about [25] four members of that team. But not the only one.

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[1] But Monsanto bought many raw materials, and the ones [2] that I bought, oh, several billion dollars a year [3] worth of raw materials, which was a great [4] opportunity to learn about the U.S. chemical [5] industry.

[6] Q: After you held the position of manager for [7] raw materials purchases, what position did you hold [8] then?

[9] A: I went down to Brazil to become commercial [10] director for Monsanto's operations in the chemical [11] and plastics area, non-agricultural chemical, in the [12] Brazilian marketplace.

[13] Q: And what were your responsibilities in that [14] position?

[15] A: To represent the interests of Monsanto's [16] chemical group. At that time Monsanto was broken [17] down into the chemicals group, the agricultural [18] group. We had acquired Searle and Nutrasweet at [19] that time. So, essentially, I handled the complete [20] range of products offered by the chemical group, and [21] also represented the Nutrasweet interest in Brazil. [22] Didn't get involved with agricultural chemicals. [23] And so my responsibility was to sell the products [24] that we made in America into Brazil, to profitably [25] grow the businesses where we had already built

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[1] plants in Brazil to serve the Brazilian and [2] Brazilian export market, and to define new projects [3] by which Monsanto could expand its capital [4] investments in the manufacture of chemicals in [5] Brazil.

[6] Q: How long did you hold that position?

[7] A: Six years. My wife would have it we should [8] never have left.

[9] Q: So was that from approximately 1982 to 1988?

[10] A: '88.

[11] Q: What position did you hold next?

[12] A: When I came back from Brazil I joined the [13] resins group, the resins division, and handled the [14] adhesives business and the specialty resin business [15] and the specialty plasticizer business as business [16] director.

[17] Q: And how long did you hold that position?

[18] A: The reason why I hesitate is because we went [19] through a lot of restructuring at this time. I held [20] the position per se with slight variations as we [21] moved part of that business from the resins division [22] to the specialties division. In the specialties [23] division -- so I probably held the resins division [24] job in '88, '89 and into the beginning of '90, then [25] in

'90 we moved the plasticizer business to the

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[1] specialty division, and I ran that and created the [2] polymer modifier business in '90 and '91. We then [3] restructured a second time and moved the polymer [4] modifier business back to the resins division, and [5] at that stage I became Director Americas, North and [6] South, for the Saflex business, which is the plastic [7] interlayer for laminated glass that we were -- that [8] we alluded to earlier. And then I took an early [9] retirement from Monsanto in the fall of 1993, and [10] that concluded my career with Monsanto.

[11] Q: What did you do following your retirement [12] from Monsanto?

[13] A: I took a year to decide whether I would [14] retire, work for somebody else or start my [15] own business, and decided that retirement [16] after a trial period held no great reward for me or [17] desire for me. I decided I didn't really want to [18] work for anybody else at this point in my career, [19] and so I formed a small business called David Wood [20] and Associates that I've subsequently merged and [21] incorporated into a business with an ex-colleague to [22] form Paton Wood Associates International.

[23] Q: What is the business of Paton Wood [24] Associates International?

[25] A: It has two business foci. One is the

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[1] development of and implementation of international [2] strategy, and secondly, in terms of enhancing that [3] implementation in offering a range of skill [4] development courses and training.

[5] Q: What type of international strategy are you [6] referring to?

[7] A: There are many companies who today recognize [8] that the commercial world is becoming more global in [9] aspect, and historically they may have been in [10] local, national, regional markets, and this could [11] be, for example, a company here in Missouri who has [12] aspirations to grow into Europe or to grow into [13] South America or to grow into Asia. It could be a [14] European company that wanted to move into the [15] American marketplace. Both I and my colleagues have [16] a lot of hands-on experiences of international [17] business and growing and developing international [18] business, and so we can remove an element of fear [19] from the process of corporations expanding into [20] international marketplaces.

[21] Q: Is your partner Cumming Paton?

[22] A: Yes, it is.

[23] Q: In your consulting business, do you do any [24] environmental consulting?

[25] A: No.

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[1] MR. DUFF: Off the record. [2] (Noon Recess).

[3] MR. DUFF: Mr. Wood, I'd like to return to [4] the period where you were sales supervisor in [5] dielectrics in London. Was that the position that [6] you held from the beginning to the end of October [7] 1966?

[8] A: Yes.

[9] Q: And you said that it was on November 1st, [10] 1966 that you moved into the position of product [11] supervisor for dielectric fluids, is that right?

[12] A: That's the date of the assignment change. [13] It wasn't the date that I actually physically moved [14] from London to Brussels. Just to make sure [15] we're --

[16] Q: Sure. I understand. So did you actually [17] become product supervisor for dielectric fluids [18] while you were still in London?

[19] A: I probably started to pick up information. [20] But as I said, you know, it takes several weeks to [21] move internationally, and so there was a period when [22] I was toing and froing between London and Brussels. [23] But in terms of when was I assigned and when did I [24] officially assume the office of product supervisor, [25] dielectric fluids, that was November the 1st, 1966.

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[1] Q: So, there was a time period where you were [2] operating both out of London and out of Brussels, is [3] that right?

[4] A: Yes.

[5] Q: And when did that time period begin when you [6] were operating in both London and Brussels?

[7] A: Probably about September, October of that [8] year, and finished essentially by the middle of [9] November, I'm pretty sure I was established in [10] Brussels.

[11] Q: In 1966 was there a time where you learned [12] of a study in Sweden relating to accumulation of [13] chlorinated compounds in wildlife?

[14] A: Yes.

[15] Q: And when was that?

[16] A: It was late in the year. The exact date --

[17] Q: Do you recall the exact date?

[18] A: No, I don't.

[19] Q: Do you recall if you were in London or in [20] Brussels when you first learned of this?

[21] A: I'm pretty sure I was in Brussels.

[22] Q: And how did you hear about this?

[23] A: I received a letter from Ola Palm in [24] Sweden.

[25] Q: Mr. Wood, I'd like to show you what's been

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[1] previously marked as Plaintiff's Exhibit 200, a copy [2] of which I have for counsel.

[3] MR. CHAMBERS: Thank you.

[4] MR. DUFF: Mr. Wood, is this the letter that [5] you were referring to that you received from Ola [6] Palm?

[7] A: Yes.

[8] Q: And what is the date of this letter?

[9] A: November 28th.
[10] Q: 1966?
[11] A: 1966.
[12] Q: And if you could, please identify this [13] letter for the record?
[14] A: This is a letter from Rising and Strand, [15] Monsanto Europe's agent in Sweden. It was written [16] by a general sales representative in the offices of [17] Rising and Strand, and it was reporting his [18] observation of some media publicity in Sweden [19] concerning a chemical which he believed might be [20] associated with Monsanto's chlorinated biphenyls.
[21] Q: And when you say Monsanto's chlorinated [22] biphenyls, you mean Monsanto's Aroclors, is that [23] right?
[24] A: Yes.
[25] Q: When Mr. Palm sent you this letter, was he

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[1] following up on a conversation that you and he had [2] had prior to the date of this letter?
[3] A: He opens the letter with the words "As [4] mentioned", and so I can only make a conjecture, and [5] it's only that, but we must have immediately prior [6] to this had a very brief telephone call when he said [7] I'm sending you a letter about.
[8] Q: Do you recall this telephone call with Mr. [9] Palm?
[10] A: No, I don't.
[11] Q: And when Mr. Palm sent you this letter, he [12] told you in this letter that there had been some [13] publicity in Sweden concerning investigations made [14] at the Institution of Analytical Chemistry at the [15] Stockholm University, is that right?
[16] A: Yes.
[17] Q: Were you familiar with this Swedish research [18] at the time that Mr. Palm sent you this letter?
[19] A: To the extent that there obviously had been [20] a very short preliminary telephone conversation, I [21] was familiar that he was sending me a letter about [22] what had been reported in Sweden. Prior to that [23] telephone call, I knew nothing of any work going on [24] in Sweden.
[25] Q: Do you recall if in that telephone call Mr.

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[1] Palm indicated to you that he believed that the [2] Swedish research related to Monsanto's Aroclors?
[3] A: No.
[4] Q: You don't recall that?
[5] A: No, I don't.
[6] Q: Had the Swedish research received any [7] publicity in London at this time?
[8] MR. CHAMBERS: I object to the form.
[9] MR. DUFF: Referring to the date of this [10] letter.
[11] A: Not to my knowledge.
[12] Q: Had the Swedish research received any

[13] publicity in Brussels as of the date of this letter?
[14] A: Not to my knowledge.
[15] Q: Had the Swedish research received any [16] publicity in the United States as of the date of [17] this letter?
[18] A: Not to my knowledge.
[19] Q: Mr. Palm told you that this Swedish [20] research, quote, revealed that a group of products [21] called polychlorinated biphenyls, PCB, accumulated [22] in certain organs of animals, correct?
[23] A: That's what he stated in the letter. And [24] specifically he stated that polychlorinated [25] biphenols had been the subject of some Swedish

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[1] research.
[2] Q: And he referred to that chlorinated compound [3] as PCB for short, is that correct, in his letter?
[4] A: In his letter he so referred. But, I mean, [5] he talked about a paper which was related to a class [6] of compounds which he designated as polychlorinated [7] biphenols. And I want to emphasize that, because it [8] became material in internal discussions at Monsanto.
[9] Q: And he spelled that -- he spelled biphenols [10] in the first paragraph of this letter [11] b-i-p-h-e-n-o-l-s, is that right?
[12] A: That's correct, yes.
[13] Q: But then he referred to polychlorinated [14] biphenols as PCB, is that right?
[15] A: He referred in that fashion, yes.
[16] Q: And he told you that the Swedish research or [17] the Swedish investigations had indicated that this [18] chlorinated compound had been found to accumulate in [19] organs of animals, is that right?
[20] A: He states in the letter that an organic [21] chemical is claimed by a Swedish research group to [22] accumulate in the tissue of animals.
[23] Q: And did you understand this organic chemical [24] to be Monsanto's Aroclors?
[25] A: No.

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[1] Q: Did you understand this chemical to be [2] polychlorinated biphenyls?
[3] A: No.
[4] Q: Did you understand that it was possible that [5] it was, in fact, polychlorinated biphenyls that Mr. [6] Palm was speaking of?
[7] A: I understood that when lay people are [8] reporting technical issues they can sometimes get [9] into problems with nomenclature, so I chose not to [10] make any assumption at that point in time.
[11] Q: Were you concerned that Mr. Palm might be [12] speaking of a product that was manufactured by [13] Monsanto?
[14] A: I was concerned that there seemed to be an [15] issue surrounding a newly identified class of [16] chlorinated compounds in the environment that in [17] reality or in -- through misunderstanding could be [18] associated with

the use of polychlorinated biphenyls [19] in European industry, be it Monsanto's Aroclor or [20] the products made by our competition and supplied in [21] Sweden.

[22] Q: Elsewhere in Mr. Palm's letter to you on [23] November 28, 1966 he referred to these chlorinated [24] compounds as polychlorinated biphenyls, y-l-s, is [25] that correct?

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[1] A: I'll need to --

[2] MR. CHAMBERS: Can you direct --

[3] A: Can you direct me to a particular point that [4] you --

[5] MR. DUFF: Certainly. I'll direct your [6] attention to the last page of this document, and [7] specifically the second to the last paragraph.

[8] A: Are you talking to the paragraph which [9] starts, I quote, I suppose there is no doubt that [10] what has been term polychlorinated biphenyls is [11] equal to Aroclor, is that the --

[12] Q: Yes, I am. In that sentence Mr. Palm [13] referred to polychlorinated biphenyls spelled -- [14] where biphenyls was spelled b-i-p-h-e-n-y-l-s, is [15] that correct?

[16] A: That's what he -- yes. Mr. Palm makes his [17] personal supposition in that paragraph.

[18] Q: And his supposition relates to whether or [19] not there is any doubt, is that correct?

[20] A: He supposes, Mr. Palm supposes that there is [21] no doubt that what has been termed polychlorinated [22] biphenols which, in fact, was not referred to as [23] polychlorinated biphenyls, is equal to Aroclor, [24] which is an incorrect assumption as well, because as [25] I told you earlier in testimony, Monsanto was trying

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[1] to penetrate the Swedish market, but if, indeed, [2] firstly the class of organic compounds was related [3] to the biphenyl, y-l, molecule, then it's certainly [4] not a correct supposition on his part to make an [5] assumption that it is equal to Aroclor. There is a [6] looseness in language. You're talking about a [7] Swedish gentleman who is writing in English, which [8] is not his native language, and so as I read this, I [9] mean, I took that for what it's worth and addressed [10] the question differently to the way that you've [11] suggested it could be read.

[12] Q: Do you agree that in this sentence Mr. Palm [13] was telling you that the chlorinated compound which [14] was the subject of the Swedish research had been [15] termed polychlorinated biphenyls, y-l-s?

[16] A: No.

[17] Q: You don't agree that that's what this [18] sentence says?

[19] A: No, I don't.

[20] Q: In this letter of November 28, 1966 Mr. Palm [21] also told you that these chlorinated compounds were [22] said to be related to DDT and equally poisonous, [23] correct?

[24] A: Can you again draw my attention to a [25] particular paragraph?

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[1] Q: Certainly. The first paragraph of the [2] letter. In this first paragraph did Mr. Palm tell [3] you, quote, they are said to be related to DDT and [4] equally poisonous, unquote?

[5] A: He reported what he had been reading in a [6] sentence, which to quote the letter, Mr. Palm's [7] letter, they are said to be related to DDT and [8] equally poisonous.

[9] Q: And Mr. Palm also told you that these [10] findings of the Swedish researchers were discussed [11] at a meeting of scientists at the Wenner-Gren Centre [12] in Stockholm on November 22, 1966, is that correct?

[13] A: That's stated in Mr. Palm's letter.

[14] Q: Did I pronounce that correctly? Is it [15] Wenner-Gren?

[16] A: Strictly not, but -- that's sort of [17] irrelevant.

[18] Q: Were you present at that meeting of [19] scientists on November 22nd?

[20] A: No, I certainly wasn't.

[21] Q: Are you aware if anybody from Monsanto, any [22] representative of Monsanto was present at that [23] meeting?

[24] A: No.

[25] Q: Do you know if Mr. Palm was present at that

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[1] meeting?

[2] A: He was not.

[3] Q: Do you know that for a fact?

[4] A: Yes.

[5] Q: In this letter of November 28, 1966 Mr. Palm [6] translated for you an article that had appeared in a [7] Swedish daily paper recounting the findings of the [8] Swedish scientists, correct?

[9] A: Yes.

[10] Q: And he told you -- strike that. And he [11] translated the article in the Swedish daily paper as [12] saying, quote, it is found in salmon and in pike, it [13] is found in sea eagles living on fish, it is found [14] on the surface of needles of the fir trees that is [15] in the air, it is found on the hair of a five months [16] baby, is that correct?

[17] A: That is the accurate quotation from the [18] translation that Mr. Palm made and reported in his [19] letter of November 28th.

[20] Q: What was your reaction when you saw this [21] letter from Mr. Palm?

[22] A: My reaction was one of puzzlement and saying [23] that I needed to seek advice from colleagues within [24] the Monsanto technical community to say -- tell me [25] a little bit about the relevance of this article in

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[1] Sweden, is there a connection or is there a possible [2] connection between here, are we talking a different [3] class of chemicals, are we talking about a media [4] misunderstanding, are

we talking about a factual representation. There's something here that if, a very sort of qualifiable if, a product which Monsanto, amongst others, makes and supplies to European industry is accumulating in the environment, then we need to address the issue.

Q: In fact, it was a very important issue to get to the bottom of, is that right?
A: Very important? It was a very -- it was a significant issue to clarify what was indeed being talked about. I mean, at this stage I received no scientific paperwork, all I'm receiving is a translation of an article from a Swedish daily newspaper whose reputation I know nothing of, about a situation where certain strangely unscientific language is used. And, so, is it very important? No. As responsible manufacturers of chemicals, if something is happening in an area of chemistry which even by supposition is closely related to something that we are doing, we need to appropriately address it and find out from the scientists involved what they've really been doing.

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Q: Whose responsibility was it to clarify whether or not polychlorinated biphenyls, the product manufactured by Monsanto, was the subject of the Swedish research?

A: I assumed an initial responsibility, but I communicated the rather tenuous report that I received from Mr. Palm to my colleagues in the United States, and asked for their guidance.

Q: Who did you contact in the United States to convey this information that was contained in Mr. Palm's letter?

A: I think I contacted Paul Benignus. I think that's what my initial step would have been.

Q: And why is that?

A: Because Paul Benignus was essentially the product manager for the dielectrics business in a world-wide context at St. Louis headquarters of Monsanto, and if even I had commercial or technical questions, my first contact would be with Mr. Benignus to allow him to access the appropriate level of expertise within the headquarter company in America.

Q: Did you speak with anyone else in St. Louis at this time?

A: I think you need to say at this time, I'd

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like -- the sequence of events, I think, are evident from communications that you'll probably be walking me through today. Did I speak -- I remember that I contacted Benignus. I cannot remember anything else that would not have been generated by that first contact with Benignus.

Q: How soon after receiving this letter from

Mr. Palm did you contact Paul Benignus?
A: Fairly quickly. I can't remember the date that I wrote to him. But it was fairly rapidly.

Q: Did you call him or write him a letter?

A: I wrote him a letter.

Q: You didn't pick up the telephone and tell him what you had learned?

A: No.

Q: Do you recall if you wrote him a letter on the day that you received the correspondence from Mr. Palm or was it a week later?

A: I don't recall.

Q: Do you recall who in St. Louis you spoke with next?

A: No.

Q: Do you recall any of the individuals that you spoke with at the end of 1966 other than Mr. Benignus who were from the St. Louis office?

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A: I don't -- I can speculate, but I don't think that helps us, I mean, because I think that there are records of who I spoke to.

Q: I don't want you to speculate.

A: Well, I'm glad.

Q: Directing your attention to the third page of Mr. Palm's letter, and specifically the paragraph to which we were referring a moment ago, which begins "I suppose" --

A: Is that the the penultimate paragraph?

Q: Yes, it is.

Q: He also wrote to you, quote, there is also no doubt that the published facts will cause considerable unrest in several corners, is that correct?

A: That's an accurate reading of the second sentence of the penultimate paragraph.

Q: What was your reaction when you read this sentence?

A: One of recognition that at a time when the liberal release of DDT to the European environment was being questioned in a highly public form and that this report that Ola Palm was translating was in a Swedish daily newspaper, and Sweden, in its very socially forward thinking, was a country which

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had a reputation, justly arrived at, of being concerned about the environment, that if there was publicity about a new chemical class other than DDT that was being found in the environment, that this, indeed, would cause considerable unrest in several quarters.

Q: Did Monsanto manufacture any phenol products at this time?

A: Monsanto had manufactured chlorinated phenols. And whether we were manufacturing them at that time, I cannot recall. But we were manufacturing chlorinated phenol, not chlorinated biphenol.

Q: So at this time Monsanto was manufacturing chlorinated phenol, is that

correct?

[16] A: I just said -- I just said I cannot recall [17] whether Monsanto was manufacturing chlorinated [18] phenol at this time.

[19] Q: I understand. So there was a time when [20] Monsanto manufactured chlorinated phenol, is that [21] right?

[22] A: There was a time. And the start of that [23] time and the end of that time -- I was never [24] associated with the chlorinated phenol product line [25] in Europe, and the dates that we were involved with

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[1] that business, I don't recall and have no direct [2] knowledge of.

[3] Q: Did Monsanto ever manufacture chlorinated [4] biphenol?

[5] MR. CHAMBERS: I object to the form. He [6] just said --

[7] A: No. No. No. No. He asked if we [8] manufactured -- first he asked if we manufactured [9] chlorinated phenol.

[10] MR. CHAMBERS: Correct.

[11] A: And I said we had.

[12] MR. CHAMBERS: Correct.

[13] A: And I couldn't remember the dates between [14] which we manufactured it.

[15] MR. CHAMBERS: Correct.

[16] A: He then asked had we ever manufactured [17] chlorinated biphenol.

[18] MR. CHAMBERS: Correct. I understood your [19] testimony from earlier to have -- that you stated [20] sometime a few moments ago that Monsanto had never [21] manufactured it.

[22] A: We had never manufactured a biphenol [23] chlorinated product.

[24] MR. DUFF: Thank you.

[25] A: Sorry. I misunderstood the level of where

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[1] you were.

[2] MR. CHAMBERS: As long as we get it clear, [3] that's fine with me.

[4] A: And this, gentlemen, is an area which is [5] difficult to get totally clear, I've found in [6] previous depositions.

[7] MR. DUFF: Well, we'll attempt to do so.

[8] A: We welcome that.

[9] Q: So when Mr. Palm used the phrase in the [10] first paragraph of his letter polychlorinated [11] biphenol, you did not -- strike that. When Mr. Palm [12] used the term polychlorinated biphenols in the first [13] paragraph of his letter, you knew at that time that [14] that Monsanto did not manufacture a product which [15] included polychlorinated biphenols, is that right?

[16] A: I'm going to have to ask you, Mr. Duff, to [17] be very careful as we go through this particular bit [18] in terms of the way you pronounce biphenyls and [19] biphenols. Okay?

[20] Q: I'll try and put the --

[21] A: For the tape, if nothing else. It can get [22] very confusing and it's rather important.

[23] Q: Let me restate the question for you. At the [24] time that Mr. Palm wrote you this letter on November [25] 28, 1966 and referred in the first paragraph of his

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[1] letter to a group of products called polychlorinated [2] biphenols, you knew at that time that Monsanto did [3] not manufacture any such product, is that correct?

[4] A: No. I knew that we did not sell any [5] chlorinated biphenols in Europe. I didn't know [6] whether another part of Monsanto in the States might [7] ever, or at that time have manufactured a [8] chlorinated biphenol. I knew we had been involved [9] with phenol, I knew we had been involved with other [10] cyclical compounds. No. But I didn't know -- I [11] was just concerned that we had some trouble here in [12] terms of some terminology. I did not know what the [13] article in the Swedish newspaper was really about.

[14] Q: So, at the time that you received this [15] letter from Mr. Palm and he referred to [16] polychlorinated biphenols in the first paragraph of [17] the letter, you knew that Monsanto did not sell [18] polychlorinated biphenols in Europe at this time, is [19] that right?

[20] A: That's correct.

[21] Q: And as far as you knew, at that time [22] Monsanto had never sold polychlorinated biphenols in [23] Europe, is that right?

[24] A: That's correct.

[25] Q: Directing your attention again to the third

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[1] page of Mr. Palm's letter, he also told you in the [2] penultimate paragraph that, quote, we probably will [3] have to register -- excuse me.

Let me read that [4] again. He told you, quote, we probably will have to [5] have Aroclor registered with the Swedish Board of [6] Poisonous Substances and the industry will have to [7] be particularly careful in handling the material, [8] correct?

[9] A: That is what he wrote. I didn't agree with [10] what he wrote.

[11] Q: But based on what he wrote, you understood [12] Mr. Palm to be assuming that the subject of the [13] Swedish research was polychlorinated biphenyls which [14] was manufactured by Monsanto at this time, is that [15] correct?

[16] A: I assumed that he had made a mental leap. I [17] thought he was being very responsible in reporting [18] this event to us, and determined in my own mind that [19] this was something that we had to find out what the [20] Swedish researchers were talking about, was it or [21] was it not associated with a product Monsanto [22] manufactured, along with other manufacturers in [23] Europe at that time, and to determine what would be [24] an appropriate course of action depending on the [25] substantive nature and supportability of the

work

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[1] that the Swedish people were reporting, if, indeed, [2] it were related to a product that Monsanto [3] manufactured.

[4] Q: Are you aware of any other substances that [5] were manufactured by Monsanto at this time that were [6] registered with the Swedish Board of Poisonous [7] Substances?

[8] A: No.

[9] Q: So this would have been a first if Mr. Palm [10] was correct, is that right?

[11] A: If Mr. Palm were correct, then -- and if, [12] indeed, the products that were being found in Sweden [13] had been our products or had been chlorinated [14] biphenyls, at which time they could have been -- [15] and probably, you know, had to have been somebody [16] else's chlorinated biphenyls, then should they be [17] registered with the Swedish Board of Poisonous [18] Substances, because DDT would have been so [19] registered, but we were not selling material as a [20] pesticide, so this letter was full of suppositions [21] which foundations had to be established around for [22] Monsanto to determine what was the appropriate [23] course of action.

[24] Q: Sitting here today with the benefit of [25] hindsight, you know now that Mr. Palm's supposition

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[1] that Monsanto's Aroclors were -- strike that. [2] Sitting here today with the benefit of hindsight, [3] you know that Mr. Palm's supposition that [4] polychlorinated biphenyls were the subject of the [5] Swedish study was correct, is that right?

[6] MR. CHAMBERS: I object to the form.

[7] A: I'd like the question repeated, because I [8] thought you got it wrong the first time and I think [9] you got it wrong the second time. But I'd like to [10] answer the question.

[11] MR. DUFF: Could you please repeat the [12] question. [13] (The requested portion of the [14] record read by the reporter).

[15] MR. CHAMBERS: Same objection. But you may [16] respond if you're able to.

[17] A: I can't say that his supposition was [18] correct.

[19] MR. DUFF: And how was he mistaken?

[20] A: Well, again, I'm trying to wend my way back [21] through a very detailed question. I mean, if, [22] indeed, chlorinated biphenyls were what Soren Jensen [23] had found, were they of Monsanto or a European [24] competitor's manufacture as prime polychlorinated [25] biphenyls, had they escaped into the environment or

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[1] been detected through ineffective sampling in the [2] particular series of studies which Soren Jensen [3] carried out, a number of, still, hypothetical [4] things. So, no, even in hindsight, I still have to [5] maintain the

position that what I gained from here [6] was evidence that something had been found in Sweden [7] and it was appropriate that Monsanto found out what [8] exactly had been found in Sweden, and on the basis [9] of that discovery, talking scientist to scientist, [10] could we then determine what action, if any, were [11] necessarily related to Monsanto's actions in the [12] Swedish marketplace. We certainly couldn't talk to [13] the French, Italian or German producers' position.

[14] Q: Are you aware if polychlorinated biphenols [15] were ever discovered as accumulating in the [16] environment in Sweden?

[17] A: No.

[18] Q: The article that Mr. Palm translates for you [19] in his letter of November 28, 1966 describes the [20] substances that were the subject of the Swedish [21] research, is that right?

[22] A: The letter describes some statements that [23] were made in the media, accurately reported or not, [24] of what was reported to the media, about the [25] presence of a class of substances which they used

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[1] the term PCB, which I want to emphasize was not [2] currently in use at that time anywhere in the world [3] related to polychlorinated biphenyls. It uses the [4] term PCB to describe polychlorinated biphenols, a [5] class of chemicals with which I was not familiar, [6] and describes some applications of these materials, [7] which I don't know what the source of that [8] information was. So, again, my analysis of the [9] report in this letter was, again, as I stated [10] earlier, that there's something going on here [11] related to a class of chlorinated compounds which [12] seems to be an industrial use, and as a supplier of [13] a chlorinated material in industrial use it behooves [14] us to find out what it is these people are talking [15] about as scientists, what they have done, and what [16] they have determined.

[17] Q: In this letter you learned from Mr. Palm [18] that the Swedish paper that he was translating for [19] you indicated that the substance that was the [20] subject of the Swedish research was not manufactured [21] in Sweden, but was used in the industry. What did [22] you understand him to mean by that?

[23] A: That the -- whatever chemical it was that [24] they were talking about was not manufactured in [25] Sweden and that it had industrial rather than

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[1] agricultural uses.

[2] Q: How were phenols used in the Swedish timber [3] industry at this time?

[4] A: I don't know.

[5] Q: Do you know that they were?

[6] A: I can't answer the question as you asked it, [7] because you relate to -- you asked me if phenols [8] were used, you did not say

chlorinated phenols. I [9] do not know of applications of phenol in timber, [10] then or now, but, then, I've not really been widely [11] exposed to agriculture. Do I know that chlorinated [12] phenols were used in the timber industry? Yes, they [13] were extensively. Were they being used in Sweden at [14] that time? I don't know.

[15] Q: Are chlorinated phenols considered to be [16] poisonous?

[17] A: They became to be considered as poisonous. [18] What their consideration was in November of 1966, I [19] don't recall.

[20] Q: Are chlorinated phenols closely related to [21] DDT, chemically speaking?

[22] A: As closely as chlorinated biphenyls are.

[23] Q: Would phenols break down considerably slower [24] than DDT?

[25] A: I haven't looked at the biodegradation rates

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[1] of chlorinated phenols.

[2] Q: Do you have an understanding?

[3] A: I would expect them to -- a heavily [4] chlorinated green structure would be normally fairly [5] slow to break down. The fact that chlorinated [6] phenols had a wide currency of use as timber [7] preservatives with long life said that they would [8] break down slowly. So, chlorinated phenols would [9] tend to be fairly slow in breakdown.

[10] Q: Would phenols -- strike that. Would [11] chlorinated phenols give rise to damage of the liver [12] and skin?

[13] MR. CHAMBERS: I object to the form.

[14] A: Well, I don't know. I was never heavily [15] involved with chemistry or the commercialization of [16] chlorinated phenols.

[17] MR. DUFF: Do you know if chlorinated [18] phenols were used as a herbicide?

[19] MR. CHAMBERS: I object to the form.

[20] A: I was never involved actively with the [21] commercialization of chlorinated phenols, so when [22] you say was it used as herbicides, no, I said I knew [23] that they were used, as many people know they were [24] used, in the timber preservation area.

[25] MR. DUFF: Do you know how they were used in

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[1] the timber preservation area?

[2] A: Coated, as a paint, as a type of stain to [3] preserve the timber. And that's not just timber in [4] the forest, I --

[5] Q: Do you mean preservation of timber for use [6] of wood in products such as furniture, is that what [7] you mean?

[8] A: No, I don't. No. I mean -- I don't know [9] where your beautiful home is, but if you have a deck [10] on it and you had built a deck with pine, then up [11] until some years ago I could almost guarantee that [12] as a prudent house owner your deck would have had [13] chlorinated phenol protection of your deck, so

that [14] your fine home did not fall apart around your ears [15] after five years.

[16] Q: So, did chlorinated phenol serve as a [17] sealant or something along those lines or was it -- [18] did the serve some other --

[19] A: Wood preservative. If you go to your local [20] timber store, I'm sure they'll have cans of stuff [21] today which they will call wood preservatives. Now, [22] I'll pretty well guarantee you that they don't [23] contain a chlorinated phenol, but, I mean, you are [24] using it. And if you are an owner of a home with [25] deck or exposed wood, be it fence work, fence line,

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[1] that you will normally add a timber preservative. [2] That is not normally as a sealant, it's a sealant, a [3] moisture repellent tends to protect against beetle [4] eating and all these sorts of things.

[5] Q: But it wasn't -- chlorinated biphenols were [6] not used as a herbicide, is that right?

[7] MR. CHAMBERS: I object to the form.

[8] A: Which product are we talking about? I said, [9] you've got to take me -- be patient with me.

[10] MR. DUFF: Certainly. Let me try and ask [11] the question again to make it clear for the record. [12] Chlorinated biphenols were not used as a herbicide, [13] is that correct?

[14] A: I don't know.

[15] MR. CHAMBERS: I object to the form, because [16] that's been asked and answered and the witness has [17] said he doesn't know, and let's move on.

[18] MR. DUFF: Well, the record will reflect [19] what the record will reflect.

[20] MR. CHAMBERS: Let's quit repeating what [21] we've covered and let's move forward, please.

[22] MR. DUFF: You may answer.

[23] A: I still, five minutes or so later, still [24] don't know whether chlorinated biphenols were ever [25] used as a timber preservative or herbicide or -- I

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[1] said I'm not familiar with the commercial [2] application of chlorinated biphenols. And that's [3] what I said some little time ago.

[4] Q: Do you know who manufactured -- strike [5] that. Do you know who manufactured polychlorinated [6] phenols in 1966?

[7] A: No.

[8] Q: Do you know if chlorinated phenols were [9] manufactured in Sweden in 1966?

[10] A: No.

[11] Q: Do you know if chlorinated phenols were ever [12] used in the manufacture of heat resistant materials?

[13] A: Okay. I'm going to have to -- there is a [14] product called bisphenol. I'm not just trying to [15] obfuscate things here. B-i-s-p-h-e-n-o-l. And [16] bisphenol as a central molecule could be [17] chlorinated. Bisphenol is

used in making thermally [118] resistant resins. So, this is part of the confusion [119] that this letter engaged my mind in at the time I [20] got it, and it's still clear to me today that we [21] have somebody translating something into English and [22] is using terminology, and I don't know -- I'll go [23] back to a straight forward comment I made earlier, I [24] don't know whether he's talking about something [25] which is genuinely related to a product that

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[1] Monsanto makes or not. All I know is that my [2] interest is engaged that we should find out what the [3] Swedish researchers are talking about.

[4] Q: Do you know if bisphenol was manufactured in [5] 1966?

[6] A: Not for a fact, no. I believe it was, [7] but --

[8] Q: Do you know who manufactured bisphenol?

[9] A: I believe Monsanto did even at one [10] particular point. I believe General Electric [11] manufactured bisphenol. But I said, you know, other [12] than that broad data, I know that bisphenol existed [13] as a chemical in commerce and so, again, it just -- [14] there is enough vagueness and confusion about the [15] article, the translation of the article and the [16] suppositions that Mr. Palm chose to place that I [17] couldn't draw any concrete conclusions. I only [18] wanted to find out what the generators of the [19] report, the Swedish scientists had done and what [20] they had reported and not how how their report had [21] then been changed, contaminated or distorted by any [22] sense by the way that it was handled from that point [23] forward. That's where bad science creeps in.

[24] Q: Do you know if chlorinated phenols were used [25] for electrical insulation at this time?

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[1] A: No.

[2] Q: Do you know if chlorinated phenols were used [3] for fireproof heat transported hydraulic oils?

[4] A: No.

[5] Q: Do you know if chlorinated phenols were used [6] as lubricating oils to be used at a high temperature [7] and pressure?

[8] A: No.

[9] Q: Do you know if chlorinated phenols were used [10] as paint, or in paint?

[11] A: I know that they were.

[12] Q: Do you know if chlorinated phenols were used [13] as pigments in plastics?

[14] A: No.

[15] Q: You don't know, is that what your answer is?

[16] A: I don't know whether they were or they [17] weren't. As I was not aware that chlorinated [18] biphenyls were used in pigments in plastics.

[19] Q: Are you familiar with a man named Dr. A.V. [20] Holden of Scotland?

[21] A: No.

[22] Q: I'd like to direct your attention again to [23] the penultimate paragraph of Mr. Palm's letter. In [24] this paragraph he states, quote, "I understand that [25] there hardly exists a convenient method of

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[1] destroying Aroclor and that possibly burying [2] unusable material may be the only answer".

[3] Unquote. Is that correct?

[4] A: That's what he states in his letter.

[5] Q: Was that consistent with your understanding [6] regarding disposal of Aroclor at that time?

[7] A: At that time, our recommendation for [8] disposing of spilled polychlorinated biphenyls was [9] to stabilize it by absorption on to diatomaceous [10] earth and then containment and then burial.

[11] Q: Is that diatomaceous?

[12] A: Oh, boy, here we go with my spelling.

[13] D-i-a-t-o-m-a-c-e-o-u-s.

[14] Q: And what is diatomaceous earth?

[15] A: A highly absorbent clay material.

[16] Q: Is it also sometimes known as Fullers Earth?

[17] A: Fullers Earth is a highly pure form of [18] diatomaceous clay. I would not necessarily use [19] Fullers Earth as an absorbent for burial purposes. [20] There are some slightly more economical diatomaceous [21] earths available. Fullers Earth was used in [22] processing dielectrics as a purification media, it [23] was a highly pure material.

[24] Q: Where would one obtain diatomaceous earth in [25] 1966?

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[1] A: Oh, all over the place. It was readily [2] available.

[3] Q: Would one dig it up on their own property or [4] purchase it from a vendor?

[5] A: No, you'd purchase it from a vendor.

[6] Q: In 1966 did you recommend to your dielectric [7] fluid customers that they use diatomaceous earth in [8] disposal of spilled fluids?

[9] A: Yes.

[10] Q: Please mark this as Exhibit 274. [11] (Plaintiff's Exhibit 274 [12] marked for identification).

[13] MR. DUFF: Mr. Wood, I'm handing you a [14] document that's been marked as Plaintiff's Exhibit [15] 274. It bears production number STR 017390. Do you [16] recognize this document?

[17] A: Yes, I do.

[18] Q: Could you please identify this document for [19] the record?

[20] A: Yes. This is a letter that I wrote from [21] Brussels on the 1st of December 1966, and this was [22] addressed to George Buchanan in St. Louis. So, I [23] spoke in error earlier when I said I wrote to Paul [24] Benignus, I wrote to George Buchanan.

[25] Q: Do you recall if you called Mr. Benignus

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[1] prior to writing this letter to Mr. Buchanan?
[2] A: I don't.

[3] Q: And by this letter on December 1, 1966 you [4] sent Mr. Buchanan a copy of the November 28, 1966 [5] letter that you had received from Ola Palm, is that [6] correct?

[7] A: That's what I said.

[8] Q: In fact, that's what you did, is that [9] correct?

[10] A: Yes.

[11] Q: Who is Mr. Buchanan at this time?

[12] A: Mr. Buchanan was one of the senior [13] executives in the fluids group, and was a supervisor [14] of Paul Benignus.

[15] Q: Was Mr. Buchanan the director of the [16] functional fluids group at this time?

[17] A: I don't remember what his role was, [18] exactly. There were a couple of changes going on in [19] the U.S. organization. The precise role that George [20] had at that point in time, I don't recall.

[21] Q: Was Mr. Buchanan the most senior person with [22] whom you were familiar in the fluids group at this [23] time?

[24] A: No.

[25] Q: Who was senior to Mr. Buchanan?

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[1] A: I said, you know, this is what -- I think [2] Mr. Cunningham was senior to Mr. Buchanan. Mr. [3] Buchanan, I seem to recall, had been in Europe that [4] summer, and so since I hadn't sent this to Paul, I [5] sent it to George because he had been in Europe the [6] most recently.

[7] Q: And in this letter to Mr. Buchanan, [8] directing your attention to the second paragraph, [9] you wrote to him, quote, "Based on the [10] recommendations made by our medical departments we [11] shall have to decide whether to arrange for [12] publication of data in Sweden or not". Correct?

[13] A: I say that in the second paragraph.

[14] Q: What did you mean by that?

[15] A: I meant that once we found out exactly what [16] it is that the Swedish scientific community is [17] talking about, if it were to turn out that it is a [18] polychlorinated biphenyl, then we will have to [19] consider publishing the appropriate medical [20] background information that we have, so that there [21] is a factual record of what polychlorinated [22] biphenyls do or don't do. But, as I said, but that [23] will be based on the recommendations made by our [24] medical departments, and depending on what we find [25] out about the accuracy of the research work being

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[1] done in Sweden. I mean, I think it makes it quite [2] clear if you -- I would like, in responding to that [3] last question, to comment on my ps, where I relate [4] back to the fact

that, you know, are we indeed [5] talking about products with which we are associated [6] or are we talking with the outcome of release of [7] much larger quantities of pentachlorophenol and [8] sodium pentachlorophenol from the industrial timber [9] cultivation in Sweden. Very large industry in [10] Sweden is timber.

[11] Q: What were the recommendations that were made [12] by the medical department?

[13] A: Find out what the people in Sweden are [14] talking about.

[15] Q: When were those recommendations made?

[16] A: I, probably at the same time as I was [17] sending this letter to George Buchanan, and after [18] receiving the November 28th letter from Ola Palm, [19] would have talked to D.V.N. Hardy in London, and as [20] my product safety medical advisor in Europe, and [21] before I had written that letter, because when I'm [22] talking about based on the recommendation by our [23] medical department, I'm talking about the European [24] medical department.

[25] Q: Actually, I think you use the plural of

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[1] departments, did you mean by that both the medical [2] department in Europe and also the medical department [3] in St. Louis?

[4] A: No. I meant the medical department in [5] Europe. I had a Belgian secretary who inadvertently [6] did make typing mistakes when she was writing [7] English letters.

[8] Q: And did there come a time when Monsanto did [9] publish data in Sweden relating to polychlorinated [10] biphenyls?

[11] A: Not in the period that I was involved with [12] the dielectric fluids in Europe.

[13] Q: Are you aware if Monsanto ever published [14] data in Sweden relating to polychlorinated [15] biphenyls?

[16] A: I'm going to have to ask you to clarify what [17] you mean by published.

[18] Q: Well, you used the term in this letter.

[19] A: And I can tell you what I meant -- I can [20] tell you what I mean by the term published, but I [21] asked you, in answering the question, so I don't [22] mislead you, what you were asking in your question.

[23] Q: That's fair. And I would repeat to you to [24] ask me to clarify if you don't understand [25] something.

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[1] A: Yes.

[2] Q: Maybe we can start by, what did you mean [3] when you used the word publication in the second [4] paragraph of this letter to Mr. Buchanan?

[5] A: When I talk about publication, it's if we [6] reach a point where there is concern in Sweden about [7] a product which is a chlorinated biphenyl, and not [8] something else, then we would probably need to talk [9] with the Swedish authorities and say do we

need to [10] publish in terms of communicate data to the users of [11] chlorinated biphenyl in its various industrial [12] applications, do we need to communicate it more [13] broadly to people who are using their products, do [14] we need to communicate information to the public at [15] large. And we would be guided, to a certain extent, [16] by relevant discussions with the Swedish [17] authorities. But, I mean, this would depend on, [18] again, what was really happening in Sweden. Nothing [19] worse than somebody running into a cinema and [20] calling fire. I guess that's a theory which you as a [21] lawyer are familiar with.

[22] Q: I move to strike the last sentence as [23] non-responsive. After the date of the letter that [24] you sent to Mr. Buchanan, when was the first [25] publication of data in Sweden related to

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[1] polychlorinated biphenyls?

[2] A: Repeat the question. [3] (The requested portion of the [4] record read by the reporter).

[5] A: We had already published industrial hygiene [6] data about polychlorinated biphenyls in Sweden in [7] support of the sale of our polychlorinated biphenyl [8] products in Sweden. Our competition, equally, had [9] published data in support of the use of their [10] chlorinated biphenyls in Sweden. When did we [11] publish something additionally? I don't know. I [12] mean, did we or didn't we? I'm not saying that we [13] didn't, but when it happened, I don't know. And in [14] what form it took. I tried to clarify a sequence [15] and scale of events, and --

[16] Q: In the third paragraph you wrote, "In [17] relation to the specific problem mentioned of [18] disposal of materials, we would be interested to [19] learn how this problem is handled in America". [20] Correct?

[21] A: Yes.

[22] Q: I'm sorry, your answer?

[23] A: I said yes.

[24] Q: How were you informed that the disposal [25] problem was handled in America?

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[1] A: That they essentially were dealing with the [2] problem in the way that they recommended it be [3] handled in the technical brochures that supported [4] our product, which was absorption into absorbent [5] earth. I see I use the term vermiculite or some [6] similar pourous material. But, essentially, in both [7] cases we're talking about using earth or a pourous [8] material to stabilize the liquid, then encapsulating [9] in a drum and then -- you know, what you were [10] telling people to do in England is, indeed, in line, [11] we've not moved further than that at this point in [12] time.

[13] Q: That's what they told you after you wrote [14] this letter?

[15] A: You asked a question and this was, right on, [16] that's what we tell people to do.

[17] Q: And what was the response to your

question [18] has any entirely safe method been developed for [19] disposal of waste Aroclor?

[20] A: They -- as I recall, they responded at that [21] point, sort of saying that this was the recommended [22] form of disposal at this point in time.

[23] Q: And were you told that absorption into [24] vermiculite or absorbent earth was an entirely safe [25] method of disposal?

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[1] MR. CHAMBERS: I object to the form.

[2] A: No. I can respond to that question in the [3] spirit in which I asked it in the first place. I [4] sort of say in the U.K. many companies were burying [5] materials in drums, having been absorbed in [6] appropriate pourous material. Has an entirely safe [7] method been developed for disposal of waste [8] Aroclor? I meant something which totally destroys [9] it. And I think that since there wasn't a method, [10] they sort of said the recommendation for the U.K. is [11] -- did they sort of classify that method as being [12] unsafe or entirely safe? No, they didn't. They [13] said it's appropriate.

[14] Q: So, in asking the question which you have [15] set out in the last sentence of your letter -- [16] strike that. In answering -- strike that. In asking [17] the question that you set out in the last sentence [18] of the third paragraph of your letter, you meant has [19] any method been developed pursuant to which waste [20] Aroclor could be totally destroyed, is that correct?

[21] A: That's what I meant by entirely safe. I [22] mean, you break it down to its primary carbons and [23] oxygens and --

[24] Q: And the response to that question was that [25] waste Aroclor should be disposed of by absorption

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[1] into vermiculite or another absorbent earth [2] material, is that right?

[3] MR. CHAMBERS: I object to the form. Go [4] ahead.

[5] A: Well, again, we can keep on answering this [6] question time and time again, if that's what is [7] required to impress it. But I was answered that [8] that was at that point in time the appropriate [9] method of disposal of waste Aroclor.

[10] Q: Who is A. Arpino?

[11] A: Adolph Arpino was a colleague in Brussels [12] who at that point in time was part of my sales [13] group. He was selling Aroclors. He was an Italian [14] living in Belgium.

[15] Q: Excuse me. Did you finish your answer?

[16] A: I believe I did. Just before you -- I don't [17] know whether you heard it over Kevin's interruption. [18] You did? Good.

[19] Q: Why did you send a copy of this letter to [20] Mr. Arpino?

[21] A: Because Mr. Arpino, as I was assuming more [22] of the product management role in Aroclors, was to [23] have a greater involvement

in the sales to the [24] Swedish marketplace, and, therefore, it was good [25] communication to make sure that he was aware of what

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[1] we had just heard from Sweden.

[2] Q: And you also sent a copy of this letter to [3] Dr. Emmet Kelly in St. Louis, correct?

[4] A: Yes, I did.

[5] Q: What was Dr. Emmet Kelly's position at that [6] time?

[7] A: He was the medical advisor to the Monsanto [8] group in St. Louis.

[9] Q: Was he also the director of the medical [10] department at that time?

[11] A: Yes, he was. I copied him at the suggestion [12] of Dr. Hardy in London.

[13] Q: And, in fact, you sent a copy of this as [14] reflected in the top of this letter to Dr. Hardy, is [15] that correct?

[16] A: Yes. I think it would have been [17] inappropriate had I talked to him and then taken [18] action on his suggestion and not let him know what I [19] had done.

[20] Q: So after you spoke -- I'd like to just step [21] back a minute here. After you spoke with Ola Palm [22] and received the letter from Ola Palm, you then [23] spoke to Dr. Hardy, is that right?

[24] A: Yes. Yes, I did.

[25] Q: And was that a face-to-face meeting between

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[1] you and Dr. Hardy?

[2] A: No. He was in London, I was in Brussels.

[3] Q: So, did you call Dr. Hardy or write him a [4] letter?

[5] A: Yes, I did. No, I called him.

[6] Q: And what did you and Dr. Hardy discuss in [7] that phone call?

[8] A: The fact that I had received this report.

[9] Did he know anything about a Swedish study. No, he [10] didn't. What were the implications. And got his [11] response, "David, you're doing exactly the right [12] thing we need to find out what this is all about".

[13] Q: What were the implications that you and Dr. [14] Hardy discussed?

[15] A: I asked him for guidance. I was fairly new [16] to product management in Monsanto, and I sort of [17] said look, we've got a report from a country which [18] reports finding a product that we, amongst other [19] European manufacturers, supply to that country, it's [20] not clear whether they really are talking about our [21] product or not. If they are, then -- and, indeed, [22] they are finding it, then what's our understanding [23] of how this could have entered the environment. You [24] know, tell me what I should be doing as good [25] practice at this point in time to follow up on this

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[1] loose and wooly report from Sweden. And his [2] recommendation was find out what the

scientists are [3] talking about.

[4] Q: And then he recommended that you send a [5] letter to Mr. Buchanan, is that right?

[6] A: No. He recommended that I report this to [7] St. Louis, and whoever I chose to send it to in St. [8] Louis, that I copy Dr. Emmet Kelly, who was his [9] opposite number, essentially, or senior opposite [10] number in St. Louis, so that he would have the [11] benefit of saying David talked to me and he kept you [12] informed, also, of what he had heard from Sweden, [13] and let's discuss this.

[14] Q: You also copied R.A. Steenrod?

[15] A: Yes.

[16] Q: And who was R.A. Steenrod?

[17] A: Dick Steenrod was in a position in the [18] fluids group at that time not unsimilar to that [19] which I assumed when I went to St. Louis much later, [20] in 1974, of having an international type of [21] responsibility, so that --

[22] Q: Was he the international marketing manager [23] for fluids?

[24] A: I can't comment whether he was international [25] marketing assistant or international marketing

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[1] supervisor, but he had an international [2] responsibility for some international coordinating. [3] If I were to want a series of new bulletins or [4] something like that, I would probably go to Steenrod [5] to ask him for that, and, therefore, as a courtesy, [6] since he was another of my regular contacts on the [7] business in Europe, as reporting back to the U.S., I [8] had no reporting responsibility or alignment to [9] Steenrod, but as a courtesy we tried to work as a [10] team and keep each other communicated with.

[11] Q: Please mark this as Exhibit 275. [12] (Plaintiff's Exhibit 275 [13] marked for identification).

[14] MR. DUFF: Mr. Wood, this document has been [15] marked as Plaintiff's Exhibit 275. Please take a [16] moment to review it. For the record, it bears [17] production number TRAN 056624. Have you had a [18] moment to review this document?

[19] A: Yes.

[20] Q: Can you identify that document for the [21] record?

[22] A: This is a letter from Dr. Emmet Kelly in St. [23] Louis, dated December the 12th, in response to his [24] copy of my letter to George Buchanan of the 1st of [25] December that we reviewed.

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[1] Q: This is in 1966 as well?

[2] A: It is in 1966, yes.

[3] Q: I'd like to direct your attention to the [4] third paragraph of this letter. In this paragraph

[5] Dr. Kelly wrote to you, quote, "There are many [6] chlorinated polyphenyls that can be formed during [7] the manufacture of 2,4,5 T and probably [8] pentachlorophenol as well",

correct?

[9] A: Yes. You read well.

[10] Q: He went on to say, quote, "Our only problem [11] is whether or not we want to bring these facts up [12] and have our herbicide program receive another black [13] eye. This I will leave to your judgment". Correct?

[14] A: That's what the letter states.

[15] Q: What did he mean by the last two sentences?

[16] MR. CHAMBERS: I object to the form.

[17] MR. DUFF: Were you familiar with how [18] Monsanto's herbicide program had received a black [19] eye previously?

[20] A: No, I wasn't.

[21] Q: So you did not know what Dr. Kelly was [22] referring to here, is that right?

[23] A: That is correct.

[24] Q: But he was telling you that there was [25] something he was going to leave to your judgment, is

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[1] that correct?

[2] A: That was obviously an assessment which he [3] made erroneously, because I wasn't in a position to [4] make that judgment.

[5] Q: Did you contact him after you received this [6] to tell him that you didn't know what he was talking [7] about?

[8] A: I can't remember what action I took next. [9] It will probably emerge from the record. But I [10] really can't remember whether I took him up on that [11] one, because it seemed, again, to be saying, again, [12] here -- the most important point in this letter to [13] me as I read it was --

[14] Q: Actually, that's not the question I asked.

[15] A: Oh, okay. Then we don't want to get what we [16] intended by this. Okay. I'm sorry.

Did I answer [17] your question? I start rambling. I think I did.

[18] Q: I believe so. Let me just ask -- let me [19] just ask this question and then if -- maybe it's [20] sufficient to move on after this. I guess you said [21] you didn't recall what you did after you received [22] this letter from Dr. Kelly, is that right?

[23] A: That's correct. No, it's not correct. I'm [24] sorry, I can't allow that to go. Because my [25] previous answer was responsive, because you asked me

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[1] if I recalled what I did when I got this, and

[2] Q: In the context of the third paragraph.

[3] A: I essentially ignored the third paragraph [4] and concentrated on the fourth paragraph, which [5] suggested we find out what the Swedish scientists [6] were talking about.

[7] Q: Okay.

[8] A: So I did what I responsibly previously [9] considered I should be doing, discounting the fact [10] that I couldn't help with paragraph three.

[11] Q: And were you the person in Europe primarily [12] -- strike that. Were you the person within [13] Monsanto who was primarily responsible for [14] determining what the Swedish study related to?

[15] A: No.

[16] Q: Who was?

[17] A: This was a joint responsibility of myself [18] and Dr. Hardy.

[19] Q: So were you and Dr. Hardy --

[20] A: And it would include, in my area of [21] responsibility, that I include some of our research [22] department. I mean, so, ultimately, as product [23] manager, just to make this clear, the product [24] manager role in a company such as Monsanto, you have [25] an overall accountability for the product line. So,

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[1] was it my responsibility? Yes. Could I do it [2] alone? No. Who had to be involved? Myself and [3] some of my colleagues. It was my accountability to [4] make sure I got them involved.

[5] Q: At the end of 1966, after you had received [6] the correspondence from Mr. Palm, did you undertake [7] to research scientific publications to see if there [8] had been anything else published in this area?

[9] A: Personally, no, I did not make that [10] undertaking that I would make that study. I [11] undertook that I would have people within Monsanto [12] ask some questions around their networks in this [13] scientific community and see if there had been other [14] work done of a similar nature. Particularly Dr. [15] Hardy.

[16] Q: So, was Dr. Hardy given the responsibility [17] to see what other scientific publications were [18] saying on the subject of chlorinated compounds [19] accumulating in the environment at this time?

[20] A: Was he given the accountability? No, he [21] assumed and undertook that he would.

And I think [22] further correspondence that we may come across will [23] show that he did that.

[24] Q: Was it your understanding that that was [25] something that he was going to be responsible for?

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[1] A: Yes.

[2] Q: Who was responsible for seeing what play the [3] Swedish study received in the press and scientific [4] publications?

[5] MR. CHAMBERS: I object to the form.

[6] A: I don't think we undertook, in the terms [7] that you're using, to sort of say what play the [8] press will make. I was certainly alert, and I [9] talked to colleagues, I said this is a strange [10] article, and I was still categorizing it as this [11] strange article appeared in Sweden and we're trying [12] to get more information about it. If you see [13] anything in the press elsewhere, please bring it to [14] our attention. But to use the phrase that you used, [15] what play was being put on this, no. I mean, that's

[16] not the way we worked. We weren't coming from any [17] position of playing, this was --

[18] Q: Let me use a different word maybe this will [19] make my question more clear. Was anyone within [20] Monsanto monitoring or following the publicity that [21] was given to the Swedish work?

[22] A: I was -- I had asked Ola Palm to let me [23] know if there were any follow-up articles or [24] anything else published in Sweden as a result of the [25] article. There was no concerted European-wide

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[1] program to monitor the public media channels. I [2] know that Dr. Hardy, in terms of his discussions [3] within the U.K. technical community, intended to [4] sort of ask people if they were aware of any other [5] scientific publication which related to the [6] Jensen-Widmark work.

[7] Q: Did you read scientific publications as a [8] regular part of your business at this time?

[9] A: I'm going to ask you to be a little clearer [10] in defining scientific publications. There are a [11] range of levels of scientific publication.

[12] Q: Was it your habit to read technical journals [13] on scientific issues during the period 1966?

[14] A: I would routinely read Chemical Week, [15] Chemical Engineering News. I would read trade [16] journals associated with the electrical industry. I [17] would read New Scientist. I would read Nature. As [18] a genuinely interested person who had received an [19] education and training as a scientist. Did I read [20] the Monthly Journal of Medicine, transactions of the [21] Cambridge Physics Society? No. So, I'm trying to [22] typify, characterize my reading habits in a range of [23] low tech to highly technical professional [24] magazines.

[25] Q: Let's mark this as Exhibit 276.

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[1] (Plaintiff's Exhibit 276 [2] marked for identification).

[3] MR. DUFF: Mr. Wood, this document has been [4] marked as Plaintiff's Exhibit 276. For the record, [5] it bears production number TRAN 056625.

[6] A: Yes.

[7] Q: Do you recognize this publication?

[8] A: I recognize the name of the publication [9] noted at the top. I don't recognize this particular [10] page of that publication.

[11] Q: Do you recognize the handwriting at the top [12] of the page?

[13] A: No, I don't.

[14] Q: And do you recall this particular article [15] that appeared in New Scientist on December 15, 1966?

[16] A: No, I don't.

[17] Q: What was your opinion of New Scientist

[18] magazine in December 1966?

[19] MR. CHAMBERS: I object to the form.

[20] A: I believe that it was, in scientific [21] integrity, somewhere middle of the road. They [22] weren't always accurate. Did they do a fairly good [23] screening of other publications, both above them and [24] below them on the technology scale to see if there [25] were areas of scientific interest? Yes, they did.

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[1] So, they were not the most impressive magazine in [2] the area, but I found them useful in keeping [3] up-to-date with some new and different thinking.

[4] Q: And this was one of the publications that [5] you read regularly at this time, is that correct?

[6] A: I didn't take -- I was not a subscriber. If [7] I saw a copy around the office, I would tend to [8] browse it. So I'm not a faithful reader, but --

[9] Q: Do you know if Monsanto subscribed to this [10] publication?

[11] A: No, I don't.

[12] Q: I don't mean this to be redundant over the [13] last question, but what type of articles would New [14] Scientist publish in 1966?

[15] MR. CHAMBERS: I object to the form.

[16] A: I didn't read them frequently enough to be [17] able to categorize types of articles at that period [18] in time. I'd be sort of misleading you if I said I [19] did.

[20] Q: Do you disagree with the description of the [21] Swedish research as it's described in this [22] publication?

[23] MR. CHAMBERS: I object to the form.

[24] A: Like I said, I've never seen this before.

[25] Okay? So, I mean, you want me to spend time now,

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[1] read it and tell you whether today I disagree with [2] it? I couldn't have disagreed with it then because [3] I didn't see it then. Where do you want to go with [4] this?

[5] Q: I'll ask you another question.

[6] A: Please.

[7] Q: Please mark this as Exhibit 277. [8] (Plaintiff's Exhibit 277 [9] marked for identification).

[10] MR. DUFF: Mr. Wood, this document has been [11] marked as Plaintiff's Exhibit 277 and bears [12] production number TRAN 056035.

[13] A: Yes.

[14] Q: Are you familiar with this document?

[15] A: No.

[16] Q: This document is dated December 29, 1966, [17] correct?

[18] A: That's the way it's dated.

[19] Q: Do you recall if you've seen this document [20] before?

[21] A: I know I haven't.

[22] Q: Were you aware that -- is it Gunnar Widmark [23] visited Monsanto in St. Louis in 1965?

[24] A: I was not aware of that.
[25] Q: Did I pronounce that name correctly, do you

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[1] know?
[2] A: Gunnar. He would have probably used a vid, [3] V sound, "Vidmark".
[4] Q: Do you know what the phenolic composition of [5] TCP means?
[6] MR. CHAMBERS: I object to the form.
[7] A: I know nothing about this letter. I don't [8] know what the subject of the meeting with Mr. Ford [9] was.
[10] Q: Do you know who Mr. Ford was?
[11] A: I don't. I mean, over my career with [12] Monsanto I'm aware of certain gentlemen by the name [13] of Mr. Ford who worked for Monsanto. Which this [14] particular one was, I don't know for sure.
[15] Q: Do you know what TCP is?
[16] A: I associate TCP with a phosphate chemistry.
[17] Q: And what phosphate chemistry do you [18] associate that with?
[19] A: Tricresyl phosphate.
[20] Q: Did Monsanto use tricresyl phosphate in any [21] of its functional fluids at this time?
[22] A: I don't think we did. And that's why, you [23] know, I'm a bit thrown by this.
[24] Q: Do you know if Monsanto used tricresyl [25] phosphate in any of the products it manufactured at

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[1] this time?
[2] A: No, I don't.
[3] Q: Were you aware that employees of Monsanto [4] had furnished Widmark with samples of Monsanto [5] material for purposes of conducting analytical [6] investigations?
[7] A: And again, I have not had a chance to read [8] this and see what samples he claims to have received [9] or asked for or what.
[10] Q: I understand that you earlier testified you [11] hadn't seen this document before, so I'm going to [12] ask you independent of this document if you were [13] aware that employees of Monsanto furnished Widmark [14] with samples of Monsanto material for the purpose of [15] conducting analytical investigations?
[16] A: No.
[17] Q: Who was Gunnar Widmark?
[18] A: Gunnar Widmark was either a full professor [19] or an adjunct professor at the Carolinska Institute [20] in Stockholm, and was the person who was supervising [21] the work of Soren Jensen, whose name is associated [22] with the report that we've been discussing [23] interminably.
[24] Q: Have you ever spoken with Mr. Widmark?
[25] A: Yes, I have.

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[1] Q: When did you first speak with Mr. Widmark? [2] I'm sorry, is it Doctor or Mr.

Widmark, do you know?

[3] A: I thought he was a Doctor.
[4] Q: When did you first speak with Dr. Widmark?
[5] A: It was either very late in 1966 or earlyish [6] in 1967.
[7] Q: What did you speak with Dr. Widmark [8] regarding?
[9] A: About the report that had been published [10] under the joint authorship of himself as sponsor and [11] Soren Jensen as researcher.
[12] Q: And do you recall specifically what he said [13] to you?
[14] A: Specifically, not. I mean, I'm sure I wrote [15] a report of that discussion, but I don't recall [16] after 30 years specifically the way the conversation [17] went.
[18] Q: Do you recall any of the details of your [19] conversation with him?
[20] A: I remember that he -- he was expressing [21] some concern that what he felt had been very good [22] work done by Soren Jensen had been abused for [23] commercial purposes by the people who had helped him [24] with the supply of equipment to the extent that [25] before they had professionally published the work

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[1] that it had received public review through the [2] media, through the newspaper, with Soren Jensen as a [3] less than totally mature scientist making comments [4] in response to questions from the press which lay [5] outside his area of expertise. He was very proud of [6] Jensen's analytical work and less than proud of his [7] publicity.
[8] Q: Do you recall anything else that was said in [9] your conversation with Widmark?
[10] A: I think he made some requests for some [11] additional samples of isomeric materials which he [12] felt would be helpful in furthering their research [13] efforts. And he asked us if he ultimately would [14] present -- give us copies of the papers, the [15] scientific background papers, that we not -- that [16] we not publish them, that they be strictly sort of [17] confidential between -- you know, this isn't a [18] question -- as an academic scientist, we could [19] understand where he was coming from. You don't want [20] to do three years of work and then have it [21] pre-published in some sense by another party.
[22] Q: And did you make arrangements for him to [23] receive the isomeric materials that he requested?
[24] A: No, I requested them, and was advised that [25] these were not readily available materials. And,

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[1] again, I think it needs to be mentioned that when [2] you manufacture chlorinated biphenyls commercially, [3] you take the -- you take benzene and you stick two [4] benzene rings together to make biphenyl, and then [5] you chlorinate the biphenyl and you get a mixture

[6] that comes out, depending on the temperature and the [7] time for which you chlorinate. And that mixture is [8] a mixture of a lot of different materials which are [9] the two benzene rings stuck together with chlorines [10] attached in various places. What Widmark was [11] looking for was a biphenyl core with chlorines in [12] specific places in specific numbers around that [13] biphenyl core. So Monsanto's commercial production [14] would never produce such an animal, and you'd have [15] to get into a very sophisticated and special [16] synthesis to make each and every one differently.

[17] Q: Was he looking for for pure isomers?

[18] A: Yes, he was looking for pure isomers.

[19] Q: And Monsanto produced --

[20] A: Isomeric mixtures.

[21] Q: Isomeric mixtures, which were characterized [22] by a percentage of chlorination by weight, is that [23] correct?

[24] A: Yes.

[25] Q: Where there might be variations on the

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[1] number of chlorine attached to the benzene rings, is [2] that right?

[3] A: A mixture which was categorized as being 54 [4] percent chlorine by weight, which we within Monsanto [5] would designate as Aroclor 1254, would have a [6] mixture of biphenyl with two chlorines on the ring, [7] three chlorines on the ring, four chlorines on the [8] ring. Most of it would peak around about five [9] chlorines on the ring. You would then have six [10] chlorines on the ring, seven chlorines, eight [11] chlorines. It wouldn't have much of that percentage [12] that was getting up to sort of the complete [13] chlorination. But there would be a mixture. And if [14] you consider the number of combinations of putting [15] three chlorines on the double ring, you know, within [16] that mixture there would probably be 10 or 15 [17] various forms of the three chlorine on the two [18] rings. So, it was a very complex mixture.

[19] Q: Are you familiar with the names that are [20] handwritten on the left -- upper left margin of this [21] document? I'm referring to Exhibit 277.

[22] A: I know the -- you're talking -- the first [23] one on this list appears to be J.R. Darby, the [24] second one appears to be F.M. Parks, and the third [25] one I can't make out.

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[1] Q: Are you familiar with these individuals?

[2] A: I knew of Joe Darby. I never worked with [3] Joe.

[4] Q: Who was Joe Darby?

[5] A: Joe Darby was for many years involved with [6] Monsanto's plasticizer program, and that's -- when I [7] was looking at this letter and I saw they were [8] talking about TCP, because the tricresyl phosphate [9] had some currency at that point in time as [10] plasticizer

products, and so that's why -- this is [11] a whole different department within Monsanto and, [12] boy, I mean, here we seem to have a classic left [13] hand not talking to the right hand.

[14] Q: Are you surprised that you did not see this [15] letter at about the time it was --

[16] A: Chagrined, perhaps. Surprised, no. I mean, [17] you get a large company like a Monsanto or duPont, a [18] Ford, General Motors, and, you know, these are very [19] large organizations, and you wish you could claim [20] that your communications were so strong that you [21] would always sort of be involved in what you need to [22] be involved in. But, am I surprised? No.

[23] Q: When you met with Widmark in December of '66 [24] or January of '67, did he mention to you that he had [25] met with Monsanto people previously?

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[1] A: No, he didn't.

[2] Q: Did he mention that he had spoken with [3] anybody at Monsanto previously?

[4] A: No.

[5] Q: When you met with Widmark at that time, did [6] anybody else attend that meeting?

[7] A: Ola Palm. I didn't know how well Professor [8] Widmark spoke English. I assumed that as a well [9] educated Swede that he did speak English. But I, [10] therefore, did not want to not have Ola Palm there [11] to make sure that we were able to appropriately [12] communicate.

[13] Q: Did you meet in Stockholm?

[14] A: Yes, we did.

[15] MR. DUFF: Why don't we take a break.

[16] (Recess).

[17] MR. DUFF: Please mark this document as [18] Exhibit 278, I believe. [19] (Plaintiff's Exhibit 278 [20] marked for identification).

[21] MR. DUFF: Mr. Wood, this document has been [22] marked as Plaintiff's Exhibit 278 and bears [23] production number TRAN 007566. Do you recognize [24] this document? [25] A: Yes.

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[1] Q: Please identify this document for the [2] record?

[3] A: This is a memo written by Dr. Doug Hardy of [4] Monsanto's London office, dated 12th of January [5] 1967, and circulated to a fairly long circulation [6] list, including a copy to David Wood in Brussels.

[7] Q: You received a copy of this document?

[8] A: Yes, I did.

[9] Q: You received this document on or about [10] January 12, 1967, is that right? Let me retract [11] that. You would have received this document on or [12] about January 16th, is that right?

[13] A: I'm not sure whose copy this was, but normal [14] mail from London to Brussels, it would -- dated [15] 12th of January, yes, I would have probably received [16] this about

January the 16th.

[17] Q: Within a few days after it was sent?

[18] A: Yes.

[19] Q: By this memo Dr. Hardy told you that a Mr. [20] Richardson of Shell Chemicals had been working for [21] some years on a similar problem to the work [22] undertaken by this Swedish study of Soren Jensen, is [23] that correct?

[24] A: This reports that Richardson was working for [25] some years on analytical problems related to DDT.

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[1] Q: And Dr. Hardy referred to this as a similar [2] problem?

[3] A: With insecticides such as DDT. The problem [4] being identification of trace contaminants in [5] species tissues.

[6] Q: And Dr. Hardy told you in this letter that [7] Richardson had obtained spectrographic evidence that [8] the substances that were the subject of Jensen's [9] work were very similar, if not identical, to [10] Aroclors, correct?

[11] A: He reports that in his work the chlorine [12] containing residues which he had extracted contained [13] substances more stable than DDT and that his [14] experience these materials are similar, if not [15] identical, with Aroclors.

[16] Q: And Dr. Hardy told you in the second [17] paragraph of this letter that Mr. Richardson was [18] quite sure that the compounds reported to be, quote [19] polychlorinated biphenols, unquote, are really meant [20] to be polychlorinated biphenyls, correct?

[21] A: That is the state of mind of Mr. Richardson [22] as reported by Dr. Hardy in this memo.

[23] Q: And in this letter Dr. Hardy also told you [24] that he discussed with Richardson the soundness of [25] Jensen's claims and he was assured that Jensen's

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[1] work and findings were sound, correct?

[2] A: It is Richardson's view that Jensen's work [3] is sound, yes.

[4] Q: And Dr. Hardy was assured of that fact, [5] correct?

[6] A: Dr. Hardy, in this memo, reports what [7] Richardson told him. He doesn't -- I didn't see a [8] point in here where Dr. Hardy discusses whether he [9] is in agreement with Richardson's conclusions. I [10] mean, he states that he discussed with Richardson [11] the soundness of Jensen's claims and was assured by [12] Richardson that Richardson felt that the work and [13] findings of Jensen were sound.

[14] Q: Were you familiar with Mr. Richardson?

[15] A: No. Only -- I was exposed to Mr. [16] Richardson's name by Dr. Hardy.

[17] Q: Was this the first time that you had heard [18] Mr. Richardson's name?

[19] A: Yes.

[20] Q: Who was G.R. Graham in New York?

[21] A: Oh, that is Randy Graham, I'm 95

percent [22] sure, who was a salesman in Monsanto's New York [23] office. That's the person that I associate with [24] that set of initials and that name.

[25] Q: Who is J.A. Evans in London?

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[1] A: That would have been John Evans, one of our [2] research technicians, research scientists.

[3] Q: Do you know what work John Evans was doing [4] with respect to the Swedish research?

[5] MR. CHAMBERS: I object to the form. But go [6] ahead.

[7] A: I don't believe John was doing any work with [8] respect to the Swedish study.

[9] MR. DUFF: Who was R.A. Baxter?

[10] A: Dr. Baxter was the head of the dielectrics [11] research group that was centered in the Ruabon, [12] North Wales plant, which did not make [13] polychlorinated biphenyls.

[14] Q: Please mark this as Exhibit 279. [15] (Plaintiff's Exhibit 279 [16] marked for identification).

[17] MR. DUFF: Mr. Wood, this document has been [18] marked as Plaintiff's Exhibit 279 and bears [19] production numbers TRAN 085947 through 53. And for [20] the record, another version of this document was [21] previously marked as Exhibit 75. Do you recognize [22] this document, Mr. Wood?

[23] A: I recognize this as a letter which, for [24] identification purposes, I'll state was prepared by [25] me, mailed from Brussels, prepared on the 26th of

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[1] January 1967, on the subject of Aroclor and Sweden. [2] It was addressed, as I had addressed my earlier [3] letter, to G.L. Buchanan, and I had copied Paul [4] Benignus, my main contact in St. Louis, Don Cameron, [5] who was my supervisor in Brussels, Dr. Hardy, our [6] medical group head in London, Dr. Emmet Kelly, that [7] I had previously been advised by Dr. Hardy to copy [8] in St. Louis and R.A. Steenrod, who was our [9] international contact. In fact, it's the same [10] circulation list, I believe, as the earlier memo [11] that we discussed.

[12] Q: And you attached a three page document to [13] your -- I'm sorry, a four page document to your [14] three page memorandum, correct?

[15] A: I'm sorry, which -- what are you asking me [16] to identify here?

[17] Q: I'm asking if you attached a four page [18] document which appears at TRAN 085950 through 53?

[19] A: 085950?

[20] Q: Yes.

[21] A: Yes, I did. This is a document which is [22] headed "LKB Press Release". Is that the one we're [23] talking about?

[24] Q: Yes. You attached this press release to

[23] your memo of January 26, 1967, is that right?

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[1] A: Let me just make sure that I did state in [2] this letter that I was attaching that one.

[3] Q: Please take as much time as you need to [4] review this document. It may help to direct your [5] attention, just to expedite things, to the last [6] paragraph of your letter.

[7] A: Okay. "As you will see from the press [8] release", yes. I just wanted to make sure that I [9] could confirm to you that I did, 30 years ago, [10] attach a four page press release to this particular [11] memorandum.

[12] Q: In this memorandum you told Mr. Buchanan [13] that because some of the uses of the materials in [14] Jensen's study were consistent with uses of [15] Aroclors, you made a point of visiting Jensen in [16] Sweden, is that correct?

[17] A: Yes.

[18] Q: Did you meet with Jensen before or after you [19] met with Widmark?

[20] A: I don't recall. I can't remember whether I [21] met them sequentially, separately. I just don't [22] recall the sequence.

[23] Q: Do you recall if you met with them at the [24] same time?

[25] A: It would have been on the same visit to

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[1] Stockholm, let me categorize it that way. But I [2] don't recall whether it was a joint meeting, whether [3] it was a separate meeting, and if it was separate [4] meetings, what the sequence was.

[5] Q: Do you recall who else attended the meeting [6] with Dr. Jensen?

[7] A: Ola Palm.

[8] Q: And what did you discuss with Jensen in that [9] meeting?

[10] A: I discussed how had he got into the [11] particular research program that he was in. Tried [12] to find out from his perspective as the actual [13] researcher what he felt he had found and on what [14] basis the people who had published his work ahead of [15] him having scientifically published it made some [16] assertions about the toxicology of the chlorinated [17] residues that he was finding.

[18] Q: And how did he tell you that he got into the [19] research?

[20] A: That he was looking at DDT. He started from [21] the point that his work was associated from the [22] outset with DDT, that in finding some residues that [23] did not appear to be DDT he had put together a work [24] plan which he hoped would help him identify what was [25] interfering with his DDT analysis. And the work

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[1] that he had done led him to the conclusion that he [2] was looking at a double benzene ring nucleus type [3] chemical with variable amounts of chlorine scattered [4] around that nucleus,

and that in terms of, [5] therefore, going out and trying to find what sort of [6] chemicals were in commerce that had that sort of [7] configuration, one of the classes of chemicals that [8] he had come across were polychlorinated biphenyls, [9] and that in terms of having acquired some samples of [10] commercially available mixtures there were [11] similarities between the peaks that those materials [12] produced to the peaks that he was observing in [13] residues, which led him to the hypothesis that what [14] he was seeing was, or was similar to polychlorinated [15] biphenyls, and then he went out to try to gain some [16] data with how were polychlorinated biphenyls used, [17] just as backdrop to trying to begin the theorization [18] of how they might have appeared in the environment.

[19] Q: And you made clear in this memo after your [20] meeting with Jensen, quote, "To eliminate any [21] earlier confusion that there may have been, I should [22] like to emphasize that there is no doubt that the [23] chemical which is the subject of the investigation [24] and the news release is chlorinated biphenyl, i.e., [25] Aroclor", correct?

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[1] A: That's what I wrote. In hindsight, I should [2] have expressed it slightly differently, but --

[3] Q: You also told the recipients of this [4] memorandum that the company that supplied the mass [5] spectrometer described the research program -- [6] described in the press release which you attached, [7] and which research was carried out by Jensen, and [8] you described in clear terms how chlorinated [9] biphenyls were identified, correct?

[10] A: I'm sorry, take me to a paragraph, you've [11] confused me. I'm not sure what you're asking me [12] right now.

[13] MR. CHAMBERS: I think he's just asking you [14] to read the document, unless I'm misunderstanding.

[15] MR. DUFF: Let me ask the question again. [16] In this memorandum did you state that the research [17] program -- strike that. The press release [18] describes in clear terms how chlorinated biphenyls [19] were identified by Jensen, correct?

[20] MR. CHAMBERS: I object to the form of the [21] question.

[22] A: No, I don't believe it does.

[23] MR. DUFF: Well, I direct your attention to [24] the third paragraph of your memorandum.

[25] A: Yes.

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[1] Q: Did you say with respect to the press [2] release attached to this memorandum that it, quote, [3] does basically describe the research program carried [4] out in Sweden and describes in clear terms how [5] chlorinated biphenyls were identified?

[6] A: That's what I wrote in this memo to [7]

exemplify that I think part of the press release, [18] which says this was the procedure which this [19] researcher followed with the LKB Productor [10] equipment, which they were trying to promote the new [11] equipment as able to do these things. So it fairly [12] clearly lays out the steps that they led Jensen to [13] follow, which led him to identify what he was seeing [14] as chlorinated biphenyls.

[15] Q: Thank you. When you met with Jensen, did he [16] show you the instrumentation that he had used in his [17] work?

[18] A: No. I don't believe he did, anyway. I [19] mean, I don't think a lab tour was part of it, not [20] that I recall. But it would have been fairly -- I [21] mean, I knew that it was LKB Productor, that they [22] described it as a mass spectrometer. That was not [23] equipment I was familiar with, nothing would have [24] been gained from me staring in any level of awe at [25] this particular black box. I need to be able to

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[1] report back to my professional practicing chemist [2] colleagues what equipment had been used and for them [3] to talk to LKB Productor to sort of see did they [4] rate this equipment as being effective in what they [5] claimed it to be able to do.

[6] Q: When you met with Jensen, the point that you [7] made to him was the need for care in any further [8] publication of his work, is that right?

[9] A: I tried to emphasize that we respected good [10] science, and there was an element of danger if good [11] science was badly submitted for publication in that [12] it didn't get appropriate peer review or that the [13] media drew conclusions beyond what the actual [14] research work itself could support, that that was in [15] nobody's best interest.

[16] Q: Were you suggesting to Jensen that he had [17] badly published his earlier work?

[18] A: No. I was suggesting that LKB Productor, in [19] trying to maximize the exploitation of his excellent [20] study to promote their equipment, had put together a [21] forum where misleading views were drawn and extended [22] from the professional report that Jensen had put [23] together. That's why I used the term earlier that I [24] thought that his professional work had been abused [25] by LKB Productor.

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[1] Q: When you met with Jensen he told you that he [2] had been approached by several Swedish workers who [3] were concerned about the effect of PCBs on their [4] health, is that right?

[5] A: I don't recall it. If I read the memo and I [6] report it in the memo, it is likely that we had that [7] part of the conversation. Is there a particular [8] paragraph that you can help me refresh my memory?

[9] Q: Yes. I'll direct your attention to the top [10] of the second page of your memo, the first [11] paragraph.

[12] A: And, so, can you ask the question again? I [13] can probably respond better now.

[14] Q: Certainly. Please repeat the question.

[15] (The requested portion of the [16] record read by the reporter).

[17] A: Yes, he did tell me that. But to be [18] correct, the way I reported it, that he had been [19] approached by several workers associated with [20] chlorinated biphenyls for non-electrical uses. I [21] just want to be clear that -- what we're talking [22] about here.

[23] Q: So we weren't talking about dielectric [24] fluids, is that right, or any --

[25] A: That's right. These were not workers from

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[1] capacitor plants or transformer plants. I mean, he [2] was very specific that these were people who had [3] relationship with chlorinated biphenyl products in [4] other applications.

[5] Q: Did he tell you what those applications [6] were?

[7] A: If he did, I don't recall.

[8] Q: You also told Buchanan and the other [9] recipients of this memo that if any technical [10] journal takes up the press release from the LKB [11] Productor Company, there is little Monsanto could or [12] should do in the way of publishing rebuttals, [13] correct?

[14] A: My personal recommendation contained in this [15] memo is contained in that statement. I mean, if any [16] technical journal sort of wants to look at the LKB [17] Productor press release and say we'll review this in [18] our journal, little or nothing could be gained at [19] this point in time of January 1967 of our trying to [20] state this is bad equipment or good equipment. We [21] didn't know very much about their equipment. Again, [22] professionalism sort of says you don't take out [23] after people until you know what you're doing.

[24] Q: Directing your attention to the bottom of [25] the second page.

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[1] A: The second page.

[2] Q: Which is where that last language came [3] from. You then stated, quote, "We do not want [4] personally as Monsanto to get too involved in this [5] question". Correct?

[6] A: I wrote that, yes.

[7] Q: At that time Monsanto was a major producer [8] of PCBs in Europe, correct?

[9] A: We were one of the producers of PCBs in [10] Europe.

[11] Q: Is it accurate to say there were three major [12] producers of PCBs in Europe at that time?

[13] A: Yes.

[14] Q: Monsanto, Bayer and Prodelec?

[15] A: That's correct.

[16] Q: And at that time Monsanto was the sole

[17] producer of PCBs in the United States, correct?

[18] A: I believe that is so.

[19] Q: Do you know what was novel about the LKB [20] Productor gas -- the combined gas chromatograph and [21] mass spectrometer?

[22] MR. CHAMBERS: I object to the form. But if [23] you're able to answer, you can.

[24] A: I didn't then. I have a better realization [25] now.

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[1] MR. DUFF: What is your understanding -- [2] what is your realization now?

[3] A: That the equipment combined two different [4] and analytical techniques and allowed certain [5] organic species to be detected and categorized in [6] smaller concentrations than had previously been a [7] possibility.

[8] Q: Were you familiar with gas chromatography in [9] 1967?

[10] A: Very obliquely. It had not been an area of [11] concentration in my own undergraduate chemistry [12] work.

[13] Q: Were you familiar with mass spectrometry?

[14] A: Very obliquely. To the extent, in both, [15] that I recognize when -- to know that I didn't know [16] and I needed to refer it to people in Monsanto who [17] had fuller knowledge of that type of analytical [18] procedure.

[19] Q: Who in Monsanto would you refer to for such [20] knowledge?

[21] A: At that particular point I would have gone [22] back to my main commercial contacts and the medical [23] department and have allowed them to identify who in [24] the Monsanto technical community they felt were best [25] able to address that issue.

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[1] Q: Do you know who at this time?

[2] A: Dr. Baxter in England would be the person, [3] in Europe, that would be best able to bring [4] resolution to that issue. And, I say, I depended on [5] Buchanan, Benignus and Kelly to determine who they [6] wanted to talk to this issue from Monsanto's [7] professional scientist group in North America.

[8] Q: Did you speak with -- strike that. Where [9] did you get this LKB press release?

[10] A: I seem to think -- I seem to think I was [11] given it by Jensen, but I don't state in the memo [12] where I actually -- I just say attach it, without [13] sort of saying who gave it to me.

[14] Q: Did Jensen give you any other documents?

[15] A: Did he give me separately the gas [16] chromatograph? If he did, it will be in here [17] somewhere. No, Jensen said he would forward to me [18] copies of his mass spectrographs.

[19] Q: And do you recall that he did so?

[20] A: I believe he did.

[21] Q: Was it shortly after you met with him that [22] he did so?

[23] A: I believe it was. But, again, I don't [24] recall with any certainty when it would have [25] happened or whether he sent it to me or whether we

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[1] arranged for him to send it directly to somebody to [2] whom it would make more intelligent sense.

[3] Q: Did you contact anybody at LKB Productor [4] after seeing this press release that's attached to [5] your memorandum?

[6] A: No.

[7] Q: Did anybody at Monsanto conduct LKB, as far [8] as you are aware?

[9] MR. CHAMBERS: I object to the form. Go [10] ahead.

[11] A: I don't know.

[12] MR. DUFF: Did you tell anybody at Monsanto [13] to conduct LKB Productor?

[14] A: I did not.

[15] Q: Did you recommend to anybody at Monsanto [16] that they purchase an LKB Productor -- I'm sorry. [17] That -- did you recommend to anybody at Monsanto [18] that they purchase the combined gas chromatograph, [19] mass spectrometer from LKB Productor?

[20] A: Not in my place to do so, so I didn't. I [21] mean, it's like saying that if I wanted somebody to [22] comment on a road review of a Rolls Royce that they [23] necessarily needed to buy a Rolls Royce to [24] accomplish that.

[25] Q: I move to strike the last sentence of the

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[1] witness's answer as non-responsive. If Jensen's [2] work was correct, then the news for Monsanto's [3] Aroclor business was devastating, correct?

[4] MR. CHAMBERS: I object to the form.

[5] A: If Jensen's work was correct, the [6] consequences to Monsanto's chlorinated biphenyl [7] business were not devastating.

[8] MR. DUFF: If Jensen's work was correct, [9] Monsanto stood to lose millions of dollars in -- [10] strike that. If Jensen's work was correct, then -- [11] strike that. Do you know if Monsanto subsequently [12] purchased a combined gas chromatograph, mass [13] spectrometer?

[14] A: Just for clarification, you're talking about [15] did they buy an LKB Productor version of the [16] equipment or did we buy a combined piece of [17] equipment? LKB Productor were not the only people [18] who made these.

[19] Q: Who else made this type of equipment?

[20] A: I mean, there were -- as time went by, the [21] technique of using those two combined pieces of [22] equipment became a more recognized procedure for [23] determining presence of materials in small [24] quantities in a number of residue sample situations, [25] and Monsanto, in common with the chemical industry,

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(1) ultimately became owners of a fair number of such (2) pieces of equipment in conducting their professional (3) businesses.

(4) Q: Do you know when Monsanto first acquired a (5) combined gas chromatograph mass spectrometer?

(6) A: No, I don't.

(7) Q: Why didn't you go to LKB Productor and give (8) them samples of Monsanto's PCBs and ask them to run (9) it through their equipment?

(10) MR. CHAMBERS: I object to the form.

(11) MR. DUFF: You can answer.

(12) A: LKB Productor had to our mind at that stage (13) unprofessionally used Jensen's work, and we were (14) addressing the issue of what were the implications (15) of Jensen's work, nothing was to be gained by at (16) that stage involving LKB Productor in any series of (17) tests on their equipment and our materials unless (18) such research were thought to be something which the (19) Monsanto technical community felt would give them a (20) better understanding of the situation. So, I was (21) not about, from my position as being the commercial (22) product manager, to start ordering people to go off (23) and do this or do that with LKB Productor. I (24) brought the research programs that had been (25) conducted in Sweden to their attention with a

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(1) description of the protocols that had been used and (2) expected them and asked them to come to some (3) conclusions about the validity of that work. Now, (4) for me to dictate how they should go about doing (5) their jobs in that technical sense would have been (6) highly unprofessional.

(7) Q: Please mark this as Exhibit 280. (8) (Plaintiff's Exhibit 280 (9) marked for identification).

(10) MR. DUFF: Mr. Wood, this document has been (11) marked as Plaintiff's Exhibit 280 and bears (12) production numbers TRAN 056036 through 61.

(13) A: Sorry, I find that on the side?

(14) Q: That's on the right margin.

(15) A: Yes.

(16) Q: Please take a moment to peruse this (17) document.

(18) A: Yes.

(19) Q: Do you recognize this document?

(20) A: This was a copy of the typed script of the (21) paper which Soren Jensen delivered to the conference (22) at the Wenner-Gren Institute that we alluded to (23) earlier that I confirmed that I had not attended, (24) and nobody from Monsanto attended, and this was a (25) result of my talking to Jensen that this ultimately

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(1) came to Monsanto.

(2) Q: This was the presentation that Mr. Jensen (3) gave on November 22, 1966, is that

right?

(4) A: That's my understanding, yes.

(5) Q: And is this the copies of Jensen's mass (6) spectrographs and the details of his sample (7) preparation that you referred to in your memorandum (8) of January 26, 1967?

(9) A: I believe so, yes. Yes.

(10) Q: And when you received this document from (11) Jensen, what did you do with it?

(12) A: I sent it to my faithful list of readers (13) that we talked about before.

(14) Q: You sent this, then, to Mr. Buchanan, is (15) that right?

(16) A: There's no cover memo attached to this (17) specific exhibit, but my recollection is that I had (18) established that previous list as people who needed (19) to be kept up-to-date and, therefore, certainly all (20) of the people on that previous list would have been (21) sent a copy of this particular paper.

(22) Q: And that list you're talking about is the (23) people who are listed at the top of Exhibit 279?

(24) A: 279 is that earlier memo of mine to -- yes.

(25) Q: Do you recognize the handwriting on the

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(1) left-hand margin of this?

(2) A: The script looks like that of a twenty (3) something year old British person called David Wood.

(4) Q: Is that your handwriting that says --

(5) A: I believe so.

(6) Q: -- November 22, '66?

(7) A: Yes.

(8) Q: That's your handwriting that says "Dr.

(9) Kelly, please comment"?

(10) A: Yes.

(11) Q: Next to the word toxicologic?

(12) A: Yes.

(13) Q: And do you recall if Dr. Kelly commented on (14) that section or on this document in general?

(15) A: I'm sure he did. But I surely can't recall (16) chapter and verse of what he told me.

(17) Q: Were you asking him to comment on the (18) history of the toxicology of PCBs?

(19) A: I was asking him, as our chief medical (20) officer, to comment on the section of this report (21) which was headed toxicology. I mean, he could choose (22) to comment on whichever part or all of it he chose (23) to comment on, but it was appropriate that he (24) comment on it.

(25) Q: When you received this document from Jensen,

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(1) you realized that Jensen's findings related to (2) polychlorinated biphenyls, correct?

(3) A: No. I believe at that time that I had (4) reached a personal conclusion that I felt that it (5) was pretty likely that what he was seeing was (6) related to polychlorinated biphenyls. But as I read (7) this article and as I talked to

my colleagues about [18] this new technology of mass spectrometry, that the [19] jury was still out. I mean, I say, I was beginning [10] to feel myself that probably what we were talking [11] about here was polychlorinated biphenyls, but after [12] all, I was a fairly young, fairly newly graduated [13] with only an undergraduate degree in chemistry, I [14] was not about to second guess my more qualified [15] professional peers, so I was still sending the more [16] technical aspects of these reports to the [17] appropriate people to tell me, David, you know, we [18] agree or we disagree or whatever.

[19] Q: So when you received this document from [20] Jensen, you knew that Jensen thought that he was [21] finding PCBs?

[22] A: Oh, yes.

[23] Q: Correct?

[24] A: No question. Jensen felt that he was [25] finding -- I'm sorry, I'm going to have to take you

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[1] back one removed. Jensen felt that he was finding [2] chlorinated biphenyl mixtures. This term PCBs is [3] sort of a Swedish invention, almost. We were not [4] using -- PCBs became -- achieved a level of [5] notoriety later. But just so we're careful, Jensen [6] was sure that he was dealing with a family of [7] chlorinated biphenyls, put PCBs on one side for a [8] moment.

[9] Q: And that was a family of chlorinated [10] biphenyls of which Aroclor was one, correct?

[11] A: Aroclor was Monsanto's trademark for a range [12] of chlorinated biphenyls that we were one of the [13] world's manufacturers.

[14] Q: So if Jensen was correct in this document [15] which has been marked as Exhibit 280, then the [16] implication was that Aroclors were being found in [17] the environment, correct?

[18] MR. CHAMBERS: I object to the form.

[19] A: No. No.

[20] MR. DUFF: Let me ask the question again.

[21] If Jensen was correct, then, substances which had [22] the same chemical composition as Aroclors were being [23] found in the environment, correct?

[24] A: No.

[25] MR. CHAMBERS: I object to the form.

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[1] MR. DUFF: Why is that not correct?

[2] A: If you read this paper with understanding [3] -- and I don't know what your scientific [4] background is, and, you know, mine being somewhat [5] constrained, I can still review in this document [6] some problems and issues that Jensen has with [7] retention times and different chemical entities [8] having similar retention times so that they appear [9] in the same spot on the -- they peak at the same [10] point in the curve, and this depends as much on the [11] substrate from which you're extracting the residue [12] as it does -- I mean,

this was good fundamental new [13] leading edge work. Jensen, I think, had done a very [14] credible job and believed that he was finding [15] families of chlorinated biphenyls, of which [16] Monsanto's family was called Aroclor. But he didn't [17] know what he was -- if what he was seeing was [18] chlorinated biphenyls manufactured by Bayer, [19] Prodelec or Monsanto, who had sold various amounts [20] for various reasons, us the smallest provider to [21] Sweden, so Aroclor per se was not being implicated. [22] When you say were chlorinated biphenyls per se being [23] implicated, no, because people at that stage didn't [24] know what happened to other chlorinated organic [25] materials as they were biodegraded in nature, did

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[1] they break down and go through product stages which [2] were very similar to where those peaks would have [3] occurred for chlorinated biphenyls. We were trying [4] to be totally objective at that point in time. So, [5] the evidence was growing that said somebody's [6] chlorinated biphenyls seem to be appearing in [7] Sweden. But the way that you were framing the [8] question, which was trying to get me to sort of say [9] that Aroclor was in deep trouble in Sweden, no. I [10] mean, the jury was still out at that point in time, [11] but we were still doing a lot of the right things to [12] find out what the hell was going on in Sweden. Does [13] that clarify where you wanted to take me?

[14] Q: I think so. In this document Jensen sets [15] out the characteristics of what he calls PCB, [16] correct?

[17] A: Can you again -- it's a long time, and I [18] was not totally familiar with this document even 30 [19] years ago, so where are you taking me specifically?

[20] Q: On the first page of the document.

[21] A: Paragraph two?

[22] Q: The second paragraph. The paragraph [23] that --

[24] A: That starts "The main characteristics"?

[25] Q: Yes. And in this paragraph Jensen sets out

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[1] the characteristics of PCB, correct?

[2] A: He makes some statements about some personal [3] beliefs about PCBs. And the reason I state it that [4] way is because under item two he says they are [5] hardly metabolized in living organisms. I'm not [6] aware -- I wasn't aware then and I'm not aware now [7] of any major scientific studies which had looked in [8] detail at the metabolism of PCBs in living [9] organisms. The very research techniques that he was [10] busily evolving were an essential component of [11] people even getting being able to design such [12] metabolism studies. So, for him to make this broad [13] general statement of they are hardly metabolized in [14] living

organisms is conjecture on his part, [15] unsupportable by any scientific evidence at that [16] point in time.

[17] Q: Hadn't he stated that he found that [18] polychlorinated biphenyls had accumulated in fish [19] and in birds?

[20] A: He talks about enrichment and other such [21] strange terminology, which later in time, with [22] biorefractory materials, became better qualified as [23] bioaccumulations and this sort of thing. But, [24] again, here you've got a young man doing excellent [25] analytical work, but stretching out and using

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[1] hypotheses outside -- metabolism and that sort of [2] thing. Unless he could reach out and produce [3] supporting technology to be able to sort of say I've [4] done the front end of this, which is the analytical [5] work, and that is supported by these studies in [6] animals, in ecosystems and the like, he makes these [7] sweeping generalizations to characterize PCBs where [8] there's no supporting evidence. He says if more -- [9] under item three, he says if more than four chlorine [10] are present they are non-inflammable. I'll excuse [11] because of language deficiencies the double [12] negative, he means non-flammable, I think. But I [13] can make a pentachlorobiphenyl burn. I can make a [14] hexachlorobiphenyl burn. You know, so he goes [15] beyond his area of research expertise and starts [16] making a lot of sweeping generalizations which just [17] aren't true.

Now, that takes away, unfortunately, [18] and it was one of the problems that Widmark, his [19] professor had, you know, a little from his [20] credibility in the good solid research processes and [21] procedures and protocols that he was working on.

[22] Q: There was validity to some of the [23] conclusions that Jensen reached, is that right?

[24] A: Which conclusions would you like for me to [25] respond to?

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[1] (Discussion off the record).

[2] MR. DUFF: Would you please mark this [3] document as Exhibit 281. [4] (Plaintiff's Exhibit 281 [5] marked for identification).

[6] MR. DUFF: Mr. Wood, this document has been [7] marked as Plaintiff's Exhibit 281 and bears [8] production numbers TRAN 056034. Do you recognize [9] this document?

[10] A: No.

[11] Q: Do you recognize any of the handwriting on [12] this document?

[13] A: No.

[14] Q: Do you agree that this is a page from a [15] publication called Chemical Engineering, dated [16] January 30, 1967?

[17] MR. CHAMBERS: I object to the form.

[18] A: Down the bottom right-hand corner of this [19] exhibit I see January 30, 1967, Chemical [20] Engineering. I can't say that that for sure [21] designates this as being a page from the

magazine [22] Chemical Engineering, no. I could speculate that it [23] is, but I've never seen it before and --

[24] Q: You don't recall having seen this document [25] before, is that right?

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[1] MR. CHAMBERS: I object to the form.

[2] A: I don't.

[3] MR. DUFF: Please mark this document as [4] Exhibit 282. [5] (Plaintiff's Exhibit 282 [6] marked for identification).

[7] MR. DUFF: Mr. Wood, this document has been [8] marked as Plaintiff's Exhibit 282 and bears [9] production numbers TRAN 056619 through 20. Do you [10] recognize this document?

[11] A: Yes.

[12] Q: Will you please identify this document for [13] the record?

[14] A: This appears to be a memo from Dr. Emmet [15] Kelly of Monsanto in St. Louis to the addressee, [16] myself, David Wood, with copies to Buchanan, Filer, [17] Hardy and Wilde.

[18] Q: Who was J. Filer?

[19] A: Jim Filer was an American expatriot working [20] in Brussels for Monsanto and I believe involved at [21] that time with -- I'm not sure what Jim's [22] assignment was at that point in time.

[23] Q: Did he report to you?

[24] A: No.

[25] Q: Did you report to him?

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[1] A: No.

[2] Q: Who was Eugene Wilde?

[3] A: Eugene Wilde was a long-term marketing [4] employee of Monsanto in St. Louis who was involved [5] with various product lines, to my knowledge, over [6] his long career with Monsanto. He's also a retired [7] gentleman. What his assignment was in February of [8] 1967, I don't recall.

[9] Q: Dr. Kelly told you in this memorandum that [10] an extensive meeting was conducted in St. Louis [11] relating to the memorandum that you had sent them, [12] correct?

[13] A: That's not what it says. Because when it [14] says there was an extensive meeting, which would [15] include those individuals receiving copies of this [16] memorandum, this very memorandum we're reviewing, [17] not my memorandum. That's the way I read that.

[18] Q: Dr. Kelly told you in this memorandum that's [19] been marked as Exhibit 282 that an extensive meeting [20] had been held in St. Louis on the subject of Aroclor [21] in the air and various fish and other living [22] reservoirs, correct?

[23] A: That is correct, yes.

[24] Q: And one of the things he told you in this [25] memorandum, directing your attention to the third

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[1] paragraph, is, quote, "We are very worried

about [2] what is liable to happen in the States when the [3] various technical and lay news media pick up the [4] subject", correct?

[5] A: That he states.

[6] Q: And he told you that, quote, "This is [7] especially critical at this time because air [8] pollution is getting a tremendous amount of [9] publicity in the United States", correct?

[10] A: That is the next sentence in that third [11] paragraph.

[12] Q: And that is something he told you in this [13] memorandum, correct?

[14] A: Yes, he did.

[15] Q: He also told you that Monsanto had been [16] receiving quite a few communications from its [17] customers, including one which he called the most [18] critical one from NCR, which customers were very [19] much involved -- strike that question. He also [20] told you that Monsanto had been receiving quite a [21] few communications from its customers at this point [22] in time, correct?

[23] A: Yes, he did.

[24] Q: And he told you that the most critical [25] customer who had communicated with Monsanto at this

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[1] time was NCR, correct?

[2] MR. CHAMBERS: I object to the form.

[3] A: No, that's not what that fourth paragraph, [4] if that's where we're reading, states. I read that [5] differently to your interpretation of the text. We [6] have been receiving quite a few communications from [7] our customers. The most critical one I read is the [8] communication from NCR. Not that NCR is the most [9] critical customer. That may be a minor --

[10] Q: Were you aware of any communications from [11] Monsanto's customers at this time?

[12] A: Monsanto's customers in the United States to [13] Monsanto in St. Louis or Monsanto's customers [14] anywhere?

[15] Q: Anywhere.

[16] A: Specifically, no, I was not receiving [17] reports of individual customer communications to [18] Monsanto, either as to content or the number of [19] them.

[20] Q: Were you aware of the communication that [21] Monsanto received from NCR in particular?

[22] A: Until I received this particular memo, I [23] didn't know that NCR were one of the -- a customer [24] who had communicated with Monsanto about chlorinated [25] biphenyls.

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[1] Q: Just so I'm clear, were you aware of any [2] communications from any customers to Monsanto about [3] polychlorinated biphenyls at that time?

[4] A: Well, the trouble I have, and that's why, [5] again, I'm trying to be clear here, Monsanto was in [6] the business of selling

chlorinated biphenyls, and, [7] therefore, there were daily communications with many [8] of our customers about the business of supplying, [9] using chlorinated biphenyls. Now, you chose to use [10] we've been receiving quite a few communications from [11] our customers, I had to read between lines and say [12] that they were receiving communications about the [13] -- what people were reading about what the press [14] was saying had happened in Sweden. Now, I was not [15] aware of any individual communications from any [16] customer, NCR or otherwise, that were amongst that [17] category of quite a few communications, which I was [18] making an individual assumption that they meant [19] communications about chlorinated biphenyls and [20] Sweden. Does that clear it up for you?

[21] Q: I think so.

[22] A: Good.

[23] Q: Was it critical at this point in time for [24] Monsanto's customers to have all the information [25] available to them that Monsanto had available to it

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[1] with respect to the findings of Jensen?

[2] MR. CHAMBERS: I object to the form.

[3] A: I'd like you to repeat the question, I'm not [4] sure that I --

[5] Q: Certainly. Please repeat the question for [6] the witness. [7] (The requested portion of the [8] record read by the reporter).

[9] MR. CHAMBERS: Same objection.

[10] A: Well, I can respond to it. No, it wasn't.

[11] MR. DUFF: Why not?

[12] A: Because, without intellectual arrogance, [13] Monsanto had decided to try to establish a factual [14] basis of what was happening in Sweden, and so [15] included in the "all" which would be encompassed [16] within your last question would be things that we [17] felt were inaccurate, irrelevant, and so it would [18] only increase the circle of people who were being [19] confused at that point in time. We had a [20] responsibility to our customers to solicit [21] clarification of what was happening in Sweden. But [22] to try to respond to your specific question, was it [23] critical at that date that our customers heard all [24] that Monsanto had been notified about, no, it [25] wasn't. But I don't want to sort of put that in any

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[1] context where you say that Monsanto was acting in [2] any way irresponsibly or hiding anything; no, we [3] weren't. But Monsanto, indeed, was acting very [4] responsibly.

[5] Q: Was there any factual basis to Jensen's [6] findings?

[7] A: That we were aware of at February 1967?

[8] Q: Yes.

[9] A: We believed there were some factual bases. [10] We didn't know where factual crossed into [11] non-factual hypothesis,

unsupported. There's no [12] question we believed that there was some parts of [13] this work which were very valuable and factual and [14] needed to be explored, investigated, clarified and [15] communicated.

[16] Q: Why didn't Monsanto convey the factual basis [17] of Jensen's work to its customers?

[18] MR. CHAMBERS: I object to the form.

[19] A: Because at that point in time Monsanto could [20] not completely identify which bits our technical [21] experts really did believe were factual and which [22] bits they believed were speculative, which I think [23] is indicated by the very opening statement in [24] paragraph two of this memo, which talked about the [25] outcome of the extensive meeting, which the decision

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[1] was that more information had to be gained and that [2] this could likely necessitate a trip so that we [3] could get our experts alongside their experts to [4] begin to sort out fact and fiction.

[5] Q: Monsanto had certain information available [6] to it already as of February 10, 1967, correct?

[7] MR. CHAMBERS: I object to the form.

[8] A: Monsanto had available to it at February [9] 1967 a set of information which were a blend of [10] potential fact and potential errors on Jensen's [11] part, potential inaccuracies in reporting Jensen's [12] work, in potential inaccuracies in interpretations [13] put upon and conclusions drawn from Jensen's work by [14] others with unsupported qualifications to make such [15] statements, and so we had a mass of data which very [16] inconclusively could be designated as fact or [17] fiction.

[18] Q: Would it have been a mistake for Monsanto to [19] tell its customers about Jensen's work as of [20] February 1967?

[21] MR. CHAMBERS: I object to the form.

[22] A: I don't know.

[23] Q: In February 1967 were you qualified to make [24] that determination?

[25] A: I probably wasn't. And I would not

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[1] necessarily have been invited to make that decision.

[2] Q: Who at Monsanto would have been qualified in [3] February 1967 to decide whether or not to tell [4] Monsanto's customers about Jensen's findings?

[5] MR. CHAMBERS: I object to the form.

[6] A: I was not privy at that time to all the [7] debate going on about that issue. I don't know who [8] attended meetings or, indeed, how many meetings [9] there were in St. Louis to discuss that. But [10] there's no question in my mind that for us to set [11] off on some pilgrimage in Europe to get into any [12] broad scale customer or public communication with [13] the level of data that we had would have been [14] totally a mistake.

[15] Q: Was there an individual that you considered [16] to be the authority on toxicological issues in [17] Monsanto in February 1967?

[18] A: I was led to understand that Dr. Emmet Kelly [19] was the person who would, in consultation with [20] appropriate experts that he wished to consult with [21] to fill in gaps in his own expertise, be the person [22] who would have a very large voice in deciding what [23] safety related information should be given to our [24] client base and/or the public and/or users of [25] equipment containing our products at that point in

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[1] time. You know, I still believe that I got the [2] question to the right person at the right time.

[3] Q: Was Dr. Kelly the person who was best suited [4] to convey Jensen's findings to customers in February [5] 1967?

[6] MR. CHAMBERS: I object to the form.

[7] A: No.

[8] Q: Who was?

[9] A: I don't think there was any one individual [10] who you could say was best able to communicate [11] Jensen's work to the world at large at that point in [12] time. There were a number of people who had various [13] functions within Monsanto's corporate and product [14] line organization who were qualified to contribute [15] to the decision about what Monsanto's [16] responsibilities were at that point in time to [17] support the use of our products with data, be it [18] analytical data, industrial hygiene data, safety [19] data, toxicological data, and they all played a role [20] in establishing policy.

[21] Q: By this memorandum which has been marked as [22] Plaintiff's Exhibit 282 Dr. Kelly told you that, [23] quote, "The consensus in St. Louis is that while [24] Monsanto would like to keep" --

[25] A: I'm sorry, are we still on this Exhibit

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[1] 282?

[2] Q: Yes, we are.

[3] A: If you're leading from that, then can you [4] tell me where -- which paragraph you're working [5] from.

[6] Q: Yes. I'll direct your attention to the last [7] paragraph of this memorandum.

[8] A: On the second page?

[9] Q: Yes.

[10] A: It starts "The consensus in St. Louis".

[11] Q: Yes. By this memorandum which has been [12] marked as Plaintiff's Exhibit 282 Dr. Kelly told you [13] that, quote, "The consensus in St. Louis is that [14] while Monsanto would like to keep in the background [15] in this problem we don't see how we will be able to [16] in the United States".

[17] A: That's what he wrote and told me in that [18] memo of February 10th.

[19] Q: He also told you that, quote, "We feel our [20] customers, especially NCR, may ask us for some sort [21] of data concerning the safety of these residues in [22] humans".

[23] A: Yes, he states that, too.

[24] Q: And he had told you that --

[25] A: Can we just -- I mean, there's another

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[1] sentence which is fairly vital to the response to [2] the last question, so let me just add and read that [3] next sentence. "This might open the door to an [4] extensive and quite expensive toxicological and [5] pharmacological investigation", which says they will [6] ask us for information which we don't have. Okay? [7] If you read those two -- we're going to be asked [8] for data that we'll need to investigate. Now, [9] reading the middle part of that, therefore, it says [10] we're going to be asked for data that they don't [11] have. And I don't mind him sort of saying that [12] we're concerned, that we're going to be asked for [13] some data that we don't have and that's troublesome.

[14] Q: And by this memorandum Dr. Kelly listed a [15] number of points that he asked you to gather [16] information on, is that right?

[17] A: I seem to recall, but let me refresh my [18] memory.

[19] Q: Certainly.

[20] A: There were seven points that he alluded to, [21] and essentially, since I was the addressee of this [22] memo, he was asking me, if not necessarily to get [23] all that information myself, it would be to [24] coordinate and use my authority in Europe to gather [25] that information.

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[1] Q: And did he ask you because at this time you [2] were the person in Monsanto in the best position to [3] gather this information?

[4] A: No. He asked me because in my role of -- [5] I'm going to go back to my original exhibit here [6] and, was I product supervisor or product management [7] of manager in '67?

[8] Q: You're referring now --

[9] A: I was product supervisor, dielectric fluids.

[10] Q: You're referring to Exhibit 273 now?

[11] A: I'm referring to Exhibit 273. In that [12] position, and having got myself involved with this [13] issue, he knew he could depend on me to work within [14] our organizational resources to develop this [15] information. I had shown some ownership of the [16] problem in Europe.

[17] Q: Please mark this as Exhibit 283. [18] (Plaintiff's Exhibit 283 [19] marked for identification).

[20] MR. DUFF: Mr. Wood, this document has been [21] marked as Plaintiff's Exhibit 283 and bears [22] production numbers TRAN 056616 through 18. Do you [23] recognize this document?

[24] A: Not until I've reviewed it.

[25] Q: Please take as much time as you need.

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[1] A: Yes, I recognize it.

[2] Q: Can you please identify this document for [3] the record?

[4] A: This is a memo from Rising and Strand, our [5] agents in Sweden, to myself, David Wood, in [6] Brussels, dated February 17th, responding to my [7] request for generating the data that had previously [8] been requested by Dr. Kelly in his last reviewed [9] memo, Exhibit Number 282.

[10] Q: Do you recall exactly what you asked Mr. [11] Palm to obtain for you?

[12] A: Yes. Those bits of the action points one [13] through seven in Exhibit 282 which pertained to the [14] Swedish part of the questions. I gave him the [15] complete list of items one through seven in case he [16] were able, from his contact with Jensen, to elicit [17] any data about OECD, although OECD was broader than [18] Sweden, and, indeed, he did comment to that issue as [19] well. So, again, very practically, I got the [20] question to the right person rather quickly and he [21] very rapidly responded and gave us the answers that [22] Dr. Kelly had sought.

[23] Q: Mr. Palm also related to you that Jensen [24] wanted isomer samples, is that right?

[25] A: Yes.

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[1] Q: And you already knew that, because Jensen [2] had mentioned that when you met with him?

[3] A: Jensen had alluded to these when we were in [4] -- and, again, when he met with Palm, he also said [5] remember, I talked to Mr. Wood about samples, and I [6] had raised the issue inside Monsanto about pure [7] isomers and you will see -- I'm sure we will come [8] across a some documents in a few minutes, if not [9] tomorrow, which talk that issue and the time at [10] which we addressed that issue. In fact, we may [11] already have had a Baxter memo that we didn't touch [12] on that point, but I don't recall.

[13] Q: Do you recall a letter that you sent to [14] Soren Jensen on February 8, 1967?

[15] A: No. I sometimes have to remember those who [16] I sent Christmas cards last year. No, I don't [17] remember a letter that I sent to Jensen on February [18] 7th -- February 8th.

[19] Q: One of the things that Mr. Palm told you in [20] this letter of February 17, 1967 was that there were [21] plans for future toxicological studies in Sweden, [22] correct?

[23] A: No.

[24] Q: That's not correct?

[25] A: That's not correct.

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[1] Q: Why is that not correct?

[2] MR. CHAMBERS: I object to the form.

[3] A: If we look to the paragraph one, two, three [4] on the second page of this exhibit

number 283, we [5] see that the work done by Mr. Jensen was paid for by [6] the Committee for Conservation of Natural Resources, [7] the further studies planned for a toxicology have [8] not been started since there is no money available. [9] So there is hope of toxicological work, there is [10] concepts of toxicological work, there's no report [11] that toxicological work is going to be funded or [12] carried out.

[13] Q: Do you know if such work was, in fact, [14] carried out?

[15] A: Very limited work, because of the funding. [16] If you want to sort of say -- ask the question, was [17] money spent on toxicological work around [18] polychlorinated biphenyls, a emporor's ransom was [19] spent on toxicological work surrounding chlorinated [20] biphenyls. How much of that was spent at the [21] Carolinska Institute in Sweden? I would think [22] almost nothing.

[23] Q: Were you concerned that -- strike that. [24] Were you concerned about the potential that [25] Monsanto's dielectric customers' polychlorinated

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[1] biphenyls were escaping into the environment?

[2] MR. CHAMBERS: I object to the form.

[3] A: I think I can answer that, but since you [4] threw me a little bit, I'd like to --

[5] MR. CHAMBERS: Absolutely. And you should [6] answer, if you're able, regardless of my objections, [7] that's fine. I'm sorry that distracted you.

[8] MR. DUFF: Please read the question back to [9] the witness. [10] (The requested portion of the [11] record read by the reporter).

[12] A: I'm going to ask you to qualify or rephrase [13] the question around the word concern, because [14] concern, in the context which I felt you used it [15] determines, you know, a deep worry. Did I feel that [16] the type of recommendations that we were already [17] making about the application of chlorinated [18] biphenyls in the manufacture of electrical [19] equipment --

[20] Q: No, that's not exactly what I'm asking.

[21] A: -- if properly executed, would not lead to [22] any major burden on the environment?

[23] Q: That's not what I'm asking. Let me see if I [24] can rephrase it for you.

[25] A: Sorry, I just shifted the chair, can you

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[1] just check that I'm still in your picture? Thank [2] you.

[3] Q: Were you aware that there was a potential [4] that Monsanto's dielectric customers' [5] polychlorinated biphenyls were escaping into the [6] environment?

[7] A: No. If they were manufacturing following [8] the procedures that we reviewed at their plants, if [9] there were any releases to the environment they [10] would be so small they could not possibly lead to [11] levels in the

environment which would be capable of [12] detection in the framework and limits that were [13] being hypothesized by Jensen.

[14] Q: Is that because dielectric fluids are [15] intended for closed systems?

[16] A: Dielectric fluids are designed into closed [17] systems. The very stability says that that piece of [18] equipment then remains in useful service for many [19] years. Its failure mode through the design of the [20] equipment is such that you detect the unit has [21] failed while the fluid is still inside the [22] equipment, so that when you replace the equipment, [23] in most cases you recover almost one hundred percent [24] of the fluid that was in the failed piece of [25] equipment. So, answering specifically the question

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[1] that you asked me, did I have any awareness that our [2] dielectric customers were releasing or could [3] potentially be releasing PCB into the environment, I [4] had an awareness that this is not a major problem.

[5] Q: Were you aware that Monsanto's customers who [6] used polychlorinated biphenyls in open systems may [7] have their polychlorinated biphenyls escape into the [8] environment?

[9] MR. CHAMBERS: I object to the form.

[10] A: From reading the Soren Jensen article, he [11] had theorized some transportation systems, and I'm [12] using transportation systems in the ecological sense [13] of how does a material move from one part of the [14] ecosystem to another part of the ecosystem to [15] another part of the ecosystem. The particular [16] hypotheses that he had drawn did not seem, given the [17] physical characteristics of chlorinated biphenyls, [18] to be ones that would have resulted again in levels [19] of chlorinated biphenyls if that, indeed, was what [20] he was seeing, in the areas that he was seeing [21] them. So, an open system could potentially -- an [22] industrial open system use of chlorinated biphenyls [23] could release some chlorinated biphenyls to the [24] environment, but here you're talking about studies [25] which are examining and finding similar levels of

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[1] concentrations of two chlorinated substances, one [2] being DDT, which people are liberally and [3] intentionally spraying into the environment, if you [4] consider what DDT is used for and how it is used. I [5] mean, there society was intentionally spraying DDT [6] into the environment. Now, sales of chlorinated [7] biphenyls for industrial use were very much smaller [8] than the sales of DDT and the open applications were [9] only part of the situation, and their physical [10] characteristics were such that most of the open [11] systems would still not be frequently releasing [12] substantial parts of their volume to the [13] environment. So, to answer your question -- see, [14] I'm getting to

an answer ultimately. Yes, you're ^[15] aware of an obvious release in the environment where ^[16] you're intentionally spraying DDT into the ^[17] environment. You are aware of a potential move into ^[18] the environment, but at a very much lower level of ^[19] frequency of an open industrial system. You are ^[20] aware of almost zero potential for the involvement ^[21] of substantial volumes of chlorinated biphenyls from ^[22] dielectric applications, closed by nature, giving ^[23] potential for environmental load.
^[24] Q: Why didn't Monsanto tell its customers who ^[25] were using fluids that contain polychlorinated

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^[1] biphenyls in open systems at this time in February ^[2] of 1967 that there was a potential for PCBs to get ^[3] into the environment?
^[4] MR. CHAMBERS: I object to the form.
^[5] A: I don't know. I was accountable for ^[6] dielectric fluids in Europe, and there was certainly ^[7] no need to my mind to heavily publicize the Swedish ^[8] work, which had little relevance to the dielectric ^[9] applications at that point in time. As we've seen ^[10] already today, there's some memos and other ^[11] discussions going on. How that related to decisions ^[12] of non-electrical customers, I don't know.
^[13] Q: Please mark this as Exhibit 284. ^[14] (Plaintiff's Exhibit 284 ^[15] marked for identification).
^[16] MR. DUFF: Mr. Wood, this document has been ^[17] marked as Plaintiff's Exhibit 284 and bears ^[18] production number TRAN 085966. Do you recognize ^[19] this document?
^[20] A: No.
^[21] Q: Do you recognize the handwriting in the ^[22] upper right-hand corner of this document?
^[23] A: No.
^[24] Q: This document is dated February 21, 1967, ^[25] and is authored by R. Emmet Kelly, do you see that?

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^[1] A: Yes, I do.
^[2] Q: In the first sentence of this document Dr. ^[3] Kelly refers to talking to you on the morning of ^[4] February 21, 1967. Do you recall that conversation?
^[5] A: I trust Emmet, and if he reported that he ^[6] and I had a conversation on the morning of February ^[7] 21, 1967, I'm prepared to stipulate that we had such ^[8] a conversation.
^[9] Q: Do you recall what you discussed with Dr. ^[10] Kelly on that morning?
^[11] A: No. But this would likely -- again, I trust ^[12] his --
^[13] Q: Was it typical for you to have telephone ^[14] conversations with Dr. Kelly at this time?
^[15] MR. CHAMBERS: I object to the form.
^[16] A: No. Again, the I want you to understand ^[17] that while the situation in Sweden was evolving, I ^[18] was responsible for the European-wide market for ^[19] dielectrics, and Sweden was a very small part of ^[20] that

market. I had lots of wonderful experiences ^[21] keeping me busy day by day. But conscientiously, as ^[22] I received requests from Dr. Kelly such as the one I ^[23] sought the information on the seven points from ^[24] Exhibit 282, I reached out and made sure that they ^[25] were effectively and rapidly handled. And when I

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^[1] got the response from Ola Palm, I would have called ^[2] Dr. Kelly. So, as he reports, he has 90 percent of ^[3] the information asked for. That is totally ^[4] consistent with the way I ran my business. So --
^[5] Q: So as of this date you had given him 90 ^[6] percent of the information he had asked you for?
^[7] A: No. He said I have 90 percent. I believe I ^[8] may have sent it on to him by mail.
^[9] Q: That is what this says. It says that you ^[10] told him that you had 90 percent of the information ^[11] he asked for on February 10th?
^[12] A: And I will forward the bundle when I get the ^[13] rest.
^[14] Q: And you told him that you would have that ^[15] information to him by the end of February, correct, ^[16] 1967?
^[17] A: I told him that it should be forwarded to ^[18] him and should arrive within a week of February the ^[19] 21st, which would have been the end of February.
^[20] Q: You also told Dr. Kelly that your customers ^[21] were less concerned at this time than they had been ^[22] since the publicity surrounding Widmark and Jensen's ^[23] findings had died down, correct?
^[24] A: No. I didn't say that.
^[25] Q: What did you say?

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^[1] A: I said his customers -- he reports -- ^[2] again, he tended to report fairly factually, that my ^[3] customers in Europe were less concerned than they ^[4] were since there has been no particular government ^[5] activity. The government does not seem to have ^[6] engaged itself on a particular witch hunt on an ^[7] emergency timetable about this issue, and there's ^[8] been no increase in newspaper articles. Didn't say ^[9] newspaper articles were still not appearing, but ^[10] people seemed to be not panicking, people seemed to ^[11] be willing to let good science work at the pace of ^[12] good science. We didn't have a crisis situation ^[13] where people could be reacting to and panicking to ^[14] half truths, there seemed to be an environment where ^[15] common sense and good science could work ^[16] effectively. So -- but let's not sort of say I was ^[17] saying hooray, the problem's gone away. That's not ^[18] what I was saying.
^[19] Q: You also told Dr. Kelly in this conversation ^[20] on February 21, 1967 that your customers wanted ^[21] reassurance on the toxicity of Aroclor, correct?

[22] A: Yes, I did. And, again, I don't know [23] whether I used the word reassurance. He chose to [24] express my comments to Gene Wilde in that sort of [25] context. I guess I asked him that we had received

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[1] some questions of people saying do you have any [2] information about the effect of very small [3] quantities of Aroclor on human health over extended [4] periods of time, and as he echos to Gene Wilde in [5] this memo, told me that information about the action [6] of nanograms of Aroclor in the human body over a [7] life time isn't available.

[8] Q: So he told that you there wasn't any [9] experimental data on the effect of Aroclor on [10] humans, is that right?

[11] A: No, he didn't say that.

[12] MR. CHAMBERS: I object to the form.

[13] A: He didn't report as saying that.

There's no [14] evidence available on the effect of Aroclor in [15] nanogram quantities in the human body over a [16] lifetime of exposure. And that's different.

[17] Q: Did Dr. Kelly tell you anything with respect [18] to experimental data on the effect of Aroclor on [19] plant life?

[20] A: No.

[21] Q: Did he tell you anything about experimental [22] data on the effect of Aroclor on aquatic life?

[23] A: Let me see if I can cut through this a [24] little bit. The industrial hygiene recommendations [25] that Monsanto made to clients who used chlorinated

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[1] biphenyls was based on not just sticking our fingers [2] in the air and saying do this, do that, do the [3] other. There was some very industry accepted range [4] of fundamental toxicological testing of an acute [5] nature, of skin contact type situations that had [6] been done well, thoroughly and appropriately and [7] were reported as a basis for the recommendations [8] that we made about the use of our material. Now, at [9] the time this work was developed, nobody knew there [10] were nanograms of anything. Lots of things in the [11] environment, the methods to detect them didn't [12] exist. So, it's like if a tree falls in the forest [13] and nobody hears it, did it really fall. So the [14] statement that Kelly is making at this period of [15] time is that the type of work that people would like [16] to see evidence of if they believe for the first [17] time that they may have identified the presence of [18] PCBs in very small volumes in the environment isn't [19] there because the work has not been done to test [20] it. Does that mean Monsanto has done no responsible [21] toxicological testing in support of its product?

[22] Damn, no.

[23] Q: You're saying that Monsanto had done

[24] A: We were leaders. We were leaders in [25] industry in doing safety testing of the products

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[1] that we sold to our customers.

[2] Q: Was that because Monsanto's customers [3] approached Monsanto with questions about the [4] toxicological effects of Monsanto's products or was [5] it because Monsanto was a responsible corporate [6] citizen?

[7] MR. CHAMBERS: I object to the form.

[8] A: I'm sorry?

[9] MR. CHAMBERS: I'm just noting an objection [10] to the form of that question. You should respond.

[11] A: I'm going to respond, because I'm damn proud [12] of Monsanto.

[13] MR. DUFF: Will you repeat the question?

[14] A: No, I don't need to repeat the question, I [15] heard what you said, and I resent the suggestion. [16] And I'll have that on the record.

Monsanto had a [17] very fine corporate reputation from the time I [18] joined Monsanto. One of the reasons I joined [19] Monsanto was because I found that they were a [20] company who took its responsibilities seriously in [21] delivering the benefits of chemistry to the [22] population.

[23] Q: I'm not suggesting anything.

[24] A: No, you asked me fairly forcefully a [25] question, I'm giving you a damn forceful answer,

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[1] because I happen to respect what Monsanto has done, [2] not only in the PCB area, but in a lot of other [3] areas of becoming a leader in responsible use of [4] chemicals.

[5] Q: So, just because -- I just want to make [6] sure -- I understand your answer.

[7] A: Okay. Good.

[8] Q: And I appreciate your answer. Just so the [9] answer follows the question appropriately, I asked, [10] I guess, two things. The first -- and it sounds [11] like it's a pretty simple answer. But the first [12] question is, Monsanto conducted these toxicological [13] tests over the years because Monsanto's customers [14] had at times raised questions on these issues, is [15] that right?

[16] MR. CHAMBERS: I object to the form.

[17] A: No. I'll answer it. I agree with you, it's [18] a lousy question, but I'll answer it.

Monsanto, [19] from the outset, was and continued to be a leader in [20] furnishing safety data in support of its products. [21] If a customer in a specific area of application had [22] a question that the toxicological testing that we [23] had hitherto done did not provide an answer, we [24] would normally sit down with them and sort of see [25] did we understand why they were asking the question

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[1] and what was involved in appropriately answering [2] them or allaying their fears, not burying their [3] fears, appropriately allaying

their fears or [4] agreeing what would be an appropriate methodology to [5] get such test work concluded. If we were a sole [6] provider, we might say we need to, over the next [7] couple of years, do this test. And when we say over [8] a couple of years, that was not to delay anything or [9] reduce the cost of doing it, but if you want to do a [10] one year feeding study, I can assure you as a [11] non-technical person you need to understand that a [12] one year feeding study takes two years to do.

[13] Q: So Monsanto is --

[14] A: Monsanto was responsive from its own [15] volition to a very strong leadership role in product [16] stewardship as early as 30 years ago, let alone [17] where the corporation is today in that leadership. [18] And in terms of responsiveness to its customers [19] request for additional specific data related to [20] their specific applications, we were responsive.

[21] Q: And just getting back --

[22] A: Does that answer the question?

[23] Q: Yes, I think it does. So getting back to my [24] original question, Monsanto was responsive like that [25] both because -- and this is what my original

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[1] question was -- Monsanto was responsive in the way [2] that you just described, both because Monsanto's [3] customers raised such questions and because Monsanto [4] was a responsible corporate citizen, correct?

[5] A: I still object to the form of your question.

[6] MR. CHAMBERS: Thank you. You saved me from [7] having to do so. Go ahead, if you're able to.

[8] A: I mean, you sequence that sort of saying we [9] were responsive when somebody asked us and [10] additionally we did some sort of testing. I told [11] you, the one -- reverse that in your question and [12] I'll say yes. We did fine product stewardship and [13] if beyond that customers asked some specific [14] questions, we got involved and were responsive to [15] their needs.

[16] MR. DUFF: Thank you. Off the record.

[17] (Recess). [18] [19] [20] [21] [22] [23] [24] [25]

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[1] COMES NOW THE WITNESS, DAVID WOOD, and [2] having read the foregoing transcript of the [3] deposition taken on the 9th day of November, 1995, [4] acknowledges by signature hereto that it is a true [5] and accurate transcript of the testimony given on [6] the date hereinabove mentioned. [7] [8] [9] _____

_____, [10] DAVID WOOD [11]

[12] Subscribed and sworn to me before this [13] day of _____

, 1995. [14] My Commission expires: _____

_____, [15] [16] [17]

_____, [18] Notary Public [19] [20]

[21] [22] rg [23] [24] [25]

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[1] State of Missouri [2] SS. [3] City of St. Louis [4] I, Ronald A. Gore, a Notary Public in and for [5] the State of Missouri, duly commissioned, qualified [6] and authorized to administer oaths and to certify to [7] depositions, do hereby certify that pursuant to [8] Notice in the civil cause now pending and [9] undetermined in the Commonwealth of Kentucky, Rowan [10] Circuit Court, Civil Branch, to be used in the trial [11] of said cause in said court, I was attended at the [12] offices of Gore & Perry Reporting Company, 100 North [13] Broadway, in the City of St. Louis, State of [14] Missouri, by the aforesaid witness; and by the [15] aforesaid attorneys; on the 9th day of November, [16] 1995. [17] The said witness, being of sound mind and being [18] by me first carefully examined and duly cautioned [19] and sworn to testify the truth, the whole truth, and [20] nothing but the truth in the case aforesaid, [21] thereupon testified as is shown in the foregoing [22] transcript, said testimony being by me reported in [23] shorthand and caused to be transcribed into [24] typewriting, and that the foregoing pages correctly [25] set forth the testimony of the aforementioned

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[1] witness, together with the questions propounded by [2] counsel and remarks and objections of counsel [3] thereto, and is in all respects a full, true, [4] correct and complete transcript of the questions [5] propounded to and the answers given by said witness; [6] that signature of the deponent was not waived by [7] agreement of counsel. [8] I further certify that I am not of counsel or [9] attorney for either of the parties to said suit, not [10] related to nor interested in any of the parties or [11] their attorneys. [12] Witness my hand and notarial seal at St. Louis, [13] Missouri, this _____ day of _____, 1995. [14] My Commission expires June 20, 1998. [15] _____

_____, [16] Notary Public in and for the [17] State of Missouri [18] [19] [20] [21] [22] [23] [24] [25]

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