

In The Matter Of:

*Nevada Power Company v.
Monsanto Company, et al.*

*George Roush, Jr.
Vol. 2, March 18, 1993*

*Concannon & Jaeger
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IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NEVADA
NEVADA POWER COMPANY,)
Plaintiff,)
-vs-) # CV-89-555-LDG (LRL)
MONSANTO COMPANY, GENERAL)
ELECTRIC CORPORATION, et al.,)
Defendants.)
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IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NEVADA
NEVADA POWER COMPANY,)
Plaintiff,)
-vs-) # CV-89-555-LDG (LRL)
MONSANTO COMPANY, GENERAL)
ELECTRIC CORPORATION, et al.,)
Defendants.)

CONTINUATION OF THE DISCOVERY DEPOSITION OF
WITNESS,
to be used in an action pending in the District Court of
the United States, for the District of Nevada, wherein
NEVADA POWER COMPANY is Plaintiff, and MONSANTO
COMPANY, et
al. are Defendants, pursuant to Notice, under the
provisions of Rule 26 of the Rules of Civil Procedure,
taken on March 18, 1993, at the law offices of Messrs.
Husch & Eppenberger, 100 North Broadway, St. Louis,
Missouri, before John T. Concannon, a Notary Public within
and for the State of Missouri.

APPEARANCES

The Plaintiff was represented by Mr. Ralph A.
Bradley, of the law firm of Bradley & Merrell, c/o Jones,
Jones, Close & Brown, 300 South Fourth Street, Ste. 700,
Las Vegas, Nevada, 89101.
The Defendant, Monsanto Company, was represented by
Mr. Bruce A. Featherstone, of the law firm of Kirkland &
Ellis, 1999 Broadway, Ste. 4000, Denver Colorado, 80202.
The Defendant, Westinghouse Corporation, was
represented by Ms. Laurie Basch, of the law firm of Weil,

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[1] GEORGE ROUSH,

[2] of lawful age, having been previously
sworn to tell the [3] truth, the whole
truth, and nothing but the truth, deposes
[4] and says on behalf of the Plaintiff, as
follows:

[5] DIRECT EXAMINATION

[6] QUESTIONS BY MR. BRADLEY:

[7] Q: Dr. Roush, we're here on the
second day of [8] your deposition, and
you understand that you're still under [9]
oath?

[10] A: Yes.

[11] Q: All right. We had spoken briefly
yesterday [12] about Dr. Paul Wright, and
you indicated that, as I recall, [13] that Dr.
Wright was an employee of Monsanto's
when you [14] became an employee in
1973?

[15] A: Yes.

[16] Q: Did Dr. Wright leave Monsanto to
go work with [17] Industrial Bio-Test
Laboratories during the 1970's?

[18] A: Yes.

[19] Q: Was Dr. Wright a Monsanto — As
a rule, you [20] don't remember when Dr.
Wright left Monsanto; is that [21] correct?

[22] A: It was before me. What do you
mean by —

[23] Q: Okay. Well, tell me what you
know about Dr. [24] Wright's employ-
ment with Monsanto. When was he
employed by [25] Monsanto?

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[1] A: He was working for Monsanto
when I came.

[2] Q: Okay.

[3] A: And he had been to Bio-Test
before that.

[4] Q: And before working with In-
dustrial Bio-Test, [5] had Dr. Wright been
a Monsanto employee, do you know?

[6] A: I think so.

[7] Q: All right. And Dr. Wright eventually
was [8] charged with a crime regarding
the work that he did at IBT [9] Labs; is
that correct?

[10] A: I don't know. I didn't know the
basis for [11] that criminal — that action
in court.

[12] Q: Do you know that he was
charged with a crime [13] during the
1970's?

[14] A: That word "criminal" never got to
me from [15] Monsanto.

[16] Q: Did Monsanto ever give any
awards to Dr. [17] Wright for his role in
forestalling EPA's promulgation of [18]
regulations to limit discharges of PCB's?

[19] A: No.

[20] Q: I'm going to show you Plaintiff's
Exhibit 1137 [21] and ask you to look at
that. Have you had a chance to [22]
review that?

[23] A: Yes.

[24] Q: Had you seen that document
before today?

[25] A: I signed it in 1976.

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[1] Q: All right. That's your signature
down at the [2] bottom?

[3] A: Yes.

[4] Q: And what is that exhibit?

[5] A: It's an achievement award.

[6] Q: And it's dated 7-4-76 — What is the
date of [7] that?

[8] A: 8-4-76.

[9] MR. FEATHERSTONE: You're read-
ing that date by [10] your signature, Dr.
Roush?

[11] THE WITNESS: Yes.

[12] MR. FEATHERSTONE: All right.

[13] THE WITNESS: I'm relating that to
Levinskas', [14] as well.

[15] Q: (by Mr. Bradley) And did Monsan-
to give an [16] award to Dr. Paul Wright
pursuant to this exhibit?

[17] A: Yes.

[18] Q: And was the amount of the award
one hundred [19] dollars?

[20] A: I think so.

[21] Q: Was the award given at a
ceremony?

[22] A: No.

[23] Q: Was it simply handed to Dr.
Wright?

[24] A: Yes.

[25] MR. FEATHERSTONE: You're talk-
ing about the

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[1] cash now?

[2] MR. BRADLEY: Yes.

[3] Now, I'm looking at the middle para-
graph of [4] the exhibit in which it says,
the form says, "Describe the [5] achieve-
ment and its significance to Monsanto."
And halfway [6] down, beginning on the
far right-hand side it says, "In the [7]
former instance..." Actually, let me go
up. "Particularly [8] noteworthy were
his..." meaning Dr. Wright's, "...efforts on
[9] polychlorinated biphenyls, (Aroclors)
and chlorinated [10] Isocyanurafes (ACL
products). In the former instance, his [11]
excellent analysis and syntheses of
widely scattered [12] observations
played a prominent role in forestalling
the [13] EPA's promulgation of unrealistic
regulating to limit [14] discharge of
polychlorinated biphenyls." Do you see
that [15] there?

[16] A: Yes.

[17] Q: What did Dr. Wright do as part of
his [18] excellent analysis and synthesis
of widely scattered [19] observations
which played a prominent role in fore-
stalling [20] EPA's promulgation of un-
realistic regulating to limit [21] dischar-
ges of PCB's?

[22] A: As I read it back then, is, he did
some work, [23] he looked at the PCB
data that was available, and put it [24]
together in a fashion that could be ac-
ceptable to the EPA, [25] and they agreed
with the recommended course.

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[1] Q: Is that a true copy of the award
that you [2] signed in August of 1976?

[3] A: I don't recall, but I would suspect
it is. It [4] looks reasonable. I can't im-
agine doing it again.

[5] Q: And is that a document that was
written on or [6] about the date signed
by Dr. Levinskas and you?

[7] A: Yes.

[8] Q: And the contents of that exhibit were [9] apparently written by Dr. Levinskas and you based upon [10] knowledge you had of the information contained in the [11] exhibit; is that correct?

[12] MR. FEATHERSTONE: Object to the form.

[13] A: The work that was done, was done by Paul [14] Wright and evaluated by Levinskas.

[15] MR. BRADLEY: Would you read back that answer [16] for me, please?

[17] (Thereupon, the reporter read back the previous [18] answer.)

[19] Q: (by Mr. Bradley) Was it Dr. Levinskas, you, [20] or someone else who developed the wording of Plaintiff's [21] Exhibit 1137?

[22] A: Levinskas.

[23] Q: And do you know whether Dr. Levinskas had [24] knowledge of the facts that were contained in Exhibit 1137 [25] when he wrote it?

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[1] A: Yes.

[2] Q: And do you know whether Dr. Levinskas wrote [3] Exhibit 1137 at or near the time that Dr. Wright received [4] the award?

[5] A: I can't answer that.

[6] Q: And do you know whether this exhibit was made [7] as part of the regular practice of Monsanto's business, and [8] that they kept records of the awards that they gave?

[9] MR. FEATHERSTONE: Let me hear back the [10] question, please.

[11] (Thereupon, the reporter read back the previous [12] question.)

[13] MR. FEATHERSTONE: Object to the form.

[14] Q: (by Mr. Bradley) Do you know whether this [15] record was — excuse me — this exhibit was part of the [16] regular practice of Monsanto's business?

[17] A: I don't know.

[18] Q: Did Monsanto regularly make awards?

[19] A: I don't know.

[20] Q: Did Monsanto occasionally make awards?

[21] A: Yes.

[22] Q: And when Monsanto made those awards, would [23] Monsanto maintain copies of those awards in its business [24] files?

[25] A: I don't know.

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[1] Q: You don't know whether these awards were — [2] Well, let me ask it this way: Do you know whether awards [3]

were kept in the ordinary course of Monsanto's regularly- [4] conducted business?

[5] A: I'm sorry.

[6] MR. FEATHERSTONE: Part of the problem here [7] maybe is that you're talking about awards, Mr. Bradley, and [8] the document says "Achievement Award Data Sheet."

[9] MR. BRADLEY: Well, all right. Thank you.

[10] Do you know whether Monsanto kept copies of [11] achievement award data sheets in the ordinary course of [12] their business activity?

[13] A: I don't know.

[14] Q: (by Mr. Bradley) When you began work at [15] Monsanto, up to the time of your retirement, did you ever [16] review minutes of the corporate development committee [17] within Monsanto that occurred prior to your employment at [18] Monsanto?

[19] A: No.

[20] Q: I'm now going to show you Plaintiff's Exhibit [21] 1252 and ask you if you've ever reviewed that document [22] before? That is a document that we received from Monsanto [23] as part of our discovery. It was not attached to anything, [24] and I'm trying to figure out when it was written, what it [25] was attached to, if anything. Have you ever seen that

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[1] document before?

[2] A: I can't recall.

[3] Q: I'm now going to show you Plaintiff's Exhibit [4] 1433, which we received from Monsanto pursuant to our [5] discovery, which is also undated, and ask that you review [6] that to tell me whether you've ever seen it before.

[7] A: I don't think I saw that.

[8] Q: While you were employed at Monsanto, did you [9] ever review a presentation by Dr. E. S. Tucker on [10] semicontinuous activated sludge degradation?

[11] A: No.

[12] Q: While you were at Monsanto, did you review any [13] Monsanto documents relating to the biodegradability of [14] Aroclor 1221?

[15] A: I don't think so.

[16] Q: I'm now going to show you Plaintiff's Exhibit [17] 431 and ask if you've seen that document before.

[18] A: No.

[19] Q: Okay. During the time you were employed at [20] Monsanto, did you review any correspondence in the 1950's [21] between Monsanto and the State of Indiana, State Board of [22] Health?

[23] A: 1950's?

[24] Q: Correspondence from the 1950's.

[25] A: I don't recall.

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[1] Q: I will show you Plaintiff's Exhibit 442 and [2] ask you if you've seen that document before.

[3] A: What was the question?

[4] Q: Have you seen that document before?

[5] A: No.

[6] Q: While you were employed at Monsanto, were you [7] ever informed that Indiana workers reportedly became ill [8] due to inhalation of Aroclor vapors?

[9] A: No.

[10] Q: I'm going to show you Plaintiff's Exhibit 441 [11] and ask if you have seen that document before.

[12] A: No, I hadn't seen that, either.

[13] Q: When you worked at Monsanto, were you ever [14] informed that in the 1950's there were complaints of upper [15] respiratory tract, plus possible liver damage for workers [16] exposed to Aroclors in Brazil?

[17] A: No.

[18] Q: Did Monsanto manufacture a product called [19] Inerteen?

[20] A: I don't know.

[21] Q: Did Monsanto mix chemicals on Monsanto [22] property where the mixture was called Inerteen?

[23] MR. FEATHERSTONE: Is there a time period to [24] your question?

[25] MR. BRADLEY: Any time.

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[1] MR. FEATHERSTONE: Object to the lack of [2] foundation. Calls for speculation.

[3] A: I don't know.

[4] Q: (by Mr. Bradley) Do you know whether [5] Westinghouse used a product called Inerteen, which was [6] comprised of PCB's?

[7] A: I don't know.

[8] Q: Have you ever heard the word "Inerteen" [9] before?

[10] A: Yes.

[11] Q: Tell me how you know about Inerteen.

[12] MR. FEATHERSTONE: Object to the form.

[13] Q: (by Mr. Bradley) What is Inerteen?

[14] MR. FEATHERSTONE: Object to the form. No, I [15] don't object to the form. Object to the foundation.

[16] A: Inerteen is a product like PCB that can be [17] used to — as a dielectric.

[18] Q: (by Mr. Bradley) When did you first hear the [19] term "Inerteen"?
[20] A: I heard it many times at Monsanto.
[21] Q: All right. And while you were at Monsanto, [22] did you read any documents indicating what the composition [23] of Inerteen is — or was. Excuse me.
[24] A: I've read it and I can't recall any more than [25] to say I've read that it was largely PCB's. Whether it's

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[1] something else, I don't know.
[2] Q: Do you recall whether — Now you're reading — [3] you learned that the Inerteen was — Let me — was a [4] mixture of chemicals that were mixed by Monsanto?
[5] A: Yes.
[6] Q: Have you heard of a business called Cleveland [7] Works?
[8] A: Cleveland what?
[9] Q: Works.
[10] A: No.
[11] Q: In your work at Monsanto, did you ever learn [12] of the identity of a gentleman named E. C. Barnes?
[13] A: If I did, it was casual.
[14] Q: Do you know whether Westinghouse had an [15] industrial hygiene engineer named E. C. Barnes?
[16] A: I don't know.
[17] Q: While at Monsanto, did you review any [18] documents written by the industrial hygiene engineers of [19] Westinghouse regarding the toxicity of Inerteen?
[20] A: No.
[21] Q: Did you know whether, in the 1940's, [22] Westinghouse industrial hygiene engineers were indicating [23] that chronic poisoning may occur where there are repeated [24] or recurring exposures to a sufficient concentration of [25] Inerteen (6935) vapor over a period of months or years,

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[1] that such exposures may produce internal bodily injury [2] which may be disabling and could be fatal?
[3] A: No.
[4] MR. FEATHERSTONE: Object to the form.
[5] Q: (by Mr. Bradley) Do you know whether, in the [6] 1940's, Westinghouse's industrial hygiene engineers were [7] indicating that Inerteen is absorbed through the skin and [8] can produce toxic reactions internally?
[9] A: No.
[10] Q: Have you heard of a male or female whose name [11] is F. M. Clark?

[12] A: Not that I recall.
[13] Q: Do you know of a Dr. Jenkins —
[14] A: No.
[15] Q: — who was with Monsanto Chemical Company at [16] the Anniston, Alabama plant in 1941?
[17] A: No.
[18] Q: Do you know a gentleman named L. A. Watt?
[19] A: Not that I recall.
[20] Q: Do you know whether, in the 1930's, Monsanto [21] put out Aroclor booklets?
[22] A: No.
[23] Q: I'm now going to show you Plaintiff's Exhibit [24] 1190. This also was provided to us, I believe, by Monsanto [25] through our discovery, and it appears to be a section of

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[1] something, but we don't know what it's a section of, so I'm [2] interested in your reviewing it to tell me whether you've [3] seen it before.
[4] A: I haven't seen it.
[5] Q: Do you know whether Monsanto ever produced a [6] document that had a — an eleventh chapter or section which [7] was titled "Hazards" and which related to Aroclor?
[8] A: No. The answer to that is, I don't know.
[9] Q: All right. I'm now going to show you [10] Plaintiff's Exhibit 1208, which is also a document that we [11] received during discovery, which is undated, and ask you to [12] review it to tell me whether you've ever seen it before. [13] Have you ever seen that document before, Dr. Roush?
[14] A: I don't think so. No, I have not.
[15] Q: Do you know whether, in the 1970's, Monsanto [16] ever distributed to the business group working with PCB's a [17] list of questions and answers which may be asked by [18] customers receiving Monsanto's Aroclor PCB letter?
[19] A: What's your question, now?

[20] MR. BRADLEY: Would you read it back. [21] (Thereupon, the reporter propounded the previous [22] question.)
[23] A: I don't know.
[24] Q: (by Mr. Bradley) Do you know whether Monsanto [25] ever instructed the business group working with PCB's that

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[1] they should not give any answers to — regarding Aroclor — [2] Excuse me. Let me rephrase that. Do you know whether, in [3] the 1970's, Monsanto ever informed its business group that [4] they

should not give answers to customers about Aroclor in [5] writing?
[6] MR. FEATHERSTONE: Object to the form.
[7] A: I don't know.
[8] Q: (by Mr. Bradley) Do you know whether, in the [9] 1970's, Monsanto ever indicated internally that they did [10] not want customers to return Aroclor to Monsanto?
[11] A: I don't know.
[12] Q: Do you know a gentleman named A. Olson?
[13] A: I don't think so.
[14] Q: Do you know whether Monsanto, in the 1970's, [15] had a sales department, division, section, regarding PCB's?
[16] A: No, I don't know.
[17] Q: Have you ever heard of a functional fluids [18] group?
[19] A: Yes.
[20] Q: What is the functional fluids group?
[21] A: I don't know.
[22] Q: Do you know whether Monsanto ever produced a [23] document indicating that there is a problem with Aroclor [24] 1260 but not a problem with Aroclor 5460?
[25] MR. FEATHERSTONE: Object to the form.

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[1] A: I don't know.
[2] Q: (by Mr. Bradley) Do you know whether, during [3] the 1970's, that claim was ever made by Monsanto?
[4] MR. FEATHERSTONE: Object to the form.
[5] A: I don't know.
[6] Q: (by Mr. Bradley) Do you know whether Monsanto [7] ever made payments for Dr. Paul Wright's criminal defense?
[8] A: Yes.
[9] Q: Who made the decision within Monsanto to pay [10] for Dr. Paul Wright's criminal defense?
[11] MR. FEATHERSTONE: The Magistrate has blocked [12] you from asking questions about that, so I will instruct [13] the witness not to answer, consistent with the Magistrate's [14] rule on December 23, 1993.
[15] MR. BRADLEY: The Magistrate prohibited me on [16] the amount of the payment, not a rationale for the payment.
[17] MR. FEATHERSTONE: Do you have the order?
[18] MR. BRADLEY: Yes.
[19] MR. FEATHERSTONE: May I see it?
[20] MR. BRADLEY: I have a section of it.

[21] **MR. FEATHERSTONE:** Do you have the 30(b)6 [22] Notice that was the target of the motion? Can I see both [23] of those?

[24] **MR. BRADLEY:** Yes.

[25] **MR. FEATHERSTONE:** May I hear the question,

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[1] please?

[2] (Thereupon, the reporter propounded the previous [3] question.)

[4] **MR. FEATHERSTONE:** You're instructed not to [5] answer on the grounds of the Magistrate's ruling.

[6] **Q:** (by Mr. Bradley) Do you know what reason [7] Monsanto paid for Dr. Paul Wright's criminal defense?

[8] **A:** No.

[9] **Q:** Do you know whether Monsanto made any payments [10] to Dr. Wright after the criminal prosecution for conviction [11] of fraud in the case of the United States versus [12] Kepplinger, et al.?

[13] **A:** My impression is yes.

[14] **Q:** And what were the payments for?

[15] **MR. FEATHERSTONE:** He said his impression, so [16] I will object on the grounds of speculation.

[17] Go ahead and answer.

[18] **THE WITNESS:** What was the question?

[19] **Q:** (by Mr. Bradley) What were the payments for?

[20] **MR. FEATHERSTONE:** Object also to the form of [21] the question.

[22] **Q:** (by Mr. Bradley) Why did Monsanto pay money [23] to Dr. Wright following his criminal conviction for fraud [24] in the case of the United States versus Kepplinger, et al.?

[25] **MR. FEATHERSTONE:** Object to the form of the

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[1] question, and also to the absence of any showing of [2] personal knowledge or foundation.

[3] **A:** I don't know.

[4] **Q:** (by Mr. Bradley) Do you know if Dr. Wright [5] has received any awards from Monsanto following his [6] criminal conviction for fraud?

[7] **A:** No.

[8] **Q:** No, you don't know, or no, he didn't?

[9] **A:** He did not.

[10] **Q:** Why did you have the impression that Monsanto [11] made payments to Dr. Wright following his criminal [12] conviction?

[13] **A:** He was not convicted — Up until the time he [14] was convicted, he was not —

[15] **MR. FEATHERSTONE:** He's talking about after [16] the conviction. That's the question.

[17] **A:** No. After the conviction —

[18] **Q:** (by Mr. Bradley) My question was, do you know [19] whether Monsanto made payments to Dr. Wright following his [20] conviction.

[21] **A:** No. I thought it was before. The answer is, [22] they did not, I think.

[23] **Q:** All right. And why do you think that Monsanto [24] did not make payments to Dr. Wright following his [25] conviction?

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[1] **A:** I don't know.

[2] **Q:** Did you review any statements from —

[3] **A:** Any what?

[4] **Q:** Did you review any letters or billing [5] statements addressed to Monsanto regarding payments made [6] for the criminal defense of Dr. Wright?

[7] **A:** No.

[8] **Q:** Did you know how much money, if any, Monsanto [9] paid for the criminal defense of Dr. Wright?

[10] **A:** No.

[11] **Q:** Have you heard of the law firm of Wilmer, [12] Cutler & Pickering, in Washington, D.C.?

[13] **A:** I don't know.

[14] **Q:** Do you know whether any money was paid to the [15] law firm of Kirkland & Ellis regarding the criminal defense [16] of Paul Wright?

[17] **A:** No.

[18] **Q:** Do you know who, within Monsanto, made [19] payments for the criminal defense of Paul Wright?

[20] **A:** No.

[21] **Q:** Did Monsanto receive information regarding the [22] criminal prosecution of Paul Wright during the time that [23] you were employed at Monsanto?

[24] **A:** I don't know.

[25] **Q:** Did you receive information?

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[1] **A:** No.

[2] **Q:** Did you speak with Dr. Wright regarding the [3] allegations of fraud made against him?

[4] **A:** No.

[5] **Q:** Did you speak with anyone within Monsanto [6] regarding the allegations of fraud made against Dr. Wright?

[7] **A:** No.

[8] **Q:** Did you speak with anyone from Industrial Bio- [9] Test Laboratories about

the allegations of fraud brought [10] against Dr. Wright?

[11] **A:** No.

[12] **Q:** Did you speak with Dr. K. Landra regarding the [13] allegations of fraud brought against Dr. Wright?

[14] **A:** No.

[15] **Q:** Did you speak — Dr. K. Landra was head of [16] IBT, wasn't he?

[17] **A:** Yes.

[18] **Q:** Did you speak with Dr. K. Landra regarding the [19] allegations of fraud brought against him?

[20] **A:** No.

[21] **Q:** Did you speak with Dr. K. Landra regarding the [22] allegations of fraud brought against other IBT employees?

[23] **A:** No.

[24] **Q:** Do you know whether anyone within Monsanto [25] spoke with Dr. Wright regarding the allegations of fraud

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[1] made against him?

[2] **A:** No.

[3] **Q:** Did you know whether Dr. Levinskas had [4] discussions with Dr. Wright regarding the allegations of [5] fraud brought against Dr. Wright?

[6] **A:** No.

[7] **Q:** Did you ever speak with Dr. Levinskas about [8] the allegations of fraud brought against IBT employees?

[9] **A:** No.

[10] **Q:** After you learned of the allegations of fraud [11] against IBT employees, did Monsanto do anything to [12] determine whether the studies it gave to IBT regarding [13] PCB's were done fraudulently?

[14] **A:** I don't know how to answer that question.

[15] **MR. BRADLEY:** Would you read that question [16] back, please?

[17] (Thereupon, the reporter read back the question.)

[18] **Q:** (by Mr. Bradley) After Monsanto learned of [19] the allegations of fraud at IBT, did Monsanto request that [20] studies previously done by IBT regarding PCB's be performed [21] by some other lab?

[22] **A:** I don't know.

[23] **Q:** Did Monsanto do anything after it learned of [24] the allegations of fraud against IBT employees to determine [25] whether the studies performed by IBT for Monsanto regarding

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[1] PCB's were done correctly?

[2] **A:** I don't know.

[3] Q: Did you have meetings with anybody after you [4] were employed at Monsanto to determine what should be done [5] regarding IBT studies regarding PCB's once you learned that [6] IBT employees had been charged with fraud?

[7] A: Ask that again.

[8] MR. BRADLEY: Would you read it back, please. [9] (Thereupon, the reporter read back the question.)

[10] A: I don't know.

[11] Q: (by Mr. Bradley) Did you ever attend any [12] meetings where the subject matter of the charges against [13] IBT employees were discussed?

[14] A: No.

[15] Q: Did you read anything that was written by a [16] Monsanto employee regarding the allegations of fraud [17] against Dr. Wright or the other IBT employees?

[18] A: No.

[19] Q: Did you read any document written by anyone [20] regarding the allegations of fraud brought against Dr. [21] Wright?

[22] A: No.

[23] Q: When the allegations of fraud were brought [24] against Dr. Wright, was there an assembly of documents [25] within Monsanto regarding the allegations of fraud brought

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[1] against Dr. Wright?

[2] A: I don't know.

[3] Q: Do you know whether there was a request by [4] anyone within Monsanto to gather documents regarding the [5] allegations against Dr. Wright that he engaged in fraud?

[6] A: I don't know.

[7] Q: Do you know whether anyone within Monsanto [8] destroyed any documents regarding the work that — Excuse [9] me — either the work of Dr. Wright or the correspondence [10] to and from Dr. Wright, once there were allegations that he [11] had committed fraud?

[12] MR. FEATHERSTONE: Any correspondence, any [13] documents, or was it related to PCB's?

[14] MR. BRADLEY: Any correspondence.

[15] A: I don't know.

[16] Q: (by Mr. Bradley) You didn't see any of that, [17] did you?

[18] A: No.

[19] Q: Was there someone within Monsanto during the [20] time Paul Wright was charged with fraud who you knew to be [21] speaking with Dr. Wright regarding those allegations?

[22] A: No.

[23] Q: Was Monsanto concerned at all that, after Dr. [24] Wright was charged and convicted of fraud, that some of the [25] studies he had worked on for Monsanto may not have been

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[1] valid?

[2] A: Yes.

[3] Q: And what, then, did Monsanto do about that [4] concern?

[5] A: I don't know.

[6] Q: Was someone placed in charge within Monsanto [7] for dealing with that concern?

[8] A: I don't know.

[9] Q: Would you know whether someone within the [10] medical department was responsible for addressing that [11] concern?

[12] A: No.

[13] Q: Why not? You were the director of it. And I [14] don't mean to argue; I'm really trying to find out.

[15] A: Someone would have made judgments. Some [16] things were worthwhile looking at. There were some things [17] that were outdated and of no interest, no product, not [18] being used —

[19] MR. FEATHERSTONE: That's not his question. [20] His question was, you said that you did not know whether [21] someone within the medical department was charged with the [22] responsibility of responding to the concern about a test [23] done, or involving Dr. Wright, and when you said you didn't [24] know, Mr. Bradley wanted to know why you didn't know, since [25] you were the head of the medical department.

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[1] A: Because a decision before that was made as to, [2] what things do we have to be concerned about. Those things [3] that were dead files were thrown away. And how they made [4] that decision, I didn't know. So what became a subject for [5] review or concern, or whether there was concern, wasn't [6] given to us.

[7] MR. FEATHERSTONE: Wasn't given to the medical [8] department?

[9] THE WITNESS: Right.

[10] MR. FEATHERSTONE: All Right.

[11] A: So if they — They gave us some things to look [12] at, but we didn't look at all of them. It was expansive.

[13] Q: (by Mr. Bradley) Who gave you things to look [14] at?

[15] A: I'm not sure how that — where that decision [16] was made.

[17] Q: Who gave the medical department documents to [18] review regarding Dr. Wright?

[19] A: They were given to Dr. Levinskas.

[20] MR. FEATHERSTONE: Let's go off the record. [21] (Thereupon, a short colloquy was had.)

[22] Q: (by Mr. Bradley) Who was Dr. Levinskas [23] reporting to regarding this matter?

[24] A: I don't know.

[25] Q: Who was he —

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[1] A: I wasn't involved in that.

[2] Q: All right. Do you know whether Monsanto ever [3] requested that IBT change study results to show that PCB [4] products were less toxic than originally claimed by IBT?

[5] A: I don't know.

[6] Q: Did you know whether Monsanto ever wrote to [7] IBT asking them to change a study result from absolutely [8] toxic to not toxic regarding PCB's?

[9] MR. FEATHERSTONE: Object to the form.

[10] A: I don't know.

[11] Q: (by Mr. Bradley) Did you have a discussion [12] with anyone within Monsanto during the time you were [13] employed there regarding documents sent by Monsanto to IBT, [14] where Monsanto asked IBT to change the results of studies?

[15] MR. FEATHERSTONE: May I hear the question, [16] please?

[17] (Thereupon, the reporter read back the question.)

[18] MR. FEATHERSTONE: Object to the form of the [19] question.

[20] THE WITNESS: I'd like to hear it again. [21] (Thereupon, the reporter read back the question.)

[22] A: No.

[23] MR. BRADLEY: I have nothing further.

[24] MR. FEATHERSTONE: Okay. Off the record. [25] (Thereupon, a short colloquy was had.)

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[1] CROSS EXAMINATION

[2] QUESTIONS BY MR. FEATHERSTONE:

[3] Q: Dr. Roush, to set the chronology, I believe [4] you testified that you joined Monsanto sometime in 1973?

[5] A: Yes.

[6] Q: And you retired sometime in 1988?

[7] A: Yes.

[8] Q: And when you joined Monsanto in 1973, you had [9] joined as associate medical director?

[10] A: Yes.

[11] Q: When becoming the medical director when Dr. [12] Kelly retired at the end of 1974 —

[13] A: Yes.

[14] Q: — and from 19 — from that point in 1974, [15] that is, the end of the year, until when you retired in [16] 1988, you were the medical director of Monsanto?

[17] A: Yes.

[18] Q: All right. Now, in response to Mr. Bradley's [19] question, you made some schematics of the medical department. Was the medical department a business group?

[21] A: No.

[22] Q: You have used the word or the phrase "business [23] group." Were there a number of business groups at Monsanto [24] during the time you were medical director?

[25] A: Yes.

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[1] Q: And did each of the various business groups [2] have responsibility for certain products?

[3] A: Yes.

[4] Q: And I take it there was a business group that [5] had responsibility for PCB products while PCB's were being [6] manufactured and sold by Monsanto?

[7] A: Yes.

[8] Q: All right. Was the medical department a part [9] of any business group?

[10] A: No.

[11] Q: Was the medical department, for instance, a [12] part of the business group that had responsibility for [13] PCB's?

[14] A: No.

[15] Q: Was the medical department while you were at [16] Monsanto separate and apart from the business groups?

[17] A: Yes.

[18] Q: All right. In response to Mr. Bradley's [19] question yesterday, you stated that the business group had [20] the responsibility for communicating with customers.

[21] A: Yes.

[22] Q: Did the medical department, itself, have any [23] responsibility for communicating directly with customers?

[24] MR. BRADLEY: Objection to the form.

[25] A: No.

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[1] Q: (by Mr. Featherstone) In your role, first as [2] associate medical director and

then as the medical [3] director, did you have any responsibility for communicating [4] directly with customers?

[5] MR. BRADLEY: Object to the form. "Responsi- [6] bility" is vague.

[7] A: No.

[8] Q: (by Mr. Featherstone) Did you, during your [9] employment at Monsanto, in fact ever meet with any of [10] Monsanto's customers to discuss PCB's?

[11] A: No.

[12] Q: Did you, during your employment with Monsanto, [13] have any written communication directly to customers of [14] Monsanto regarding PCB's?

[15] A: No.

[16] Q: Okay. To your understanding, who had [17] responsibility for communicating, either written or oral, [18] to the customers?

[19] MR. BRADLEY: Object to the form. "Responsi- [20] bility" is vague, and he's already indicated he doesn't [21] know the answer to this, so he's speculating.

[22] THE WITNESS: What is the question, again?

[23] MR. FEATHERSTONE: You want to read it back, [24] please, John?

[25] (Thereupon, the reporter read back the question.)

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[1] Q: (by Mr. Featherstone) I'm talking now about [2] Monsanto's communications, either oral or written, to [3] Monsanto's customers.

[4] A: I'm not sure what the title of the man was who [5] made contact with any of them.

[6] Q: Do you now whether it was a business group [7] responsible for PCB's or some other department or group [8] that had responsibility within Monsanto for those [9] communications?

[10] MR. BRADLEY: Object to the form.

[11] A: I don't know.

[12] Q: (by Mr. Featherstone) Was it ever part of [13] your responsibility or job while you were at Monsanto to [14] review any written communications that Monsanto made to its [15] customers regarding PCB's?

[16] A: No.

[17] Q: Was it ever a part of your responsibility [18] while you were at Monsanto to become familiar with or [19] review any of the oral disclosures that Monsanto made to [20] its customers regarding PCB's?

[21] A: No.

[22] Q: Is it safe to say that any communications [23] regarding PCB's made by Monsanto to its customers were [24]

handled by people other than yours or your department's?

[25] A: Yes.

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[1] Q: All right. And in preparation for your [2] testimony today, either Mr. Bradley's direct examination or [3] my cross examination, have you made any effort to review [4] the files or speak to people concerning what disclosures [5] Monsanto made to its customers regarding PCB's?

[6] A: No.

[7] Q: Now, as an associate medical director and then [8] the medical director at Monsanto, did you have any [9] responsibility or involvement in the specifications, [10] chemical specifications for Monsanto's PCB products?

[11] A: No.

[12] Q: Did you have any responsibility for the [13] manufacture of those products?

[14] A: No.

[15] Q: Did you have any responsibility for the sale [16] of those products?

[17] A: No.

[18] Q: I want to ask you some questions about Aroclor [19] 1016, a product that Mr. Bradley asked you about yesterday.

[20] A: Yes.

[21] Q: Did you know it by the — Well, strike that. [22] Did you have any involvement in the development of Aroclor [23] 1016?

[24] A: No.

[25] Q: Did you have any involvement in any

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[1] discussions that Monsanto may have had with its customers [2] regarding Aroclor 1016?

[3] A: No.

[4] Q: Did you understand Aroclor to refer to PCB's?

[5] A: Yes.

[6] Q: Do you know to what extent Monsanto kept its [7] customers advised of the development of Aroclor 1016?

[8] A: No.

[9] Q: Based on your knowledge of the responsibility- [10] ties and operations of the medical department, would you [11] suspect the medical department to be involved at all in the [12] development of Aroclor 1016?

[13] MR. BRADLEY: Object to the form of the ques- [14] tion. It calls for him to speculate.

[15] A: No.

[16] Q: (by Mr. Featherstone) Or involved at all in [17] the discussions with cus-

tomers regarding the development of
[18] Aroclor 1016?

[19] A: No.

[20] MR. BRADLEY: Same objection.

[21] Q: (by Mr. Featherstone) Do you know why Aroclor [22] 1016 was developed?

[23] A: No.

[24] Q: Do you know the purpose of Aroclor 1016?

[25] A: No.

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[1] Q: If there had been discussions between Monsanto [2] and its customers regarding the chemical makeup of Aroclor [3] 1015, can you think of any reason you would have been [4] informed of those discussions?

[5] A: That was very — No.

[6] Q: If there had been discussions, whose [7] responsibility would it have been to have those discussions [8] with those customers?

[9] A: The business group.

[10] Q: The business group that is responsible for [11] PCB's?

[12] A: Yes.

[13] Q: Did you ever hear of any claim by any customer [14] that the customer of Monsanto did not know that Aroclor [15] 1016 had PCB's?

[16] A: No.

[17] Q: Did you ever hear of any claim by anyone [18] connected with the federal government that the federal [19] government did not know that Aroclor 1016 had PCB's?

[20] A: No.

[21] Q: All right. I'd like to ask you about [22] Plaintiff's Exhibit 1421, which Mr. Bradley showed you [23] yesterday. Just so the record is clear on this, this is a [24] memorandum from a fellow by the name of Johansen to you of [25] August 27, 1976?

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[1] A: Yes.

[2] Q: Was it Mr. or Dr. Johansen?

[3] A: Doctor.

[4] Q: Was he in the medical department?

[5] A: Yes.

[6] Q: And does this memorandum relate to work [7] regarding employees at the W.G. Krummrich Plant?

[8] A: Yes.

[9] Q: All right. That was a Monsanto facility —

[10] A: Yes.

[11] Q: — that manufactured a wide variety of [12] chemicals —

[13] A: Yes.

[14] Q: — including PCB's?

[15] A: Yes.

[16] Q: And had, for some time, manufactured PCB's —

[17] A: Yes.

[18] Q: — to your understanding? All right. Was [19] there an effort made on or about August 27th, 1976 to [20] survey the health of the workers in the PCB production unit [21] at the Krummrich Plant?

[22] Let me withdraw that question and ask it this [23] way: Was there an effort on or about August 27th, 1976 to [24] take a look at the death certificates relating to people [25] who had worked in the Aroclor-manufacturing department at

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[1] Krummrich?

[2] A: Yes.

[3] Q: All right. What was the purpose of that [4] review?

[5] A: It was related to the Mobile statement, that [6] they had melanomas at the research laboratory, as well as [7] pancreatic cancers.

[8] Q: Was there a particular researcher whose name [9] was connected with that study, or that statement?

[10] A: The medical director of Mobile.

[11] Q: Who was the medical director of Mobile?

[12] A: Dr. Sinclair.

[13] Q: Did you know Dr. Sinclair?

[14] A: Yes.

[15] Q: Did you speak with him?

[16] MR. BRADLEY: Ever, about anything, or about [17] this?

[18] MR. FEATHERSTONE: Good point.

[19] Did you speak at all with Dr. Sinclair about [20] the work that Monsanto was doing at the Krummrich facility?

[21] A: The answer —

[22] MR. FEATHERSTONE: Off the record. [23] (Thereupon, a short colloquy was had.)

[24] A: The answer is no, I guess. [25] (Thereupon, the reporter marked Roush Deposition

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[1] Exhibit A, for identification.)

[2] Q: (by Mr. Featherstone) Dr. Roush, I'm going to [3] show you a letter dated June 25, 1976. I've marked it as [4] Roush Exhibit A, and it's also been previously marked, I [5] believe, as Plaintiff's Exhibit 977. Is that a letter from [6] Mr. Sinclair —

[7] A: Doc —

[8] Q: — Dr. Sinclair at Mobile Oil to you?

[9] A: Right.

[10] Q: All right. Is this the Dr. Sinclair who's the [11] medical director of Mobile that you just referred to in [12] your previous answer?

[13] A: Yes.

[14] Q: Now, does this letter refer to the report [15] issued by Mobile that you've testified to?

[16] A: Yes.

[17] Q: Now, Dr. Sinclair's letter states, in the [18] first paragraph, that he has informed NIOSH "...of our [19] findings at Mobile's Paulsborough refinery." What is [20] "NIOSH," or what was it in 1976?

[21] A: It's the National Institute of Occupation [22] Safety and Health.

[23] Q: And what was the basic function of NIOSH in [24] 1976?

[25] A: To improve the state of health of workers in

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[1] the United States.

[2] Q: Second paragraph of the letter refers to a Dr. [3] Anita Bond. Were you familiar with that name in 1976?

[4] A: Yes.

[5] Q: Do you know whether the Mobile report was ever [6] published in a peer review journal?

[7] A: It was not.

[8] Q: Now, is the Anita Bond report as referenced [9] here, in Exhibit A to your deposition, the report that [10] prompted Monsanto and its medical department to take a look [11] at the mortality, the death experience, if you will, of [12] workers at the Aroclor unit at the Krummrich Plant?

[13] MR. BRADLEY: Objection to the form of the [14] question. No foundation.

[15] A: Yes.

[16] Q: (by Mr. Featherstone) Now, in the — Did you [17] have any involvement, by the way, in the decision to take a [18] look at the death certificates and to make the mortality [19] review that Dr. Johansen was involved in?

[20] A: I can't answer your question.

[21] Q: Okay. Who started Dr. Johansen on his work [22] regarding the Krummrich workers?

[23] A: I did.

[24] Q: And in performing his work, did Dr. Johansen [25] report to you, among others?

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[1] A: Yes.

[2] Q: At some point in time, did Monsanto go outside [3] of the company and hire an expert consultant in connection [4] with that study?

[5] A: Yes.
[6] Q: Who was that expert consultant?
[7] A: Dr. Maboubi.
[8] Q: And — With what group did Dr. Maboubi work? [9] In other words, where was he a consultant?
[10] A: He was a consultant to Dr. Johansen.
[11] Q: All right. Was he an employee of Monsanto?
[12] A: No.
[13] Q: Was he an employee of some other company or [14] group?
[15] A: University of Nebraska.
[16] Q: Is there an institute connected with the [17] University of Nebraska that Maboubi was involved with?
[18] A: The Epply Institute.
[19] Q: What is the Epply Institute at the University [20] of Nebraska?
[21] A: Their responsibility was cancer research.
[22] Q: What was Dr. Maboubi's area of specialty?
[23] A: He was an epidemiologist.
[24] Q: What is an epidemiologist?
[25] A: An epidemiologist is a specialist in evaluat-

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[1] ing, or studying the health and mortality of populations.
[2] Q: When you say "populations," are you talking [3] about human populations, or rodents, or other animal [4] populations?
[5] A: All — Human populations.
[6] Q: And how does an epidemiologist differ from a [7] toxicologist? If at all.
[8] A: And epidemiologist is studying humans, and [9] he's evaluating the health status of a population.
[10] Q: Such as a work force at a plant like [11] Krummrich?
[12] A: Yes.
[13] Q: Did Monsanto have a staff, in the medical [14] department, an epidemiologist, in 1976?
[15] A: No.
[16] Q: Now, the third paragraph of Exhibit A, I'd [17] like to go back to that. Dr. Sinclair writes, "May I [18] repeat my appreciation of your sharing your data with me." [19] Did Monsanto share data with Dr. Sinclair?
[20] A: Yes.
[21] Q: What data was that?
[22] A: The results of the Fred Johanssen study of the [23] PCB mortality experience.
[24] Q: At Krummrich?
[25] A: At Krummrich.

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[1] Q: And is this the same study that Dr. Maboubi [2] was involved in?
[3] A: Yes.
[4] Q: Were the results of the Monsanto study of its [5] Krummrich workers given to Mobile Oil through Dr. Sinclair?
[6] A: Yes.
[7] Q: All right. [8] (Thereupon, the reporter marked Roush Deposition [9] Exhibit B, for identification.)
[10] Q: (By Mr. Featherstone) I have had marked as [11] Roush Exhibit B, a three-page document bearing the Bates [12] numbers NEV 024775 through 777. Let me show you Exhibit B. [13] Do you recognize that as a Monsanto memorandum dated August [14] 27th, 1976?
[15] A: Did you say B?
[16] Q: Roush Exhibit B.
[17] A: All right.
[18] Q: Do you recognize it as a Monsanto memorandum [19] dated August 27, 1976?
[20] A: Yes.
[21] Q: Does it relate the work of Dr. Johanssen and [22] Dr. Maboubi?
[23] A: Yes.
[24] Q: Does it relate to the work regarding the PCB [25] workers at the Krummrich Plant?

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[1] A: Yes.
[2] Q: Would you please take a look at it and tell us [3] whether the — whether it addresses — the memorandum [4] addresses the findings to data regarding melanomas and [5] pancreatic cancer?
[6] MR. BRADLEY: I object to the line of ques- [7] tioning. He hasn't indicated he is familiar with the docu- [8] ment. It, at this point, hasn't been authenticated, it's [9] hearsay, and I object to any questions based upon it.
[10] Q: (by Mr. Featherstone) Dr. Roush, are you [11] shown as a carbon copy recipient on this document?
[12] A: Yes.
[13] Q: Is Dr. Johanssen?
[14] A: Yes.
[15] Q: Do you see a carbon copy to E. H. Harbason?
[16] A: Yes.
[17] Q: Who is E. H. Harbason? Was he with Monsanto [18] at the time?
[19] A: Yes.
[20] Q: All right. And a copy to D. R. Bishop?
[21] A: Yes.
[22] Q: Is that a Monsanto employee?
[23] A: Yes.

[24] Q: Do you recognize the names Macoe or Nolan?

[25] A: Yes.

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[1] Q: All right. And who were they in August of [2] 1976?
[3] A: In personnel. In public relations.
[4] Q: All right. Would you look through or read [5] through the first page of the exhibit and tell us whether [6] it, to the best of your recollection, accurately records [7] the results of the study as of August 27th, 1976?
[8] MR. BRADLEY: Object to the form of the ques- [9] tion. The witness still hasn't indicated whether he's ever [10] seen this document before, so it hasn't been authenticated, [11] and it's still a hearsay document, and so I object to the [12] form of the question.
[13] A: My conclusion is that Monsanto did not have [14] melanomas —
[15] Q: (by Mr. Featherstone) My initial question, [16] Mr. Roush, is whether the first page of the exhibit [17] accurately records the conclusions of the study as of [18] August of 1976.
[19] A: Yes.
[20] MR. BRADLEY: Same objections.
[21] MR. FEATHERSTONE: All right.
[22] Now, did — In the study of its Monsanto [23] workers as of August of 1976, did Monsanto look for mela- [24] nomas, malignant melanomas?
[25] A: Yes

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[1] Q: (by Mr. Featherstone) Did it find any?
[2] A: No.
[3] Q: In its study of its Krummrich workers, Did [4] Monsanto look for pancreatic cancer?
[5] A: Yes.
[6] Q: Did it find any?
[7] A: No.
[8] Q: Had the Mobile report indicated malignant [9] melanomas?
[10] A: Yes.
[11] Q: And pancreatic cancer?
[12] A: Yes.
[13] Q: Now, the earlier exhibit that Mr. Bradley [14] showed you and that I've shown you again this morning from [15] Dr. Johanssen talks about lung cancer.
[16] A: Yes.
[17] Q: Did the study of the Krummrich workers at [18] Monsanto report on lung cancer?
[19] A: Yes.
[20] Q: All right. Did Monsanto request Dr. Maboubi [21] to take — to make any

study or evaluation of any informa- [22]
tion regarding lung cancer of the
workers at the W. G. [23] Krummrich
Plant?

[24] A: Yes.

[25] Q: And what was Dr. Maboubi asked
to do?

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[1] A: To look at what data we had and
to give his [2] interpretation of the data.

[3] Q: When was he asked to do that?

[4] A: I'm not sure of the time, but it was
about [5] this same time.

[6] Q: August of 1976?

[7] A: Yes.

[8] Q: All right. And what did Dr.
Maboubi report to [9] you and others at
Monsanto regarding the findings [10]
concerning lung cancer?

[11] MR. BRADLEY: Objection. That's
hearsay. [12] Object to the form of the
question.

[13] Q: (by Mr. Featherstone) Go ahead.

[14] A: That the lung cancer excess,
though [15] statistically above expected,
was not — had not been shown [16] to
be related to work with PCB's.

[17] (Thereupon, the reporter marked
Roush Deposition [18] Exhibit C, for iden-
tification.)

[19] Q: (by Mr. Featherstone) I have
marked as Roush [20] Exhibit C, a press
release dated September 2, 1976. It [21]
also bears the designation Plaintiff's Ex-
hibit 559; is that [22] right?

[23] MR. BRADLEY: Yes. I was just look-
ing for the [24] date. All right.

[25] Q: (by Mr. Featherstone) Dr. Roush,
is this a

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[1] press release from September 2, 1976?

[2] A: Yes.

[3] Q: All right. Does the press release
relate to [4] the study of the Monsanto
workers at the Krummrich Plant?

[5] MR. BRADLEY: I'll object to the ques-
tion [6] about the document because it
hasn't been authenticated and [7] it
hasn't been shown to be anything other
than hearsay. [8] The witness hasn't even
identified or indicated whether [9] he'd
seen the document before.

[10] MR. FEATHERSTONE: John, would
you read back [11] my question, please.

[12] (Thereupon, the reporter read back
the question.)

[13] MR. BRADLEY: Same objections.

[14] A: Yes.

[15] Q: (by Mr. Featherstone) Now, this
Exhibit C, [16] the press release, is less
than one week after Plaintiff's [17] Ex-
hibit 1421, which Mr. Bradley showed

you initially [18] yesterday; that is, the
memorandum from Dr. Johannsen to [19]
you, Dr. Roush. Would you please read
through Roush [20] Exhibit C and tell us
whether you are quoted at length in [21]
that press release?

[22] MR. BRADLEY: I object to the
counsel's [23] statements characterizing
and comparing the dates of the [24] ex-
hibits and ask that they be stricken.

[25] THE WITNESS: The whole thing?

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[1] MR. FEATHERSTONE: Yes.

[2] Now, are you quoted in Exhibit C?

[3] A: Yes.

[4] MR. BRADLEY: I object to the ques-
tion. What [5] I'd like to do is get a con-
tinuing objection to any [6] questions
relating to this exhibit, since it has not
been [7] authenticated and since it's a
hearsay document. May I [8] have that
continuing objection on the grounds of
authenti- [9] cation and hearsay?

[10] MR. FEATHERSTONE: Yes.

[11] MR. BRADLEY: Fine. That's all I —

[12] Q: (by Mr. Featherstone) All right.
Now, having [13] reviewed Exhibit C,
does the press release set forth the [14]
findings of the study as of September 2,
1976?

[15] A: Where's the date? Yes.

[16] Q: And based on your review, is the
press release [17] accurate in its state-
ment of the findings as of September [18]
2, 1976?

[19] A: Yes.

[20] Q: All right. In Exhibit C, the press
release, [21] does the document describe
or refer to the Mobile Oil study [22] that
you've testified to previously?

[23] A: Yes.

[24] Q: In the second paragraph of the
first page of [25] the release —

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[1] A: Second paragraph.

[2] Q: All right. And does that second
paragraph of [3] the release state that
Mobile Oil reported finding three [4]
cases of melanoma and two cases of
pancreatic cancer?

[5] A: Yes.

[6] Q: Does the press release report that
Monsanto's [7] study of its workers found
no cases of malignant melanoma [8] or
pancreatic cancer?

[9] A: Yes.

[10] Q: Does the press release, on page
three, report [11] what the study had
found so far with regard to the [12] Krum-
mrich workers and lung cancer?

[13] A: Yes.

[14] Q: And specifically, does the press
release [15] report that for the former
employees, deceased former [16]
employees, who worked at the PCB unit
at Krummrich during [17] any portion of
their employment, that the lung cancer
rate [18] was higher than the rate for the
general U.S. population?

[19] A: Yes.

[20] Q: Does the press release then go on
to say that [21] the study is continuing?

[22] A: Yes.

[23] Q: All right. Did you know D. R.
Bishop to be in [24] the public relations
department?

[25] A: Yes.

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[1] Q: And is this a press release that
Monsanto [2] issued?

[3] A: Yes.

[4] Q: All right. Now, with regard to this
time [5] period, September of 1976, was
it, to your understanding, [6] still the busi-
ness group for PCB's that had the
responsi- [7] bility for communicating
with the customers?

[8] A: Yes.

[9] Q: And to the extent that any infor-
mation [10] regarding the Mobile Oil
study or the Monsanto study of the [11]
Krummrich workers was communi-
cated to customers, to your [12]
knowledge, that would have been hand-
led by the business [13] group?

[14] A: Yes.

[15] Q: Now, yesterday you also said that
the study [16] resulted in a final paper; do
you remember that?

[17] A: No.

[18] Q: All right. Did the study result in a
final [19] paper?

[20] A: Yes.

[21] Q: All right. Do you know Dr. Zach?

[22] A: It's not Dr. Zach.

[23] Q: All right. Mrs. Zach.

[24] A: Yes.

[25] Q: All right. Did Mrs. Zach get in-
volved in the

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[1] project involving Krummrich
workers, the study of mortality [2] of
Krummrich workers?

[3] A: Yes.

[4] Q: And did Mrs. Zach have anything
to do with a [5] final report issued?

[6] A: Yes.

[7] Q: What was her involvement?

[8] A: She was the one who did it and
wrote it.

[9] Q: Let me show you what Mr. Bradley showed you [10] yesterday as Plaintiff's Exhibit 367. What is Exhibit 367?

[11] A: Well, it's a study of the mortality of [12] Monsanto workers who had been working with PCB's.

[13] Q: Does this paper relate to the study that Dr. [14] Johannsen started?

[15] A: Yes.

[16] Q: And is this the final report of that study?

[17] A: Yes.

[18] Q: Was Mrs. Zach employed by Monsanto Company?

[19] A: Yes.

[20] Q: And David Mutch? Who was David Mutch?

[21] A: I think he was a student.

[22] Q: Assisting Mrs. Zach?

[23] A: Yes.

[24] Q: Are the conclusions of the study shown on [25] pages five and six of Plaintiff's Exhibit 367?

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[1] MR. BRADLEY: Can you excuse me for one [2] minute?

[3] MR. FEATHERSTONE: Sure. [4] (Thereupon, a short recess was taken.)

[5] Q: (by Mr. Featherstone) All right, Dr. Roush, [6] with regards to Plaintiff's Exhibit 367, the final report [7] that was issued on December 14th, 1979, does that report [8] discuss observations regarding pancreatic cancer or [9] malignant melanomas?

[10] A: Yes.

[11] Q: What does the report say was the results of [12] the study regarding malignant melanoma?

[13] A: There were none.

[14] Q: And what does the report say about pancreatic [15] cancer in the workers at the PCB unit at Krummrich?

[16] A: There were none.

[17] Q: Was there also a statement, conclusions [18] reached about liver cancer?

[19] A: Yes.

[20] Q: And what does the report say were the findings [21] regarding the presence of liver cancer in the workers in [22] the PCB unit at Krummrich?

[23] MR. BRADLEY: Object to the form of the [24] question —

[25] A: There was none.

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[1] MR. BRADLEY: — because the study doesn't [2] deal with liver cancer among the workers. It refers to [3] liver cancer among the deceased workers.

[4] Q: (by Mr. Featherstone) Mr. Bradley raises a [5] point. Let me ask you: The

study looked at deceased [6] former employees; is that correct?

[7] A: Yes.

[8] Q: And the study looked for the presence of [9] malignant melanoma, pancreatic cancer, and liver cancer in [10] those deceased employees; is that correct?

[11] A: Ask the question again.

[12] Q: Did the study look for — Well, did the study [13] report an absence — that is, none — of malignant melanoma [14] in deceased workers?

[15] A: In the study?

[16] Q: In the deceased workers that were studied at [17] Krummrich.

[18] A: That's right. Those that were studied.

[19] Q: All right. Did it report an absence of [20] pancreatic cancer among deceased workers studied?

[21] A: Yes.

[22] Q: Did it report an absence of liver cancer among [23] deceased workers studied?

[24] A: Yes.

[25] Q: Do you know whether Mobile ever published a

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[1] final report for its study?

[2] A: Not to my knowledge.

[3] Q: And was the purpose of the study that resulted [4] in Plaintiff's Exhibit 367 as a final report, a study to [5] see what the experience of the Monsanto workers had been as [6] a result of the Mobile report regarding malignant melanoma [7] and pancreatic cancer?

[8] A: Yes.

[9] Q: All right. You were asked yesterday some [10] questions to which you gave some testimony regarding [11] hearing about an incident of chloracne. Do you recall that [12] incident of chloracne at Monsanto?

[13] A: Yes.

[14] Q: All right. Did that occur, to your knowledge, [15] before or after you joined Monsanto?

[16] A: Before.

[17] Q: Have — With regard to what you heard regard- [18] ing that incident, what plant was involved?

[19] A: The Anniston Plant, Anniston, Alabama.

[20] Q: Is that a facility somehow involved with the [21] manufacture of biphenyl or PCB's?

[22] A: Yes.

[23] MR. BRADLEY: Object to the form of the [24] question. Do you mean, was it? Your question was, is it.

[25] MR. FEATHERSTONE: Did I say that? Strike the

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[1] whole question, then, and the answer, if Mr. Bradley [2] doesn't mind.

[3] MR. BRADLEY: All right.

[4] Q: (by Mr. Featherstone) Was Anniston a plant [5] that Monsanto used for the manufacture of biphenyl?

[6] A: Manufacture of what?

[7] Q: Biphenyl.

[8] A: Yes.

[9] Q: And to your knowledge, is it a facility that [10] Monsanto acquired from Swan Chemical Company?

[11] A: Yes.

[12] Q: I believe you told us that the incident that [13] you've heard about took place in Anniston before you became [14] medical director?

[15] A: Yes.

[16] Q: Have you ever reviewed any records regarding [17] that incident?

[18] A: No.

[19] Q: All right. Have you ever made any investiga- [20] tion regarding that incident?

[21] A: No.

[22] Q: Let me show you — And insofar as you've heard [23] anything about that incident, have you heard of any [24] incident of chloracne involving the PCB unit of Anniston, [25] other than the one incident?

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[1] A: No.

[2] Q: All right. Let me show you what's been marked [3] as Plaintiff's Exhibit 1190. Before I show you Exhibit [4] 1190, let me ask you this: You testified that you replaced [5] Dr. Kelly; isn't that correct?

[6] A: Yes.

[7] Q: You replaced Dr. Kelly when he retired?

[8] A: Yes.

[9] Q: All right. Did Dr. Kelly's involvement with [10] Monsanto, indeed his job as medical director, date far back [11] in time?

[12] A: Yes.

[13] Q: All right. Do you know how far back, roughly?

[14] A: About 1940, or earlier.

[15] Q: If Dr. Kelly had investigated the — an [16] incident of chloracne at Anniston, would you defer to his [17] judgment?

[18] MR. BRADLEY: Object to the form. It's vague, [19] speculative.

[20] Q: (by Mr. Featherstone) Would you defer to his [21] judgment about the cause?

[22] A: About the what?

[23] Q: About the cause of any chloracne down there.

[24] MR. BRADLEY: Same objection.

[25] A: I don't know.

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[1] Q: (by Mr. Featherstone) Okay. Do you know what [2] may have caused any chloracne in that one incident at [3] Anniston?

[4] A: No.

[5] Q: Let me show you what's been marked as [6] Plaintiff's Exhibit 1190. This is a document Mr. Bradley [7] showed you earlier today that you had not seen before. Let [8] me ask you this: Is there a reference to chloracne at [9] Anniston in the second paragraph of the first page of [10] Plaintiff's Exhibit 1190?

[11] MR. BRADLEY: Well, I'll object to any [12] questions having to do with a document that hasn't been [13] authenticated and is hearsay. Object to the form of the [14] question.

[15] MR. FEATHERSTONE: Well, is your objection to [16] the form based on the lack of authentication and, there- [17] fore, its hearsay nature?

[18] MR. BRADLEY: Yes.

[19] MR. FEATHERSTONE: Is that what you're saying?

[20] MR. BRADLEY: Yes.

[21] MR. FEATHERSTONE: All right. Do you want a [22] continuing objection on that ground?

[23] MR. BRADLEY: Please.

[24] MR. FEATHERSTONE: Okay.

[25] Second paragraph of the first page of

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[1] Plaintiff's Exhibit 1190, does it deal with a reported [2] incident of chloracne at Anniston?

[3] A: Yes.

[4] Q: (by Mr. Featherstone) And insofar as you have [5] any knowledge of the incident at Anniston, do you have any [6] knowledge that's different than what's shown in the second [7] paragraph?

[8] A: No.

[9] Q: Let me ask you about some testimony you gave [10] in response to Mr. Bradley's questioning concerning a [11] conference in Chicago on PCB's.

[12] A: Yes.

[13] Q: Do you recall attending a conference in [14] Chicago on PCB's?

[15] A: Yes.

[16] Q: You were also asked some questions by Mr. [17] Bradley about a trip to

Washington to meet with various [18] government agencies; do you recall that?

[19] A: Yes.

[20] Q: All right. In terms of time frame, was the [21] meeting in Chicago regarding PCB's one that occurred before [22] or after the visit to the government agencies?

[23] A: Before.

[24] Q: Now, the meeting in Chicago, was that an open [25] meeting, a public meeting?

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[1] A: Yes.

[2] Q: How many people were there?

[3] A: Several hundred.

[4] Q: Did it last days, or several days?

[5] A: A week.

[6] Q: There's been evidence in this case about a [7] national conference on PCB's in Chicago in November of [8] 1975. Did you attend that?

[9] A: Yes.

[10] Q: Is that the conference you were talking about [11] in Chicago?

[12] A: Yes.

[13] Q: And then a document that Mr. Bradley showed [14] you regarding your trip to some government agencies [15] regarding the IBT tests states there was a trip in — or a [16] visit in November, 1975. Was that a trip that occurred [17] shortly after the national conference on PCB's?

[18] MR. BRADLEY: I'll object to the form of the [19] question. It's compound.

[20] A: I'm not sure how close it was to the other [21] one, what time. When was the Chicago meeting?

[22] Q: (by Mr. Featherstone) Well, I believe it was [23] in November, but what I want is your recollection of [24] whether this meeting with the government agencies was at or [25] about the time of the national conference on PCB's.

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[1] A: Yes.

[2] Q: All right. Now, the meeting that's referenced [3] in Plaintiff's Exhibit 1251, do you recall going to [4] Washington and meeting with the government agencies, [5] various government agencies?

[6] A: Yes.

[7] Q: All right. And do you recall going with Dr. [8] Calandra from Industrial Bio-Test —

[9] A: Yes.

[10] Q: — and other Monsanto people?

[11] A: Yes.

[12] Q: Did you visit several agencies during that [13] trip, or just one?

[14] A: Several. [15] (Thereupon, the reporter marked Roush Deposition [16] Exhibit D, for identification.)

[17] Q: (by Mr. Featherstone) All right. I've had [18] marked as Exhibit D to your deposition a two-page document [19] bearing the Bates numbers NEV 008412 and 008413. It's a [20] document dated November 10, 1975 from Mr. Papageorge to Dr. [21] Calandra and Dr. Roush and Mr. Weber.

[22] All right. In November of 1975, did you know [23] Mr. Papageorge?

[24] A: Yes.

[25] Q: Was he involved in PCB's?

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[1] A: Yes.

[2] Q: Did he attend the meetings in Washington with [3] you?

[4] A: I think he did.

[5] Q: All right. Is Exhibit D the itinerary for [6] those visits to government agencies in November?

[7] A: Yes.

[8] Q: And did you in fact see the various government [9] agencies that are listed on Exhibit D? That is, did you go [10] visit them, each one?

[11] A: Yes.

[12] Q: And did you personally attend each meeting?

[13] A: Yes.

[14] Q: Was the subject matter of each meeting roughly [15] the same?

[16] A: Yes.

[17] Q: Now, Plaintiff's Exhibit 1251, presented by [18] Mr. Bradley, states — concerns a meeting with NIOSH; is [19] that correct?

[20] A: Yes.

[21] Q: And this is the same NIOSH that you identified [22] for us earlier in this examination?

[23] A: Yes.

[24] Q: And the meeting says that, "A meeting was held [25] to discuss the results of certain polychlorinated biphenyl

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[1] experimental animal exposure studies and their interpreta- [2] tion." Was that the purpose of the meeting?

[3] A: Yes.

[4] Q: At the meeting, was there any presentation [5] made regarding IBT tests?

[6] A: Yes.

[7] Q: All right. Was there a presentation regarding [8] the effects on rat livers

from exposure to PCB's in [9] experimental testing by IBT?

[10] A: Yes.

[11] Q: Yesterday, Mr. Bradley showed you Plaintiff's [12] Exhibit 350. Did you recognize Exhibit 350?

[13] A: Yes.

[14] Q: I believe you identified that as a letter from [15] Dr. Calandra to you, April 18, 1975?

[16] A: Yes.

[17] Q: Now, the cover letter refers to a meeting, and [18] I believe you told us yesterday that you in fact had a [19] meeting with Dr. Calandra, as stated, or as referenced in [20] the cover letter; is that correct?

[21] A: Yes.

[22] Q: Now, the attachment to this letter, second [23] page of the letter, talks about review of a PCB meeting, [24] and then it goes on for four or five pages. Did your [25] meeting with Dr. Calandra relate to the interpretation of

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[1] lesions in rat livers?

[2] A: Yes.

[3] Q: What are lesions?

[4] A: Any abnormality that can be seen with a [5] microscope, in this case.

[6] Q: You said "any abnormality." Does that include [7] enlarged cells in a liver?

[8] A: Yes.

[9] Q: Does the — "any abnormality" include lesions [10] that are not cancerous?

[11] A: Yes.

[12] Q: Does the term lesion, or any abnormality, [13] include injury to the liver that's reversible?

[14] A: Yes.

[15] Q: Or that can go away?

[16] A: Yes.

[17] Q: Was the purpose of the meeting with Dr. [18] Calandra to assess whether the IBT findings regarding the [19] livers of the rats did or did not show cancer?

[20] A: No. It was to assess the lesions that were [21] seen in the rats.

[22] Q: Is that the IBT rats?

[23] A: Yes.

[24] Q: And in the attachment to the letter to you, [25] does Dr. Calandra set forth IBT's views concerning the

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[1] lesions seen as a result of dosing the rats with PCB's?

[2] A: Yes, it does.

[3] Q: Would you look at the top of page three of the [4] attachment? In his letter to you, does Dr. Calandra [5] report, "The important point in the most recent study

of [6] the sections is the fact that no hepatocellular carcinomas [7] were found, which is in agreement with the earlier [8] findings?"

[9] A: Yes.

[10] Q: What are hepatocellular carcinomas, or what [11] did you understand them to be in 1975, April of 1975?

[12] A: This says that hepatocellular carcinomas are [13] cancers of the liver of a specific type.

[14] Q: All right. And hepatocellular refers to liver [15] cells; is that right?

[16] A: Yes.

[17] Q: And Dr. Calandra is reporting there are no [18] liver cell cancers?

[19] A: Yes.

[20] Q: The next sentence of the report, Dr. Calandra [21] says to you, "It must be emphasized that the diagnosis of [22] hepatoma by Gordon and Richter connotes a benign process [23] and must not be confused with the classical definition of [24] the term by human pathologists." Do you see that?

[25] A: Yes.

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[1] Q: And what was your understanding of the phrase, [2] "benign process"?

[3] A: Benign means one that is — one that will [4] revert to normal, or if it stays, it doesn't have any [5] effect on the health of the animal.

[6] Q: Is Dr. Calandra there saying the hepatomas [7] that were found were benign hepatomas?

[8] A: Yes.

[9] MR. BRADLEY: Object to the form of the [10] question. No personal knowledge. Dr. Calandra —

[11] Q: (by Mr. Featherstone) Do you understand that [12] what Dr. Calandra found were benign hepatomas —

[13] A: Yes.

[14] Q: — as distinct from cancerous hepatomas?

[15] A: Yes.

[16] Q: Now, the next paragraph reads, "Further, Dr. [17] Squires reviewed a number of the same slides on Aroclor [18] 1260 with Drs. Gordon, Levinskas, Kimbrough and Richter and [19] agreed with the Bio-Test pathologist that liver carcinomas [20] were not present in the slides."

[21] A: Yes.

[22] Q: Do you understand that to be the IBT slides?

[23] A: Yes.

[24] Q: Now, in your — Strike that. Plaintiff's [25] Exhibit 350 refers to your review of the information by IBT

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[1] concerning livers in the rats exposed to PCB; is that [2] right?

[3] A: Yes.

[4] Q: All right. Now, does this review culminate in [5] the visit to the government agencies in November of 1975?

[6] A: Yes.

[7] Q: Is what Dr. Calandra writes to you in Exhibit [8] 350 — does that relate to the same general issue that was [9] discussed with the government in November of 1975?

[10] A: Yes.

[11] Q: Now, after Dr. Calandra's letter of April, [12] 1975, did the medical department at Monsanto retain any [13] additional consultants to take a look at the IBT slides?

[14] A: Yes.

[15] Q: In specific, did Monsanto retain a consultant [16] to take a look at the findings regarding the livers of rats [17] exposed to PCB's?

[18] A: To specific ones, it did.

[19] Q: And what was the purpose of that review?

[20] A: To get an independent evaluation of these [21] liver lesions.

[22] Q: Was the consultant asked to determine whether [23] the liver lesions were or were not evidence of cancer?

[24] A: Yes.

[25] Q: Who was the consultant who was hired?

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[1] A: A Dr. Pour.

[2] Q: Who is Dr. Pour?

[3] A: Dr. Pour is a pathologist from the Epply [4] Laboratory at the University of Nebraska.

[5] Q: Is this the same Epply Institute or Center [6] that you identified in regard to Dr. Maboubi?

[7] A: Yes.

[8] Q: All right. And did you — Did Monsanto retain [9] Dr. Pour and the Epply center before or after it visited [10] the government — federal government agencies in November [11] of 1975?

[12] A: I think it was after — before.

[13] Q: If you would take a look at Exhibit 1251, [14] which is a government memorandum of the meeting with [15] Monsanto. At the top of page two, the government [16] memorandum states that Industrial Bio-Test Labs had [17] submitted its material for review by the Epply Institute's [18] Dr. Pour.

[19] A: Yes.

[20] Q: Do you see that?

[21] A: Yes.

[22] MR. BRADLEY: I object to the form of the [23] question.
[24] Q: (by Mr. Featherstone) To your knowledge, is [25] that the same Dr. Pour that Monsanto hired?

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[1] A: Yes. This is spelled wrong.
[2] Q: How do you spell Dr. Pour's name?
[3] A: P-o-u-r.
[4] Q: And the memo says P-a-u-r.
[5] A: Yes.
[6] Q: What was Dr. Pour's finding regarding the —
[7] A: He didn't think there was cancer in the IBT [8] studies.
[9] Q: Did you have that conclusion before you went [10] to the government agencies?
[11] A: Yes.
[12] Q: And when you went to Washington in November of [13] 1975, did you and the others from Monsanto present the IBT [14] analysis and Dr. Pour's conclusions to the government [15] agencies?
[16] A: Yes.
[17] Q: Now, in any of your discussions with IBT, was [18] there ever any discussion about falsifying or faking data?
[19] A: No.
[20] Q: Or falsifying or faking the analysis of the [21] liver tissues from the rats?
[22] A: No.
[23] Q: Was there any discussion of any intention to [24] conceal from the government information regarding the [25] dosing of the rats with PCB's?

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[1] A: No.
[2] Q: All right. Did you have any intention of [3] concealing any information from the government?
[4] A: No.
[5] Q: Did you ever hear any Monsanto employee even [6] suggest misleading or concealing information from the [7] government?
[8] A: No.
[9] Q: All right. I next want to ask you about [10] Plaintiff's Exhibits 360 and 359, which you were shown [11] yesterday. Now, with regard to these exhibits, I'm going [12] to ask you, first, I believe you testified yesterday that [13] your first real knowledge about the Yusho incident was [14] gained at the national conference on PCB's?
[15] A: At the Chicago meeting.
[16] Q: At that time did you learn information [17] regarding the exposure of the people involved at Yusho?
[18] A: Yes.

[19] Q: What information did you learn at that time [20] about the exposure to the people at Yusho?

[21] A: The Japanese who were discussed were those who [22] had ingested PCB's, which had been the result of [23] contamination of cooking oils with PCB's.

[24] Q: Did you gain any understanding of the size of [25] the dose or exposure?

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[1] A: Yes. They were talking about exposures in the [2] two-thousand-parts-per-million range. It was gross [3] exposure.

[4] Q: And it was ingestion —

[5] A: Yes. It was in the cooking oils, heated [6] cooking oils.

[7] Q: It was ingestion by the consumption of food [8] heavily contaminated with PCB's?

[9] A: That's right.

[10] Q: Did you have any understanding of the [11] differences between those exposures and the exposures that [12] someone working with the PCB electrical fluid may have?

[13] A: The concentration of PCB's in the atmosphere [14] of these workers had to be below one milligram for cubic [15] meter of air. That's one milligram versus two thousand [16] milligrams. That's one milligram for ten cubic meters, so [17] it's ten milligrams.

[18] Q: When you say "the atmosphere of the workers," [19] are you talking about the air that they were breathing?

[20] A: Yes.

[21] Q: Is this inside a plant, for instance?

[22] A: Yes.

[23] Q: And you quoted us a number. Is that based on [24] some regulation?

[25] A: It's a government regulation of one milligram

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[1] per cubic meter is a maximum of exposure.

[2] Q: Is that for an eight-hour day?

[3] A: Yes.

[4] Q: Continuously? Continuous exposure, I mean.

[5] A: Yes.

[6] Q: How does that relate in terms of relative size [7] to the exposure — the amount of exposure in the Yusho [8] case, as you understand it?

[9] A: Their exposure in that contaminated oil was in [10] the order of two thousand parts per million.

[11] Q: I mean, is that — how much bigger than the [12] workers' exposure are we talking about?

[13] A: We're talking about the worker getting it at [14] one milligram per cubic meter of air. So we get about ten [15] cubic meters in an eight-hour workday, so there's a [16] difference between ten milligrams and the concentration in [17] the cooking oils at two thousand PPM.

[18] Q: I mean, is it a big difference?

[19] A: Ten versus two thousand is two hundred times [20] bigger.

[21] Q: And one was by ingestion, versus inhalation; [22] is that correct?

[23] A: Yes.

[24] Q: All right. Now, you were asked about 359, and [25] I guess 360, yesterday. This is a publication by NIOSH; is

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[1] that correct?

[2] A: Yes.

[3] Q: And this publication is dated, according to [4] the documents, in November of 1975; is that right?

[5] A: Yes.

[6] Q: The same month as the national conference on [7] PCB's in Chicago?

[8] A: I think that's right.

[9] Q: And the same month that Monsanto and others [10] visited the government to talk about the liver effects [11] shown in the IBT studies?

[12] A: Yes.

[13] Q: Mr. Bradley asked you about a sentence on page [14] five, under the section headed — or subsection headed [15] "Human." Did you see that?

[16] A: Yes.

[17] Q: And he specifically asked you about the [18] sentence that begins, "The known toxic effects of PCB's in [19] humans include..." Do you see that?

[20] A: Yes.

[21] Q: Now, there's a reference for that sentence; is [22] that right?

[23] A: Yes.

[24] Q: And that — The way these document work, you [25] put down a reference, and that means that's the authority

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[1] for that sentence?

[2] A: Yes.

[3] Q: And is the authority for the sentence [4] regarding the effects, the known toxic effects, the one [5] that Mr. Bradley asked you about, is that a Yusho report, [6] or a report on the Yusho incident?

[7] A: Yes.

[8] Q: And that's the gross exposure that you were [9] just describing to us?

[10] A: Yes.

[11] Q: Yesterday when you said that you acknowledged [12] that sentence — Have you conducted any — your own [13] investigation of Yusho?

[14] A: No.

[15] Q: All right. Your information regarding Yusho [16] is based on what is made available to you in the public [17] literature?

[18] A: Yes.

[19] Q: Was a Monsanto PCB product at all involved in [20] Yusho, to your knowledge?

[21] A: No.

[22] Q: Was that PCB's manufactured by a Japanese [23] company, according to the reports?

[24] A: I don't know. Japanese do make PCB's.

[25] Q: All right. I take it that, based on your

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[1] information regarding Yusho, you have no reason to disagree [2] with the sentence in here citing a report on Yusho and [3] purporting to summarize the known toxic effects shown in [4] the Yusho incident; is that correct?

[5] A: If they would just include Yusho.

[6] Q: All right. Is that how you understand that [7] sentence?

[8] A: Yes.

[9] Q: As reporting the effects seen in the Yusho [10] patients?

[11] A: Yes.

[12] Q: All right. From the ingestion of high [13] concentrations of PCB's in the cooking oil?

[14] A: Yes.

[15] Q: Now, with regard to communications to [16] customers regarding the Yusho incident, again, I take it, [17] similar to your previous testimony, you were not involved [18] in any communications by Monsanto to its customers [19] regarding Yusho?

[20] A: No.

[21] Q: And you have no personal knowledge of what [22] information may have been communicated by Monsanto to its [23] customers regarding Yusho?

[24] A: No.

[25] Q: That, to your understanding, would have been

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[1] handled by the business group; is that right?

[2] A: Yes.

[3] Q: In talking about the exposures to workers, are [4] you familiar with something called vapor pressure?

[5] A: Yes.

[6] Q: And with regard to a fluid like PCB's, is [7] vapor pressure important in considering exposure, or [8] possible exposure?

[9] A: Yes.

[10] Q: What is vapor pressure?

[11] MR. BRADLEY: I object to the form of the [12] question. It's beyond the scope of direct exam.

[13] MR. FEATHERSTONE: Okay. [14] What is vapor pressure?

[15] A: In industrial hygiene, vapor pressure has to [16] do with the characteristic of a chemical to become airborne [17] by virtue of its bubbling off, or coming off from a [18] chemical.

[19] Q: (by Mr. Featherstone) Or a fluid?

[20] A: Or a fluid.

[21] Q: And I take it, it has to become airborne in [22] order to be inhaled?

[23] MR. BRADLEY: Same objection.

[24] A: Yes.

[25] Q: (by Mr. Featherstone) All right. Now, do you

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[1] know whether the PCB fluids had a high vapor pressure or a [2] low vapor pressure?

[3] MR. BRADLEY: Same objection.

[4] A: It depends on the temperature.

[5] Q: (by Mr. Featherstone) Okay. At room [6] temperature or the temperature in which the product exists [7] before it's put to use, would it have a high vapor pressure [8] or a low vapor pressure?

[9] MR. BRADLEY: Same objection.

[10] A: The vapor pressure that's permitted is one [11] milligram per cubic meter.

[12] Q: (by Mr. Featherstone) That's the air [13] concentration on PCB's?

[14] A: That's OSHA's recommendation, as well as [15] ACGIH.

[16] Q: At the product's normal temperature, that is, [17] before it's put to work, does it tend to give off a lot of [18] vapor or very little vapor?

[19] A: No. It has a low vapor pressure.

[20] Q: What does that mean?

[21] MR. BRADLEY: Object. It's beyond the scope [22] of the direct exam. Subject to the form.

[23] MR. FEATHERSTONE: Are you objecting to beyond [24] the scope, or are you objecting to the form?

[25] MR. BRADLEY: I'm objecting to the form of the

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[1] question.

[2] MR. FEATHERSTONE: All right.

[3] MR. BRADLEY: And it's beyond the scope.

[4] MR. FEATHERSTONE: You want a continuing [5] objection to beyond the scope?

[6] MR. BRADLEY: Yes.

[7] MR. FEATHERSTONE: All right.

[8] What is meant by low vapor pressure?

[9] A: It's less likely to become airborne. It's a [10] relative term.

[11] Q: (by Mr. Featherstone) All right. And the PCB [12] fluids manufactured by Monsanto, do you know whether they [13] had a low or high vapor pressure?

[14] A: Low vapor pressure.

[15] Q: And does that — What does that mean, in terms [16] of inhalation exposure?

[17] A: If it's low vapor pressure, it's less likely [18] to be inhaled.

[19] Q: As contrasted with something with a high vapor [20] pressure?

[21] A: That's right.

[22] Q: We've seen in the documents here some [23] reference to the heating of the fluid. Does that have any [24] effect on vapor pressure?

[25] A: It increases the vapor pressure.

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[1] Q: Does that then mean an increased likelihood of [2] inhalation?

[3] A: Yes.

[4] Q: As the temperature goes up?

[5] A: Yes.

[6] Q: Let me finally ask you, Dr. Roush, about [7] Plaintiff's Exhibit 1137. It's a document that Mr. Bradley [8] showed you this morning.

[9] A: Yes.

[10] Q: It's one that you signed, I believe, in August [11] of 1976; is that correct?

[12] A: Yes.

[13] Q: All right. The text of the document, to the [14] best of your knowledge, was prepared by Dr. Levinskas?

[15] A: Yes.

[16] Q: And am I correct, from looking at this [17] document, it was Dr. Levinskas who recommended that this [18] hundred-dollar award be given to Dr. Wright?

[19] A: Yes.

[20] Q: And does the text of the document in its [21] entirety set forth the reason for the award?

[22] MR. BRADLEY: Objection to the form of the [23] question. No foundation, no personal knowledge. He didn't [24] write it. I don't know how he can answer that.

[25] Q: (by Mr. Featherstone) Well, let me ask you

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[1] this: Does Plaintiff's Exhibit 1137 set forth the reasons [2] for giving Dr. Wright the award?

[3] A: Yes.

[4] Q: All right. With regard to Dr. Wright's review [5] and submission of data to the PEA that's referenced in [6] Plaintiff's Exhibit 1137 and about which you testified [7] generally this morning, do you know of any falsification of [8] any such data by Dr. Wright?

[9] A: No.

[10] Q: All right. Do you know of any improper con- [11] duct of Dr. Wright that lead to Plaintiff's Exhibit 1137?

[12] A: Say that again.

[13] Q: Yes. Do you know of any award given to Dr. [14] Wright for falsifying or concealing information?

[15] A: No.

[16] MR. FEATHERSTONE: All right. No further [17] questions. Thank you.

[18] (Thereupon, a luncheon recess was taken.)

[19] REDIRECT EXAMINATION

[20] QUESTIONS BY MR. BRADLEY:

[21] Q: Dr. Roush, Mr. Featherstone asked you some [22] questions about Aroclor 1016, and you indicated that [23] Aroclor was the term given to products containing PCB's, [24] correct?

[25] A: Yes.

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[1] Q: So that when reference was made to Aroclor [2] 1016, at least you understand that product to contain [3] PCB's, correct?

[4] A: I said I don't know what — I haven't worked [5] with 1016.

[6] Q: But at least relative to what you understood [7] to be Aroclor 1016, because it was an Aroclor, and Aroclor [8] contains PCB's, then you knew Aroclor 1016 contained PCB's; [9] is that fair to say?

[10] A: It's a little bit strong. I'm not that far. [11] That all came after I left Monsanto - 1016.

[12] Q: And the other Aroclors, for example 1260, the [13] last two digits indicated sixty percent chlorine content?

[14] A: Yes, sir.

[15] Q: And in the — Well, around the time you began [16] your work with Monsanto, there was a claim that higher [17] chlorinated biphenyls did not biodegrade, whereas the lower [18] chlorinated biphenyls did biodegrade; is that true?

[19] MR. FEATHERSTONE: Claimed by whom?

[20] A: No.

[21] Q: (by Mr. Bradley) Okay. When you began your [22] work at Monsanto, do you know whether Monsanto [23] differentiated between the higher and lower chlorinated [24] PCB's regarding their biodegradability?

[25] A: Yes.

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[1] Q: And what did Monsanto claim about that?

[2] A: The higher chlorinated were more resistant [3] than the lower chlorinated.

[4] Q: Now, Aroclor 1016, the last two digits don't [5] reflect the chlorine content of that compound — Let me ask [6] the question again. For Aroclor 1016, the last two digits [7] does not indicate the percentage of chlorine in that [8] product; is that correct?

[9] MR. FEATHERSTONE: Objection. Absence of [10] foundation.

[11] A: I started out, I said I didn't know 1016.

[12] Q: (by Mr. Bradley) My memory is that you [13] testified yesterday that 1016 had between forty-one and [14] forty-two percent chlorine. Am I wrong?

[15] A: You're wrong.

[16] Q: All right.

[17] MR. FEATHERSTONE: Wrong witness.

[18] MR. BRADLEY: All right.

[19] And was it your understanding that any product [20] that was identified as an Aroclor was a product that [21] contained PCB's?

[22] A: To my knowledge, yes.

[23] Q: (by Mr. Bradley) All right. Now, do you know [24] whether Aroclor 1016 was ever referred to by a different [25] name?

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[1] A: Yes.

[2] Q: And what other name was it referred to as?

[3] A: Inerteen would be an example.

[4] Q: Well, did it ever have a name that did not [5] indicate it was an Aroclor?

[6] A: I don't know.

[7] Q: Have you ever heard of a product called MCS [8] 1016?

[9] A: No.

[10] Q: I'm going to show you what's been marked for [11] identification as Plaintiff's Exhibit 1541 and ask you to [12] review that document for me. Have you reviewed it?

[13] A: Yes.

[14] Q: That is a report on the introduction of MCS [15] 1016 in Europe written by P.J. Marsh; is that correct?

[16] MR. FEATHERSTONE: Objection. No showing of [17] foundation for this witness to answer that question.

[18] Q: (by Mr. Bradley) Is that correct?

[19] A: Yes.

[20] Q: Who is P.J. Marsh?

[21] A: I don't know.

[22] Q: Did you see the distribution down at the [23] bottom?

[24] A: Yes.

[25] Q: Do you know P.G. Benignus?

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[1] A: know the name.

[2] Q: All right.

[3] A: Don't know him.

[4] Q: Do you know whether he's a Monsanto employee [5] in the St. Louis Monsanto employee?

[6] MR. FEATHERSTONE: Is?

[7] MR. BRADLEY: Was.

[8] A: I don't know.

[9] Q: (by Mr. Bradley) Do you know whether a P. G. [10] Benignus was ever a St. Louis Monsanto employee?

[11] A: I do not know.

[12] Q: Do you know whether a W. R. Richard was ever a [13] St. Louis Monsanto employee?

[14] A: Yes.

[15] Q: Do you know whether a J. R. Savage was ever a [16] St. Louis Monsanto employee?

[17] A: I'm sort of stuck with that list adjacent with [18] it that gives you a place.

[19] MR. FEATHERSTONE: The question, though, [20] Doctor, is whether you know that. He can ask whether the [21] document somehow reflects that.

[22] A: No.

[23] MR. FEATHERSTONE: They're two different [24] questions.

[25] THE WITNESS: I understand, but it's still

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[1] hard.

[2] Q: (by Mr. Bradley) All right. Does the docu- [3] ment indicate that J. R. Savage is a St. Louis employee?

[4] A: Yes.

[5] Q: And does this document refer to what you know [6] to be Aroclor 1016?

[7] A: I don't know 1016.

[8] Q: Do you know whether MCS 1016 was claimed by [9] Monsanto to be similar to Aroclor 1242 in its electrical [10] and functional properties?

[11] A: That's what this report says.

[12] Q: Do you know whether Monsanto either performed [13] its own or commis-

sioned biodegradation work which showed a [14] clear advantage of MCS 1016 over Aroclor 1242?

[15] A: I don't know.

[16] Q: I'm going to show you Plaintiff's Exhibit 1564 [17] and ask you to review that document.

[18] A: 1564?

[19] Q: Yes.

[20] A: Yes, sir.

[21] Q: In 1973, when you began your employment with [22] Monsanto, did Monsanto have a Monsanto Chemicals, Limited, [23] research and development department in Ruabon?

[24] A: I don't know.

[25] Q: Did they in 1971?

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[1] A: I don't know.

[2] Q: Did they at any point during the period of [3] your employment with Monsanto?

[4] A: I don't know.

[5] Q: Is this a January, 1971 document entitled [6] "PCB's Environmental Studies"?

[7] A: Yes.

[8] Q: The document, for example, on page two, under [9] "Scope," 1.1 says "The development of analytical techniques [10] and procedures for interpretation are well advanced but [11] some more effort is required to complete the work on [12] Aroclor 1262 and MCS 1016." Did I read that correctly?

[13] A: I think so.

[14] Q: Did you know whether the MCS 1016 there refers [15] to what you've called Aroclor 1016?

[16] MR. FEATHERSTONE: Objection. Cumulative. [17] It's been asked and answered.

[18] A: I don't know.

[19] Q: I'm now going to show you Plaintiff's Exhibit [20] 1544.

[21] MR. FEATHERSTONE: Do you want him to read the [22] entire document?

[23] MR. BRADLEY: I want him to review the entire [24] document. He doesn't need to read it word for word, but [25] I'd like him to become generally familiar with it.

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[1] THE WITNESS: I understand.

[2] Q: (by Mr. Bradley) Have you generally reviewed [3] that exhibit?

[4] A: Yes.

[5] Q: And do you recognize that as a confidential [6] Monsanto special study report regarding MCS 1016?

[7] A: Yes.

[8] Q: And —

[9] A: And more.

[10] Q: All right. And what else does it —

[11] A: Well, there's other chlorinated PCB's that [12] undergo degradation at different rates than 1016.

[13] Q: All right. And this document demonstrates the [14] different degradation rates for the different Aroclors, [15] including MCS 1016?

[16] MR. FEATHERSTONE: Object to the form of the [17] question and the absence of foundation for this witness to [18] testify to these matters.

[19] Q: (by Mr. Bradley) Is that correct?

[20] A: Yes.

[21] Q: Would you turn to page three under table two.

[22] A: On page three?

[23] Q: Yes.

[24] A: What is it?

[25] Q: Under table two.

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[1] A: Yes.

[2] Q: You see the reference to Aroclor 1254?

[3] A: Yes.

[4] Q: And a reference to Aroclor 1242?

[5] A: Yes.

[6] Q: And a reference to MCS 1016?

[7] A: Yes.

[8] Q: And a reference to Aroclor 1221?

[9] A: Yes.

[10] Q: What are the numbers under each of those? [11] What do they represent?

[12] A: If I take that left column, just dealing with [13] the chlorines per biphenyl molecule.

[14] Q: All right. And it shows the homologue number [15] of chlorine per biphenyl molecule for those four different [16] Aroclors?

[17] MR. FEATHERSTONE: I'll object now as beyond [18] the scope of cross examination. Improper redirect.

[19] Q: (by Mr. Bradley) Is that correct?

[20] A: I think so.

[21] Q: All right. And do you know whether the MCS [22] 1016 referred to on page three of Plaintiff's Exhibit 1544 [23] is what you've referred to as Aroclor 1016?

[24] A: I think that's right.

[25] Q: Now, I'm going to show you — Before I show

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[1] you any other documents, did Monsanto have any Aroclors [2] that you

know of that were identified as MCS 1043?

[3] A: I don't know.

[4] Q: I'm going to show you Plaintiff's Exhibit [5] 1594.

[6] A: Yes, sir.

[7] Q: The second paragraph of that document refers [8] to Aroclor 1248; is that correct?

[9] A: Yes.

[10] Q: And the third paragraph refers to Aroclor [11] 1242, Aroclor 1254, and Aroclor 1260; is that correct?

[12] A: Yes.

[13] Q: And the first sentence of the wording under [14] "Biodegradation Testing Program" reads, "Results from the [15] last sampling period show that replacement product MCS [16] 1043, which is free of four, five and six chlorine isomers, [17] degrades at about twice the rate (56 percent in 48 hours) [18] of MCS 1016 and Aroclor 1242." And it goes on and [19] references MCS 1016 later in that same paragraph. Do you [20] know whether the MCS 1016 referred to in that paragraph is [21] the same Aroclor 1016 that you referred to with Mr. [22] Featherstone?

[23] MR. FEATHERSTONE: Well, I object to the form [24] of the question. I object as beyond the scope of the cross [25] examination. Also, there's no showing of personal know-

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[1] ledge of this witness to answer a question on that subject [2] on that document.

[3] (Thereupon, a short recess was taken.)

[4] THE WITNESS: Ask your question again, please.

[5] Q: (by Mr. Bradley) Do you know whether the MCS [6] 1016 referred to in that paragraph is the same as the [7] Aroclor 1016 that you mentioned in your answers to some of [8] Mr. Featherstone's questions?

[9] MR. FEATHERSTONE: And I'll assert the same [10] objections.

[11] A: I don't know, but I would suspect so.

[12] Q: (by Mr. Bradley) Have you ever seen Monsanto [13] products that had the letters MCS in front of them?

[14] A: No.

[15] Q: You don't know —

[16] A: No, I have not.

[17] Q: You wouldn't know what MCS refers to, then, if [18] there was such a product?

[19] A: No, sir.

[20] Q: When you learned of the Yusho incident, did [21] you go speak with somebody in Monsanto's business group [22] responsible for relaying information to Monsanto customers?

[23] A: No, I did not.

[24] Q: Did the medical department at Monsanto, while [25] you were there, undertake any effort to insure that the

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[1] business group within Monsanto working with PCB's told [2] Monsanto's customers about the health and environmental [3] effects of PCB's?

[4] A: I don't know.

[5] Q: All right. Do you have Plaintiff's Exhibit [6] 359 there, Dr. Roush? Would you turn to page five for me, [7] please?

[8] A: Yes, sir.

[9] Q: Mr. Featherstone asked you some questions [10] about the first paragraph under the section entitled [11] "Human,"

[12] A: Yes.

[13] Q: It says, "The known toxic effects of PCB's in [14] humans include an acne-like skin eruption (chloracne), [15] pigmentation of the skin and nails, excessive eye [16] discharge, swelling of eyelids and distinctive hair [17] follicles," correct?

[18] A: That's what it says.

[19] Q: There's a reference nineteen, and the nineteen [20] reference is to the Yusho incident?

[21] A: Yes.

[22] Q: It was known well before the Yusho incident, [23] though, wasn't it, Dr. Roush, that PCB's caused an acne- [24] like skin eruption, chloracne?

[25] MR. FEATHERSTONE: Object to the form.

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[1] MR. BRADLEY: Would you read the question [2] back?

[3] (Thereupon, the reporter read back the question.)

[4] Q: (by Mr. Bradley) Let me redo it. [5] Monsanto — Was it reported in the literature [6] prior to the Yusho incident that PCB's effects on humans [7] included an acne-like skin eruption?

[8] A: Yes.

[9] MR. FEATHERSTONE: Objection. Cumulative.

[10] A: Yes.

[11] Q: (by Mr. Bradley) Was it reported in the [12] literature before the Yusho incident that the toxic effect [13] of PCB's on humans included chloracne?

[14] MR. FEATHERSTONE: Objection. Cumulative.

[15] A: Yes.

[16] Q: (by Mr. Bradley) Was it reported in the [17] literature prior to the Yusho incident that the known toxic [18] effects of PCB's in humans included pigmentation of the [19] skin and nails?

[20] A: No.

[21] Q: Was it reported in the literature prior to the [22] Yusho incident that the known toxic effects of PCB's in [23] humans included excessive eye discharge?

[24] A: No.

[25] Q: Swelling of eyelids?

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[1] A: I don't know.

[2] Q: Distinctive hair follicles?

[3] A: No.

[4] Q: Now, the second paragraph under "Humans" says, [5] "For a number of years chloracne of the face and neck has [6] been reported among workers exposed to chlorinated [7] hydrocarbons. Workers exposed to PCB's in the process of [8] insulating cables, in the production of condensers and the [9] manufacture of chlorobiphenyls have reported these skin [10] lesions along with systemic effects such as digestive [11] disturbances, edema of the face and hands, burning of the [12] eyes, impotence and hematuria." Did I read that correctly?

[13] MR. FEATHERSTONE: Objection. Beyond the [14] scope of cross, improper redirect.

[15] Q: (by Mr. Bradley) Did I read that correctly?

[16] A: Yes.

[17] Q: Are the references to that information prior [18] to the Yusho incident?

[19] MR. FEATHERSTONE: Improper redirect.

[20] A: Kimbrough wasn't Japanese, but she could be [21] reporting the Yusho incident in this report in her paper.

[22] MR. FEATHERSTONE: He's referring to reference [23] sixteen.

[24] THE WITNESS: So am I.

[25] MR. FEATHERSTONE: I was pointing out that is

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[1] what you were referring to.

[2] THE WITNESS: Yes.

[3] Q: (by Mr. Bradley) How about reference twenty?

[4] A: Twenty-two?

[5] Q: Well, references twenty and twenty-two are the [6] ones that are remaining.

[7] A: I see.

[8] MR. FEATHERSTONE: By the way, same objection. [9] The scope of redirect. Improper.

[10] A: I don't know.

[11] Q: (by Mr. Bradley) Well, reference twenty is [12] dated 1936, is it not?

[13] A: Yes.

[14] Q: That's before the Yusho incident?

[15] A: Yes, that was.

[16] Q: And reference twenty-two is dated 1946?

[17] A: Yes.

[18] Q: And that's before the Yusho incident?

[19] A: Yes. They sure are.

[20] Q: In fact, that's about thirty years before the [21] Yusho incident, isn't it?

[22] MR. FEATHERSTONE: Objection. Improper [23] redirect.

[24] A: That's about right, yes. [25] What's the question? Is that before Yusho?

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[1] Is that the question?

[2] Q: (by Mr. Bradley) You've answered the question [3] that I've asked.

[4] MR. FEATHERSTONE: You're current.

[5] Q: (by Mr. Bradley) Mr. Featherstone asked some [6] questions about Plaintiff's Exhibit 350, and if you would, [7] I'd like you to locate that document, because I have a few [8] questions based upon what Mr. Featherstone asked you. Do [9] you have that there in front of you, Dr. Roush?

[10] A: Yes. 350, yes.

[11] Q: As I understand your testimony, Dr. Pour was [12] asked by Monsanto to review various slides of rat livers [13] that had previously been examined by IBT; is that correct?

[14] A: Yes.

[15] Q: Did Dr. Pour write a report regarding his [16] examination of the rat livers?

[17] A: Yes.

[18] Q: And as I understand your testimony, Dr. Pour [19] was not shown all of the rat livers that — the slides of [20] rat livers that were examined by IBT. He was rather shown [21] only some of the slides; is that correct?

[22] A: I don't recall.

[23] Q: Do you recall indicating to Mr. — in response [24] to one of Mr. Featherstone's questions that Dr. Pour was [25] shown only some slides of the IBT rat livers?

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[1] A: I don't recall having read that.

[2] Q: Okay. Would you now look at page three —

[3] A: Yes.

[4] Q: — of Exhibit 350. Mr. Featherstone asked you [5] about the first two paragraphs. I'm now going to ask you [6] about the third, so could you review that for me?

[7] A: All right.

[8] MR. FEATHERSTONE: Talking about this para- [9] graph right here.

[10] Q: (by Mr. Bradley) The one that begins, "Dr. [11] Squires has stated in a letter..."

[12] A: All right. When you say —

[13] MR. FEATHERSTONE: No. I don't think he's [14] asked you a question yet, have you?

[15] MR. BRADLEY: He was trying to tell me how I [16] confused him.

[17] THE WITNESS: I was looking for Pour, not [18] Squires.

[19] Q: (by Mr. Bradley) All right. According to [20] that paragraph, "Dr. Squires stated in a letter to Dr. [21] Kimbrough, dated November 12th, 1974 that, 'I defined [22] 'discrete nodules' and 'trabecular basophilic hyperplasia' [23] as precancerous lesions, and thus indicative of [24] carcinogenic response." Did I read that correctly?

[25] MR. FEATHERSTONE: Object to the form.

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[1] A: Yes.

[2] Q: (by Mr. Bradley) Are hepatomas or hepatomas [3] the same as discrete nodules or trabecular basophilic [4] hyperplasia?

[5] MR. FEATHERSTONE: Object to the form and [6] foundation as to this witness's response to Dr. Squires' —

[7] MR. BRADLEY: I wasn't asking what Dr. Squires [8] meant. I'm asking this witness whether they are the same.

[9] A: Well, he is saying that these are two [10] different lesions, the discrete nodule and basophilic [11] hyperplasia.

[12] Q: (by Mr. Bradley) Well, is the importance of [13] that paragraph that at least some pathologists believed [14] that where there is a benign or cancerous process, that [15] even a benign change is an indication of a precancerous [16] condition?

[17] MR. FEATHERSTONE: Object to the form of the [18] question.

[19] Q: (by Mr. Bradley) Well, let me ask it this [20] way: The paragraph goes on and says, "This reflects a [21] point of view which is not shared by all pathologists." [22] And I assumed that paragraph references a split of opinion [23] among pathologists regarding whether discrete nodules, for [24] example, as precancerous lesions, are in-

dicative with [25] carcinogenic response. Would you agree with that?

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[1] A: It all depends on the — each one of them has [2] to be individualized.

[3] Q: Do you know whether in 1974 a credible portion [4] of pathologists believed that discrete nodules and [5] trabecular basophilic hyperplasia as precancerous lesions [6] were indicative of carcinogenic response?

[7] MR. FEATHERSTONE: Objection. No showing of [8] personal knowledge for this witness to respond to that, [9] lack of foundation.

[10] A: What each one of the pathologists looking at [11] this would have to do would be to individualize and look at [12] them. There are hepatomas that are known are not [13] precancerous, and so the interpretation of this is up to [14] the pathologist.

[15] Q: (by Mr. Bradley) All right. Apparently, back [16] in 1974, different pathologists had different ways of [17] analyzing whether hepatomas were precancerous; is that [18] correct?

[19] A: That would be my interpretation of it.

[20] Q: Now, you have had some education in the field [21] of cancer and hepatomas, have you not?

[22] A: Yes.

[23] Q: In fact, you worked for the National Cancer [24] Institute?

[25] A: Yes.

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[1] Q: And by the time of November, 1974, you had [2] received training in the field of cancer research; is that [3] true?

[4] A: Yes. Clinical.

[5] Q: Now, if you'd look at Plaintiff's Exhibit 367, [6] which is the report by Judith Zach and David Mutch — By [7] the way, am I pronouncing his last name correctly?

[8] A: I think so.

[9] Q: I'll show you my copy, Dr. Roush. Mr. [10] Featherstone asked you some questions about that exhibit [11] regarding the malignant melanoma, pancreatic cancer and [12] liver cancer in deceased workers.

[13] A: Yes.

[14] Q: Do you know whether those researchers [15] determined whether the deceased workers, in fact, had [16] pancreatic cancer?

[17] A: Yes.

[18] Q: And how would they know that, Dr. Roush?

[19] A: Apart from the death certificate.

[20] Q: The death certificate would identify the cause [21] of death, would it not?

[22] A: Yes.

[23] Q: And if this one particular worker, for [24] example, died of a heart attack and there was no autopsy [25] done, no one would know if the fellow had pancreatic

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[1] cancer, would they?

[2] A: There's a place on the death certificate for [3] that, "Contributing to cause of death."

[4] Q: And they'd know that if they performed an [5] autopsy?

[6] A: Yes.

[7] Q: If they didn't —

[8] A: They would know that if they didn't perform an [9] autopsy.

[10] Q: How would they know if somebody died in part [11] — Let me rephrase that. How would a person completing a [12] death certificate know whether pancreatic cancer existed in [13] someone who died from an apparent heart attack?

[14] A: There's a place on the death certificate that [15] says "For contributing causes of death."

[16] Q: I understand that.

[17] A: All right.

[18] Q: How would a doctor completing the death [19] certificate determine whether someone had pancreatic cancer [20] if, in fact, it appeared they died from an acute heart [21] attack?

[22] A: The doctor who filled out that death [23] certificate is supposed to know.

[24] Q: How would the doctor know without doing an [25] autopsy?

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[1] A: Most of the people who die today do not have [2] autopsies. They used to have. Used to be, eighty percent [3] would have an autopsy. They don't do that any more.

[4] Q: And then my question is, if somebody died of a [5] heart attack, for example, how would a doctor know whether [6] a person also had liver cancer unless the doctor did an [7] autopsy?

[8] A: They are reporting them all the time based on [9] clinical records.

[10] Q: In fact —

[11] A: This is a standard way of doing epidemiology, [12] however.

[13] Q: In fact, the death certificate lists the cause [14] of death.

[15] A: Yes.

[16] Q: And if there are known contributing factors, [17] those are listed as well?

[18] A: Yes, sir.

[19] Q: And if there are illnesses within the body [20] that a doctor doesn't identify, then they're not listed on [21] the death certificate?

[22] A: That's right.

[23] Q: And as I understand your testimony, as medical [24] director within Monsanto, you had no way of knowing what [25] the business group within Monsanto working with PCB's was

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[1] relating to its customers, other than looking at some [2] safety data sheets; is that fair to say?

[3] A: I don't know what the Chicago meeting on PCB's [4] — how that was communicated, but I'm sure that was [5] communicated, as well.

[6] Q: You just don't know —

[7] A: I don't know.

[8] Q: — what the business folks were saying to the [9] customers?

[10] A: That's right.

[11] Q: Have you ever spoken with one of the Monsanto [12] sales engineers who sold Monsanto PCB products to Monsanto [13] customers?

[14] A: No.

[15] Q: Do you know whether the business group within [16] Monsanto working with PCB's was headed by a doctor, a [17] medical doctor?

[18] A: No, it was not.

[19] Q: Do you know whether the business group within [20] Monsanto working with PCB's was headed by a toxicologist?

[21] A: No.

[22] Q: Do you know whether the business group within [23] Monsanto working with PCB's was headed by an [24] epidemiologist?

[25] A: No.

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[1] Q: Do you know whether it was headed by anyone [2] qualified to review a scientific article on toxicity of a [3] particular chemical?

[4] A: Only in the department of medicine, [5] environmental health.

[6] MR. BRADLEY: I don't have anything further. [7] Thank you very much.

[8] MR. FEATHERSTONE: Okay. Real quickly, Dr. [9] Roush —

[10] MR. BRADLEY: I'll object to any recross as [11] not allowed by the rules.

[12] MR. FEATHERSTONE: Fine. You can have a [13] continuing objection to that for my five minutes worth of [14] examination.

[15] MR. BRADLEY: All right.

[16] RECROSS EXAMINATION

[17] QUESTIONS BY MR. FEATHERSTONE:

[18] Q: With regard to Plaintiff's Exhibit 1541, 1564, [19] 1594 and 1544, have you ever seen any one of those exhibits [20] during your employment at Monsanto?

[21] A: No.

[22] Q: Some of these exhibits talk about biodegradation [23] studies. Were you ever involved in any biodegradation [24] study of PCB's at Monsanto?

[25] A: No.

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[1] MR. BRADLEY: You mean him personally?

[2] MR. FEATHERSTONE: Yes.

[3] MR. BRADLEY: Okay.

[4] Q: (by Mr. Featherstone) Some of these documents [5] talk about an applied sciences group. Were you ever in the [6] applied sciences group?

[7] A: No.

[8] Q: You testified that you had no knowledge about [9] what was meant by MCS 1016. Did you have anything to do [10] with the assigning of chemical specification numbers to [11] products or test chemicals?

[12] A: No.

[13] Q: Exhibit 1544 is from the analytical chemistry [14] group. Were you ever in the analytical chemistry group?

[15] A: No.

[16] Q: Do you have any training as an analytical [17] chemist?

[18] A: No.

[19] Q: Do you have any experience or expertise to run [20] biodegradation studies?

[21] A: No.

[22] Q: Or interpret them?

[23] A: No.

[24] Q: All right. With regards to your personal [25] training, you said that you are trained in the clinical

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[1] aspect of cancer, human cancer?

[2] A: That's my experience, yes.

[3] Q: What does that mean, the clinical aspect of [4] human cancer?

[5] A: I did chemotherapy on people with cancer.

[6] Q: When Mr. Bradley was asking you questions [7] about the classification of various hepatomas or lesions, [8] is that something a clinical — a clinician does?

[9] A: No.

[10] Q: Were you ever trained in that area?

[11] A: No.

[12] Q: Did you have any expertise in the classification [13] of hepatomas or lesions?

[14] A: No.

[15] Q: When you were engaged in this activity in [16] 1975, that is, participating in meetings regarding [17] interpretations, were you relying on other people?

[18] A: Yes.

[19] Q: Lastly, with regard to Exhibit 350, page three [20] where you were, page three of the attachment, where you [21] referenced the paragraph concerning Dr. Squires, did you [22] ever see this letter from Dr. Squires to Dr. Kimbrough of [23] November 12th, 1974?

[24] A: No.

[25] Q: Did you know Dr. Kimbrough at that time to be

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[1] a government toxicologist —

[2] A: Yes.

[3] Q: — with the Center for Disease Control?

[4] A: Yes.

[5] Q: And Dr. Kimbrough was someone who was running [6] her own toxicological testing of rats with PCB's?

[7] MR. BRADLEY: Objection. Beyond any scope of [8] recross.

[9] A: Yes.

[10] MR. FEATHERSTONE: No further questions.

[11] MR. BRADLEY: No redirect.

[12]

[13]

[14]

GEORGE ROUSH

[15]

Subscribed and sworn to before me this — day

[16] of __, A. D., 1993.

[17]

MY COMMISSION EXPIRES:

[18]

[19]

[20] Notary Public, within and for the State of Missouri

[21]

[22]

[23]

[24]

[25]

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[1] STATE OF MISSOURI)
SS

[2] COUNTY OF ST. LOUIS)

[3] I, John T. Concannon, a Notary Public within and for [4] the State of Missouri, duly commissioned, qualified and [5]

authorized to administer oaths and to take and certify to [6] depositions, do hereby certify that pursuant to Notice in [7] the civil cause now pending and undetermined in the [8] District Court of the United States, within and for the [9] District of Nevada, entitled NEVADA POWER COMPANY [10] Plaintiff, -vs- MONSANTO COMPANY, et al., Defendants, to be [11] used in the trial of said cause in said Court, I was [12] attended at the law offices of Messrs. Husch & Eppenberger, [13] 100 N. Broadway, Suite 1300, in the City of St. Louis, [14] State of Missouri, by Ralph A. Bradley, attorney for the [15] Plaintiff; by Bruce A. Featherstone, attorney for the [16] Defendant, Monsanto Company; by Laurie Basch, attorney for [17] the Defendant, Westinghouse; and by GEORGE ROUSH witness, [18] in said office on March 18, 1993.

[19] The said witness, GEORGE ROUSH, being of sound mind [20] and being by me first carefully examined and duly cautioned [21] and sworn to testify the truth, the whole truth and nothing [22] but the truth in the case aforesaid, thereupon testified as [23] is shown in the foregoing transcript, said testimony being [24] by me reported in shorthand and caused to be transcribed [25] into typewriting, and that the foregoing pages correctly

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[1] set out the testimony of the aforementioned witness, GEORGE [2] ROUSH, together with the questions propounded by counsel [3] and the remarks and objections of counsel thereto, and is [4] in all respects a full, true and complete transcript of the [5] questions propounded to and the answers given by said [6] witness; and that said testimony, so transcribed, was [7] subscribed to by the witness on the ___ day of [8] ___, A. D., 1993.

[9] I FURTHER CERTIFY that I am not of counsel nor [10] attorney for any of the parties to said suit, nor related, [11] nor interested in any of the parties or their attorneys.

[12] I FURTHER CERTIFY that Roush Deposition Exhibits A [13] through D, marked for identification and attached to and [14] made a part of this deposition, are the identical exhibits [15] referred to and identified by the witness in the foregoing [16] deposition.

[17] WITNESS MY HAND and Notarial Seal, given this ___ [18] day of ___, A. D., 1993, at St. Louis, Missouri.

[19] MY COMMISSION EXPIRES SEPTEMBER 12, 1994

[20]

[21]

[22]

JOHN T. CONCANNON,

[23] Notary Public, within and for the State of Missouri

[24]

[25]

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May 5, 1993

Bruce A. Featherstone, Esq.

Kirkland & Ellis

1999 Broadway - Ste. 4000

Denver, Colorado 80202

Re: Nevada Power Company -v-

Monsanto Company, et al.

Dear Mr. Featherstone:

This letter, incorporated as the last page of Mr.

Roush's deposition, taken on March 18, 1993, will serve as notice to you that his testimony is now ready for reading and signing of same. You will recall you indicated a preference for him reading his deposition, rather than waiving signature.

Enclosed please find the original signature page of

Mr. Roush's deposition, along with an eratta sheet. Please have Mr. Roush read and sign his deposition and return the original signature page to me. I will then return the signature page to the original transcript, and notify Mr.

Bradley of any corrections the witness may have made.

Thank you for your cooperation in this regard.

Sincerely,

JOHN T. CONCANNON

Shorthand Reporter

Concannon & Jaeger

General Court Reporters

705 Olive Street - Ste. 604

St. Louis, Missouri 63101

JTC:mpk

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GEORGE ROUSH

- DEPOSITION CORRECTION SHEET -

In Re: NEVADA POWER COMPANY Vs. MONSANTO COMPANY, et al.

Upon reading his deposition transcript and before subscribing thereto, the deponent indicated the following:

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GEORGE ROUSH

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CONCANNON & JAEGER

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