

IN THE MATTER OF:

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

Cause No. 94-CI90145

***Deposition of DAVID WOOD
NOVEMBER 10, 1995***

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

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 COMMONWEALTH OF KENTUCKY
 ROWAN CIRCUIT COURT
 CIVIL BRANCH

TENNESSEE GAS PIPELINE COMPANY,

Plaintiff,

vs. NO. 94-C190145

MONSANTO COMPANY,

Defendant.

Continued 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 10th
 day of November 1995 before Ronald A. Gore,
 Registered Professional Reporter and Notary Public.

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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) Q: Good morning, Mr. Wood.

(10) A: Good morning.

(11) Q: I wanted to remind you this
 morning that you (12) are still under oath.
 Do you understand that?

(13) A: Yes, I do.

(14) Q: Mr. Wood, what did you do to
 prepare for (15) your deposition that took
 place both yesterday and (16) is going to
 take place today?

(17) A: I met for a two or three hour
 session with (18) Mr. Chambers.

(19) Q: When was that?

(20) A: On Wednesday.

(21) Q: Did you look at any documents
 during that (22) two to three hour time
 period?

(23) A: We glanced at some of the
 documents that you (24) had indicated that
 you might be presenting to me, (25) just
 to freshen my memory some of this
 period many

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(1) years ago.

(2) Q: Did you review any transcripts of
 (3) depositions or trial testimony?

(4) A: I didn't review them. He
 indicated that you (5) had requested, I
 think, a transcript of the (6) testimony I
 gave in the Transwestern trial. I (7)
 didn't look through it.

(8) Q: Did anybody go through that
 testimony with (9) you in the
 Transwestern case?

(10) A: No.

(11) Q: Did anybody go through any
 testimony that (12) you had given
 previously?

(13) A: No.

(14) MR. CHAMBERS: Let me
 interpose an (15) objection. I assume
 you're not asking about any (16)
 consultation that Mr. Wood had with
 counsel?

(17) MR. DUFF: I'm not asking you to
 divulge any (18) attorney/client
 discussions or anything that would (19)
 otherwise be privileged.

(20) MR. CHAMBERS: Okay.

(21) MR. DUFF: Do you understand
 that?
 (22) A: I understand that, yes.
 (23) Q: Did you have any discussions
 with anyone (24) besides Mr. Chambers
 regarding your deposition in (25) this case?
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(1) A: No.

(2) Q: Did you discuss your deposition
 with Mr. (3) Paton?

(4) A: No.

(5) Q: Did you tell Mr. Paton that you
 were being (6) deposed yesterday and
 today?

(7) A: Yes.

(8) Q: Did you tell him anything else
 about your (9) deposition here?

(10) A: Yes.

(11) Q: What else did you tell him?

(12) A: That it was going slowly.

(13) Q: Anything else?

(14) A: No.

(15) Q: When did you first meet Mr.
 Paton?

(16) A: In late 1973.

(17) Q: How do you recall that it was at
 that time?

(18) A: Why do I recall that it was in
 late '73?

(19) Q: Yes.

(20) A: Because he talked to me about
 my moving from (21) Brussels to the
 United States with Monsanto to work (22)
 for him, and I moved in February of
 1974, so I (23) recall that the first
 discussion and the first (24) meeting I had
 with him was late in 1973.

(25) Q: And when you returned to St.
 Louis in the

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(1) beginning of 1974 you reported to
 Cumming Paton?

(2) A: When I went to St. Louis. I
 didn't return (3) to St. Louis.

(4) Q: Excuse me. When you went to
 St. Louis in (5) the beginning of 1974 did
 you report at that time to (6) Cumming
 Paton?

(7) A: Yes, I did.

(8) Q: What was his position at that
 time?

(9) A: He was a market manager. That
 may not be (10) the precise title. But he
 was a manager in the (11) marketing
 department of the specialty chemicals or
 (12) functional fluids group, whichever it
 was called at (13) that point in time.

(14) Q: Was he the business director for
 the (15) functional fluids group?

(16) A: I don't recall whether he was a
 business (17) director at that point or
 whether he was a manager. (18)
 Hierarchical management changes these
 titles rather (19) fluidly, and I say, I don't

recall whether he had a [20] director title at that point.

[21] Q: When you moved to St. Louis in the beginning [22] of 1974 you were the international market manager, [23] correct?

[24] A: That's correct.

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

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[1] think it's international market manager, [2] dielectrics. Maybe I'm wrong.

[3] MR. DUFF: Functional fluids, I believe.

[4] MR. CHAMBERS: You're correct. I stand [5] corrected. Thank you.

[6] MR. DUFF: I'd like to return your attention [7] to the time period that we were focusing on [8] yesterday afternoon, in 1966 and 1967. Did Dr. [9] Kelly -- strike that. Did you have many [10] conversations with Dr. Kelly during that time [11] period?

[12] A: No.

[13] Q: Did you have less than ten conversations [14] with Dr. Kelly during the time period from November [15] of '66 to the end of 1967?

[16] A: It was certainly less than 20, it was more [17] than five. Whether it was less than ten, I can't [18] recall.

[19] Q: Do you recall if during that time period Dr. [20] Kelly ever told you that -- strike that. Do you [21] recall if during that time period Dr. Kelly ever [22] expressed an opinion regarding Jensen's findings?

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

[24] A: I don't recall any specific statement that [25] he made of a personal feeling about Jensen's work.

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[1] MR. DUFF: Did he ever express a [2] professional feeling about that?

[3] A: Are you talking in a telephone conversation [4] as opposed to in a written communication or --

[5] Q: Either.

[6] A: If it was in a written communication, it's [7] probably on the record somewhere. I don't remember [8] in our telephone calls having a formal discussion of [9] any sort with him where he laid out for me any [10] professional opinion about the quality of Jensen's [11] work.

[12] Q: In 1966 and 1967 am I correct in saying that [13] Dr. Hardy was Dr. Kelly's counterpart in London?

[14] A: You are partially correct. Dr. Kelly headed [15] up the medical function at Monsanto headquarters in [16] St. Louis. Dr. Hardy's role was more of a

one man [17] band situation in Europe. It was a much smaller [18] department, therefore. But to the extent that he [19] had some of the similar responsibilities for [20] supporting the Monsanto operations with giving [21] support in the areas of product safety and [22] toxicology, yes, you could say that he was a [23] counterpart. More an extension than a counterpart.

[24] Q: Prior to your move to Brussels you and Dr. [25] Hardy were in the same office, correct?

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[1] A: Yes.

[2] Q: And when you moved to Brussels, did he stay [3] in London?

[4] A: Yes.

[5] Q: After you moved to Brussels, you continued [6] to correspond with Dr. Hardy on a regular basis in [7] 1966 and 1967, correct?

[8] A: No. I corresponded with Dr. Hardy when I [9] needed his support.

[10] Q: Did you correspond with Dr. Hardy regularly [11] on the subject of Jensen's findings in 1966 and [12] 1967?

[13] A: I was not aware of Jensen's findings until [14] the end of 1966, not through -- I'm just trying to [15] be accurate here.

[16] Q: I understand.

[17] A: From the time that.

[18] Q: I'll rephrase the question.

[19] A: From the time that I became aware of [20] Jensen's study through 1967, then from time to time [21] I would be in communication as the -- as things [22] evolved with Dr. Hardy.

[23] Q: Who was Robert Keller?

[24] A: I know the name. I'm finding it difficult [25] to place Bob in the Monsanto organization at that

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[1] point in time. I think he was in St. Louis. And I [2] know he was a scientist. But his specific role, I [3] don't recall at this point.

[4] Q: What type of scientist was he?

[5] A: I don't know what his educational background [6] was.

[7] Q: Do you know what his responsibilities were [8] within Monsanto at that time?

[9] A: Not clearly, no.

[10] Q: Do you know what type of science he was [11] involved with at Monsanto at that time?

[12] A: No.

[13] Q: Do you recall any conversations with Dr. [14] Keller in 1966 or 1967?

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

[16] Q: Who was Scott Tucker?

[17] A: Scott Tucker was another

scientist within [18] the Monsanto U.S. organization who became involved, [19] and I don't know exactly when he became involved, in [20] the development and evaluation of analytical [21] technology.

[22] Q: What do you mean by analytical technology?

[23] A: The detection, categorization and [24] quantification of chemical materials.

[25] Q: Did that include PCBs?

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[1] A: I know that at a point in time -- and, [2] again, I don't remember exactly when -- Scott was [3] very heavily involved in chlorinated biphenyl work.

[4] Q: Do you recall when the first time that you [5] spoke with Scott Tucker was?

[6] A: No, I don't. I know I have spoken with [7] Scott Tucker. But when was the first time I spoke [8] to him, no, I don't recall.

[9] Q: Please mark this as Exhibit 285.

[10] (Plaintiff's Exhibit 285 [11] marked for identification).

[12] MR. DUFF: Mr. Wood, this document has been [13] marked as Plaintiff's Exhibit 285 and bears [14] production number TRAN 056615. Do you recognize [15] this document?

[16] A: Not clearly.

[17] Q: Have you seen it before?

[18] A: I believe I have, but I'm not sure.

[19] Q: Did you see this document in preparing for [20] your deposition?

[21] A: Again, I have, over the years, seen so many [22] documents from various institutions, I believe I [23] have seen this document, I believe it may have been [24] one that passed across my sightline while I was [25] preparing, but --

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[1] Q: Could you please identify this document for [2] the record?

[3] A: I have been handed Exhibit 285, which is a [4] letter from the Ministry of Technology in London to [5] Dr. Hardy at Monsanto Chemicals Limited at their [6] office building in Victoria Street, London, and it's [7] dated 23rd of February 1967.

[8] Q: Do you recall if Dr. Hardy gave you a copy [9] of this letter?

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

[11] Q: Do you know who J.O'G. Tatton is?

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

[13] Q: Are you familiar with the Laboratory of the [14] Government Chemist?

[15] A: I know it exists.

[16] Q: Are you familiar with the work that they do [17] at that laboratory?

[18] A: They're involved in advising the

British government on technology matters.

[10] Q: Is this the leading laboratory in London -- strike that. Is this the leading laboratory in Great Britain?

[11] A: No.

[12] Q: Is it one of them? Strike that. In 1967 was it one of the leading laboratories in Great

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[1] Britain?

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

[3] A: I find it difficult to appraise the standards of quality of English laboratories in 1966 and '67, so, I can't give an objective evaluation of where they would rank in the hierarchy of laboratories.

[4] MR. DUFF: Did you respect the work of this laboratory in 1967?

[5] A: I had no reason to be disrespectful of it. I mean, I couldn't say that I regarded it highly or -- I mean, one would hope that a government laboratory had a certain level of reliability, but I think that one has seen over the years that government laboratories are not always flawless.

[6] Q: Were you aware that the Laboratory of the Government Chemist in London had been doing -- had been examining selected food, human tissue, wildlife and other things for organochlorine pesticide residues for some years prior to the date of this letter?

[7] A: I became aware of it.

[8] Q: How did you become aware of that?

[9] A: By discussion with Dr. Hardy.

[10] Q: What did Dr. Hardy tell you about that fact?

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[1] A: I'm sorry, can you repeat that?

[2] Q: What did Dr. Hardy tell you about that fact?

[3] A: That he had had some communication with the Laboratory of the Government Chemist and that they had, indeed, had some activity in the area of examining tissue for pesticide residues.

[4] Q: Did he tell you anything else?

[5] A: Not that I -- not that I can recall today.

[6] Q: Did he tell you that he had received this letter from the -- strike that. Were you aware that the Laboratory of the Government Chemist in London had found that wildlife in particular often contains a number of compounds which produce a series of

peaks on gas chromatograms when using electron capture detectors?

[7] A: I became aware of that, but I cannot claim that I can recall specifically on what date and by what media I became aware of that.

[8] Q: Did you become aware of that fact shortly after February 27, 1967?

[9] A: I don't know.

[10] Q: Please mark this as Exhibit 286.

[11] (Plaintiff's Exhibit 286 marked for identification).

[12] MR. DUFF: Actually, I'd like to return to

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[1] Exhibit 285 for just a moment.

Directing your attention to a phrase that's used in the middle of the second paragraph, do you know --

[2] A: Second paragraph, the one that starts "As you are aware"?

[3] Q: That's correct. What is an electron capture detector?

[4] A: I'm not familiar enough with that technology to give you a clear layman's description. I know it is a piece of equipment which is involved in the detection of organic or inorganic compounds in analytical technology.

[5] Q: Do you know if Monsanto possessed such a detector in February of 1967?

[6] A: I don't know.

[7] Q: I'm handing you a document that's been marked as Plaintiff's Exhibit 286. And I apologize, I don't have a -- actually, I guess I already gave you an extra copy. This document bears production number TRAN 055798. Mr. Wood, do you recognize this document?

[8] A: I have seen it before.

[9] Q: Do you recall when you saw this document?

[10] A: No.

[11] Q: Did you see this document in preparing for

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[1] your deposition?

[2] A: Yes.

[3] MR. DUFF: Off the record. (Discussion off the record).

[4] MR. DUFF: Mr. Wood, I'd like to direct your attention to Exhibit 277, which we marked yesterday. Do you have that in front of you?

[5] A: Yes, I do.

[6] Q: Directing your attention to the third paragraph of this letter, do you see where it says "Added to this letter you will find a pre-print of the synopsis of our publication which will appear in Actachem. Scand.", which is A-c-t-a-c-h-e-m. S-c-a-n-d. "in the

summer of 1967", do you see that?

[7] A: Yes, I do.

[8] Q: And does that refer to what's been marked as Plaintiff's Exhibit 286?

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

[10] MR. DUFF: If you know.

[11] A: I don't know. As I recall from my testimony yesterday, I told you I wasn't familiar with this letter, and I told you a moment ago that I had seen this, but I can't make any connection between the two exhibits.

[12] Q: Exhibit 286 --

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[1] A: Are we finished with 277?

[2] Q: You can set that aside. Exhibit 286 is the exhibit that we just marked a moment ago.

[3] A: I see.

[4] Q: And this is a document which is titled "Pesticide analysis, presence of polychlorinated biphenyls at residue analysis of biological samples", correct?

[5] A: That's what my copy shows.

[6] Q: And it's a synopsis by Soren Jensen and Gunnar Widmark, is that correct?

[7] A: That's what it states.

[8] Q: And this synopsis states that at analysis of samples from the Swedish wildlife fauna by means of gas chromatography, using both electron capture detector and micro coulometric detector, a large number of unknown, but chlorine-containing compounds have been detected together with the ordinary pesticides?

[9] A: That's the first sentence, yes.

[10] Q: And the synopsis goes on to say that mass spectro of some of these compounds obtained at a combined gas chromatograph mass spectrometer (LKB-9000) indicate that most of the unknown compounds are polychlorinated biphenyls, potentiated

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[1] somewhat in nature towards those of higher degree of chlorination.

[2] A: That's what it states.

[3] Q: And this synopsis also states that a large number of samples have been examined and polychlorinated biphenyls are found especially in fish and in sea birds, but also in needles of conifers and in some samples of human depot fat?

[4] A: That's the opening sentence of the second paragraph.

[5] MR. CHAMBERS: You're not going to read the rest of the document, I take it?

[13] MR. DUFF: I'd like to have this document [14] marked as Plaintiff's Exhibit 287. [15] (Plaintiff's Exhibit 287 [16] marked for identification).

[17] MR. DUFF: Mr. Wood, this document has been [18] marked as Plaintiff's Exhibit 287 and bears [19] production numbers TRAN 055792 through 94. Please [20] take as much time as you need to familiarize [21] yourself with this document.

[22] A: Yes.

[23] Q: Do you recognize this document?

[24] A: Today I do, yes.

[25] Q: Would you please identify this document for

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[1] the record?

[2] A: This is a letter from the Institute of [3] Analytical Chemistry at the University of Stockholm, [4] Sweden, and it's dated February 27, 1967, and it was [5] addressed to Mr. Gene C. Wilde in the plasticizer [6] sales department of Monsanto Company in St. Louis, [7] Missouri, and it was signed by Gunnar Widmark.

[8] Q: Did you receive a copy of this letter on or [9] about February 27, 1967?

[10] A: I don't believe I did.

[11] Q: Why is that?

[12] A: Because I have many of the letters that [13] we've examined, I recall when I did receive, you [14] know, a copy of them. This was a particular [15] correspondence that I find it difficult to recall [16] having received a copy at that time. I've become [17] familiar with this document because I've been shown [18] this document on a number of occasions, but I don't [19] recall having received a copy of this letter in [20] February of 1967.

[21] Q: Did you know in February 1967 that [22] chromatograms such as the one attached to this [23] letter demonstrated the increase of higher [24] chlorinated PCBs through a food chain and the [25] decrease of lower ones?

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

[2] A: I was aware that in various summaries of [3] Jensen's work that I had seen at that period of time [4] that one of the statements that routinely appeared [5] talked about an experience which Jensen described as [6] potentiation of higher chlorinated species, and that [7] was puzzling to me.

[8] Q: Widmark was Jensen's mentor, is that [9] correct?

[10] A: As I understand it, Professor Widmark was a [11] departmental head

and Mr. Jensen was one of his [12] graduate students. Whether they would have [13] described at that time that as a mentoring role, [14] certainly it would be a sponsorship role. It's not [15] uncommon in science that a departmental head's name [16] will appear on the papers of his research students.

[17] Q: What was Eugene Wilde's position at that [18] time?

[19] A: I had been familiar with Mr. Wilde for many [20] years throughout my career in Monsanto. What his [21] role was in February of 1967, I can only make a [22] supposition that Dr. Widmark was writing to him in [23] his capacity as described in the letter of being [24] involved in the plasticizer sales department of [25] Monsanto at that point in time. But Eugene held

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[1] responsibilities over the years in many different [2] Monsanto divisions.

[3] Q: Are you familiar with the lindane theory [4] that is referred to in this letter?

[5] A: Can you draw my attention to the reference?

[6] Q: It's at the bottom of the first paragraph. [7] Do you see where it says "The chromatograms added to [8] this letter demonstrates that the increase of the [9] higher chlorinated PCBs through a food chain and the [10] decrease of the lower ones, this is against the [11] lindane theory"?

[12] A: I don't know of a theory by the name of the [13] lindane theory.

[14] Q: Are you -- strike that. Were you aware of [15] a theory relating to lindane that existed around [16] this time that was discussed in the context of [17] Jensen's findings?

[18] A: No.

[19] Q: What is lindane?

[20] A: Lindane was a chlorinated pesticide. Its [21] precise formula, I can't remember.

[22] Q: Did Monsanto manufacture lindane?

[23] A: I believe not.

[24] Q: This letter indicates that Ola Palm met with [25] Jensen in January 1967, is that right?

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[1] A: The letter that, referring to Exhibit 287, [2] Widmark states that while he was in Germany Mr. Palm [3] had contacted Soren Jensen, and --

[4] Q: Did you meet with Soren Jensen at the same [5] meeting?

[6] A: Mr. Palm, from our discussion yesterday, had [7] a number of meetings with Jensen. I had a meeting [8] with

Jensen. Whether the meeting that Widmark is [9] alluding to was the one that Palm and I attended [10] together, I don't know.

[11] Q: Do you know if Palm met with Jensen at any [12] time when you were not present?

[13] A: Oh, yes.

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

[15] A: No, but I mean, I am aware because I asked [16] Palm for follow-up information and he met Jensen to [17] obtain that follow-up information.

[18] MR. CHAMBERS: I understand. I understood [19] that that was clear enough from from your prior [20] testimony.

[21] A: Well, I thought so, too.

[22] MR. CHAMBERS: But if you can clear it [23] further we'll take the time to do so.

[24] A: Let's make sure that we're clear on this.

[25] MR. CHAMBERS: Correct.

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[1] MR. DUFF: I just want to establish the [2] reference in this letter and whether or not that [3] refers in any way to a meeting that you may have had [4] with Mr. Jensen.

[5] A: I think had it been the specific meeting [6] that I had with Jensen it would have been likely [7] that Widmark is a precise enough gentleman he would [8] have said at the meeting with Mr. Palm and a member [9] of your Brussels staff. So my supposition, but it's [10] purely that, is that, no, this was one of the [11] meetings that Mr. Palm had with Jensen not in my [12] presence.

[13] Q: When you did meet with Jensen and -- strike [14] that. When you meet with Jensen in January of 1967, [15] Ola Palm was with you, correct?

[16] A: Yes, he was.

[17] Q: Did that conversation take place in English [18] or Swedish?

[19] A: Both. I do not speak Swedish.

The meeting [20] was conducted in English with Mr. Palm and Mr. [21] Jensen having exchanges in Swedish, if a question I [22] asked was not clear or if a response was confusing.

[23] Q: Please mark this as Exhibit 288.

[24] (Plaintiff's Exhibit 288 [25] marked for identification).

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[1] MR. DUFF: Mr. Wood, this document has been [2] marked as Plaintiff's Exhibit 288 and bears [3] production number TRAN 085999. Please take a moment [4] to familiarize yourself with this document.

[5] A: Yes.

[16] Q: Do you recognize this document?

[17] A: I recognize this document as a document [18] which I've seen in the process of being deposed. I [19] do not recognize this document as a letter which I [20] saw in 1967.

[21] Q: Were you aware, in the spring of 1967, of a [22] meeting that Professor Widmark had with Bayer in [23] Germany?

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

[25] Q: Were you aware on or about March 16, 1967 [26] that to that point the only U.S. publication that [27] had carried the story relating to Jensen's findings [28] was a publication called Chemical Engineering?

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

[30] Q: Please mark this as Exhibit 289.

[31] (Plaintiff's Exhibit 289 [32] marked for identification).

[33] MR. DUFF: Mr. Wood, this is a document that [34] has been marked as Plaintiff's Exhibit 289 and bears [35] production numbers TRAN 056026 through 30.

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[36] A: I have this document.

[37] Q: Do you recognize this document?

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

[39] Q: Do you know what the IUPAC commission is?

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

[41] Q: Are you familiar with H. Egan, secretary to [42] the commission, the Laboratory of the Government [43] Chemist?

[44] A: No, I'm not.

[45] Q: I'd like to direct your attention to the [46] third page of this document, which is TRAN 056028. [47] Do you see the synopsis which is little B in [48] parentheses?

[49] A: I see it.

[50] Q: Titled "Possible interference by chlorinated [51] biphenyls by G. Widmark"?

[52] A: My copy says the same.

[53] Q: Were you aware of this publication which [54] referred to work by Professor Widmark?

[55] MR. CHAMBERS: I object to the form. What [56] publication are you referring to? This publication [57] being the thing we're looking at or this publication [58] being --

[59] MR. DUFF: Exhibit 289.

[60] MR. CHAMBERS: He just said he didn't

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[61] recognize this.

[62] MR. DUFF: And I'm asking if you were aware [63] of it?

[64] A: Oh, I see. No, I was not aware of it.

[65] Q: In other words, did anybody tell you about [66] this publication?

[67] A: No. Not that I recall, no.

[68] Q: Did anybody tell you about -- strike that. [69] Please mark this as Exhibit 290. [70] (Plaintiff's Exhibit 290 [71] marked for identification).

[72] MR. DUFF: Mr. Wood, this document that I've [73] just handed you has been marked as Plaintiff's [74] Exhibit 290 and bears production numbers TRAN 056031 [75] through 32, and is another copy of the page in [76] Plaintiff's Exhibit 289, or pages in Plaintiff's [77] Exhibit 289 which have the numbers 1069 and 1070 at [78] the top of that publication. Do you see that?

[79] A: Are we talking about Exhibit 290 at the [80] present time?

[81] Q: Actually, both 290 and 289.

[82] A: Exhibit 290 appears to be a copy of two [83] pages from Exhibit 289.

[84] Q: And just for clarification of date here, [85] because the copy in Exhibit 289 is not clear, if you

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[86] refer to the second page of Exhibit 290, do you see [87] that the date of this publication was 1967, in the [88] upper right-hand corner?

[89] A: It's not clear in Exhibit 290, and it's [90] clipped off in the copy that I have of Exhibit 289.

[91] Q: You don't agree that on the second page of [92] Exhibit 290 that it says 1967 at the top?

[93] A: It says 19 something, but -- it says volume [94] 15, number 5, and there's a date, which I can detect [95] 19 and then there's a blur.

[96] Q: Also directing your attention to the [97] references that are on the second page of Exhibit [98] 290, do you see the first reference in that?

[99] A: The one that contains an asterisk to the [100] left?

[101] Q: Yes.

[102] A: Yes. That's a reference to the paper that [103] Jensen and Widmark, in an earlier exhibit, said that [104] they were publishing in Actachem. Scand.

[105] Q: And is it your understanding that that's [106] Exhibit 286?

[107] MR. CHAMBERS: I object to the form. That [108] the paper is Exhibit 286 or that the reference to [109] the publication of the paper is 286?

[110] MR. DUFF: The latter.

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[111] A: No, I can't confirm that, because the [112] reference contained in Exhibit 290 talks reference [113] one is the Jensen-Widmark Actachem. Scand. in press, [114] which sort of said it hasn't

been published yet. So [115] it's not in its final published form. I don't know [116] whether Exhibit 286 is an earlier draft, the draft [117] which they're talking about being in press or the [118] article that was finally published. I mean, there [119] seems to be a connection between the content, but I [120] can't claim that one is, indeed, the other.

[121] Q: Directing your attention to Exhibit 289, and [122] specifically the third page of that document, once [123] again, this is -- this page has production number [124] TRAN 056028. Were you aware in 1967 that there was [125] research that stated, quote, "Most of the unknown [126] compounds" -- strike that. Were you aware in 1967 [127] that there was research that indicated that, quote, [128] "Mass spectro of" -- strike that. Were you aware [129] in 1967 that there was research published which [130] stated that, quote, "A large number of unknown, but [131] chlorinated-containing compounds have been detected [132] in addition to ordinary pesticides in the analysis [133] of samples, using both electron capture and the [134] microcoulometric detector. Mass spectro of some of [135] these compounds obtained with a combined gas

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[136] chromatograph-mass spectrometer (LKB-9000) indicated [137] that most of the unknown compounds are [138] polychlorinated biphenyls, potentiated somewhat in [139] nature towards those of higher degree of [140] chlorination. A large number of samples have been [141] examined. Polychlorinated biphenyls are found [142] especially in fish and in sea birds, but also in [143] conifer needles and in some samples of human depot [144] fat".

[145] MR. CHAMBERS: I object to the form. You're [146] just reading that portion about the summary of [147] professor Widmark's work? Is that where you're at [148] in the document?

[149] MR. DUFF: Yes. I was quoting that [150] language. Were you aware of that research in 1967?

[151] A: I was aware that Jensen and Widmark had [152] carried out research which -- the results of which [153] had not at that stage been published by them. And [154] in terms of -- I later learned on releasing certain [155] information to Monsanto in St. Louis they had [156] specifically told us that we couldn't publish their [157] work. So, if you're asking me at that point in time [158] was I aware that research had been published, no, I [159] was aware that a research program had been carried [160] out and that

some of those results had been

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[1] communicated, pre-publication, to individual [2] scientists active in the pesticide residue area. [3] But that's all I can -- I can't take you any [4] further, Kevin.

[5] Q: Were you aware that the results of Jensen [6] and Widmark's work were as stated in the synopsis [7] contained on the page bearing TRAN 056028?

[8] A: 28?

[9] Q: Yes.

[10] A: I was aware that the general media had [11] pre-published, as I said, some information about [12] their work, which had led to there being a link [13] drawn between polychlorinated biphenyls and their [14] work, but I personally was still unclear as to [15] whether they really were finding residues of [16] commercial polychlorinated biphenyls. I was still [17] diligently searching at that point in time to try to [18] find out what exactly they were claiming and whether [19] this was valid or not.

[20] Q: Were you familiar in 1967 with the Journal [21] of the AOAC?

[22] A: No.

[23] Q: Do you know what AOAC stands for?

[24] A: I believe it stands for the Association of [25] Organic Chemists or something -- the American

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[1] Association of Organic Chemists, or something of [2] that nature.

[3] Q: But this was not a publication that you were [4] familiar with?

[5] A: It's not a publication I was familiar with. [6] It certainly wasn't a publication of which I was a [7] regular reader or a subscriber.

[8] Q: Please mark this as Exhibit 291. [9] (Plaintiff's Exhibit 291 [10] marked for identification).

[11] MR. DUFF: Mr. Wood, this document has been [12] marked as Plaintiff's Exhibit 291 and bears [13] production number TRAN 056457.

[14] A: Yes.

[15] Q: Do you recognize this document?

[16] A: Yes. This is a memo that was written to me [17] by Dr. Kelly in 1967.

[18] Q: And by this memo Dr. Kelly thanked you for [19] the information you sent him pursuant to his memo of [20] February 10, 1967, correct?

[21] A: He thanks me for having sent information to [22] him.

[23] Q: Do you recall if that was the information [24] that he had asked of you in his memo of February 10, [25] 1967?

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[1] A: I assume it was.

[2] Q: Do you recall if you had sent any other [3] information to Dr. Kelly in a document form in the [4] spring of 1967?

[5] A: At that particular -- at that period of [6] time, during the December 1966 and 1977, as I've [7] already testified, there were a number of written [8] and spoken communications between myself and Dr. [9] Kelly. Which particular piece of information that [10] he had requested and I had then gathered and [11] forwarded to him, I don't recall exactly what was [12] attached to the memo that he refers and is thanking [13] me for the information. It is almost certainly one [14] of the things that we have reviewed.

[15] Q: Dr. Kelly told you in this memorandum that [16] he was having Monsanto's analytical people as well [17] as a customer, NCR, evaluate that information, [18] correct?

[19] A: That's what he states in the first [20] paragraph.

[21] Q: Do you know why -- strike that.

Do you [22] know who among Monsanto's analytical people was [23] undertaking this evaluation?

[24] A: No, I don't. And I had no need to know at [25] that time. I mean, I was directing the information

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[1] to the people that I had been advised to -- were [2] capable of dealing with this, and I wanted it dealt [3] with, and I was reassured because Kelly said he was [4] having the analytical people. I didn't need to know [5] who specifically, because he was better qualified to [6] know who was best able to do this work.

[7] Q: Do you know what NCR stands for?

[8] A: National Cash Register.

[9] Q: And that was a customer of Monsanto's at [10] that time, is that right?

[11] A: They were a customer of Monsanto at that [12] time.

[13] Q: Do you know what business NCR was in?

[14] A: NCR was in the business -- Well, they were [15] in a number of businesses.

[16] Q: Let me ask you -- let me try to rephrase [17] the question for you. Do you know what business -- [18] strike that. Do you know what product of Monsanto's [19] NCR purchased?

[20] A: I believe they at that point in time were [21] purchasing a lower chlorinated chlorinated biphenyl.

[22] Q: Do you know the name of the product they [23] were purchasing?

[24] A: I don't know if they had a specific [25] proprietary name for the material which they used.

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[1] I mean, they were very security conscious. In [2] retrospect, I believe that they were purchasing a [3] product that we designated as Aroclor 1242.

[4] Q: And do you know how NCR was using Aroclor [5] 1242 in 1967?

[6] A: I believe that they were using it as a [7] solvent for coloring materials in a system which [8] they had developed for producing a multi-sheet [9] carbonless copying paper.

[10] Q: Do you know why NCR was given the [11] information that you had passed along to Dr. Kelly?

[12] MR. CHAMBERS: I'm going to object to the [13] form. But if you're able to answer, you may.

[14] A: I believe one of the earlier exhibits that [15] we looked at had said that NCR had asked questions [16] of Monsanto. But I believe, equally, that exhibit [17] was an exhibit that I had not seen at that time and [18] was not copied in, I can't remember in the sequence [19] that we've gone through. But NCR --

[20] Q: I'm asking you --

[21] A: NCR were a user of chlorinated biphenyls, [22] and a company that if there were sort of questions [23] of this sort about is chlorinated biphenyl in the [24] environment, I'm sure they would have been [25] interested and talking to Monsanto about that at

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[1] that point in time.

[2] Q: Do you know if Monsanto had sent any of the [3] information that you had sent to Dr. Kelly on to [4] customers who had asked about the effect of [5] polychlorinated biphenyls on the environment?

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

[7] A: I was made aware by this memo that they had [8] shared some of the information that I had sent to [9] Dr. Kelly with NCR. They did not routinely tell me [10] and list in any form companies that they had sent [11] information to.

[12] MR. DUFF: Were you aware there were any [13] other companies with which Monsanto shared the [14] information that you had sent Dr. Kelly?

[15] A: No.

[16] Q: In the spring of 1967?

[17] A: No.

[18] Q: In this memo Dr. Kelly told you

that with [19] respect to confusing and interchanging the [20] experience on chlorinated biphenyl, chlorinated [21] naphthylene and a combination of both, quote, "This [22] really is not too important and there is no question [23] but that Aroclor does possess a certain amount of [24] toxicity", correct?
[25] A: That's what he says. And the fact that we

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[1] presented supporting data in all our technical [2] literature about safeguards to be observed in using [3] Aroclor in its appropriate applications certainly [4] indicated our recognition that PCBs, if abused, [5] could have toxic consequences. But this is not to [6] assume the fact that if you take something as simple [7] as table salt, if you take too much of it, you can [8] get -- I mean, everything that we use and come into [9] touch with in our daily lives has toxic [10] consequences. So, I think this was a straight [11] forward statement, Aroclor has toxicity, salt has [12] toxicity, scotch has toxicity.

[13] Q: Not everything has toxicity?

[14] A: Everything has toxicity.

[15] Q: Does water have toxicity?

[16] A: Yes.

[17] Q: At what point does water become toxic to a [18] human?

[19] A: If you drink too many gallons of water. If [20] you go back to certain questioning techniques used [21] in dictatorships over time where they force water [22] tubes down people's throat and force water into [23] them. Water can be claimed to have adverse effects [24] on the human system if used in certain bad ways. [25] I'm trying to just put in perspective here that

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[1] let's not make more of that statement than Dr. Kelly [2] intended. He's saying we don't claim that there are [3] -- there is no toxic effect, that it is totally [4] clear of it. Nothing is.

[5] Q: And, in fact, he mentioned in this [6] memorandum that that was pointed out in Monsanto's [7] literature, is that correct?

[8] A: I'm sorry, he pointed out --

[9] Q: That toxicity of polychlorinated biphenyls [10] was --

[11] A: Yes, he points this out.

[12] Q: And Dr. Kelly also told you in this [13] memorandum that he thought that Monsanto should [14] fight the battle of the analytical method first [15] before getting too involved with the toxicology, is [16] that correct?

[17] A: The final paragraph makes that

statement. I [18] interpret that statement, and did interpret that [19] statement to sort of say that to do any meaningful [20] toxicological work you have to have a secure [21] analytical base, and so there's some resolution that [22] needs to be done about confirming the analytical [23] technology before you start doing tests on animals [24] that -- or any type of toxicological study where [25] you can't measure the effect of what you're doing.

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[1] But this, in the period of the 1960s and the 1970s, [2] as the chemical industry, its customers and the [3] public at large were becoming aware that there was a [4] need for better analytical techniques so that one, [5] indeed, could start to measure if there were [6] presence of materials in the environment and then [7] carry out intelligent, appropriate testing to be [8] able to appropriately consider the consequences of [9] such presence.

[10] Q: Please mark this as Exhibit 292.

[11] (Plaintiff's Exhibit 292 [12] marked for identification).

[13] MR. DUFF: Mr. Wood, this document has been [14] marked as Plaintiff's Exhibit 292 and bears [15] production numbers TRAN 055945 through 47. Please [16] take a moment to familiarize yourself with this [17] document.

[18] A: Yes.

[19] Q: This document is an article titled [20] "Organochlorine pesticides in seals and porpoises", [21] correct?

[22] A: That's the heading on the middle of the [23] first page, which I purport is what's being copied [24] here.

[25] Q: It's authored by A.V. Holden and K. Marsden,

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[1] correct?

[2] A: That's what it states.

[3] Q: Do you recognize this document?

[4] A: No.

[5] Q: Were you aware of this document in 1967?

[6] A: Couldn't have been.

[7] Q: Why is that?

[8] A: Because it wasn't received for publication [9] until December of '67.

[10] Q: Were you aware of this document in 1968?

[11] A: No.

[12] Q: Did you ever become aware of this document?

[13] A: I believe I became aware of this document's [14] existence, never reading it in-depth, in the mid [15] 1970s.

[16] Q: How is it that you recall that date?

[17] A: When I moved -- you'll recall that when we [18] reviewed my curriculum vitae that at the end of 1967 [19] I was transitioning to a different assignment within [20] Monsanto Europe which was not involved in any sense [21] with PCBs, and so I certainly had not seen this [22] document before I made that career change. In 1974 [23] when I moved to an appointment in the United States, [24] I had some renewed contact with PCBs, and as part of [25] refreshing my own memory as to what had happened in

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[1] the period that I had not been involved with PCBs, [2] I'm fairly sure at that point in time I became aware [3] of this particular report. I don't recall having [4] read it in detail.

[5] Q: Do you recall why you became aware of this [6] report at that time?

[7] A: Now we're talking about in 1974 or '5?

[8] Q: Yes.

[9] A: Because I had a renewed involvement in [10] products within Monsanto which contained chlorinated [11] biphenyls, and as part of educating myself over time [12] I read material that had been published pertinent to [13] PCBs.

[14] Q: How did you go about educating yourself in [15] 1974 relating to PCBs?

[16] A: I think I mentioned that this was really [17] '75, was the statement I made, so --

[18] Q: How did you go about educating yourself in [19] 1975 about PCBs?

[20] A: I asked colleagues in Monsanto if they could [21] give me folders from their files which contained [22] material which they felt might be helpful to give me [23] an overview of the evolving PCB situation. I mean, [24] that was -- people briefed me on some specific [25] issues, I did some general reading. How does one

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[1] educate ones self?

[2] Q: Which colleagues did you ask for materials?

[3] A: I asked Paul Benignus for materials. I [4] can't recall whether Papageorge was involved at that [5] time, but he certainly was, over the years, a source [6] of background reading which I needed in all cases to [7] glance at, if not necessarily fully -- to fully [8] read. Dr. Paton gave me some materials to read. I [9] talked to people in Monsanto's research [10] departments. They, again, gave me some background [11] information and some reading material. I had access [12] to a number of functions within Monsanto that were [13]

able to help me understand PCBs in 1975.

[14] Q: Do you recall who specifically gave you [15] materials from their files?

[16] A: I know I had material from Dr. Paton and I [17] know I had material from Mr. Benignus. I know I had [18] material from Dr. Munch. Those are the people that [19] I recall having been helpful to my self-instruction.

[20] Q: I'd like to return to the period we were [21] talking about previously, which was the end of [22] 1967. And you had stated that at the end of 1967 [23] that you had changed positions, and referring back [24] to your curriculum vitae which has been marked as [25] Exhibit 273, this document indicates that you

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[1] actually moved to your new position in the food and [2] fine chemicals area in January of 1968, is that [3] right?

[4] A: Specifically, it states that I moved to that [5] -- the announcement was made, the change became [6] formal on January 7th, the beginning of January [7] 1968. Again, just as context, it's not abnormal [8] that you know of a job move some little period [9] before it's actually announced on the board. I [10] mean, they don't surprise you as they surprise the [11] public at large sometimes by announcements that are [12] made in any large organization. And there is [13] normally a transition where you're trying to gather [14] information about your new assignment so you can hit [15] that one running and you're doing double duty that [16] you're trying not to relax your activities for the [17] areas that you were previously accountable for. But [18] there is a transition period. So, in December of [19] 1967 I was already beginning to familiarize myself [20] with the responsibilities that I would undertake in [21] my new assignment.

[22] Q: But you continued to have responsibilities [23] through at least January 6, 1968 in the dielectric [24] fluids area?

[25] A: I was really turning over that period to the

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[1] person who was to replace me in the dielectrics [2] area, so many things that would appear on my desk at [3] that point in time, straight commercial stuff as [4] well as chlorinated biphenyl materials of the type [5] we've been reviewing, I would have marked up, sort [6] of saying you need to involve yourself in this and [7] passed it on to my -- the person who was replacing [8] me

in the dielectrics area.

[9] Q: Who replaced you in the dielectrics area?

[10] A: Peter Marsh.

[11] Q: Even after you moved into the food and fine [12] chemicals area in January of 1968 you continued to [13] stay in the loop of information relating to Jensen's [14] findings, correct?

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

[16] A: But I can answer the question?

[17] MR. CHAMBERS: Sure.

[18] A: No, I didn't. There was one occasion when I [19] was asked, and I still don't quite know why I was [20] asked once I was in the food and fine job to [21] reinsert myself for a very temporary period into the [22] PCB loop. But, no, I described when we went through [23] my curriculum vitae that the breadth and scope of [24] the job I was undertaking in the food and fine [25] chemical area, I could not do that job and keep

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[1] casual loop interest in the PCB area. I had to be [2] able to turn that over to my successor.

[3] Q: In December or January -- in December of [4] 1967 or January of 1968 were you aware that [5] pesticides could accumulate in the tissues of [6] animals?

[7] A: No.

[8] Q: Were you aware that organochlorine could [9] accumulate in the tissues of animals?

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

[11] A: I was aware at that point in time that in [12] some of the public communications about [13] organochlorine-containing pesticides that people [14] were beginning to evolve theories of bioaccumulation [15] through the release of those pesticides into [16] waterways and, therefore, material could accumulate [17] through fish and -- fish eating species. But, [18] again, you know, we are at a period in history, [19] again, that anybody involved with the chemical [20] industry was obviously beginning to understand some [21] of this new terminology, the new theories involving [22] chemical dispersion. This was a radically and very [23] quickly changing area.

[24] Q: Were you aware at this time that PCBs could [25] bioaccumulate in certain species?

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[1] A: No.

[2] Q: Did you become aware of that at some time in [3] the future?

[4] A: I became aware that -- in 1974

and 1975 that [5] PCBs had a capability of bioaccumulation. And, [6] again, I'd ask you to note that now we are getting [7] into some better technology when I became more -- [8] when I refamiliarized myself with this, now we have [9] a term like bioaccumulation whereas one in [10] retrospect, purely hindsight, you consider that what [11] Jensen was talking about as potentiation may have [12] been a first struggling intellectual search towards [13] bioaccumulation theory. But now I'm talking, again, [14] from a 1974, '75 perspective.

[15] Q: Mr. Wood, this document has been previously [16] marked as Plaintiff's Exhibit 199.

[17] A: You said previously marked?

[18] Q: Previously marked. This document bears [19] production numbers TRAN 086029 through 30. Are you [20] familiar with this document?

[21] A: Wait a minute, I've got two memos here which [22] appear to be the same. Should this be a one sheet [23] or a two sheet document?

[24] Q: This document was produced to us as a two [25] page document. Do you agree that the second page

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[1] appears to be a duplicate or a --

[2] A: Yes. That's why I turned over to read the [3] second page and it appears to be a copy.

[4] Q: Another copy of the first page?

[5] A: Of the first page.

[6] Q: We'll just discuss the first page unless you [7] find it easier or --

[8] A: I find it easier to read the second page. I [9] was trying to make sure that I didn't need a copy, [10] because the front cover is very unclear. Okay, I [11] have it.

[12] Q: And this is -- could you please identify [13] this document for the record?

[14] A: This is a memo from Dr. Hardy in London to [15] Dr. Richard in St. Louis. And I am copied on this, [16] even though this post-dates my change of [17] assignment. And the sub-heading is Aroclors, and [18] it's dated 23rd of February 1968.

[19] Q: Was this a document you received on or about [20] February 23, 1968?

[21] A: I received it, and I think I would have [22] passed it straight on to my successor in the [23] dielectrics business.

[24] Q: By this memorandum Dr. Hardy informed you [25] that he had seen nothing further with respect to

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[1] Jensen and Widmark's work over the past year, [2] correct?

[1] A: That's under heading A.

[4] Q: And is that what he told you?

[5] A: That's what he wrote. As I said, at that [6] point in time I was very busily engaging myself in, [7] and I am pretty sure I would have passed this memo [8] on to my successor in dielectrics. So, he told me. [9] Did I hear it? Probably not.

[10] Q: Was it your practice to read all [11] correspondence that was addressed to you?

[12] A: I read all correspondence that was addressed [13] to me. Would it register deeply? I speed read. [14] And so if it was something which was better handled [15] by somebody else and more appropriately handled by [16] somebody else, I wouldn't thoroughly digest the [17] document, I would send it to the person who should [18] be handling it with a request, deal with it.

[19] Q: But it was your practice to read everything [20] that was addressed to you?

[21] A: Oh, yes.

[22] Q: And Dr. Hardy also informed you in this [23] memorandum that Tatton's work confirmed the work of [24] Jensen, is that correct?

[25] A: Again, he communicated to a group of people,

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[1] including myself, that information in this memo. [2] Did I tune in and receive that communication? I [3] believe not.

[4] Q: In this document that you received from Dr. [5] Hardy he wrote that Tatton's paper, quote, "Confirms [6] the work of Jensen, and in particular shows close [7] similarity between gas liquid chromatograms of [8] extracts of kestral liver oil and commercial [9] polychlorobiphenyl resin", correct?

[10] A: Well, I mean, if we've already got this [11] particular memo entered in the record, and I've [12] already stated that I did not take it in detail, [13] do we gain anything by my confirming that you're [14] reading it very accurately?

[15] Q: We gain something -- I believe we gain [16] something by showing that you were informed of these [17] points.

[18] A: Okay. Therefore, let me respond by saying I [19] was informed by this memo by Dr. Hardy of that fact.

[20] Q: And in this memorandum Dr. Hardy further [21] informed you that Richardson's work and [22] correspondence with him show that he was satisfied [23] that, that is, Richardson was satisfied that [24] octochloro biphenyl was present and that his results [25] were substantially in line with those of Tatton,

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[1] correct?

[2] A: On rereading this memo in November of 1995, [3] I can confirm that it appears that Mr. Hardy was [4] communicating to a group of people that he believed [5] at that point in time that what you state is [6] correct, as a good reading of paragraph C.

[7] Q: Are you familiar with the River Witham [8] that's referred to in the --

[9] A: The River Witham is a river in England. Am [10] I very familiar with it? No.

[11] Q: Are you familiar with the valley of the [12] River Witham?

[13] A: By personal visit, knowledge or historical [14] study, no. I know very vaguely where the River [15] Witham is.

[16] Q: Where is it?

[17] A: In East Anglia.

[18] Q: And did Monsanto have a manufacturing [19] facility in the valley of the River Witham?

[20] A: Boy, if we did, it was a very secret [21] installation. I never knew about it.

[22] Q: Are you aware if Monsanto had any facilities [23] near the valley of the River Witham?

[24] A: I don't believe we did.

[25] Q: Do you recall if Monsanto had any customers

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[1] that were located in the valley of the River Witham?

[2] A: For the products that I was responsible for, [3] I cannot recall there being any customer in that [4] part of the country.

[5] Q: Were you aware of any customers that used [6] other products other than dielectrics who were [7] located in that part of the country?

[8] A: Yes.

[9] Q: Which companies do you recall?

[10] A: There was a company called Brotherhood in a [11] city called Peterboro, who used small amounts of [12] organic silicate. And I'm sure there were packaging [13] companies in that part of the country which used [14] some plastics. But, again, I fail to see the [15] relevancy of my going through a complete Monsanto [16] London 1977 product catalog, which I can see us [17] headed towards doing, and going through a customer [18] list of all products just to prove did anybody in [19] that corner of England buy any product from [20] Monsanto.

[21] Q: I'm just exploring the reference that's in [22] this document to the valley of the River Witham.

[23] A: And I've already told you I'm not familiar [24] with this memo.

[25] Q: In this document Dr. Hardy informed you that

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[1] Richardson believed that there was contamination of [2] bird life in the valley of the River Witham, [3] correct?

[4] A: Again, as I read this in November 1995, it [5] appears that that was what Dr. Hardy tried to inform [6] me of in February of 1968.

[7] Q: Please mark this as Exhibit 293.

[8] (Plaintiff's Exhibit 293 [9] marked for identification).

[10] MR. DUFF: Mr. Wood, this document has been [11] marked as Plaintiff's Exhibit 293 and bears [12] production number 058004. Do you recognize this [13] document?

[14] A: This is a memo from a gentleman called Colin [15] Coleman, addressed to a gentleman called J.M.M. [16] Thompson, a copy to P.J.A. Marsh and myself, dated [17] the 11th of June 1968.

[18] Q: Do you recall receiving this memo?

[19] A: No.

[20] Q: Who was Colin Coleman?

[21] A: Colin Coleman was a physicist who was a [22] specialist in capacitor dielectric technology and [23] who was located in our technical service laboratory [24] in Ruabon, North Wales. [25] Q: Who was J.M.M. Thompson?

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[1] A: Mike Thompson was the salesman in Great [2] Britain responsible for the sale of transformer and [3] capacitor dielectric materials.

[4] Q: Do you know what Colin Coleman was referring [5] to when he wrote "The only reference I have to the [6] pollution of the atmosphere and rivers by [7] chlorinated biphenyl is a New Scientist article"?

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

[9] A: I'm not aware of the question that had been [10] posed to Colin Coleman, I presume by J.M.M. [11] Thompson, which had led him to write this memo to [12] J.M.M. Thompson on this subject.

[13] Q: Do you recall if you did anything on the [14] issue of Pyroclor disposal on or about June 11, [15] 1968?

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

[17] Q: Do you recall speaking with Mike Thompson on [18] or about June 11, 1968?

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

[20] Q: Do you recall if Colin Coleman

called you in (21) reference to this issue?
(22) A: No, I don't.
(23) MR. DUFF: Off the record. (24)
(Recess).
(25) MR. DUFF: Please mark this as
Exhibit 294.

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(1) (Plaintiff's Exhibit 294 (2) marked
for identification).
(3) MR. DUFF: Mr. Wood, this
document has been (4) marked as
Plaintiff's Exhibit 294 and bears (5)
production number TRAN 058757. Do
you recognize (6) this document?
(7) A: Yes, I do.
(8) Q: Were you shown this document
in preparation (9) for your deposition?
(10) A: I don't remember.
(11) Q: Will you please identify this
document for (12) the record?
(13) A: This was a memo from Scott
Tucker. It's (14) dated January 30, 1969,
addressed to me in Brussels, (15)
Belgium, with copies to a Mr. R.E.
Keller, W.R. (16) Richard and E. Wheeler.
(17) Q: And did you receive this
document on or (18) about January 30,
1969?
(19) A: Unless something went very
wrong with the (20) mail, yes, I did.
(21) Q: Who is E. Wheeler?
(22) A: That seems to ring a bell. That
was Elmer (23) Wheeler, who was
working for Monsanto in St. Louis (24)
associated with the product safety,
industrial (25) health area.

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(1) Q: Was he associated with the
medical (2) department?
(3) A: I don't recall whether he was
part of the (4) medical department or
whether he was actually a (5) medical
doctor or whether he was in one of the
(6) associated groups which were
professional (7) technologists who were
involved in the product (8) safety area.
(9) Q: The subject matter of this
memorandum was (10) chlorinated
biphenyl in wildlife, correct?
(11) A: That's the title in the memo.
(12) Q: Dr. Tucker asked you to bring
him and others (13) up-to-date on
chlorinated biphenyl in wildlife, is (14)
that right?
(15) A: That was his request.
(16) Q: What did you do when you
received this (17) request?
(18) A: I think I would have given the
memo to Peter (19) Marsh.
(20) Q: Do you recall doing so?
(21) A: No.
(22) Q: Do you recall if you had had
previous (23) conversations with Dr.
Tucker before receiving this (24)

memorandum?
(25) A: No, I don't.

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(1) Q: Were you aware at the time of
this (2) memorandum why Dr. Keller
was asking -- excuse me. (3) Were you
aware at the time of this memorandum
why (4) Dr. Tucker was asking you to
bring him up-to-date on (5) chlorinated
biphenyl in wildlife?
(6) MR. CHAMBERS: I object to the
form.
(7) A: When we started talking about
my change of (8) job when I entered the
food and fine business area, (9) I told
you that there had been occasion to --
that (10) people had reached out to me in
my new position and (11) either had not
been advised that I changed my job or
(12) they were new and in getting the
files contacted me, (13) and those -- at
infrequent intervals while I was (14)
involved with the food and fine area
people did (15) reach out to me from the
European organization and (16) from the
U.S. organization, and in most of those
(17) cases I referred their inquiries over
to the (18) appropriate people who carried
those (19) responsibilities at that time for
the dielectrics (20) area. But I would not
have just pitched any memo (21) straight
in the waste paper basket without making
(22) sure that it was redirected to
somebody who (23) appropriately could
take action on it.
(24) Q: Were you aware how activity in
the United (25) States had increased at this
time with respect to

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(1) PCBs in wildlife?
(2) A: No.
(3) Q: Did you ask anybody after you
received this (4) memorandum from Dr.
Tucker what he was referring to (5) when
he made that point?
(6) A: No.
(7) Q: Were you familiar with the
analytical and (8) biological work that
was under way at Monsanto to (9) see if
Aroclor was present in wildlife?
(10) A: No.
(11) Q: Were you aware that Dr. Tucker
was involved (12) in any research along
those lines?
(13) A: At some point while I was in the
food and (14) fine area Dr. Tucker and I
did speak, so sometime in (15) that period
of my food and fine involvement I
became (16) aware that an individual
called Dr. Scott Tucker had (17) become
involved in PCB work. Did we
routinely (18) discuss PCBs? No.
(19) Q: When did you and Dr. Tucker
meet to (20) discuss --

(21) A: Again, I don't recall the date. I
know (22) sometime in the period that I
was involved in the (23) food and fine area
Dr. Tucker asked for my help. (24) And I
think it was in association with Jensen,
(25) because I had met Jensen. But I
don't recall the

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(1) specifics, and I said, you know, this
was an (2) abnormal event, very much
out of the course of my (3) day-to-day
activities, and during the period that I
(4) was involved in the food and fine
area I was not (5) actively engaged in
chlorinated biphenyls.
(6) Q: Did Dr. Tucker call you or did
you meet with (7) him?
(8) A: Again, I don't recall. I'm sure
that we (9) have some communication
documents that we will get (10) to in the
fullness of time which will clarify for (11)
both of us whether it was a telephone
call or a (12) meeting.
(13) Q: Did you facilitate Dr. Tucker's
getting in (14) touch with Soren Jensen?
(15) A: I think that was a request I
made, and I (16) think I may have
interjected myself with Palm and (17)
Rising and Strand to try to, because I
was one of (18) the few people in the
European organization who had (19)
actually met Soren Jensen.
(20) Q: You received this memo from
Dr. Tucker (21) approximately 26 months
after you had first heard of (22) Jensen's
work from Ola Palm, correct?
(23) A: If 26 is -- December of '66.
Yes, it would (24) be about 26 months.
(25) Q: Please mark this as Exhibit 295.

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(1) (Plaintiff's Exhibit 295 (2) marked
for identification).
(3) MR. DUFF: Mr. Wood, this
document has been (4) marked as
Plaintiff's Exhibit 295 and bears (5)
production number TRAN 058495. Do
you recognize (6) this document?
(7) A: Yes.
(8) Q: Did you receive this document --
strike (9) that. Did you author this
document on February 4, (10) 1969?
(11) A: Yes, I did.
(12) Q: Did you review this document in
preparation (13) for your deposition today?
(14) A: No, not specifically. I mean, it
was (15) probably in the stack of
documents that we leafed (16) through, but
I didn't review it in detail.
(17) Q: And did you write this
memorandum to Scott (18) Tucker in
response to the memorandum he had
sent you (19) which has been marked as
Plaintiff's Exhibit 294?
(20) A: Yes. That was his memo of

January 30th. [21] Okay.

[22] Q: By this memo you recapped for Dr. Tucker the [23] consideration that had been given to Soren Jensen's [24] work when it was first published in Sweden, correct?

[25] A: Yes.

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[1] Q: And you told Dr. Tucker that when he first [2] published his work you met with him in Sweden, [3] correct?

[4] A: And in hindsight, accurately, I used the [5] term at the time that Jensen in Sweden first [6] published his assertions about the presence of [7] Aroclor, they were published on his behalf by the [8] LKB Productor people in the newspaper.

[9] Q: So you --

[10] A: I just want to make the point that Jensen at [11] the time that I met with him had not formally [12] published. But that's --

[13] Q: But it was at the time that you received a [14] copy of the presentation he had given at the [15] Wenner-Gren Centre on November 22, 1966?

[16] A: Remember, I got that in January, I think it [17] was, or February of 1967. But we're talking about [18] the same period of time. Okay?

[19] Q: One of the things that you told Dr. Tucker [20] in this memorandum was that, quote, "I don't think [21] at that time we questioned that he had in actual [22] fact found chlorinated biphenyl in the sea eagle's [23] livers", correct?

[24] A: And, again, what I was saying by that, we [25] didn't know enough about his work. When I met with

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[1] Jensen we were trying to find out what he had done [2] and what he had found. We did not get [3] confrontational and say to him you have not found [4] chlorinated biphenyls. At that stage we were in, as [5] I described earlier to you, the fact finding mode of [6] trying to find out exactly what was the aim, [7] direction, procedures and the quality of the work [8] that Jensen had done. It would have served no [9] purpose for us to get into a verbal conflict with [10] him about saying there's no way these are [11] chlorinated biphenyls. I certainly had a lot of [12] questions in my own mind in 1966 and '67, as I [13] described, as did many people in Monsanto. But [14] that's the way it was.

[15] Q: In this memo of February 4, 1969 you wrote, [16] quote, "I don't think at that time we questioned [17] that he had in actual fact found chlorinated [18]

biphenyl in the sea eagles' livers", correct?

[19] A: That's what I said, and I've just amplified [20] that comment for you.

[21] Q: Another thing that you told Dr. Tucker was [22] that at that time you had questioned -- and at that [23] time was in the beginning of 1967, you had [24] questioned the quotation of certain medical [25] information by Jensen, correct?

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[1] A: Yes, I state that in this memo.

[2] Q: You then also told Dr. Tucker that since [3] Jensen had appreciated this point, you let the [4] matter rest, not wanting to stir up further [5] agitation in other countries, correct?

[6] A: That's what I said in this memo.

[7] Q: And Monsanto had let the matter rest, as you [8] said in this memo, because it did not want to get [9] too involved in the issue of PCBs accumulating in [10] the environment, correct?

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

[12] A: I'm not sure I understand your question.

[13] Q: What did you mean by "let the matter rest"?

[14] A: When I met with Jensen, one of the areas of [15] discussion was the fact that, forgetting for a [16] moment his report about his analytical research [17] work, he had or had allowed that work to be [18] associated with some statements about toxicological [19] matters, which was not his area of expertise, and [20] which were inaccurate, but which had been emphasized [21] and further distorted in the daily media in Sweden. [22] It's my experience that when inaccurate reports are [23] published in the press, you've normally got two [24] potential courses of action, you can remain silent [25] on the issue or you can get into a strong letter

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[1] writing to editors campaign to sort of say this [2] isn't right. Since we were not even sure what it [3] was that Jensen was finding at that time, it would [4] have been totally inappropriate for Monsanto to [5] start a debate with the press about the toxicology [6] of chlorinated biphenyls at very low levels where we [7] already knew that test work related to effects of [8] chlorinated biphenyls at those low levels didn't [9] exist, had never been done and the techniques to do [10] such work had not yet been developed, so we could [11] only further stir speculation without being [12] practically useful to society by

engaging in a media [13] debate at that time. And in that context we let the [14] matter rest.

[15] Q: Should Monsanto have been engaged in a [16] debate within the scientific community regarding [17] Jensen's findings?

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

[19] A: Monsanto should not have been involved in a [20] debate at that point in time inside the scientific [21] community. Monsanto should, as it did, have started [22] to review the work, and on the basis of supporting [23] document and good scientific discussion have engaged [24] in discourse with the scientific community, as we [25] did, in terms of what was appropriate action to

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[1] begin to set a framework for identification, [2] clarification, testing of residues.

[3] Q: Did Monsanto set a framework for [4] identification, clarification and testing of [5] residues in the beginning of 1967?

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

[7] A: Yes, we did.

[8] MR. DUFF: How did Monsanto do that?

[9] A: We started to -- at the beginning of 1967, [10] as you observed from the documents that we've been [11] rigorously reviewing, we had involved the [12] applicational arms of Monsanto, we had involved the [13] medical arm of Monsanto, we had involved product [14] safety arm of Monsanto, we had involved the [15] commercial arm and the general management arms of [16] Monsanto, we had had our scientific specialists, in [17] some cases without my knowledge, in some cases with, [18] in discussion with Widmark, we had been responsive [19] to requests for isomers which they felt -- or [20] addressing their request for isomers which were [21] difficult to get. We had begun at that time, and [22] over the period -- I mean, I began to hear things [23] from Scott Tucker who was brought in to add further [24] power behind Monsanto's analytical efforts in this [25] area. So, these are all beginning to build a

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[1] framework. So, yes. Did it spring whole formed [2] into creation on December 30, 1966? No, it didn't. [3] Was it appropriately addressed? Yes.

[4] Q: Was it possible to test Jensen's hypothesis [5] and his findings without the benefit of a combined [6] gas

chromatograph mass spectrometer?

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

[18] A: I don't know. I told you earlier that [19] although I have an undergraduate degree in [110] chemistry, I certainly am not an expert in [111] analytical technology. So, having raised the issue [112] of Jensen's research, there were people within [113] Monsanto who were qualified to decide how that [114] information should be given appropriate internal [115] review.

[116] Q: Do you agree that in the beginning of 1967 [117] Monsanto entered the discourse of hypothesis testing [118] of Jensen's work?

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

[120] A: I don't understand the question. [121] Particularly, I have trouble with questions that [122] begin "Do you agree". Can you ask me a straight [123] forward question?

[124] MR. DUFF: Did Monsanto begin to -- perhaps [125] you just answered this by the last question, but so

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[11] I understand and the record is clear, did Monsanto [12] begin to test Jensen's hypothesis in the beginning [13] of 1967?

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

[15] A: Yes. Again, I object to the form of the [16] question, too. Because did Monsanto test the Jensen [17] hypothesis? Well, did Monsanto begin the internal [18] dialogue of how -- what was the significance of the [19] Jensen work, what should Monsanto do to responsibly [110] absorb the data and move forward? Yes, we did. If [111] that's what you mean by test the hypothesis, then [112] the answer is yes. Did we go out and buy an LKB [113] Productor machine? You asked me that yesterday and [114] I said I didn't know.

[115] Q: By the time of your memo dated February 4, [116] 1969, had Monsanto determined that the results of [117] Jensen's research were valid?

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

[119] A: No, I can answer that.

[120] MR. CHAMBERS: Sure.

[121] A: I mean, I intervened when I received Scott [122] Tucker's memo of January 30th that, in fact, the [123] fact that we found that I responded with the memo of [124] the 4th of February says that I was even more [125] conscientious in my new job than I thought I had

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[11] been. I told you thought I passed it

on to Peter [12] Marsh. No, I actually sort of asked somebody some [13] questions and responded directly to Scott. So, I'm [14] proud of myself. But did I get so thoroughly [15] involved that I wanted to find out in great major [16] detail exactly what had been done at that point? [17] No. I had other responsibilities at that time.

[18] Q: Please mark this as Exhibit 296.

[19] (Plaintiff's Exhibit 296 [110] marked for identification).

[111] MR. DUFF: Mr. Wood, this document has been [112] marked as Plaintiff's Exhibit 296 and bears [113] production number TRAN 058769. Please take a moment [114] to peruse this document.

[115] A: Yes.

[116] Q: Do you recognize this document?

[117] A: Yes, I do.

[118] Q: Would you please identify this document for [119] the record?

[120] A: This is a memo from Elmer Wheeler, and here [121] I see he does claim to be part of the medical [122] department, to R.E. Soden, S-o-d-e-n, in Brussels. [123] I am copied on this memo, which was dated April 16, [124] 1969 and entitled "Polychlorinated biphenyls in the [125] environment". And there were many other people in

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[11] the European organization copied on this particular [12] memo.

[13] Q: Who was R.E. Soden?

[14] A: R.E. Soden was an American expatriot heading [15] up the -- either the whole of Monsanto Europe at [16] that time or the chemical side of Monsanto Europe at [17] that time.

[18] Q: Did you have any contact with him in [19] Brussels?

[110] A: From time to time. Not frequently. I was [111] still -- had not achieved a position of eminence [112] which allowed me daily contact with Bob.

[113] Q: Do you recall what his position was exactly [114] -- or his title, rather?

[115] A: I can't remember at that time whether he was [116] president Monsanto Europe or president chemicals [117] Monsanto Europe. I mean, he was a senior executive [118] of Monsanto Europe.

[119] Q: How long had he been in that position?

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

[121] A: I don't have Bob's curriculum vitae. I mean [122] I don't remember when he came to Europe and when he [123] went back to St. Louis.

[124] MR. DUFF: In this memo Dr.

Wheeler -- is [125] it Dr. Wheeler or Mr. Wheeler?

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[11] A: I thought it was Mr. Wheeler. If I do you a [12] discourtesy, Elmer, I'm sorry.

[13] Q: In this memo Mr. Wheeler tells Soden that [14] your people in Europe were the original contacts in [15] late 1966 and early 1967 with scientists and [16] university and government laboratories who [17] identified PCBs as interfering substances when [18] determining chlorinated pesticide residues in fish, [19] sea eagles, pine needles, et cetera, correct?

[110] A: That is so, as we've look at it in [111] exhausting detail.

[112] Q: By the term your people, he was referring to [113] you in particular, is that correct?

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

[115] A: No. No. No. I mean, I don't know. I [116] mean, what he was saying is your people, and I [117] understand him to mean by your people people in the [118] Monsanto European staff, which included me and [119] colleagues of mine, again, that we've researched [120] documents here and sort of said -- I was not lonely [121] as a cloud in this thing.

[122] Q: My question was, that included you and [123] others, is that correct?

[124] A: It included me and others, yes.

[125] Q: And do you recall what government

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[11] laboratories that you made contact with?

[12] A: I didn't make contact with government [13] laboratories.

[14] Q: Do you recall who in Monsanto Europe did so?

[15] A: Yes. It's that good man Dr. Hardy, whose [16] memos we keep sort of reviewing about his contacts [17] with government laboratories.

[18] Q: Were there scientists at other universities [19] besides Stockholm with whom you spoke in December of [110] 1966 or in 1967?

[111] A: Is "you" David Wood or "you" collective [112] Monsanto Europe or --

[113] Q: You, David Wood.

[114] A: I didn't talk to anybody else at that point [115] in time.

[116] Q: In this memo Mr. Wheeler told you that the [117] story relating to identification of PCBs in wildlife [118] first broke in the U.S. public press in February [119] 1969, correct?

[120] A: Where are we looking here?

[121] MR. CHAMBERS: Paragraph two,

if he's not [22] pointing it out to you.
[23] MR. DUFF: I'm looking for it myself. I [24] think it's the second paragraph.
[25] A: Okay. Until February of this year. I was

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[1] looking for 1969.
[2] MR. CHAMBERS: That's where I picked up [3] '69.
[4] A: The memo is 1969, and since it's February of [5] this year and he's sort of talking about the story [6] breaking in the public press in the United States. [7] That's what he states. And he was here in St. Louis [8] reading the newspapers, I was in Brussels not [9] reading the American newspapers.
[10] Q: Were you familiar with the story that was [11] published in the U.S. public press in February 1969?
[12] A: No, I wasn't.
[13] Q: Did you become aware of an article published [14] in the U.S. public press in February '69 at a later [15] date?
[16] A: Not that I could quote today which paper it [17] appeared in and what it said. It was probably as [18] part of a lexicon of PCB documents, it's probably [19] passed across my desk at some point since 1974, but [20] I can't surface it for. I've read millions of pages [21] of PCB information over the years.
[22] Q: Were you aware of Monsanto's effort that [23] began in July or August 1969 in the organic division [24] and in consulting laboratories to protect the sales [25] and uses of Monsanto's PCBs?

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[1] A: No.
[2] Q: Did you advise Mr. Wheeler or anybody else [3] in St. Louis as to whom they should meet with at [4] Bayer in Leverkusen?
[5] A: I don't recall, because I don't remember if [6] I even knew at that time who had corporate [7] responsibility for dielectrics or chlorinated [8] biphenyls in the Bayer organization. I mean, I [9] would have known that earlier in time, because on [10] certain technical issues about dielectric standards [11] and the like, electrical performance, it would be in [12] order for us to have knowledge of who ran those [13] businesses in Bayer and Prodelec. Certainly, it [14] would not be normal for me in a commercial function [15] to have contact, otherwise I would have had some of [16] you gentlemen lawyers hot on my tail for potential [17] antitrust activity.
[18] Q: If you had advised Mr. Wheeler or others as [19] to whom they should see at Bayer, who would that [20] have been?

[21] A: And as I just told you, I don't recall that [22] I was able to help him with this. If I did, I [23] certainly don't remember who I referred him to now.
[24] Q: In other words, do you recall the names of [25] the scientists at Bayer who would have been able to

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[1] answer this question?
[2] A: No.
[3] MR. CHAMBERS: I object to the form, it's [4] been asked and answered about three or four times [5] now.
[6] MR. DUFF: Prior to the date of this [7] memorandum had you spoken with anybody at Bayer [8] previously, prior to this date about the [9] identification of PCBs in wildlife?
[10] A: No, I hadn't.
[11] Q: At this time in April of 1969 was Monsanto [12] concerned about potential problems for the marketing [13] of PCBs or products containing PCBs?
[14] MR. CHAMBERS: I object --
[15] A: I'm sorry --
[16] MR. CHAMBERS: I object to the form. Go [17] ahead.
[18] A: Repeat the question. I think I'm going to [19] object to the form, too, but --
[20] MR. DUFF: Would you please repeat the [21] question for the witness. [22] (The requested portion of the [23] record read by the reporter).
[24] A: I can't make any quantification for you of [25] concern or unconcern in response to your question.

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[1] As I said, at this point in time I was in a work [2] area totally divorced from PCBs, I was dragged back [3] mentally from time to time infrequently and [4] sporadically because of contacts that I had made in [5] the late 1966, early 1967 period through the end of [6] 1967. So, am I capable of making any meaningful [7] response to the question of Monsanto's level of [8] concern in a business area that I was divorced [9] from? No, I am not.
[10] MR. CHAMBERS: That's a fancy way of [11] objecting to the lack of foundation to that [12] question.
[13] A: If you would just sort of say lack of [14] foundation and that's a neat lawyer's way of doing [15] it, then that's fine, but --
[16] MR. DUFF: Do you recall discussing with Dr. [17] Kelly in March of 1969 the issues that are set forth [18] in this memorandum dated April 16, 1969?
[19] A: Not in detail. As I say, when -- if and [20] when Kelly was in Brussels, we had had enough [21] telephone conversations over that previous period

of [22] '66 and '67 that it would be very unusual that he [23] wouldn't have stopped by just to have a cup of [24] coffee and to shake hands and to smile at each [25] other. And in that period he may have made a few --

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[1] you know, we did not have in any sense a formal [2] meeting to review and discuss to my knowledge -- [3] I'll tell you this, I was not involved at that [4] time. I almost apologetically had to say to people, [5] you know, I'm an aspirin man or a vanalin man now.
[6] Q: Do you recall that you had a conversation [7] with Dr. Kelly in which you went into some detail, [8] however, in February 1969?
[9] A: No.
[10] MR. CHAMBERS: I believe the testimony just [11] was, less than two minutes ago, that he didn't [12] recall discussing this with Dr. Kelly. Am I [13] incorrect about that?
[14] A: You are correct in that.
[15] MR. CHAMBERS: All right. So that question [16] has been asked and answered.
[17] MR. DUFF: Thank you.
[18] MR. CHAMBERS: You may not have heard it, [19] but it was asked and answered.
[20] MR. DUFF: Off the record. [21] (Discussion off the record). [22] (Noon Recess).
[23] MR. DUFF: Would you please mark this [24] document as Plaintiff's Exhibit 297. [25] (Plaintiff's Exhibit 297

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[1] marked for identification).
[2] MR. DUFF: Mr. Wood, this document has been [3] marked as Plaintiff's Exhibit 297 and bears [4] production number TRAN 058014. Please take as much [5] time as you need to familiarize yourself with this [6] document.
[7] A: Yes.
[8] Q: Could you please identify this document for [9] the record?
[10] A: This is a memo from a Mr. Kup, K-u-p, at [11] Monsanto's Ruabon, R-u-a-b-o-n, location. It's [12] addressed to V.J. Heroufousse, that's [13] H-e-r-o-u-f-o-s-s-e, who was a Monsanto employee in [14] Brussels. The subject of the memo is Santotherm, [15] S-a-n-t-o-t-h-e-r-m. It's dated 8th of September [16] 1967, and I, David Wood, am on the list of cotypees.
[17] Q: Did you receive this document on or about [18] September 8, 1967?
[19] A: Yes.
[20] Q: Who is R.P.W. Kup?

[21] A: I know the name. I can't put a face to it. [22] I think he was a technology individual in our [23] technical service area in Ruabon, North Wales, who [24] would answer technical questions sometimes if Dr. [25] Hardy was not available.

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[1] Q: Who was B.J. Heroufousse?

[2] A: Jim Heroufousse was a Belgian citizen working [3] for Monsanto in Brussels, who had responsibilities [4] at that time in the area of marketing transfer [5] fluids.

[6] Q: What is Santotherm?

[7] A: Santotherm is a trademark of Monsanto [8] Europe. It relates to a product range of fluid [9] products which are used to provide efficient [10] industrial heat transfer.

[11] Q: When you speak of industrial heat transfer, [12] what do you mean?

[13] A: Many industrial processes require to operate [14] at elevated temperatures. You could, obviously, put [15] a fire under the vessel. There are inherent dangers [16] with many of the solvents used in industry if you [17] were to do that. But if you put a second jacket or [18] a coil around the vessel in which the reaction is [19] going and then circulate a heated fluid around that, [20] you can provide heat to the reaction. Obviously, a [21] fluid which provides that service of transferring [22] heat from an isolated location where it can be [23] safely heated to deliver that heat to a reaction [24] vessel where you don't want heat contact is an [25] industrial indirect heat transfer system.

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[1] Q: There's a reference in the second paragraph [2] to Santotherm 130 or 190, do you see that?

[3] A: Yes, I do.

[4] Q: What is the difference between Santotherm [5] 130 or 190 -- and 190?

[6] A: Santotherm 130 was one chemical material [7] with a certain level of heat stability and viscosity [8] and heat transfer characteristics. Santotherm 190 [9] was a different chemical entity with a different [10] viscosity, a different range of heat transfer [11] operation.

[12] Q: Did Santotherm 130 contain Aroclor?

[13] A: No.

[14] Q: Did Santotherm 190 contain Aroclor?

[15] A: No.

[16] Q: What did Santotherm contain?

[17] A: I told you Santotherm was a range of [18] fluids. They were chemically different, each [19] individual

product was chemically distinguished.

[20] Q: Was there an active ingredient in [21] Santotherm?

[22] A: No.

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

[24] A: Santotherms were chemicals which were [25] basically inactive, and that's why they had good

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[1] thermal stability. But they did not contain -- the [2] products that are referred to in this memo contained [3] no chlorinated biphenyls.

[4] Q: Were Santotherm products fire-resistant?

[5] A: No.

[6] Q: I'd like to direct your attention to the [7] last paragraph of this memorandum. Maybe it will [8] help if I ask, did -- strike that. In the last [9] paragraph do you see where Mr. Kup writes "There is [10] very little information in M. Schuitema's note as to [11] how the Santotherm is being handled and what its use [12] is in connection with the W-kerk ships, but it is [13] very important that the Aroclor should not be in [14] contact with skin because they may be absorbed [15] through it and systematically they can be liver [16] poisons", do you see that?

[17] A: I'm sorry, read that, starting from the [18] penultimate line again.

[19] Q: They may be absorbed through it and [20] systematically --

[21] A: No, it doesn't say systematically. It says [22] systemically.

[23] Q: I'm sorry.

[24] A: I just want to make sure we get this right.

[25] Q: You're right, it does say systemically they

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[1] can be liver poisons. When I read this it suggests [2] to me that Santotherm has Aroclor in it. Am I [3] failing to understand something?

[4] A: Yes, you are.

[5] Q: Could you please explain?

[6] A: In the Santotherm range there were fluids [7] which had designations Santotherm FR fluids, [8] fire-resistant fluids, so if you had a fluid [9] application where you needed not only the fluid's [10] thermal stability, but you needed a fire-resistant [11] element, then you might be considering the use of a [12] polychlorinated biphenyl based heat transfer fluid. [13] But that would not be one of the ones they were [14] alluding to here. But Jim Heroufousse was asking [15] questions about the safe handling of Santotherm 130 [16] and Santotherm 190,

which were non-chlorinated [17] biphenyl fluids. Mr. Kup, in answering that [18] question, knowing that there were Santotherm FR [19] fluids, chose to just make sure that Jim understood [20] there were differences, that all chemicals are not [21] equal, like all animals are not equal, and, [22] therefore, chose to write the memo in the frame he [23] did. So the implication that no, these were PCB [24] fluids is not a good assumption.

[25] Q: So there were Santotherm fluids that were

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[1] fire-resistant that contained polychlorinated [2] biphenyls, correct?

[3] A: That is correct, yes.

[4] Q: And those were designated as Santotherm FR, [5] correct?

[6] A: Those were designated as Santotherm FR. [7] Now, again, Santotherm was the European trademark [8] for Monsanto's heat transfer fluid range. I'm sure [9] that you've come across the term Therminol, which is [10] the Monsanto's U.S. heat transfer trademark. [11] Therminol was not available to us in Europe because [12] of a close trademark conflict, so we used the [13] Santotherm trademark in Europe.

[14] Q: Thank you. So when Mr. Kup is -- is it Mr. [15] or Dr. Kup?

[16] A: I don't remember. Again, you know, I do [17] apologize on the record to these people at not [18] remembering what their academic titles are. I seem [19] to suspect he was a Doctor. In fact, I seem to [20] suspect that he was the plant doctor at the Ruabon [21] plant, and, therefore, in the absence of Doug Hardy [22] he would have, just as the other medical [23] practitioner, he would have been -- he would have [24] been, you know, asked to step in and back up Doug [25] Hardy if Doug Hardy was on vacation. Important note

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[1] that we didn't let the fact that we allowed doctors [2] to have vacations to prevent us answering questions.

[3] Q: So when Dr. Kup was referring to the fact [4] that it is very important that Aroclor should not be [5] in contact with skin because they may be absorbed [6] through it and systemically they can be liver [7] poisons, he was referring to Santotherm FR fluids, [8] correct?

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

[10] A: I don't know what was in his mind when he [11] made that comment. I suspect that he had gone back [12] to the technical brochures where we recommended that [13] skin contact be

avoided, where possible, and we told ^[14] people what type of gloves should be worn and --

^[15] Q: Did you have an understanding when you ^[16] received this memorandum how Aroclors could ^[17] systemically be liver poisons?

^[18] A: No. I knew that there were earlier papers ^[19] which Monsanto knew, read, understood that in the ^[20] '40s and '50s that there had been the use of ^[21] combinations of chlorinated biphenyls and ^[22] chlorinated naphthylenes in certain cable compounds ^[23] in fire-resistant cabling installed in ships at war ^[24] time, and that there had been observations that if ^[25] people wallowed around in such fluids, combination

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^[1] fluids, that they had a jaundiced appearance which ^[2] was compatible with some temporary uptake in the ^[3] liver. Now, how long that lasts or anything else, ^[4] but -- so, it made a lot of sense to say if you're ^[5] working with these fluids, and these are heat ^[6] transfer fluids so you could come into contact with ^[7] them at elevated temperatures, that one protected ^[8] one's -- one wore protective garb to prevent the ^[9] possibility of absorption through the skin, since ^[10] there had been these earlier observations. But ^[11] that's nothing to do with -- in fact, in retrospect, ^[12] most of that activity and skin sensitivity leading ^[13] to jaundiced appearance was laid at the door of ^[14] chlorinated naphthylenes, not the chlorinated ^[15] biphenyl part. But here, you know, we're going back ^[16] into areas of good industrial hygiene practice where ^[17] Monsanto is making very secure recommendations to ^[18] people.

^[19] Q: Please mark this as Plaintiff's Exhibit ^[20] 298. ^[21] (Plaintiff's Exhibit 298 ^[22] marked for identification).

^[23] MR. DUFF: Mr. Wood, this document has been ^[24] marked as Plaintiff's Exhibit 298 and bears ^[25] production number TRAN 057807.

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^[1] A: Yes.

^[2] Q: Could you please identify this document for ^[3] the record?

^[4] A: This is a memo from Don Roush, R-o-u-s-h, ^[5] from the St. Louis general office of Monsanto, dated ^[6] March 26, 1968, addressed to me, David Wood, in ^[7] Brussels with copies to a number of people, one ^[8] underlined, which I can't see here, and it relates ^[9] to Therminol/Santotherm and talks about cooking oil ^[10] and

potato crisps, which we in the U.S. refer to as ^[11] potato chips.

^[12] Q: Did you receive a copy of this document on ^[13] or about March 26, 1968?

^[14] A: Appears so, yes.

^[15] Q: Who is M. Schuitoma?

^[16] A: Martin Schuitoma.

^[17] Q: I wasn't even close.

^[18] A: You really weren't on that one, Kevin. ^[19] Martin was a salesman in Monsanto in Holland. And ^[20] we excuse the fact that you don't speak Dutch.

^[21] Q: You're right. Who was T. Denton-Roberts?

^[22] A: Treavor was a specialist heat transfer ^[23] salesman based in England, but who acted, because of ^[24] his specialist heat transfer knowledge, as a support ^[25] person for the other European sales people. He was

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^[1] a chemical engineer with specialist knowledge in ^[2] heating systems, indirect heating systems.

^[3] Q: And affixed to this memorandum originally ^[4] when it was sent to you, Dr. Roush -- was it Dr. ^[5] Roush?

^[6] A: No. No. No.

^[7] Q: Mr.

^[8] A: Don Roush and, again, I owe him no apology, ^[9] was a down to earth chemical engineer, he had no ^[10] doctorate, but what he didn't know about heat ^[11] transfer wasn't worth knowing.

^[12] Q: Was he the guru of heat transfer?

^[13] A: No. I mean, he was one of our -- I mean, ^[14] Monsanto is an excellent chemical engineering ^[15] company, we had lots of good chemical engineers. ^[16] Don was one of them.

^[17] Q: When Mr. Roush sent you this memorandum, he ^[18] attached two reports from Dr. Keller's group on the ^[19] subject of cooking oil contamination, correct?

^[20] A: I have no reason to disbelieve that he ^[21] didn't attach the reports he mentions in the memo.

^[22] Q: Do you recall those reports?

^[23] A: No.

^[24] Q: Was contamination of cooking oil something ^[25] that you were interested in in March of 1968?

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^[1] A: No. The use of Therminol, our U.S. ^[2] trademark and Santotherm, our European trademark ^[3] products in heat transfer was of -- we felt we had ^[4] a world leadership in that technology, of delivering ^[5] indirect heat with stable fluids. The cooking -- ^[6] the food

producing industry had expressed interest ^[7] in this type of technology, since the process food ^[8] industry needed to heat products indirectly. We ^[9] recognized that any time that you are delivering ^[10] heat through a fluid through a jacketed vessel, if ^[11] there were to be a leak into the reaction vessel ^[12] where you're cooking food, now you're talking about ^[13] ingestion of chemicals that were not intended to be ^[14] there, and so the possibility to detect leaks and ^[15] presence of fluid in foods that were being processed ^[16] at elevated temperatures was significantly important ^[17] to us, because if we could not reliably develop ^[18] methods to detect if there had been an entry of the ^[19] heating fluid, no matter what the chemistry of the ^[20] heating fluid was, into the foodstuff, then we were ^[21] getting into a whole different area of possible ^[22] hazard. So, let's understand where we were coming ^[23] from when we talk about the need to detect heat ^[24] transfer fluids, whatever their chemistry.

^[25] Q: Was the issue of cooking oil contamination

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^[1] something that was related to your responsibilities ^[2] when you were being market supervisor for food and ^[3] fine chemicals at Brussels?

^[4] A: No.

^[5] Q: So heat transfer fluids for use in food ^[6] processing equipment was not something that was ^[7] related to your responsibilities as the -- your ^[8] responsibilities in the food and fine chemicals ^[9] group?

^[10] A: No.

^[11] Q: Do you recall if you had asked Dr. Keller to ^[12] provide you with the reports that are referenced in ^[13] the first sentence of this memorandum?

^[14] MR. CHAMBERS: I object to the form.

^[15] A: I don't believe so. I don't have any clear ^[16] recollection of this particular incident, and, ^[17] again, why I was involved in this one. I don't ^[18] recall. Again, can I ask your indulgence to allow ^[19] me to go back here to the curriculum vitae?

^[20] Q: Certainly.

^[21] A: You're right, there I am in food and fine. ^[22] And, again, I cannot --

^[23] Q: So this was about two and a half months ^[24] after you had gone into food and fine chemicals, ^[25] right?

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^[1] A: Hey, the two and a half months after I got ^[2] into food and fine did not eliminate the fact that ^[3] there were

people that I had met, encountered, [1] spoken to in St. Louis when I was in the earlier [2] fluids job in its broader sense who would think [3] well, who do I know in Europe, I will -- I'll [4] contact Dave.

[5] Q: Were you aware of the analytical equipment [6] that was being used by Dr. Keller's group in 1968?

[7] A: No.

[8] Q: Do you recall what problem Monsanto had with [9] chlorinated biphenyl contamination in the food [10] processing industry?

[11] A: No. Other than that it didn't matter [12] whether we were talking Therminol FR fluids or the [13] other Therminol fluids or the Santotherm equivalent, [14] if you were involved in a food application, you [15] needed to be sure that if there were a breakthrough [16] that it was detectable.

[17] Q: Were heat transfer fluids such as Therminol [18] and Santotherm used in closed systems?

[19] A: Yes. They were systems that were [20] essentially designed as closed systems, that was [21] their beauty. Any time you expose an organic [22] chemical to air at elevated temperature it's capable

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[23] of oxydative degradation, and so you are using these [24] fluids and maintaining their stability and integrity [25] by using them in closed systems. Now, a closed [26] system is designed as such. A closed system can be [27] breached as if you drop your carton -- Pepsi cube [28] off your wagon at the supermarket and it cracks a [29] corner of a can, so what's supposed to be a closed [30] can leaks. So there is a possibility that a closed [31] system can be breached.

[32] Q: Please mark this document as Exhibit 299. [33] (Plaintiff's Exhibit 299 [34] marked for identification).

[35] MR. DUFF: Mr. Wood, this document has been [36] marked as Plaintiff's Exhibit 299 and bears the [37] Bates number BIR 002173. There is also another [38] exhibit sticker that says 179 and is dated 8/12/87.

[39] A: Yes, I see those. The second one refers to [40] what, the attached memo or -- no, it's a single [41] memo.

[42] Q: The other Plaintiff's Exhibit, I believe, [43] refers to the fact that this document was marked as [44] an exhibit in a previous deposition.

[45] A: Oh.

[46] Q: In a different case.

[47] MR. CHAMBERS: Is this noted on the list of

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[48] documents that you furnished to us earlier, Kevin?

[49] MR. DUFF: It is noted in the cover letter [50] to that list.

[51] MR. CHAMBERS: Are you talking about the [52] generic reference to documents previously marked as [53] exhibits and produced for Mr. Wood in Transwestern [54] Nevada Power and Birmingham Fire?

[55] MR. DUFF: Yes.

[56] MR. CHAMBERS: Is that the reference?

[57] MR. DUFF: I believe this document was [58] marked in the Birmingham Fire Insurance case.

[59] MR. CHAMBERS: All right.

[60] MR. DUFF: Mr. Wood, please take as much [61] time as you need to familiarize yourself with this [62] document.

[63] A: Yes.

[64] Q: Just so the record is clear, this document [65] bears -- or has the Bates number BIR 002173 through [66] 74. Mr. Wood, could you please identify this [67] document for the record?

[68] A: This appears to be a memo from C.R. Coleman [69] of Monsanto England in Ruabon to Paul Benignus, [70] B-e-n-i-g-n-u-s, of Monsanto in St. Louis, and it [71] copies myself in Brussels, Mike Thompson in London [72] and Ralph Munch, Dr. Ralph Munch in St. Louis. And

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[73] it covers the issue of the generation of phosgene [74] when a transformer askarel is decomposed under a [75] high intensity electric arc.

[76] Q: What is phosgene?

[77] A: Phosgene is an organic low molecular weight [78] gas, COCL something or other, which is an extremely [79] active gaseous product which has a number of [80] extremely acute toxic properties which made it a [81] poison gas in military use in World War I.

[82] Q: Did you receive this document on or about [83] August 5, 1968?

[84] A: Again, I have ultimate faith in the European [85] mail system, I have to believe I did.

[86] Q: Do you know how phosgene is generated from [87] the decomposition of askarel?

[88] A: No.

[89] Q: Do you see -- in the middle of the first [90] page of this document there are some columns, do you [91] see that?

[92] A: Yes, I see that.

[93] Q: Do you see the column titled "Monsanto black [94] book"?

[95] A: Yes, do I.

[96] Q: Are you familiar with the Monsanto black [97] book?

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[98] A: Oh, yes.

[99] Q: What is that?

[100] A: The Monsanto black book is the technical [101] brochure related to the use and maintenance of [102] transformer fluids containing chlorinated biphenyls [103] which was prepared and produced by Monsanto and was [104] a well used booklet in the electrical installation [105] and maintenance industries.

[106] Q: Did you have any input into the information [107] contained in the black book?

[108] A: I wish I could claim such. No, I didn't.

[109] Q: Do you see in the first paragraph of this [110] memorandum where the author refers to a source that [111] contains a table of decomposition of products of [112] transformer askarel showing that 0.01 percent of [113] phosgene is produced in an electric arc through air [114] saturated askarel at 25 degrees centigrade?

[115] A: Yes, I see that.

[116] Q: The author also said that it was most [117] disturbing to come across that information, [118] particularly because that was at variance with [119] information on the same subject in France and [120] Germany, correct?

[121] A: Not only was it in contradiction with [122] information in France and Germany, it was in

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[123] contradiction with information in the Monsanto black [124] book.

[125] Q: Do you know why that information was at odds [126] with the information in France, Germany and the [127] Monsanto black book?

[128] A: I do, and I found out a lot later, and I [129] can't remember the precise answer. But, again, I [130] have to give you a minor context here. Chlorinated [131] biphenyl used as a dielectric was an invention of [132] the General Electric Company. We can't, at [133] Monsanto, claim that we invented chlorinated [134] biphenyls. That was a development of Frank Clark at [135] General Electric. We ultimately made it. But in [136] terms of the performance of chlorinated biphenyls as [137] dielectrics, GE knew more than anybody in the world [138] about their dielectric performance. So when we find [139] that of the people who finished up manufacturing [140] these materials invented by GE say that in all their [141] tests when you subject Aroclor to a strong electric [142] arc that no

phosgene is produced, and then you find [21] that there's a sudden published article that says [22] GE, who invented it, have published an article which [23] says they found a very small amount of phosgene, [24] then you have to say hey, now, wait a minute. [25] Anybody would agree that phosgene is a pretty

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[1] undesirable substance, even in small [2] concentrations. So, Colin was an easily disturbed [3] person, but I can understand why he was most [4] disturbed in coming across this article in 1968 [5] which seemed to contradict valid test protocols that [6] we and other major producers of the fluid had [7] carried out which said no phosgene is produced under [8] arc conditions. And the answer comes down to high [9] levels of oxygen and aeration while you strike the [10] arc, which are not conditions you would find in real [11] life. So they had arc'd under rather theoretical [12] conditions and rather extreme conditions that would [13] not be found in service.

[14] Q: They being GE?

[15] A: They being GE.

[16] Q: In the test -- in the results that are [17] referred to in this 1951 publication?

[18] A: Yes. So this was something that ultimately [19] was cleared up, I understand, to everybody's [20] satisfaction. You know, I mean, what we're saying [21] is correct, and what they're saying is correct under [22] the very specific and special conditions which they [23] had set up for an entirely different reason of a [24] different application that they were considering the [25] use of askarels.

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[1] Q: Please mark this document as Plaintiff's [2] Exhibit 300. [3] (Plaintiff's Exhibit 300 [4] marked for identification).

[5] MR. DUFF: Mr. Wood, this document has been [6] marked as Plaintiff's Exhibit 300 and bears [7] production number TRAN 009685 through 94. And for [8] the record, another version of this document was [9] previously marked as Exhibit 85.

[10] A: Yes.

[11] Q: Mr. Wood, could you please identify this [12] document for the record?

[13] A: This is a document produced and published [14] out of Monsanto Chemicals Limited in England and [15] published by Dr. Hardy. It talks about product [16] toxicology of the Aroclors, and it is dated May 15, [17] 1969.

[18] Q: Did you receive a copy of this report on or [19] about May 15, 1969?

[20] A: Yes.

[21] Q: Do you recall receiving this report?

[22] A: No.

[23] Q: By this report Dr. Hardy summarized the [24] present knowledge concerning chlorine-containing [25] residues in wildlife, correct?

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[1] A: That's what the sub-title says.

[2] Q: In this document Dr. Hardy informed you that [3] gas liquid chromatography -- and let me direct your [4] attention to the second paragraph on the second [5] page. In this document Dr. Hardy informed you that [6] gas liquid chromatography using electron capture or [7] microcoulometric detection has become established as [8] the most suitable technique. It appears that the [9] chromatograms of the residues showed not only the [10] peaks corresponding to the insecticides and their [11] known metabolites, but additional peaks of unknown [12] chlorine-containing substances, correct?

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

[14] A: Again, reading this in 1995, that is what [15] paragraph 2 of page 2 says.

[16] MR. DUFF: Directing your attention to the [17] third paragraph on this page, Dr. Hardy also told [18] you in this document that towards the end of 1965 [19] these unknown substances were identified by Soren [20] Jensen under the direction of Gunnar Widmark, [21] correct?

[22] A: Yes. Doug was always one for the proper [23] scientific courtesy.

[24] Q: And Dr. Hardy stated that Jensen and Widmark [25] used a combined gas chromatograph mass spectrometer,

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[1] correct?

[2] A: Yes, he says that. In fact, he actually [3] identifies it as the LKB-9000.

[4] Q: Which was the device --

[5] A: Which Soren Jensen himself had told us he [6] was using, yes.

[7] Q: And was manufactured by LKB Productor, [8] correct?

[9] A: Unless somebody was infringing their [10] trademarks, I would think that's likely so.

[11] Q: And Dr. Hardy told you that Jensen and [12] Widmark used this device and showed that the peaks [13] that they were finding of the unknown substances [14] were due to polychlorinated biphenyls or PCBs, [15] correct?

[16] A: He states that, yes.

[17] Q: And he also said in this paragraph that the [18] evidence and reasoning of Jensen and Widmark and [19] their conclusion could hardly be in doubt, correct?

[20] A: That was Dr. Hardy's opinion.

[21] Q: And I'd like to direct your attention to the [22] list of scientific establishments that are set out [23] on page 3 of this.

[24] A: Can't we actually just touch on the [25] paragraph after the one we've just been dealing

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[1] with?

[2] Q: For now I'd like to direct your attention --

[3] A: I'd just like to add to my answer, I think [4] that Doug's opinion about the conclusions and their [5] doubt or lack of doubt is equally sociable with his [6] announcements of the sensational statements [7] concerning the poisonous nature of the PCBs, so that [8] we have a complete sort of -- either put the [9] complete document in or pick and chose, it's up to [10] you.

[11] Q: I move to strike as non-responsive. [12] Directing your attention to the list of [13] establishments on the third page of this document. [14] Do you see those?

[15] A: The which of which?

[16] Q: This is --

[17] A: Page three. I'm on page three.

[18] Q: And I'm referring to, there's eight [19] scientific establishments that are listed on this [20] page. Do you see them?

[21] MR. CHAMBERS: I object to the form. [22] They're not scientific establishments. Some are [23] universities, some are laboratories.

[24] A: One is a museum.

[25] MR. DUFF: Okay. I stand corrected. Do you

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[1] see the list of establishments that appear on page 3 [2] of this document?

[3] A: Yes, sir.

[4] Q: Dr. Hardy told you that the original work of [5] Jensen and Widmark had been extended and generally [6] confirmed by the eight establishments that are [7] listed on this page, correct?

[8] A: Where does it tell me that? Okay. Would [9] you restate the question that Kevin just asked me?

[10] Q: Would you please repeat the question for the [11] witness? [12] (The requested portion of the [13] record read by the reporter).

[14] A: Yes. I think that Doug probably used the [15] word generally confirmed advisedly.

(16) Q: And these establishments included the (17) Laboratory of the Government Chemist, Freshwater (18) Fishers Laboratory and the Tinstall Laboratories?
(19) A: I'll take it as read that I accept the list (20) of eight that you referred to is the one that (21) appears on page 3.
(22) Q: Yes. But so our transcribed record is (23) complete, I would like to have that in the written (24) record.
(25) A: But you're going to have this attachment in

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(1) the record, aren't you?
(2) Q: This is a part --
(3) A: Of the records. So why do we need to read (4) it again? Why don't we just say, you know, as (5) described in attachment 300, page 3? We'll (6) stipulate to that.
(7) MR. CHAMBERS: Certainly, I will. The (8) document says what it says.
(9) MR. DUFF: You were also aware that Doctors (10) Keller, Wheeler -- or Doctors Keller and Hardy and (11) Mr. Wheeler visited all of the establishments either (12) together or independently that are listed on page 3 (13) of the document?
(14) A: No, I wasn't.
(15) MR. CHAMBERS: I object to the form.
(16) A: No. I knew that certain people from St. (17) Louis were visiting England, we've already reviewed (18) a document which described that progression. The (19) eventual party and the detailed itinerary was not (20) shared with me, so I don't know which, if any, of (21) these particular establishments listed on page 3 of (22) Exhibit 300 were visited by the people that you're (23) alluding to.
(24) Q: On the top of page 4 of this document Dr. (25) Hardy informed you that either himself or Dr. Keller

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(1) or Mr. Wheeler had visited with or planned to visit (2) the -- several of the establishments listed on page (3) three, correct?
(4) A: Specifically, the establishments one, two (5) and three.
(6) Q: Which were the Laboratory of the Government (7) Chemist, the Freshwater Fishers Laboratory and the (8) Tinstall Laboratories, correct?
(9) A: Again, you know, I'm prepared to stipulate (10) that Doug is not lying about who went to which of (11) these laboratories. But I don't know and have no (12) reason to remember at this time who visited which of (13) them. So

the statement in the document itself which (14) can be preserved on the record by us thoroughly (15) reading it or just by alluding to the page numbers, (16) yes.
(17) Q: And Dr. Hardy provided a summary of what he (18) knew at this time on page four, is that correct?
(19) MR. CHAMBERS: I object to the form.
(20) A: As I read this and it refreshes my memory, (21) it seems to be a summary of Dr. Hardy's (22) interpretation of what he had drawn from various (23) meetings. I don't know whether these were his (24) conclusions of the meetings that he was present at, (25) the conclusion coming out of meetings of a group of

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(1) people after they had had meetings with a group of (2) things -- I mean, I see there is something that (3) purports to be a summary of what they found from the (4) meetings alluded to in the first paragraph on page (5) four of Exhibit 300.
(6) Q: And among the points made in his summary he (7) wrote "There can be no doubt that traces of PCBs, (8) Aroclors, are to be found in wildlife, fish and (9) certain items of human diet", correct?
(10) A: He wrote it or dictated it to his secretary, (11) yes.
(12) Q: And that was a point that he informed you of (13) in this document, correct?
(14) A: It seems so.
(15) Q: Another point that he made under this (16) summary was that a considerable Monsanto effort will (17) be necessary to obtain the necessary analytical and (18) toxicological information for dealing with this (19) threat to our commercial operations, correct?
(20) A: Yes. And I think it's appropriate that he (21) draws their attention that if we're in this (22) business, we'd better address it properly. And I (23) think it's important because in Section 2 of the (24) summary, which we lightly skated over, he says there (25) is little evidence to show how serious this

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(1) biocontamination will prove to be, but what evidence (2) there is is reassuring.
(3) Q: Would you please read the answer back? (4) (The requested portion of the (5) record read by the reporter).
(6) MR. DUFF: I move to strike --
(7) A: The whole thing?
(8) Q: Everything after the word

properly.

(9) A: Was properly in my answer?
(10) Q: Yes, it was.
(11) A: Then we'll strike the whole answer and we'll (12) start over. You take my answer as complete, but you (13) don't start picking and choosing on my answer. I'm (14) prepared to readdress the question, but I'm not (15) prepared to have you sort of take me out of context.
(16) MR. DUFF: Go off the record. (17) (Discussion off the record).
(18) MR. DUFF: Please mark this as Exhibit 301. (19) (Plaintiff's Exhibit 301 marked for identification).
(20) MR. DUFF: Mr. Wood, this document that has (21) been placed before you is Plaintiff's Exhibit 301, (22) and bears production numbers TNGS 016104 through (23) 06.
(24) A: Yes.

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(1) Q: Mr. Wood, do you recognize this document?
(2) A: No.
(3) Q: This document was produced as being located (4) in your files.
(5) MR. CHAMBERS: I object to the form and the (6) characterization of that. That's not correct.
(7) MR. DUFF: I believe it is correct.
(8) MR. CHAMBERS: I don't think it is. You'd (9) better go back and look at the discovery responses.
(10) MR. DUFF: Well --
(11) MR. CHAMBERS: But let's proceed.
(12) MR. DUFF: I'll bring in the production (13) folder that has Mr. Woods' name on it, if you'd (14) like, if that's the best way to proceed.
(15) MR. CHAMBERS: I don't dispute that there (16) were documents produced to you. I object to your (17) characterization of those documents as coming from (18) the files of Mr. Wood. That's not what the (19) responses were.
(20) MR. DUFF: Mr. Wood, this document was (21) produced in an inspection folder by Monsanto that (22) has your name on it.
(23) A: I still feel quite comfortable with my (24) responses. I don't recognize this document. I (25) don't recall ever having seen it before.

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(1) Q: Do you recall any conversations with J.R. (2) Fallon regarding incineration of chlorinated wastes (3) in 1969?
(4) A: No. I didn't even know Jack Fallon in 1969.
(5) Q: Were you involved in any discussions (6) concerning the

incineration of PCB-containing wastes
[7] in 1969?
[8] A: To my recollection, none.
[9] Q: Were you involved in any
conversations in [10] 1969 related to
reclamation of PCB-containing [11] fluids?
[12] A: Not that I can recall.
[13] Q: Are you familiar with a company
called [14] Findet?
[15] A: Today, yes. In 1969, no.
[16] Q: When did you first become
familiar with [17] Findet?
[18] A: Sometime after I came to St.
Louis in 1974.
[19] MR. DUFF: Off the record. [20]
(Discussion off the record).
[21] MR. DUFF: Please mark this as
Exhibit 302. [22] (Plaintiff's Exhibit 302
[23] marked for identification).
[24] MR. DUFF: Mr. Wood, this
document --
[25] A: Hey, we leap forward in time.

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[1] Q: Yes, we do. To 1975. This
document has [2] been marked as
Plaintiff's Exhibit 302, and bears [3]
production numbers TRAN 074047
through 56. Are you [4] familiar with
this document?

[5] A: Yes.

[6] Q: Would you please identify this
document for [7] the record?

[8] A: This is a memo from David
Wood, dated May [9] 29, 1975, "Subject,
PCB incineration", directed to a [10]
primary list of my supervisor,
Cumming Paton, and a [11] number of
other people in the Monsanto
organization, [12] and a subsidiary set of
copies.

[13] Q: This document was authored by
you, correct?

[14] A: Yes, it was.

[15] Q: What was your role with respect
to PCB [16] incineration in 1975?

[17] A: We were, in 1975, receiving
Aroclors and [18] innerteens and pyronols
from people who had been [19] repairing
or taking electrical equipment out of [20]
service, and we were at that stage
destroying that [21] material in the
incinerator that we had constructed [22] at
our W.J. Krummrich plant. We were
concerned that [23] customers for
dielectric materials and users of [24]
dielectric equipment containing aging
chlorinated [25] biphenyls were not all
equally responsible in the

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[1] way that they prepared those fluids
which they [2] wished us to incinerate in
terms of returning it to [3] us in a manner
which it would not create a potential [4]
release hazard in transportation.

[5] Q: When you refer to customer
preparation of [6] fluids, do you mean
that customers would send fluids [7] back
which were somehow contaminated?
[8] A: No. If -- to give you an
example of a [9] situation, if a utility
somewhere had been doing [10] some
maintenance on their distribution
system and [11] had found a couple of
transformers where the fluid [12] seemed
to be -- have a high acidic level or [13]
something, and so they decided to they
wished to put [14] new fluid to replace the
fluid in the transformer, [15] so they had
appropriately withdrawn the old fluid [16]
from that transformer. Now, they had
then drums of [17] fluid which they had to
decide what they were going [18] to do
with, say, fifty, a hundred gallons of [19]
dielectric fluids, which were
predominantly [20] chlorinated biphenyl.
And we were undertaking in [21] support
of the dielectric customers and their [22]
ongoing limited business at that time to
incinerate [23] these materials in our plant
incinerator in St. [24] Louis. But what we
did not want to see was bad [25]
performance in people putting these
fluids which

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[1] they had withdrawn from
transformers into corroded [2] old drums,
loading them loosely into a small carrier
[3] where they were not tied down well,
not putting [4] protective liners on the
truck base so that if there [5] were any
minor spillage that it could be easily [6]
cleaned. We did not want to create
additional [7] potential environmental
burden of PCBs by the [8] transportation
of waste PCBs. And so I recommended
[9] and put out this memo establishing a
policy of how [10] we would handle this
issue of people responsibly [11] preparing
shipments of waste material if we were
to [12] consider accepting them into our
incinerator.

[13] Q: So this was a policy for returns
of used [14] dielectric fluids for
incineration, is that correct?

[15] A: That's correct.

[16] Q: Did Monsanto have a policy
with respect to [17] what types of
PCB-containing fluids it would accept
[18] for incineration?

[19] A: We did. And probably part of
that is [20] involved in this document, or
other documents which [21] we can
review. I don't remember it
line-by-line. [22] It was a fairly complex
and well thought through [23] detailed
policy structure.

[24] Q: Was that a policy structure that
you played [25] a role in setting?

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[1] A: Refining, rather than setting. I
think, you [2] know, that the basic
fundamental policy of what we [3] would
accept had already been set when I got
[4] involved, as typified by the
particular Exhibit [5] 302. I was
exposing at that point certain concerns
[6] that I had because of abuse of the
policies, and so [7] I was sort of saying
we need to extend that policy [8] in this
way once I've got your comments and
[9] suggestions for modifying it,
tightening it, [10] changing it, and
publishing it so that everybody [11] knew
what we would do and what we
wouldn't do.

[12] Q: Now, did Exhibit 302
specifically relate to [13] dielectric fluids
or did it also relate to other [14]
PCB-containing fluids?

[15] A: I don't recall. I'd have to read
this in [16] detail. And I'm prepared to do
that, if you let [17] me. But it was largely
aimed at the ongoing [18] business, which
at that stage was only dielectrics, [19] and
related, therefore, to waste generated in
the [20] manufacture of dielectric
equipment or waste arising [21] from the
use of dielectric equipment.

[22] Q: Were you aware at this time of
the [23] possibility that there were
Monsanto customers who [24] had used
PCB-containing fluids for applications
[25] other than dielectrics that -- would
you please

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[1] repeat how I started the question? [2]
(The requested portion of the [3] record
read by the reporter).

[4] MR. DUFF: Strike that. Were you
aware that [5] there were customers who
had used PCB-containing [6] fluids in
applications other than dielectric who
may [7] have PCB containing fluids in
1975.

[8] MR. CHAMBERS: I object to the
form. It may [9] help just to break it
down.

[10] MR. DUFF: How would you
suggest?

[11] MR. CHAMBERS: Whether he was
aware there [12] were users who had used
PCB-containing products [13] other than
dielectrics before 1975. Depending on
[14] the answer to that, I would then ask
the latter part [15] of whatever you were
trying to get to, which escaped [16] me.

[17] A: I think I can handle the question
--

[18] MR. CHAMBERS: Okay.

[19] A: -- you asked. There were still
systems in [20] 1975 in service or in
suspended service in [21] applications

other than electrical applications (22) which contained PCBs. This particular policy that (23) we're talking about here related specifically to (24) wastes associated with dielectrics, people who had (25) earlier been responsible for our exiting other PCB

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(1) applications had established policies related to (2) waste disposal as those equipments were taken out of (3) service.

(4) Q: Were you familiar with Monsanto's policy (5) with respect to PCB incineration for PCB-containing (6) fluids other than dielectric fluids in 1975?

(7) A: I was in 1975. I'm not now. I can't recall (8) how they differed. I know they differed.

(9) Q: Were you responsible for -- strike that. (10) Who else was involved in setting and enforcing (11) Monsanto's PCB policy with respect to incineration (12) of PCB-containing fluids other than dielectric (13) fluids?

(14) A: I think Cumming Paton would have had more of (15) a role than I would at that particular point in time (16) relative to the policies for fluids of a (17) non-dielectric nature.

(18) Q: Anyone else?

(19) A: There were others, but that's -- I mean, (20) I'm sure that my now partner, Cumming Paton, had (21) some involvement in the legacy area of the (22) non-dielectric business, which, by 1975, when I (23) became involved in dielectrics, was essentially (24) discontinued.

(25) Q: I'd like to direct your attention to the

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(1) pages in this document that bear production numbers (2) TRAN 074054?

(3) A: 54?

(4) Q: And 55. Which is attachment D to this (5) document. Do you have that in front of you?

(6) A: Yes, I do.

(7) Q: You drafted this document, is that correct?

(8) A: I believe so, yes.

(9) Q: And by that, I mean you drafted this (10) attachment D, correct?

(11) A: I'm pretty sure I did.

(12) Q: In fact, your name appears at the bottom of (13) 074055, correct?

(14) A: It does. And I normally sign things that I (15) drafted.

(16) Q: What was this document, attachment D?

(17) A: Okay. This was a suggested letter to U.S. (18) and Canadian dielectric customers who were approved (19) to

continue to be acting in commerce with Monsanto (20) in the continuing production and maintenance of (21) dielectric -- of electrical equipment containing (22) chlorinated biphenyl dielectrics.

(23) Q: Do you know if a letter like this was ever (24) sent out to dielectric customers?

(25) A: Yes, it was.

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(1) Q: Do you know if a letter like this was ever (2) sent out to Pydraul customers?

(3) A: I don't know.

(4) Q: Please mark this as Exhibit 303. (5) (Plaintiff's Exhibit 303 (6) marked for identification).

(7) MR. DUFF: Mr. Wood, this document has been (8) marked as Plaintiff's Exhibit 303 and bears (9) production number TRAN 080447.

(10) A: Yes.

(11) Q: Do you recognize this document?

(12) A: Yes.

(13) Q: Did you review this document in preparation (14) for your deposition?

(15) A: No.

(16) Q: Would you please identify this document for (17) the record?

(18) A: This is a memo from myself, dated February (19) 24, 1976, addressed to D.L. Sliney, subject, PCB (20) incineration, with copies to Cumming Paton, Bob (21) Potter and Warren Easley. (22) Q: Do you recall sending a letter to customers (23) inquiring about incineration of PCB fluids around (24) this time?

(25) A: I'm not sure that we sent a letter to

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(1) customers at that time. I think this -- I attached (2) to this memo a copy of the letter that we would send (3) to customers who were inquiring about incineration (4) of PCB fluids which had been prepared sometime (5) previously. This was not something new which was (6) just being done then.

(7) Q: Do you recall when that letter was sent?

(8) A: Not exactly.

(9) Q: Do you recall what year that letter was (10) sent?

(11) A: I suspect it was sent in '75 or '76.

(12) Q: Do you recall which customers that it was (13) sent to?

(14) A: I think the letter we're talking about, in (15) fact, is the letter -- one of the letters which (16) form part of this May 29th, 1975 --

(17) Q: In Exhibit 302?

(18) A: I believe -- I think we're talking some of (19) the correspondence forms that we were developing in (20) Exhibit 302.

(21) Q: Is there a part of Exhibit 302 that you (22) believe is the reference in Exhibit 303?

(23) A: There's document TRAN 074049.

(24) Q: Is it your recollection that TRAN 074049 (25) through 50 is the letter that is referenced in the

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(1) first paragraph of Exhibit 303?

(2) A: No. Because attachment B, which is TRAN (3) 074051, is a suggested new letter, and I think that (4) in actual fact the letter exemplified by 074051 and (5) 2, maybe with minor editorial refinement, replaced (6) the one that we -- that immediately preceded it.

(7) Q: So, is it your recollection that attachment (8) B, or something close to it, was attached to Exhibit (9) 303?

(10) A: Yes.

(11) Q: And directing your attention to point two in (12) Exhibit 303, is it your recollection that the last (13) page of Exhibit 302 was also attached to Exhibit (14) 303?

(15) A: You can see that the last page of Exhibit (16) 302 has some scoring out and is obviously still at a (17) preliminary draft stage. The label which we would (18) have attached to the memo in Exhibit 303 would have (19) been the final label which was the outcome of the (20) preparatory work shown on the last page of Exhibit (21) 302.

(22) Q: Do you know if a letter in the form of (23) attachment B to Exhibit 302 was ever sent to Pydraul (24) customers?

(25) A: I don't know.

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(1) Q: Do you know if return labels such as the (2) last page to Exhibit 302 was ever sent to Pydraul (3) customers?

(4) A: I'm not clear on that. I said because there (5) were policies which were different from the policy (6) laid out in 302 which would have related to any (7) returns which were accepted, under what conditions, (8) from residual users of equipment still containing (9) PCBs of a non-dielectric nature. I don't recall (10) exactly how that tied in to this policy. I'm sure (11) that if there were -- what I don't recall, if (12) returns were still being accepted. If returns were (13) being accepted, then a letter very similar to that (14) contained here with the label, I'm sure, would have (15) been sent.

(16) Q: Was there a point in time when Monsanto (17) ceased to accept Pydraul

returns for incineration?

[18] A: Again, I do not recall that. I mean, we [19] were largely through the Pydraul transformation when [20] I got involved. I'm sure there were still some [21] equipments out there. I did not engage heavily in [22] any issues related to Pydraul returns. There are [23] people better able to guide you on the policy and [24] the practice in the Pydraul area.
[25] Q: What type of a wall chart did you keep with

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[1] respect to PCB returns for incineration?

[2] A: You're talking about the wall chart that we [3] allude to in item 3 of Exhibit 303?

[4] Q: Yes.

[5] A: That was a wall chart which would be on a [6] plastic type material which would go up into the [7] shipping dock area of somebody who had a need to [8] ship, with our approval, PCB-containing fluid back [9] to us, and it gave them instructions on what type of [10] drums to select, how to put them on pallets [11] appropriately, how to protect the pallets from any [12] minor spillage, not to overfill the drums, how to [13] bolster the drums if there were only a partial [14] container load so there was no movement which could [15] result in damage to the drums and leakage. It was a [16] guide to how to responsibly prepare and drum [17] material and then how to prepare those drums for [18] safe shipment back to Monsanto. And so that the [19] shipping people, the operators could not sort of say [20] that that information resided somewhere in an [21] environmental group's files, but they as operators [22] had never been properly instructed on how to [23] actually do the job.

[24] Q: It was important to properly contain and [25] send back PCB-containing fluids for incineration, is

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[1] that right?

[2] A: If a truck arrived at Krummrich, say it was [3] a common carrier's truck, and there had been [4] inadequate stowage of drums in the truck body, so [5] that drums had moved in shipment and had cracked a [6] seam and fluid had leaked into the wooden floor of [7] the truck. Now, it's a common carrier's truck he [8] uses for carrying all sorts of materials, so we [9] would have to rigorously place that truck in a [10] concrete surrounded area with sumps to collect, [11] steam clean and solvent clean

the bed of the truck. [12] If it was a wooden -- old wooden floor, we might [13] have to rip out the truck floor bed and replace it, [14] because somebody had not taken adequate care to put [15] a couple of restraining rods in to bolster the [16] truck's cargo in the first place. So, in that [17] situation you'd get the road authorities, the [18] transportation authorities, the customer, the truck [19] owner and the Monsanto operators totally frustrated [20] with why are we trying to do the right thing here [21] when somebody is not prepared to take the trouble to [22] cooperate and do this right, at great expense, and [23] -- you know, once you start spilling the PCB fluid [24] and extending it, then the cleanup, that residual [25] cleanup becomes that much more difficult. If you

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[1] contain it properly in the first place, you hand it [2] from point A to point B and incinerate it, boom, [3] gone.

[4] Q: Do you know if a wall chart such as referred [5] to in Exhibit 303 was ever sent to Pydraul [6] customers?

[7] A: I don't know. I know that in 1975 I found [8] it to be a very helpful thing to send.

[9] Q: To dielectric customers?

[10] A: Yes. But, again, it would only go to [11] customers who had, you know, indicated that they [12] wished to return some PCBs and understood that there [13] were going to be certain ground rules to exercise [14] and operate to do that. And this was not something [15] that we launched like -- sort of like getting junk [16] mail in your mail box at home saying everybody, [17] here, if you ever want to return some PCBs, here's [18] what you should do.

[19] Q: Please mark this document as Exhibit 304. [20] (Plaintiff's Exhibit 304 marked for identification).

[22] MR. DUFF: Mr. Wood, this document has been [23] marked as Plaintiff's Exhibit 304 and bears [24] production numbers TRAN 028069 through 71.

[25] A: Yes.

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[1] Q: Do you recognize this document?

[2] A: Yes, I do.

[3] Q: Did you author this document?

[4] A: Yes, I did.

[5] Q: Would you please identify the document for [6] the record?

[7] A: This is a memo written by myself, dated July [8] 18, 1974, where I was preparing and distributing a [9] minute of a committee of which I was a member [10] concerning a seminar which

we hoped to be able to [11] present in September of 1974.

[12] Q: I'm sorry, did you say that these -- that [13] this document is the minutes of a meeting?

[14] A: I was a member of what is described here as [15] the dielectric seminar program committee, and as the [16] most newly arrived member of that team I was [17] appointed to prepare a minute of the team's [18] deliberations. I think we all know how that works.

[19] Q: And at this meeting did you discuss -- [20] strike that. When did this meeting take place?

[21] A: I believe it actually took place in [22] September or October. It may have stood a month, but [23] I believe the meeting did take place, as I recall.

[24] Q: Is this document the minutes of a meeting [25] for preparation of another meeting?

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[1] MR. CHAMBERS: Let me object to the form. I [2] think you're right. I think we're miscommunicating [3] on which meetings. You were referring to the [4] seminar having been in September or October, right?

[5] A: There was a 17th July meeting of a program [6] committee which was to prepare a program for a [7] planned seminar which was to occur in September of [8] 1974.

[9] MR. DUFF: I understand. So there was --

[10] A: As a member of that program deliberation [11] planning committee, I was appointed by acclaim to [12] prepare the minutes and circulate them to the rest [13] of the committee saying this is what we decided is a [14] good tentative agenda, would you please comment on [15] this, does it reflect what you really said at the [16] meeting and can we proceed to the next stage of [17] planning on the basis of this directionally is where [18] we wish to go with the dielectric seminar which we [19] would plan to hold in September of '74.

[20] Q: So this document, Exhibit 304, is the [21] minutes of a meeting that took place on July 17th, [22] 1974, correct?

[23] A: Yes.

[24] Q: And at that meeting do you recall discussing [25] the definition of the environmental problems

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[1] surrounding PCBs?

[2] A: The committee sort of said that obviously, [3] part of that seminar should be a definition of, yes, [4] the environmental problems surrounding PCBs.

[15] Q: Do you recall discussing that at the meeting [16] on July 17, 1974?

[17] A: I remember it was discussed. I don't [18] remember point-by-point things that were raised. [19] I'm not sure having -- if we go through this we'll [10] probably find some of the issues.

[11] Q: Do you recall any of the issues that were [12] discussed with respect to the environmental problems [13] surrounding PCBs at the July 17, 1974 meeting?

[14] A: I'm sorry, I was reading and I wasn't [15] listening. I do apologize.

[16] Q: I'll have the question read back for you. [17] But do you need sometime to familiarize yourself [18] with this document?

[19] A: I'd just like to go through here again to [20] remind myself of what were the major topics that we [21] covered at that meeting.

[22] Q: Please take as much time as you need.

[23] A: Okay. I'm ready. I'm sorry, I needed to [24] just look through that and --

[25] Q: Certainly. Would you please repeat the last

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

[4] A: The views on this particular issue are [5] expressed in the minute in item one and item two of [6] my memo of July 18th. Item one sort of said that we [7] essentially should give an update status report on [8] how PCBs in the environment were being viewed around [9] the world, because there certainly was no unanimity [10] in views on PCB issues in different countries around [11] the world. And we felt that we could put that [12] forward in a summary form using Monsanto speakers [13] rather than let this, right from the outset of the [14] seminar, develop into a free opinion discussion, [15] although we allowed time for questions, so that we [16] would give some people a framework which they could [17] agree with or then they could specifically sort of [18] say no, you haven't understood, that's pertinent to [19] Holland or Germany or something. The second bullet [20] or the second heading in here said that we should [21] try to cover some of the issues which were a concern [22] to people at that time, sort of saying okay, there [23] is PCB in the environment, and it is not good to [24] have more PCBs in the environment, but if we go back [25] to the PCBs that are already in the environment what

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[1] have we learned about biodegradation, how fast do [2] PCBs go away, what is the significance of isomer [3] differentiation. There are lots of different [4] isomers, the different isomers biodegrade at [5] different rates, but let's sort of get some clarity [6] of thinking into that area. There's lots of still [7] uncertainty about the best methodology to test for [8] PCBs. And I'm not talking now about some of the [9] earlier areas that we had touched on about the use [10] of electron detectors and that sort of thing. Here [11] we're sort of saying that if you're looking for PCB [12] levels in mineral oil transformers, then the [13] interferences are very different, so the method of [14] sampling, the method of testing, the type of column [15] in the chromatograph that you have to use has to be [16] very different. So we're trying to give people a [17] view that there isn't a one solution fits all for [18] testing for PCBs in every substrate. We've got to [19] talk about migration. If PCB is locked in the [20] bottom of a river, do you do more good by dredging [21] it up and digging it out, or does that merely spread [22] it around more, or if the river bed geologically is [23] a certain type, then is the stuff stuck so hard that [24] it's not going anywhere, it's not getting carried up [25] into the water. But there are a number of issues

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[1] here that are important to people in understanding [2] the practical management of the PCB situation that [3] the country was perceiving.

[4] Q: What was known as of July 1974 with respect [5] to the migration -- strike that. What did you know [6] with respect to migration of PCBs as of July 1974?

[7] A: Very little. I very recently arrived from [8] Europe in February of 1974 and had been away from [9] the PCB scene, as part of my reorientation in a new [10] job in a new country. In a later period I was made [11] a member of this particular committee, and this was [12] part, as we discussed earlier, of my gradual [13] re-education about PCBs, which continued through [14] 1974, into 1975, and I'm still learning things about [15] PCB today. So, was I an expert specifically in [16] migration? No. That's why we asked that there be [17] speakers like Scott Tucker and Al Bodin who had been [18] working as scientists in that area to talk to that [19] issue at the seminar.

[20] Q: You gave the example a moment

ago about PCBs [21] getting into a stream and whether or not one should [22] let them be or dredge the bottom of the stream. [23] What did you know about which of those two courses [24] should be followed with respect to PCBs in a stream [25] as of July 1974?

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[1] A: A little. Not as much as I knew by 1976 and [2] 1977. At the time that later EP regulations were [3] being established there were many vociferous fights [4] on this issue. Is it better to leave them or dredge [5] them? I got my personal opinion on that, but as in [6] many of these cases, it didn't prevail, ultimately.

[7] Q: What was your personal opinion?

[8] A: As far as I'm concerned, if you had a good [9] clay bottom in the river, and PCBs were firmly [10] adhered to that clay at the bottom of the river, you [11] were better just to leave them there. But I said, [12] you know, in case after case, the EPA eventually [13] managed to stimulate dredging operations which I [14] still believe today sort of worsened the issue [15] rather than improved the issue.

[16] Q: Directing your attention to the second page [17] of Exhibit 304.

[18] A: Yes.

[19] Q: And specifically number 3 at the top of the [20] page, "Methods of testing PCB in effluent streams". [21] Do you see that?

[22] A: Yes.

[23] Q: At the July 17, 1974 meeting did you agree [24] that the topic of testing PCB in effluent streams [25] should be divided into four sections?

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[1] A: I wasn't in a position to agree at that [2] point in time that this was necessarily the best. I [3] was the minute taker of this particular meeting, I [4] was not yet educated enough to necessarily be a [5] driving force on the decision. But I respected the [6] people who were making that decision.

[7] Q: The committee agreed, then?

[8] A: The committee came to a conclusion that this [9] seemed to be an effective way to discuss this issue.

[10] Q: Do you recall what Monsanto ideas for [11] controlling PCB at customer locations were [12] discussed?

[13] A: I'm sorry?

[14] Q: I'm looking at 3-B on page 2 of this [15] document. My question is, do you recall what was [16] discussed at the July 17, 1974 meeting with respect [17] to Monsanto ideas for controlling PCB at customer [18] locations?

[19] A: There was not necessarily at that meeting on [20] July 17th a prescribed script for each of these [21] sessions. The committee, the planning committee was [22] saying what should be the content and then it would [23] appoint people to prepare the -- under those [24] section headings. So, essentially, what was being [25] said at that time, we can tell people what we had to

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[1] do to tighten up controls in our own manufacturing [2] plant to make sure that we were -- essentially were [3] leak-free. Now, not all those things which apply to [4] a chemical processing plant which will apply equally [5] to a capacitor production plant or a transformer [6] production plant, and that's what we were talking [7] about at customer locations, we were talking about [8] capacitor and transformer and manufacturing [9] facilities. This seminar was to be directed at the [10] dielectrics manufacturers, using and electrical [11] equipment manufacturing industries. But there were [12] a lot of little things which we had discovered [13] ourselves were neat tricks in terms of particular [14] gasket materials and that sort of thing which gave [15] you a much better avoidance of inadvertent releases [16] of fluid in your process. And so we would have had [17] somebody from our manufacturing location or from the [18] engineering group, probably from both, involved in [19] preparing the detailed item 3-B to be presented.

[20] Q: Please mark this document as Exhibit 305. [21] (Plaintiff's Exhibit 305 [22] marked for identification).

[23] MR. DUFF: Mr. Wood, this document has been [24] marked as Plaintiff's Exhibit 305. It is a document [25] dated November 7, 1974 and has a Bates number at the

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[1] bottom of 3002612.

[2] MR. CHAMBERS: Let me ask just for a moment, [3] Kevin, do you know which case this was from?

[4] MR. DUFF: I believe this exhibit was [5] introduced in the Bloomington -- I'm sorry, the [6] Birmingham Fire Insurance case.

[7] MR. CHAMBERS: Okay. Thanks.

[8] MR. DUFF: I note that down at the bottom of [9] the page it also says Bloomington, and has [10] apparently an exhibit number written, but I don't [11] believe we made -- that we identified this document [12] with respect to the Bloomington case.

[13] MR. CHAMBERS: Okay. I didn't

see that. [14] These were BIR document I.D. numbers on the earlier [15] exhibit that I didn't see here, that's what made me [16] wonder which one it was from. We can proceed.

[17] A: Yes.

[18] MR. DUFF: Mr. Wood, are you familiar with [19] this document?

[20] A: Yes.

[21] Q: Please identify this document for the [22] record?

[23] A: This is a memo that I wrote on November 7, [24] 1974 to my supervisor, Cumming Paton, just reporting [25] to him that I received a call from John Britain of

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[1] Westinghouse at Bloomington asking about effluent [2] sampling programs.

[3] Q: And what type of effluent sampling program [4] did Monsanto have at this time?

[5] A: We didn't have it at that time. We were [6] beginning to discuss, as I recall, that we needed [7] certain trap cells that we could put into people's [8] plant outlets so that over a period of time they [9] would collect a measured amount of water, so that [10] you could then test those samples from that [11] particular standardized cell for PCB content and get [12] a weighted average of had they been releasing some [13] minor amounts of PCBs at some steady rate and, if [14] so, what were they. But, equally, that could, as [15] improved, become an alert high level system that if [16] they got a peak in the measurement of that cell that [17] they know that they had a potential greater release [18] problem. This was, again, sort of effluent [19] management which was becoming something which, as we [20] controlled our own plant effluents, we were becoming [21] more knowledgeable about.

[22] Q: Did Monsanto institute an effluent sampling [23] program at some point in time?

[24] A: Yes, we did.

[25] Q: When was that?

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[1] A: I don't remember exactly when it was, but I [2] do know that we did have -- we designed the sample [3] collection cells and methodology for sampling.

[4] Q: Why did Monsanto institute an effluent [5] sampling program?

[6] A: Why did we?

[7] Q: Yes.

[8] MR. CHAMBERS: I object to the form. But [9] you should respond, if you're able.

[10] A: Because in the period that we're in, 1974, [11] '75, '76, Monsanto at that stage, continuing to [12] produce dielectric chlorinated biphenyls, but under [13] caution to our customers that this wouldn't be a [14] forever situation, we were essentially being told by [15] them, Monsanto, you can't cease manufacturing of PCB [16] dielectrics at this point because that would bring [17] the electrical distribution system of the United [18] States and several other countries to a halt. And [19] we sort of said look, if we're going to continue to [20] produce, then there has to be some responsibility on [21] your part that you're going to make sure that you're [22] not releasing any -- I mean, you claim that the [23] risk is minimal because you're putting our PCBs into [24] closed equipment. Now, you're, therefore, really [25] going to have to be able to account for every pound

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[1] of fluid that we send you if we're going to continue [2] to supply it. And you're going to have to button [3] your plant up as closely as we've got ours buttoned [4] up. And they said well, you know more about [5] detecting and measuring PCBs than we do, so if you [6] want us to check our effluents, then help us develop [7] an effluent sampling program.

[8] Q: So was this Monsanto's effort to ensure that [9] its customers were not allowing PCBs to escape to [10] the environment?

[11] A: This was Monsanto's support of helping our [12] customers live up to their contractual undertaking [13] to Monsanto that they would not release PCBs to the [14] environment.

[15] Q: Do you know if Monsanto offered an effluent [16] sampling program to its Pydraul customers at any [17] time?

[18] A: I don't know. I mean, once we developed an [19] effluent sampling program, if a customer had asked [20] of us do you have one, we would have acknowledged [21] that we had one. And it was not very complex [22] technology. So if somebody who had a non-electrical [23] application sort of said hey, we'd still better be [24] sort of addressing issues and let's see if Monsanto [25] has got something that would be helpful to us, I

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[1] mean, we wouldn't have sort of said no, you're not a [2] dielectric customer so you can't have any [3] information about this.

[4] Q: Please mark this as Exhibit 306. [5] (Plaintiff's Exhibit 306 [6] marked

for identification).

[7] MR. DUFF: Mr. Wood, this document has been [8] marked as Plaintiff's Exhibit 306 and bears [9] production number TRAN 073175.

[10] A: Yes.

[11] Q: Please identify this document for the [12] record?

[13] A: This is a memo written by Bill Papageorge [14] and sent to Jim Mieure, and it was sent to a number [15] of side copies, and a Xerox copy of this memo was [16] sent to me for information purposes. I was not on [17] the original list of people requested to comment. I [18] had a question about the paper which I hand wrote [19] and sent it back to the originator of the memo, Bill [20] Papageorge, and Bill wrote a response to my question [21] and sent it back to me.

[22] Q: Is that your handwriting, the --

[23] A: The handwriting which starts "Bill, briefly" [24] is my handwriting.

[25] Q: And what was your question to Mr.

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[1] Papageorge?

[2] A: What is the significance of chlorinated [3] dibenzofurans when material was found in [4] Bayer/Prodelec product, what was pressure to [5] reduce.

[6] Q: What did you mean by that question?

[7] A: There are several questions within that [8] question. Which question do you wish to address?

[9] Q: What information were you seeking to gather [10] from Mr. Papageorge?

[11] A: Okay. My understanding from the paper which [12] had been attached, the Kimbrough copy paper, was [13] that she was referring to the presence in some [14] European PCBs of chlorinated dibenzofurans, and I [15] was not too familiar with the chemistry of [16] benzofurans, so I wanted to know well, what is the [17] significance of them being there or not being [18] there. Is this something which is part of [19] manufacturing PCBs or have they got a different [20] contaminated source of biphenyl that when they [21] chlorinate it, they chlorinate the furan, which is a [22] contaminant in the biphenyl, and if so, what is the [23] importance of this particular chemical entity, which [24] is not chlorinated biphenyl. I mean, just help me [25] understand why is -- what does Kimbrough feel is

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[1] important and significant about these materials. [2] And, secondly, since they seem to be found in the [3] German

material and the French material, but not in [4] the Monsanto material, well, you know, what's [5] different about that. And what would be the [6] pressure or significance of their being in that [7] product, rather, and not in our product.

[8] Q: What did you learn?

[9] A: Bill told me that his information was that [10] chlorinated dibenzofurans are highly toxic [11] materials, which would have many effects on birds [12] and animals. They were originally attributed to [13] PCBs, later be found to be due to a furan content, [14] so you're talking about furans in the biphenyl, [15] which got chlorinated along with the biphenyl. [16] There is currently no regulatory pressure to reduce, [17] but it is an emotional subject and it could result [18] in further processes to eliminate furans. The [19] question I was really coming from on that point was, [20] you know, when we talk about potential toxicity of a [21] chlorinated biphenyl, are we looking at the toxicity [22] of a highly toxic furan contaminant or are we [23] looking at the inherent toxicity of a chlorinated [24] biphenyl? Is there another extraneous toxicology [25] issue that we are not attending?

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[1] Q: Did Monsanto's PCB-containing products [2] contain a furan content?

[3] MR. CHAMBERS: I object to the form. If [4] you're able to answer --

[5] A: The work that was reported here, I think, [6] suggested that ours didn't. I think other work that [7] was carried out suggested that in more highly [8] chlorinated Monsanto materials there was a furan [9] content. But not in the lower chlorinated materials [10] that we were commercially supplying at that time.

[11] MR. DUFF: When you refer to higher [12] chlorinated materials, what do you mean?

[13] A: Six chlorines, on average, up.

[14] Q: Would that be --

[15] A: Aroclor 1260 up.

[16] Q: Would that include Aroclor 1254?

[17] A: I think 1254 was sort of the crossover point [18] between null and some. And when I'm saying some, [19] real small. Again, we're knocking on the limits of [20] detection capability at this point with this work.

[21] Q: Who was Dr. Rene Kimbrough?

[22] A: Renata.

[23] Q: I have failed to pronounce a name correctly [24] again.

[25] A: Rene -- I mean, she would be incensed if she

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[1] felt she was being called Rene.

Renata is a fine [2] woman. Dr. Kimbrough, as I recall, was at that time [3] working for the Atlanta Disease Control Center, CDC, [4] and was doing work surrounding chlorinated [5] compounds.

[6] MR. DUFF: We can take a short break. [7] (Discussion off the record).

[8] MR. DUFF: Mr. Wood, what's your familiarity [9] with the corporate development committee or the [10] corporate management committee at Monsanto?

[11] A: The corporate management committee was a [12] senior level executive committee made up of [13] executives from around the corporation in different [14] functions who were able to give an overview in [15] determining Monsanto corporate policy to certain [16] issues.

[17] Q: Were you ever a member of the corporate [18] management committee?

[19] A: No.

[20] Q: When did you first become aware of the [21] corporate management committee?

[22] A: Oh, I was aware of it vaguely when I was in [23] Europe, and certainly I was aware of it when I was [24] in the United States.

[25] Q: When did you first have contact with the

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[1] corporate management committee?

[2] A: Direct contact that I would attend their [3] meetings?

[4] Q: Let me ask another question for you. Did [5] you ever attend a meeting of the corporate [6] management committee?

[7] A: I may have attended one, but this was not a [8] routine. I may have been part of a group that had [9] been called to report a particular issue and brief [10] the corporate management committee on an issue, if [11] that was on their agenda at that particular meeting.

[12] Q: When was that meeting?

[13] A: Again, I don't recall what particular issue [14] or what particular subject I went to the corporate [15] management committee meeting on. I mean, most times [16] the corporate management committee briefing would be [17] done, oh, by -- Cumming would sometimes be involved, [18] Tom Gossich, say, would certainly be involved. It [19] would be the exception rather than the rule that I [20] would be called upon to personally be present or [21] lead a briefing to the corporate management [22] committee.

[23] Q: Do you ever recall leading a briefing to the [24] corporate management committee?

[25] A: No. I remember being, I say, probably on a

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[1] support group. But, again, I'd need reminding and [2] refreshing as to the particular occasion and the [3] particular issue.

[4] Q: What role did you have with respect to the [5] use of PCBs in Japan?

[6] A: None.

[7] Q: Were you ever involved in an issue with [8] respect to incineration of PCBs in Japan?

[9] A: That rings bells, but I don't -- I can't [10] recall specifically how I was involved. But [11] incineration in Japan strikes some very faint chords [12] in my memory.

[13] Q: Did you play any role with respect to the [14] joint venture between Monsanto and a Japanese [15] corporation, the goal of which was to manufacture [16] PCBs in Japan?

[17] A: No, I did not.

[18] Q: Did you ever travel to Japan on Monsanto [19] business?

[20] A: Yes, I did.

[21] Q: When was that?

[22] A: I made one visit to Japan, I believe it was [23] in 1974.

[24] Q: And why was that?

[25] A: I recall that was to discuss Skydraul

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[1] aviation fluids with Nippon Airlines, Japan [2] Airlines, and to hold a discussion with one of the [3] major offshore drillers who was involved with [4] commissioning drilling rigs to be built in the [5] Japanese shipyards for drilling in the China Seas, [6] who required information about Pydraul ELT.

[7] Q: Did Pydraul ELT contain chlorinated [8] hydrocarbons?

[9] A: No, it didn't.

[10] Q: Skydraul did not contain chlorinated [11] hydrocarbons, correct?

[12] A: No, it didn't. But, again, I would remind [13] you, this was the period when I was in that role of [14] international marketing manager, and so this was in [15] 1974.

[16] Q: What role did you play with respect to [17] legislation relating to PCBs in the 1970s?

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

[19] MR. DUFF: Let me rephrase the question.

[20] A: Would you? That's a big

question.

[21] Q: What role did you play with respect to [22] federal legislation relating to PCBs in the 1970s?

[23] MR. CHAMBERS: For purposes of the record, I [24] have to object to the form. But, certainly, if you [25] can respond, you should.

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[1] A: Well, I'm going to have to ask you to break [2] that down some, because we could spend about another [3] whole day talking about regulation, relationships [4] with industry committees, relationships to [5] dielectric customers, relationships with EPA, [6] discussions, say, with General Electric, [7] Westinghouse about what positions they would be [8] taking in terms of equipment, discussions on EPA [9] hearings relative to decommissioning heat transfer [10] systems and regulations that would be set about [11] that, discussions with EPA about incineration [12] technology. Boy, you know, we really could spend a [13] lot of time unless we focus it. I did a fair amount [14] of work in the 197 -- late 75, '76, '77 period on [15] working with various agencies and industry groups in [16] terms of management of PCB in use.

[17] Q: What technical or trade associations were [18] you a member of while you were employed by [19] Monsanto? Let me break that down, because that [20] could be a wide range.

[21] A: You're going to have to.

[22] Q: When you were in Europe working with [23] dielectric fluids, what technical or trade [24] associations were you a member of?

[25] A: Really wasn't. There is not quite the

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[1] extensive association network in Europe. You would [2] talk -- the electrical distribution industry, for [3] example, in Great Britain at that time was [4] nationalized, and so if there was an electrical [5] distribution question you would be talking, by and [6] large, to the nationalized electrical utility [7] organization, which was a state-owned organization. [8] And so they didn't need a separate association. [9] There were a very limited number of large electrical [10] equipment manufacturers, and we dealt with those [11] independently, there was no need for an [12] association. British Standards Institute, we had [13] membership through our technical groups in standard [14] setting committees, but I was not a member of those [15] committees.

[16] Q: So do you recall any associations or [17] committees that you were a member of while you were [18] in Europe?

[19] A: No. Europe, it was not a big committee [20] culture.

[21] Q: During the period 1974 through and including [22] 1979, what technical and/or trade associations were [23] you a member of?

[24] A: I was a member and a committee member of the [25] EIA, Electronic Industries Association. I was

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[1] occasionally called upon as a non-member to help and [2] assist EPRI. And I can't even remember what EPRI [3] stands for now. Electrical Producers Research [4] Institute sounds right. Occasionally, I'd get a [5] call from one of the ANSI committees asking me for [6] any information I could send to them to help their [7] evaluations. But the ANSI type of membership would [8] be more routinely handled from our research [9] department where we would have somebody like a Dr. [10] Munch attend and give the proper level of technical [11] content to that discussion.

[12] Q: Can you recall any other technical or trade [13] associations?

[14] A: Those were the ones that were the major [15] ones. I'm trying to remember, which was the -- [16] there was the famous Chicago convention, which we [17] may get to, which reviewed the national PCB [18] electrical situation. And I'm not sure which of the [19] associations sponsored that.

[20] Q: Do you recall your membership in any other [21] committees or associations?

[22] A: No. Those were the main -- those were the [23] main ones.

[24] MR. DUFF: Off the record. [25] (Discussion off the record).

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[1] (Deposition Recessed) [2] [3] [4] [5] [6] [7] [8] [9] [10] [11] [12] [13] [14] [15] [16] [17] [18] [19] [20] [21] [22] [23] [24] [25]

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[1] COMES NOW THE WITNESS, DAVID WOOD, and having [2] read the foregoing transcript of the deposition [3] taken on the 10th 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] DAVID WOOD [10] [11] [12] Subscribed and sworn to me before this [13] day of _____, 1995. [14] My Commission expires: _____ [15] [16] [17]

Notary Public [18] [19] [20] [21] [22] [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 10th 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 [14] _____, 1995. [15] My Commission expires June 20, 1998. [16]

_____, [17] Notary Public in and for the [18] State of Missouri [19] [20] [21] [22] [23] [24] [25]

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