STATE OF ALABAMA

IN THE CIRCUIT COURT OF CALHOUN COUNTY

...LL MISSIONARY
T CHURCH, et al.,

Plaintiffs, CIVIL ACTION NUMBER

versus CV-96-243

MONSANTO COMPANY, et al.,

Defendants.

DEPOSITION OF GEORGE J. LEVINSKAS

The deposition of George J. Levinskas, was taken before Misty Perry, as Commissioner, commencing at 9:10 a.m., on April 23rd, 1998, by the Plaintiffs, at the Ritz Carlton, 100 Carondelet Plaza, St. Louis, Missouri, pursuant to the stipulations set forth herein.

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No other exhibits were marked for identification, offered, or attached as exhibits hereto.

STIPULATIONS

IT IS STIPULATED AND AGREED, by and between the parties, through their respective counsel, that the deposition of George J. Levinskas, may be taken before Misty Perry, as Commissioner and Notary Public, Alabama at Large, at St. Louis, Missouri, on April 23rd, 1998, commencing at 9:10 a.m.

IT IS STIPULATED AND AGREED that notice of filing by the Commissioner is waived.

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STATE OF MISSOURI, CITY OF ST. LOUIS

APRIL 23, 1998

GEORGE J. LEVINSKAS,

after having been first duly sworn, was examined and testified as follows:

THE COURT REPORTER: Usual stipulations?

MR. DAVIDSON: It will be the stipulations we did yesterday.

MR. ATKIN: Right, exactly.

MR. COX: And he will read and sign.

MR. DAVIDSON: And we'll make all our objections for the trial.

EXAMINATION

BY MR. ATKIN:

Q. Could you state your -- Good morning, sir. My name is Jack Atkin --

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A. Good morning.

Q. -- from Kasowitz, Benson, Torres and Friedman, together with Donald Stewart, who is sitting here to my left. We represent the plaintiffs in this case.

Could you state your full name, please, for the record?

A. It's George J. Levinskas.

Q. L-e-v-i-n-s-k-a-s?

A. Correct.

Q. Can you tell us your educational background, please?

A. I have a bachelor's degree in chemistry from Wesleyan University and a Ph.D. in pharmacology from the University of Rochester.

Q. So I should refer to you as Dr. Levinskas?

You may, if you wish.

Q. I think you deserve it.

All right. Can you tell us about your employment background, please?

A. After I got my degree, I spent five

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years teaching at the University of Pittsburg in the graduate school of public health. I worked for the American Cyanamid Company for about thirteen years, and then I worked for Monsanto Company for about twenty years.

Q. Okay. What did you teach?

A. I taught a course in applied toxicology, and I gave guest lectures in several other courses at the school.

Q. And can you tell me again, where did you do that -- that teaching, now?

A. It was the graduate school of public health at the University of Pittsburg.

Q. Okay. What does applied toxicology mean?

A. That was the label put on the course before I got there for practical purposes. It was toxicology as we know it today.

Q. And after that, you went to work for American Cyanamid?

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A. Correct.

Q. What did you do there?

A. I was asked to take over their laboratory, which was, at that time, relatively new and growing. And so I started as the chief pharmacologist, and I wound up being the director of the laboratory.

Q. What were your responsibilities in that capacity?

A. We did virtually all of the animal testing on Mon -- on Cyanamid products, with the exception of the drugs which were handled by the Lettley laboratory division.

Q. And when were you at American Cyanamid?

A. 1958 to 1971.

Q. I'm going to have to go back for a second. When did you get your BA?

A. 1949.

Q. And your Ph.D.?

A. 1953.

Q. Okay. Do you have a master's degree?

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A. I do not.
Q. Okay. Where did you get your BA from?
Wesleyan.
Q. Okay.
A. Middletown, Connecticut.
Q. And your Ph.D.?
A. Rochester.
Q. Okay. And why did you leave American
Cyanamid?
A. The laboratory that I was -- had been
working in was closed out, and
therefore, I decided it was time to
leave.
Q. And then you went to work for Monsanto?
A. Correct.
Q. Okay. Can you tell us your date of
birth, please?
A. July 8th, 1924.
Q. And what -- What did you do for
Monsanto?
A. I came to consolidate, pull together
their efforts on product assessment,
consolidating in the medical

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department. And my initial charge was
to look at new products and new uses of
existing products.
Q. Did you have a title?
A. It was something like manager of
product evalu -- no, product assessment
or something.
Q. Okay. That was in 1971?
A. Correct.
Q. Did your title change at any point in
time?
A. Later, it became Manager of
Environmental Assessment in Toxicology.
Q. When was that?
A. Oh, it would have been three or four
years later probably. Then --
Q. Yeah, I'm sorry. Go ahead.
A. Then it became Director of
Environmental Assessment in Toxicology.
And the last several years before I
worked, I was named as Senior
Toxicology Consultant.
Q. Were you an employee of Monsanto at

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that time?
A. Yes, this is all with my employment at
Monsanto.
Q. Okay. And when did you leave Monsanto?
A. In September, '91.
Q. Why did you leave?
A. I had made up my mind two years early I
was going to retire, and I told myself
that.
Q. Okay.
A. It happened to be the time.
Q. Okay. You've given depositions before,
haven't you?
A. Yes.
Q. Okay. How many times?
A. I really don't keep track of them.
Perhaps a dozen, fifteen times.
Q. You're familiar with the process of a
deposition?
A. Yes.
Q. Okay. If you -- If, during the course
of my questioning, you don't understand
any questions, just ask me, and I'll

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rephrase the question for you.
A. All right.
Q. Okay. Please. Also, if you need to
take a break at any time, just let me
know.
A. Okay.
Q. We can do that.
Okay. When was the last time
before this that you were -- that you
gave a deposition?
A. About a week ago.
Q. Where was that?
A. Right here.
Q. Which case was that in?
A. I think that was the Department of
Transportation in Pennsylvania against
Monsanto.
Q. Was that a PCB case?
A. Yes.
Q. Okay. Do you know what the allegations
in that case are?
A. What little I recall about the
background was that it was a question

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of whether PCB plasticizers might have contaminated the building.

Okay. Do you remember the name of that case?

I reflect that I don't know more than just what I said.

Okay. Well, do you know what Court it's in, what it's venued in?

I would presume it's in Pennsylvania.

Okay. Do you know if it's state court or federal court?

I have no idea.

Okay. Do you recall the names of any of the cases that you gave deposition testimony in?

I don't have a very good memory for names to start with. And I do recall one, which was a Scott case down in Texas.

Okay.

And that was a rather extended one, so I happened to remember it.

Any others?

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I really don't -- haven't refreshed my memory, and I really don't recall them off the top of my head.

Okay. Besides the deposition that you gave last week in connection with that Pennsylvania case, when was the time before that you gave deposition testimony?

It was probably a year -- a bit better than a year ago.

Okay.

No. It would have been the end of '70 -- I'm sorry. It would have been the end '97, towards the latter part of '97.

Okay. Do you know where that case was venued?

I -- I really don't recall.

Do you know what the allegations were in that case?

Not particularly.

Okay. Do you recall what the allegations were in any of the cases

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that you gave deposition testimony about besides the one in Pennsylvania that you just told us about?

A. I -- Generally, I would say I don't recall because the -- the -- my appearance was to answer questions at the deposition, and I did not ask very many questions about the background. And I really don't call -- don't recall details.

Q. Okay. In the Scott case that you testified -- that you told us about earlier, did that case involve PCB contamination?

A. That was a personal injury, as I recall.

Q. Okay. Personal injury as a result of what -- from what? Do you know?

A. Allegation was that it was exposure to PCBs.

Q. Okay. Did you meet with Monsanto's lawyers to prepare for your deposition here today?

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A. Yes.

Q. Okay. And when did you do that?

A. Tuesday.

Q. Two days ago?

A. Yes.

Q. Okay. Who did you meet with?

A. These two gentlemen here on my left.

Q. And do you know their names?

A. Yes. One is -- and I said that -- Gerard Davidson, and the other one is Bucky -- Cox.

MR. COX: Buddy.

A. Buddy Cox.

Q. Okay. How long did you meet with them for?

A. About two or three hours.

Q. Where did you meet?

A. In this hotel.

Q. Okay. Did you review any documents with them?

A. No.

Q. Okay. Have you been compensated for your time here today?

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No.
Okay. Have you ever received any compensation for any of the -- in connection with any of the deposition testimony you gave in any case?
I've never been compensated for depositions that I've given at any time.
Have you been compensated for your time -- for you appearing at depositions?
I have been compensated for the time that we spent meeting with attorneys prior to depositions --
Okay.
-- but not for the depositions themselves.
Okay. Are you being compensated for the time that you spent meeting with Monsanto's attorneys on Tuesday?
I hope to be.
Okay. How much will you be compensated?

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I have a standard consulting fee of a hundred and seventy-five dollars an hour.
Okay. How long has that been your fee?
About two years.
Okay.
I might add it applies to everybody, including Monsanto.
Okay. Well, let me ask you this: You retired from Monsanto when?
1971.
1991?
I'm sorry. '91.
Okay. What have you done since then professionally, if anything?
For practical purposes, I am retired, though when I do get unsolicited offers to consult, I weigh them. And on occasion, I do take them.
Have you been asked to consult in connection with this case?
I've been asked to, yes.
Okay. Have you done consulting work

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for Monsanto since 1991, other than in connection with appearances for depositions?
A. No.
Q. Okay. Have you ever testified at a trial?
A. I have testified at a hearing before the administrative law judge and the Food and Drug Administration, but not in the courtroom.
Q. Okay. What did that -- What did that case involve?
A. It was questions in connection with the food ADEM petition.
Q. It didn't involve PCBs, did it?
A. No.
Q. Okay. Who was that on behalf of?
A. Monsanto.
Q. Okay. What product was it that -- Were they looking to get FDA approval?
A. They had FDA approval. It was a plastic Coke bottle, and they were seeking to get an extension on that

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petition.
Q. Okay. Other than the consulting work that you've done for Monsanto in connection with depositions in cases, have you done any other type of consulting work for Monsanto since you retired?
A. No.
Q. Okay. Have you done consulting work for anyone else since you retired?
A. Yes, I have.
Q. Who have you done consulting work for?
A. I don't think that I should name the clients. I would -- I would prefer not to name the clients.
Q. Can you tell us what type of consulting work you've done?
A. They've been allegations of injury or questions about environmental safety of chemicals that I've worked with over the years.
Q. What kinds of chemicals?
A. I think they might be indicative to

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some extent but -- of the companies, but they ranged from military chemicals that I worked on when I was at the University of Pittsburg to current industrial chemicals.

Q. Okay.

A. They do not include PCBs.

Q. Okay. Other than that testimony you told us about before the Food and Drug Administration, have you testified in any -- in any trial?

A. No, I have never testified at trial.

Q. Okay. Have you ever done any work -- consulting work in connection with Agent Orange?

A. No.

MR. DAVIDSON: Object.

Q. Were you involved in the -- in the toxicity testing of PCBs that were in -- done by outside consultants for Monsanto?

A. Most of the -- but most of the testing -- animal testing on PCBs have

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been initiated and much would have been completed before I came to Monsanto. So that -- My knowledge of it is -- is really indirect.

Q. You came to Monsanto in 1971?

A. Yes.

Q. Okay. And are you saying that much of the toxicity testing on PCBs had been completed by that time?

A. Yes.

Q. Okay. Do you know what type of toxicity testing on -- testing of PCBs had been done before your arrival at Monsanto?

A. My recollection is that they had completed -- The reports have not been fully issued, but they're completed. Lifetime feeding studies in rats, I don't recall. I did a one-year feeding study on dogs, some chicken reproduction studies. Those -- Those would be the biggest studies. There are some smaller studies that -- They

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have done some acute studies on them.

Q. Okay. When you arrived at Monsanto, did you -- were you made aware -- Did you become aware of the results of the studies that had been done prior to your arrival?

A. Over a period of time, I did become aware of many of them.

Q. Okay. Can you tell us what the results were of the -- of the rat studies that had been done prior to your arrival at Monsanto?

A. Well, I haven't looked at the study results in a long time. My recollection is they had done lifetime feeding studies with three different Aroclors and these -- I can't presume to be able to quote the conclusions. But I think there was something on the order that whatever they saw, they considered to be reasonable and within the range of what they expect in -- in animals of that age.

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They did report -- The thing that stands out most in my mind is that they did report liver injury from exposure to PCBs.

Q. Okay. How about the dog studies that have been conducted?

MR. DAVIDSON: Object.

Q. How about the dog studies that have been conducted for Monsanto before your arrival at Monsanto? Did you learn what the results were of those studies?

A. I recall less of the dog studies, but my recollection is that NOEL to the liver was found in this, in the sense of adverse effects.

Q. Okay. And the chicken reproduction studies?

MR. DAVIDSON: Object.

A. If you're speaking of the Monsanto chicken reproduction studies --

Q. Well, when you say Monsanto, are you talking about studies that were done for Monsanto?

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I'm talking about Monsanto sponsor studies.

Right. Monsanto didn't in-house, did it?

A. We had no facility in-house to do such things.

Q. All right.

A. I -- I don't recall the details of those studies particularly. I think they're mostly aimed at the environmental issues, as to the effects on the hatchability of eggs and so forth.

Q. Okay. Anything else that you recall -- Any other studies that you recall that were done before your arrival at Monsanto that you learned about after -- after you began working for Monsanto other than the rat studies you mentioned, the dog studies, and the chicken reproduction studies?

A. There were other studies that were short of duration, but I really don't

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recall specifically.

Q. Okay. Were you involved at all in any of the testing that was done by an entity called Industrial Bio-Tests Laboratories?

MR. DAVIDSON: I'm going to object to what you mean by "Were you involved?"

Q. Okay.

A. The studies that we've just been talking about would lead up to -- in bio-tests laboratories.

Q. Okay.

A. Monsanto also done other studies -- had other studies done at Mon -- at IBT. And as I stayed here longer, I got involved in some of the studies that IBT was doing for Monsanto, yes.

When you say you got involved, what do you mean by that? What was the nature of your involvement?

A. It would vary from time to time. It would vary from study. I might

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initiate a study. I might check on the progress of a study. I might take the study results to a regulatory agency.

Q. Okay. Let me ask you about the first thing. You said you might initiate a study. Do you recall any specific studies that you initiated that were done by IBT for Monsanto on PCB toxicity?

A. I really don't recall that I initiated a study on PCB toxicity at IBT for Monsanto. I may have done a short-term study here and there, but I really don't recall --

Q. Okay.

A. -- any.

Q. Okay. You also mentioned that occasionally you would check on the progress of studies. Do you recall any specific study PCBs that were done by IBT for Monsanto in which your -- the nature of your involvement involved checking on the progress of the study?

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A. Again, with the bulk of the studies having been done -- excuse me -- or nearing completion before I came, I don't recall checking really on the progress of any PCB study at IBT.

Q. Okay. Also, I think you indicated that some of your work involved a taking of study -- studies -- or study results to regulatory agencies; is that correct?

A. Yes.

Q. Okay. Do you recall any specific study regarding PCBs that was done by Monsanto -- for Monsanto by IBT -- that you took the results to a regulatory agency?

A. I never took results of a PCB study to a regulatory agency.

Q. Okay. Well, perhaps I misunderstood when you said before that one of the things that you were involved in was to take matters to regulatory agencies.

A. I believe my answer was -- Or my answer was intended to a more general response

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-- Did I have involvement with studies at IBT? So on other products, yes I did have such involvement.

Q. Okay. With respect to other products?

A. Yes.

Q. But not with respect to PCBs?

A. That's correct.

Q. Okay. Where was IBT located?

A. It was located outside of Chicago.

Q. Okay. And who at IBT worked on the tests that were conducted for Monsanto, to best of your knowledge?

A. I would say that different people worked on different tests in -- more or less in their own specialties or their own areas so that at one time or another, probably everybody at IBT worked on a Monsanto product.

Q. Okay. Who at IBT worked on the PCB tests that were conducted?

A. I really don't know. I don't know that they indicated in the reports who actually did the work, and I

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can't or don't think I could make a --

Q. Okay. Do you know if Paul Wright worked on -- on those studies?

A. I do not know whether he did or not.

Q. Okay. How about Joseph Calandra?

A. Joe Calandra was the owner of the company and the director of the lab, and I would suspect that he had some involvement in every study that went through his laboratory.

Q. How about Phillip Smith? Have you ever heard of -- heard of Phillip Smith?

A. I can't say that I recall the name.

Q. Okay. How about Otis -- Is it Fancher?

A. There was an Otis Fancher who was director of the lab. Otis and Calandra, I knew long before I came to Monsanto. And I don't know when, but Otis retired after -- a few years after I came here.

Q. And are you familiar with Marino Keplinger?

A. Yes.

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Q. Did -- Is it Mr. Keplinger?

A. It's Dr. Keplinger.

Q. Dr. Keplinger. Did he work on PCB studies --

A. I don't --

Q. -- when he worked for Monsanto?

A. I would assume that he was. I think he was their chief toxicologist when I came here.

Q. You say you had familiarity with IBT before you --

A. I was aware of it in the laboratory, yes.

Q. How were you aware of them?

A. My former employer, Cyanamid, had done work with IBT. And many other companies had done work at IBT, including some Government agencies. So as I got to talk and to meet more toxicologists through the years, I learned more about the laboratory, and I learned more about Joe Calandra.

Q. Okay. Did you ever work with

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Mr. Calandra -- Is it Dr. Calandra?

A. Yes.

Q. Did you ever work with Dr. Calandra before you started working at Monsanto?

A. No.

Q. Okay. Did you ever work with Paul Wright in connection with any toxicity testing or studies before you started working at Monsanto?

A. I did not meet Paul Wright until after I came working for Monsanto.

Q. Okay. Okay. How about Otis Fancher? Did you ever work with him before --

A. No.

Q. Okay. And Marino Keplinger?

A. No.

Q. Okay. To your knowledge, Monsanto had done work with IBT before you ever began working at Monsanto, correct?

A. Yes.

Q. Do you know when Monsanto first began doing work with IBT?

A. I really don't know.

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Q. Okay. Do you know if IBT is still in existence?
No, it's not in existence.
Q. Do you know when it out -- when it went out of business?
A. I really don't know the year, but I would think it was somewhere about the mid 70s, 1970s.
Q. Okay. Do you know why it went out of business?
A. Allegations were that it had submitted some questionable data to the regulatory agencies, and the Government started investigating it. And the next thing we know was that for practical purposes, the lab had shut down.
Q. Okay. Do you know who from Monsanto worked -- was involved with the work that was done by IBT to the PCB toxicity testing?
A. I don't know who -- who did what studies and at what times. I'll go back to my earlier questions --

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comments about my employment. I came to work with new products and the uses of existing products in an attempt to sort of pull together Monsanto's efforts into the medical department.
So I really -- I would assume that even people involved in the products themselves or others in the medical department. There was an older toxicologist, Bill Hunt, when I came here who was keeping tabs on some studies at IBT, but I don't really know to what extent he was doing that.
Q. Okay. After you -- After you began working at Monsanto, other than yourself, who at Monsanto was involved with the IBT studies?
A. Oh, I would think just about anybody in the medical department would have been -- Bill Hunt's one I mentioned. My then immediate supervisor, Elmer Wheeler, and perhaps on occasion, even Dr. Kelly.

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Q. Who was Dr. Kelly?
A. Dr. Kelly was the medical director when I came here -- or I came Monsanto.
Q. Who was Elmer Wheeler?
A. Elmer Wheeler was -- My understanding of him was that he was more of an industrial hygienist, but he was the senior person -- the senior nonmedical person in the medical department.
MR. ATKIN: Okay. I'm going to just mark this as an exhibit. We're going to mark this as an exhibit. This is going to be Levinskas' One for identification. This is a two-page document. It's a letter dated March 4th, 1970. The front is dated March 4th, 1970. Page two is dated March 5th, 1970.
MR. DAVIDSON: I guess he

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wrote it on the second day.
MR. ATKIN: I guess he wrote the first page on the first day and the second page on the second one.
MR. STEWART: There's y'all a copy of it.
MR. ATKIN: And it's signed by Mr. Wheeler. And it's addressed to Dr. Calandra.
(Levinskas' Exhibit Number One was marked for identification.)
MR. ATKIN: I'm going to go off the record for a second.
(Discussion held off the record.)
Q. Okay. You've had a chance to review this letter?
A. Yes, I have.
Q. Okay. Dr. Fancher and William Papageorge are listed as CCs on this

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letter, correct?
That's correct.
Okay. Who was Mr. Papageorge?
Well, Bill Papageorge is a technical man. First, I would like to note that the memo is dated March 4, 1970, which is more than a year before I joined the company.
But in the third paragraph, it says: William Papageorge in our Organic Division has been given a full-time assignment of coordination -- coordinating all of the efforts on the PCB problem.
That's my understanding -- that Bill Papageorge was a focal point to keep tabs on what we were doing with PCBs, and he's from the organic division of the company at that time, not from the medical department.
Okay. Have you ever seen this letter before?
No, I have not.

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Okay. Now, item one on this letter discusses a proposal for repeating fish toxicity studies that were done by IBT from Monsanto, correct?
Correct. That's what it says.
Do you know why Monsanto was asking IBT in March, 1970 to repeat fish toxicity studies from Monsanto?
I would have no idea what he had in mind.
Okay. Do you know what the results were of any fish toxicity studies that were done for Monsanto by IBT?
I do not recall specific results.
Okay. Do you know what fish were studied?
At this time, the fish that were being used were probably bluegills and trout.
Okay.
But I don't know specifically whether that's what they were using, and that was fairly common in many laboratories.
Okay. You can just put that aside for

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a second. I'm not done with it, but you can just put it aside.
MR. STEWART: Have you marked that for --
MR. COX: Yes.
MR. ATKIN: Oh, yeah. I thought we did, yeah.
MR. COX: She did.
MR. STEWART: Okay.
MR. ATKIN: What is that? Is that an "L"?
THE COURT REPORTER: It's a "V". What is his last name?
MR. ATKIN: A "V" for --
THE COURT REPORTER: I got the "V" out of the middle, I guess. Let me change that to an "L".
MR. ATKIN: "V" for victory. All right. Let's put that aside for a second. Let's mark this for

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identification as Exhibit Two to your deposition. This is a one-page letter. This is one-page letter dated April - a memorandum dated April 29th, 1970; subject, Aroclors - Three Generation Rat Reproduction and Fish Toxicity; to R. E. Kelly, M. D./E. P. Wheeler; from William H. Hunt, Ph.D., bearing Bate's Number FGL 0904145.
(Levinskas' Exhibit Number Two was marked for identification.)
Q. And I'd ask you to take a look at that, if you could.
MR. DAVIDSON: I don't have a copy.
MR. ATKIN: Oh, I'm sorry. Okay.
(Discussion held off the

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record.)

You've had a chance to review that now?

Yes, I have.

Q. Who was Dr. Hunt?

A. I just made reference to him earlier -- that Bill Hunt who would -- I said was keeping tabs on some studies being done at IBT for Monsanto.

Q. Was he your boss?

A. No. He was in an area adjacent to mine, but he and I were not in the same area. He was doing toxicity testing, and I was focusing on environmental assessments of new products and new uses of existing products.

Q. Okay. Now, the third paragraph here discusses fish toxicity studies?

A. Yes.

Q. And it says: Regarding the fish toxicity studies, catfish and bluegills, the time schedule will be two to three weeks behind because doses which were believed to be okay produced

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a hundred percent kill.

Do you see that?

A. I do.

Q. Okay. Do you know if these studies that are referenced here are the studies -- are the repeat studies that were referred to in Exhibit One?

MR. DAVIDSON: Objection.

A. I would have no basis for making the association or nonassociation.

Q. Okay. Now, do you know what Dr. Hunt was referring to when he said -- when he discussed the time schedule for the studies?

MR. DAVIDSON: Objection.

A. I do not know what he had in mind when he wrote this memo.

Q. Do you know what doses were believed to be okay -- that were believed to be okay produced a hundred percent kill?

MR. DAVIDSON: Objection.

A. I do not know what doses were used, and I don't know which doses -- You know,

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I don't know how they picked their doses. I don't know which doses were used, and I have no basis for commenting on the doses which, quote, they believed to be okay.

Q. Okay. The next -- The next sentence says: At levels of one to ten parts per million for both 1242 and 1254, for fifty fish per level, all died.

Did you ever hear about this study?

A. I don't -- I don't recall this study at all. Whether I ever heard about it or not, I don't know, but I don't recall anything about it. And I can't recall this.

Q. So you don't know how long the fish were -- were fed one to ten parts per million of Aroclor 1242 and 1254?

A. I have no idea how they ran that study, and I have no idea what the results are.

Q. Do you know if Monsanto reached any

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conclusions as to the toxicity of PCBs to fish as a result of that study?

A. I don't recall ever hearing any comments about what Monsanto considered the safety for fishing.

Q. Okay. At any point in time?

A. That's correct. I really don't recall at any time.

Q. Okay. Do you know if Monsanto ever discussed the results of these studies that are referenced here or any other fish toxicity studies with the residents of Anniston, Alabama?

MR. DAVIDSON: Objection.

A. I would have no idea whether they were or were not.

Q. Okay. Do you know if Monsanto ever discussed the results of these studies with the Alabama Water Improvement Commission?

A. Same answer. I would have no basis for knowing whether they did or did not.

Q. Okay. How about the Alabama

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Conservation Department?
Again, I would not know whether they did or did not.
Okay. Do you know if there were any subsequent fish toxicity studies conducted by IBT for Monsanto, subsequent to the ones that are referenced here in this April 29th, 1970 memorandum?
I do not know the sequence of -- of Monsanto's fish testing studies with PCBs. I don't know whether these were the last or the first studies or any sequence on them.
Okay. Do you know if Monsanto ever contracted with anyone else to do fish toxicity testing for PCBs, other than IBT?
I do not know.
Okay. Have you ever been to Anniston, Alabama?
Never.
Do you know if Monsanto did PCB

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toxicity testing on the fish in the bodies of water in and near Anniston, Alabama?
I do not know what they did with respect to that in Anniston or anywhere else.
Okay. And you don't know -- Is it true that you -- Is it also true that you do not know whether Monsanto ever disclosed the results on any testing that was done on fish in the bodies of water near Anniston, Alabama?
MR. DAVIDSON: Objection.
I have no knowledge of such.
Okay. Did you ever have any discussions with Dr. Kelly, Dr. Wheeler, or Dr. Hunt regarding the fish toxicity studies that were done by IBT?
Not that I can recall.
Okay. Let's go back, if we could. We're done with that document. Let's go back to the first one for a second. And I'd like you to take a look at

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paragraph two, Roman numeral two.
A. I don't see a Roman numeral.
Q. I'm sorry. You're right. Number two.
A. Okay.
Q. Okay. In that paragraph, Dr. Wheeler says that he would like Dr. Calandra's and Dr. Fancher's views of the significance of the toxicity data developed to date on the three Aroclors in the rats, dogs, and chickens.
Do you know whether or not that topic, the toxicity data on the rats, dogs, and chickens that had been developed by IBT to that point was discussed between Dr. Wheeler and Dr. Calandra --
MR. DAVIDSON: Objection.
Q. -- in or about that time?
A. I would have no basis for commenting on it. I don't know.
Q. Okay. Now, in that second sentence of that number, it says, in quotes, I think we are surprised, in parentheses,

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and disappointed, question mark, close paren, at the apparent toxicity at the levels studied.
Did you ever have any discussions with Dr. Wheeler or anyone else at Monsanto -- Dr. Hunt or anybody else -- about the fact that Monsanto was surprised and disappointed at the apparent toxicity of PCBs at the levels studied?
A. I have never had a discussion with them about what they were surprised at or what their disappointment was. I have no idea what he means by that.
Q. Okay. I'm done with that.
MR. ATKIN: I'm going to let you mark for identification to your exhibit Levinskas' Three, a document bearing Bate's Number DSW 034710, dated May 25, 1970, from Elmer Wheeler to Otis Fancher.

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(Levinskas' Exhibit Number Three was marked for identification.)
(Discussion held off the record.)

Okay. Have you ever seen this letter before?
I do not recall seeing it before.
Okay. This refers to a study done on PCB toxicity on leghorn chickens, correct?
Yes.
Okay. And it discusses duplicating a study done previously but changing the levels of parts per million in the diet of two, four, and eight parts per million Aroclor 1242, correct?
That's what it says, yes.
Okay. Do you know what the results were of the prior -- prior leghorn chicken studies that were now being duplicated?
My general recollection of the chicken

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studies is that -- that they were in -- As in all testing, you're looking for a level that produces no discernible effect and some higher level that produces an effect. And my general recollection is that one of the studies, I think, showed -- And they used two levels, I think, in the initial study. And that one of the compounds or one of the materials showed an effect lower -- at a lower level than the others, and they wanted to re-define that level to get a better delineation of the number. And so they did some additional studies. It may well have been the 12 --
42?
-- 42 study referred to here. I don't recall. But my general recollection is that the results in one of them showed that the effects were a little more stringent, a little more severe than anticipated, and they needed a little

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additional work to try to re-define that level more closely.
Q. Okay. Do you know why -- Is that why the study was being duplicated?
A. I'll go back and say this memo predates my time with Monsanto. I'm just looking --
Q. Right.
A. -- retrospectively at the studies that were -- the reports that were available. And my comments are based on a retrospective review of the reports, so I wouldn't know what he's referring to here in this memo or the motivation for it.
Q. Okay. Do you know anything about the levels of Aroclor 1242 and parts per million were in the first study?
A. I do not recall.
Q. Do you know what the results were of this study, the one that's being referred to here?
A. Other than the generalization I just

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gave you, I do not have a specific recollection of this study.
Q. Okay. Now, in the last sentence of the second paragraph, Dr. Wheeler says in quotes, we would hope that we would -- that we might find a higher, in quotes, no-effect, ends quotes, level with this sample as compared to the previous work.
What does the no-effect level mean.
A. I just made reference to that earlier. The purpose of toxicity testing in animals is -- is to try to define the -- the highest dose which can be tolerated by the animals without producing an effect. That's the no effect level. And more recently, they have referred to that as a NOEL, no observed effect level, because there may be things that you measured that could be effected. So they changed the terminology.

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And the other hand is to get a somewhat higher level that would produce an observable effect so you have some indication of what goes wrong on exposure and to what extent it goes wrong.

Q. Okay. Do you know whether the second study that was done resulted in a higher no-effect level compared to the previus study?

A. I have a little difficulty with that question. Could you repeat the question?

Q. Sure.

A. My mindset's different. I -- I'd have to really think on it.

Q. Sure. Dr. Wheeler here says that he would hope -- we would hope that we might find a higher no-effect level with this sample as compared to the previous work.

And I would like to know is: Do you know whether, in fact, this study

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-- this second study resulted in a higher no-effect level compared to the previous study?

A. I -- My general recollection of the study would be that it did not, and I would base it on the fact that my recollection is that one of the materials produced a higher effect level, and if they're using -- They're probably using lower levels to determine that -- well, the effect level. And so I -- I -- The statement about the no-effect level, I -- I have difficulty with that.

Q. With Dr. Wheeler's statement?

A. I think the phrasing was -- If I have a level that's not produced an effect in animals, I don't see why I would want to go back and feed more of it to see if I could get more in the animal. When he's talking about more, like the two, four, and eight, he keeps coming down in levels. So -- I -- That's just

55

confuse -- I don't understand this.

Q. Okay. Do you know what the results were of this second study?

A. Well, I just -- I just got through saying twice, at least, earlier is that my recollection is: One of the studies where they observed some effects, and they wanted to get a closer range on where those effects end, so they came down in levels. And my recollection is they come down in levels, so I don't see how you can say you're going up in safety levels when you're coming down in ranges.

Q. What do you mean they came down in levels? What do you mean? Do you mean the levels of Aroclor that were being fed to --

A. The first time they did the studies, they had two -- two or three levels in the rats. And they saw effects in one of the chicken studies that they were sort of surprised at, so they decided

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to lower the dosages. That's coming down in levels.

Q. Okay. I'm talking about the results now. What did they find when they did this study the second time?

A. I -- I've made reference to this two or three times. Only in very general terms can I say my recollection is that one of the chicken studies they repeated at some lower doses because they saw -- They did the same levels in all three studies. And one of them showed some effects, and so they came down with lower dosages to repeat the study.

Q. What types of effects were shown? Do you know?

A. I -- I -- There are many, but I did not pay that much attention to the chicken studies. I really can't --

Q. Okay. That's okay. Do you recall --

MR. ATKIN: Let's go off for a second.

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(Discussion held off the record.)

You mentioned just two minutes ago that you had some difficulty with what Dr. Wheeler meant by the no-effect level.

What kind of difficulty do you have with that?

A. Well, I've indicated my general recollection of the three chicken studies was that in one of them, they saw some effects that -- At the top levels, there were some levels that were more severe next to the other two or even more severe or different than they'd seen in the other two.

And they went back to repeat it at lower levels to try to define more precisely what was happening in that particular range. And so if they're going down in lower levels in the second repeat study --

Q. Lower levels mean the dosage?

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A. The dosage, the amount they're being feed -- I think, they are fed by --

Q. Right.

A. -- in their feed.

Q. Right.

A. So -- So they're putting less in the feed, and they're redoing it. And so you're working at an effect level, and you're working to define that effect level better or as a no-effect level, which is the lowest level down here that hasn't done anything -- has not particularly changed. And that's why the statement about no effect confuses me.

Q. Did Monsanto ever repeat toxicity testing -- have toxicity testing repeated for the purpose of altering the results?

A. I don't know whether Monsanto ever did. I have never done it. And in my time at Monsanto, I'm not aware that it was ever done.

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Q. Okay. Let's go on to the next document.

MR. ATKIN: I'm going to mark this for identification as Levinskas' Four. This is a three-page document bearing Bate's Number MONS 057146. And it is a progress report for March through August, 1971.

(Levinskas' Exhibit Number Four was marked for identification.)

(Discussion held off the record.)

Q. Okay. Dr. Levinskas, this report was prepared -- reported by Mees, Litschgi, Hinchen, and Tucker, correct?

A. Yes.

Q. Okay. Can you tell us who they were?

A. These were chemists who, as far as I recall, were involved in the PCB area. And they were analytical chemists who

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had the capabilities to analyze PCB products.

Q. Okay. Now, you received a copy of this report, correct?

A. I'm shown as seeing a copy being addressed to Elmer Wheeler, who was my boss at the time, and, slash, me. I might add that I do not specifically recall ever having seen this memo.

Q. Okay. This memo concerns Environmental Analytical Program -- Toxicology Support Studies. Correct?

A. That's the title, yes.

Q. Okay. And it would -- And it discusses the results of a two-year toxicity of PCBs on albino rats, correct?

A. I would qualify it by saying that it is talking about analysis of tissues taken from rats in the two-year chronic toxicity study. It does not talk about the toxicity other than in reference to effects on the liver. But that's in the reference to toxicity studies or

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toxicity in this report.
Okay. When you say effects on the liver, where are you -- What are you referring to?
If you look on the second page, in the second paragraph under the small table that's inserted there --
Right.
Although the observation of gross toxicity effect caused by the ingestion of this -- of the PCB products were few, the data indicated that they occurred, paren, enlarged livers, close paren, when the PCB lipid storage levels were in the range of five hundred to a thousand ppm.
Okay. All right. And the PCBs that were -- that were studied for this tissue analysis were Aroclor 1242, 1254 and 1260, correct?
Those were the ones indicated, yes.
Okay. Were you involved at all in this study?

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No, I was not involved. And as I've indicated, I don't recall having seen this memo, either.
Okay. The third paragraph under summary on the first page says: PCB residues from these Aroclor products were observed in all the tissues, in parentheses, liver, fat, kidney, and muscle at all levels fed, in parens, one, ten, and a hundred parts per million and at each sacrifice interval, in parens, three, twelve, and twenty-four months, close parens, period. The residue levels found in the tissues of the animals fed one, ten, and a hundred parts per million of Aroclor 1254 and ten and one hundred parts per million of Aroclor 1260 continued to build up over the entire two-year duration of the study.
Do you recall any discussions at Monsanto about the results -- about these results?

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A. I do not recall any discussions that I had regarding the results.
Q. Do you recall hearing of any discussions that other people had regarding these results?
MR. DAVIDSON: Objection.
A. I don't recall any discussion of the results of this report.
Q. Okay. On the -- On the second page, the first full paragraph under the numbers, it says: Alteration of the homolog distribution of all products was also observed.
Do you know what that means?
A. I don't know what the writer had intended. I could offer a comment as to what I think it means. But I don't what the writer intended by this.
Q. Can you -- Can you tell me what you think it means?
MR. DAVIDSON: Objection.
THE WITNESS: Do you want me to answer it or not?

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MR. DAVIDSON: Yeah.
A. The PCB products are mixtures of chlorinated biphenyls, and the degree of chlorination and the positions of the chlorines on the molecule -- on the biphenyl all have somewhat different properties -- given them different properties.
So that -- One thing that would come to mind from -- from my general knowledge of this would be that some of the combinations of the biphenyls were probably excreted. They weren't finding -- In other words, if they looked at every kind of polychlorinated biphenyl that would be in the mixture, not every one of those was present in the same proportion or necessarily present in the tissues so that some of these were probably metabolized to some extent by the animal, excreted the animal. So that was -- A pattern would identify the forty-two, fifty-four, and

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sixty. They were not identical with the initial patterns that they fed the animals. That would be my interpretation of it.

Q. Okay. The -- The third sentence, the last sentence in that paragraph states: The dominant PCB homologs found in the residues were in all cases those which have been observed as environmental residues.

Do you know what that means?

MR. DAVIDSON: Objection.

A. For that one, I have even less basis to speculate. I really don't know what he meant by that.

Q. Okay. If we could go back to the first page for a second.

This memorandum in the distribution, which has your name and a whole bunch of other folks, is designated "Confidential."

What did that mean?

MR. DAVIDSON: Objection.

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A. I don't know what Monsanto's definition of confidential was, nor do I understand why it was on this memo.

Q. Do you have any understand -- Did you ever, during the course of your employment at Monsanto, have any understanding as to what the designation of confidential meant on any document?

MR. DAVIDSON: Objection.

A. I have never put -- I don't recall ever putting confidential on any memo I ever wrote at any time except when I was doing Government work at the university. Many companies will mark things that they consider trade secrets, proprietary information, confidential to keep people from outside the company -- on having it viewed by people outside the company in the commercial competitive sense. When they do this -- I don't know what Monsanto's practice would be for the

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use of the confidential stamp.

Q. Okay. Did you ever have an understanding during the course of your employment at Monsan -- or ever ask anyone -- about this designation Confidential, what it means and when you're supposed to use it?

A. I don't recall ever asking. When I see something confidential, my tendency is to send it back to the originator after I've read it. And as I've said, I have never used that designation, to the best of my knowledge, except when we were doing government work.

Q. Okay. Do you know if the toxicology support study results that are referenced here in this progress report were ever shared with anyone outside of Monsanto -- and IBT, obviously?

A. Well, my answer again is similar to what I said before. I have never submitted these results to anybody outside the company. It's my

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understanding, though I can't give specifics, that the information was made available to Government agencies by others in the company.

Q. Okay. Do you know by whom?

A. I guess different people. I think Elmer Wheeler did it at one time before -- before I got here and then after I got here.

Q. Do you know if Mr. Wheeler or anyone else at Monsanto shared this information that's reported on in this study with anyone outside of Monsanto?

A. I have no knowledge of it.

Q. Okay. Do you consider the results that are reported on in this study, these toxicology support studies on PCBs, to be trade secrets?

MR. DAVIDSON: Objection.

A. I would have no basis for making that decision.

Q. Okay. Would you consider that to be proprietary information?

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MR. DAVIDSON: Objection.
I would have no basis deciding that either.
Okay.
MR. ATKIN: Can we take a two-minute break?
MR. DAVIDSON: Sure.
MR. COX: Sure.
(A short break was taken.)
MR. ATKIN: Okay. We're back on the record.
Do you know whether any of the results of the study that we just looked at that were reported on in this progress in March, Aug -- through August, 1971, were shared by Monsanto with any of the regulatory authorities in Alabama?
I do not know that.
Okay. Do you know who would have responsibility for conveying such information, this type of information, to regulatory authorities?

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I have no idea of the nature of the contacts, if any, or who's conducting the contacts.
Okay.
MR. ATKIN: Let's mark this as the next exhibit for identification, Levinskas' Five. This is a report to Monsanto Company, Teratogenic Study With Aroclor 1254 In Albino Rats; September 8th, 1971; IBT number B9351. This bears Bate's Numbers DSW 003849 through DSW 003866.
(Levinskas' Exhibit Number Five was marked for identification.)
THE VIDEOGRAPHER: Should I go off?
(Discussion held off the record.)
Okay. The -- This report's on a study

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that was done by IBT to determine the potential teratogenic effects of Aroclor 1254 in albino rats, correct?
A. That's correct.
Q. Okay. Did you get a copy of this report?
A. I did not receive a copy directly. I don't recall if I've seen it before or not.
Q. Okay. So you don't recall if you ever read it?
A. I could not say for sure that I did or did not.
Q. Okay. Do you know who at Monsanto would have received copies of this report?
A. I'm looking at the date of September, '71. I would assume that the report probably came to Dr. Hunt -- Bill Hunt.
Q. Anybody else?
A. I would -- I would think that all of the reports would have been sent to Dr. Hunt for his distribution within the

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company.
Q. Who would he distribute them to?
A. I would have no idea.
Q. Did you routinely get copies of the IBT reports to Dr. -- that were sent to Dr. Hunt?
A. No, I did not.
Q. Okay.
A. I'll go back to my -- I was at that time, working on new products and new uses of existing products. And PCBs were an existing product, no new uses being planned. They were essentially not in my purview.
Q. Okay. The -- On page four, which is DWS 003852 -- Withdrawn.
What does teratogenicity mean?
A. Teratogenicity is the -- looking for malformations in the fetuses or the young animals that are cast -- born in the course of study.
Q. Okay. Now, page four, DSW 003852, indicates that, in quotes, twelve

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percent of the fetuses examined from females administered thirty milligrams per kilogram had caudal renal ectopia.

Do you know what caudal renal ectopia is?

The only thing that I can say for sure is that renal, of course, refers to the kidney. I do not recall what caudal ectopia is. I would have to go to a dictionary and look those terms up.

Okay.

MR. ATKIN: Let us mark as Levinskas' Six for identification purposes a three-page document bearing Bate's Numbers ADM 003 -- No, no. Let's use a different designation. Bearing a Bate's Number 000082 through 000084. This is a report to Monsanto Company on Two-year Chronic Oral

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Toxicity With Aroclor 1260 in Albino Rats, November 12, 1971.

(Levinskas' Exhibit Number Six was marked for identification.)

(Discussion held off the record.)

MR. DAVIDSON: I would like to interpose an objection to this exhibit as not being a complete copy of the report to which the cover page 000082 applies.

Okay. This report from IBT summarizes a two-year chronic toxicity study that was done by IBT on albino rats that were fed diets containing one, ten, and -- or a hundred parts per million of Aroclor 1260. Correct?

That's correct. This is a summary of that report.

Okay. Do you remember seeing -- Do you

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remember seeing this report?

A. I have read this report in the past. I do not recall specific -- the specifics in great detail.

Q. Okay. Do you recall seeing -- receiving a copy of this report?

A. I said I recall reading the report. I do not recall receiving a copy. When it came in, I did not get it, and I read it at sometime later.

Q. Okay. Do you know who received copies when it came in?

A. I would go back to my earlier question -- or my response that I think if anybody, probably Dr. Hunt received it.

Q. Okay. And -- and -- Would your response be the same as before that you don't know -- that you don't know exactly who Dr. Hunt would have sent it to?

A. No, I would not.

Q. Okay. On the second page, in the last

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paragraph, it begins, in quotes: At the final sacrifice, after twenty-four months on test, the liver weights and liver to body weight or brain weight ratios were significantly elevated from the rats from T-III group.

The T-III is one of the test groups; is that right?

A. That's correct.

Q. Okay. Did Monsanto reach any conclusions regarding the toxicity of Aroclor 1260 as a result of that finding?

MR. DAVIDSON: Objection.

A. I -- I don't know what conclusions Monsanto would have of this -- would have drawn. I would assume that they had accepted the report and that whatever was stated in the report is what Monsanto concluded.

Q. Okay.

A. I don't know if they have drawn a separate conclusion from that.

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Q. Did you draw any of your own conclusions when you read this report -- when you read that specific finding?
A. I don't recall my reaction, but it was sometime after the report was issued that I looked at it, and I would assume that I looked at the summary with the data. And I would probably have concurred with their conclusion.
Q. Okay. But did you reach any conclusions about the toxicity of the Aroclor 1260 when you read this finding about the effects on the liver?
A. It was generally know, and I probably knew this before I came to Monsanto, that chlorinated hydrocarbons in general, attack the liver. And there were published data on PCBs that I was aware of before I came to Monsanto. And so I'm not sure when I drew that conclusion, but it didn't add anything to my knowledge.

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Q. Okay. The next sentence says, and I quote: *Histologic examination of the* livers from the T-III group revealed several animals with vacuolar change.
Do you know what vacuolar change means?
A. Vacuolar change, when they stain the slide, it looks like there's a hole. It's something that doesn't change -- or it's something that hasn't stained, rather, from the -- from the dye that was used. So if you'll go to the -- The next two sentences will, I think, explain that.
It says: The lesion -- the vacuolar change, that is -- is morphologically indicative of fatty degeneration. And so they use a different stain -- as he said, a specific fat stain confirms the presence of fat in these vacuoles. And it's one of the fatty livers and one of the changes that happened from

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chlorinated hydrocarbons.
Q. Okay. The next sentence says, in quotes: Focal hypertrophy and focal hyperplasia were also found in the livers from animals fed Aroclor 1260.
Do you know what focal hypertrophy is?
A. Well, hypertrophy means that there's sort of a swelling or enlargement of the -- of the cells. And focal means that it's spots -- little areas here and there. And that's quite frequently important in animal studies.
Q. Okay. Do you know what focal hyperplasia is?
A. Hyperplasia is -- is an enlargement of the cell size. And again, it's spotty, focal. And again, it's a very frequent finding in tissues.
Q. Okay. Do you know if Monsanto reached any conclusions about the toxicity of Aroclor 1260 as a result of that specific finding?

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A. I would not know what conclusions Monsanto had drawn, but I would say again, as I said from my part, I -- It's general knowledge, or I would think it's quite general knowledge, in the toxicology industrial engineering area that chlorinated hydrocarbons attack the liver, and one of the changes are fatty changes in the liver. And so I'm not sure that you would draw a -- I wouldn't draw any specific conclusion there. That's consistent with what I would expect.
Q. Okay. That's all I have on this.
MR. ATKIN: Okay. We're up to Levinskas' Seven for identification. Okay. This is a four-page document, Report to IBT Research -- It says: Report to IBT Research -- I presume it's supposed to say Monsanto -- Toxicity

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and Reproduction Study With Aroclor 1242 in White Leghorn Chickens; June 7th 1973; IBT number J1291, bearing Bate's Numbers DSW 036367 through 036370. This is an introduction and a summary of the report.

(Levinskas' Exhibit Number Seven was marked for identification.)

MR. DAVIDSON: I would enter -- note the same objection as to the completeness of the document.

MR. ATKIN: All right. And I will note, also, the second page of this exhibit is a cover letter to Mr. Wheeler of Monsanto from Dr. Calandra stating that we are submitting herewith

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our laboratory report, dated June 7th, 1973, prepared in connection with the above study.

(Discussion held off the record.)

Q. Okay. Have you had a chance to look at this document?

A. Yes.

Q. Okay. This is a report on the toxicity and reproduction in white leghorn chickens of Aroclor 1252, correct -- 1242. I'm sorry.

A. It's a summary page from that report, yes.

Q. Okay. In the summary on page DSW 036370, page two of the report, under the -- that's the heading called: "A. Toxicity Phase." It says, and I quote: A slight increase in the number defective eggs and a severe decrease in the hatchability of eggs were recorded for the group fed ten parts per

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million, period, end quote.

Do you recall getting a copy of this report?

A. My response would be same as the others. I -- I did, at one time, see this report. I did not see it -- I'm quite sure I did not see it when it first came into the company. I do not have a very good recollection of it, but I did see it.

Q. Okay. Do you recall ever discussing the results of -- that particular result that I just read with anyone else from Monsanto?

A. I do not recall doing so.

Q. Okay. Do you know if Monsanto reached any conclusions regarding the toxicity of Aroclor 1242 as a result of that -- that particular finding?

A. I don't know what conclusions they would have drawn or what they decided.

Q. Okay. Did you draw any personal conclusions?

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A. I just accept it as information. I really don't draw a conclusion from it.

Q. Okay. I'm done with that.

MR. ATKIN: Let us mark as Levinskas' Eight for identification purposes a four-page document. It's a report to -- It's headed -- The first page is headed: Report to Monsanto Company; Two-year Chronic Oral Toxicity Study with Aroclor 1260 in Albino Rats; Histopathological Evaluation of Additional Liver Sections; dated March 24, 1975; IBT number 641-06672. This document, if I haven't said it already, bears Bate's Numbers DSW 036626 through DSW 036629.

MR. DAVIDSON: I'll interpose

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an objection as to the completeness of the document.

(Levinskas' Exhibit Number Eight was marked for identification.)

THE VIDEOGRAPHER: We're off.

(Discussion held off the record.)

MR. STEWART: Before he goes ahead with this, gentlemen, I want to make sure on the record as we present these, we're offering them in evidence --

MR. DAVIDSON: It is noted.

MR. STEWART: -- unless there's some specific objection similar to what you made a minute ago. And the same rule applies for -- He's not formally offering them, but he's offering

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them as a part of the record yesterday with Benignus and a part of the record here today. Is that all right with y'all?

MR. COX: Yeah, except for our objections.

MR. DAVIDSON: Yeah, except for the objections that I made.

MR. STEWART: I just wanted to clear that up.

(Levinskas' Exhibits Numbers One through Eight were offered into evidence and attached as exhibits hereto.)

MR. ATKIN: Let me just say, also. I brought the summaries of these reports. I know that some of the reports had data that came along afterwards, charts

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and things like that, but I only -- And we have the complete documents. The complete documents to the best of our understanding were produced to us, but I only brought the summaries to discuss with the witness.

THE COURT REPORTER: Is this on the record?

MR. STEWART: Yes.

MR. ATKIN: Yes.

MR. DAVIDSON: The basis -- The reason for my objection is that in case there is something in the part that you did not include that would elucidate what the witness had to say or clarify or he needs to refer to, it's not there for him to do so.

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MR. ATKIN: Okay.

MR. DAVIDSON: I was just trying to make that clear.

MR. ATKIN: Okay. That's fine.

THE VIDEOGRAPHER: Are you guys ready?

MR. ATKIN: Yep.

Q. The second page of this document reflects that Dr. Calandra was submitting this laboratory report to you; is that correct?

MR. DAVIDSON: Excuse me, Jack.

MR. ATKIN: Oh, sure.

MR. DAVIDSON: I can't remember whether I interposed my objection as to the completeness of this, as well.

MR. ATKIN: Oh, okay.

MR. DAVIDSON: I would like to do that on the record.

MR. ATKIN: Certainly.

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Dr. Levinskas, this -- this document, the page two reflects -- The cover letter reflects that the report was being submitted to you, correct?
That's correct.
Okay. Do you recall receiving this report?
It would have come in to my secretary, and unless there was a reason not to, she would probably have put it in my reading file, and so I would have to assume that I did see when it came in or shortly thereafter.
Okay. Now, the report -- The report itself begins on page DSW 036628. In quotes: Introduction. At the request of Dr. Levinskas of the Monsanto Company, additional sections of liver from a two-year chronic oral toxicity study of Aroclor 1260 in rats, in parens, IBT number 622 dash 07298, close parens, were processed into H and E stained sections and evaluated by

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light microscopy. The following report presents the results of this study.
Dr. Levinskas, do you recall why you asked IBT to look at additional sections of the liver from a study that had been done previously?
Yes. The -- We discussed earlier there, there was lifetime feeding, two-year feeding studies done on three of the Aroclors, 1242, 1254, 1260. In each of those, the conclusion was that there was nothing remarkable, except for some of the liver changes, but there were no tumors that they highlighted. Some time later, Dr. Renata Kimbrough from the Centers for Disease Control came to Monsanto and informed Monsanto that she had conducted a two-year feeding study in female rats and that she had seen liver cancers.
That information was inconsistent with the information we had on the IBT

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studies, and so we took several measures to resolve or understand the difference in the two findings.
As a lifetime feeding study, the practice at that time in laboratories was to take a represented number of samples, perhaps ten animals out of the group of fifty, and to look at those tissues in gross microscopically. If they did not see anything of significance, they would not look at the tissues from the other animals, but the tissues from the other animals would have been preserved in formaldehyde at the time of their death -- autopsies. So in an attempt to get a better -- quick verification, if you will, or attempt to understand better, the earlier IBT results in Kimbrough's, we asked IBT if they would go back and take all those other livers that they have not examined microscopically and look at them to see

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if there could have been the tumors in there -- or cancers in there, specifically, that been overlooked or somehow ignored.
And this is the result, or report, of the review -- I should say, re -- This is a report of having looked at all of the available livers from those animals, which would have included probably new sections or fresh sections of the ones they looked at in the previous report.
Q. Okay. The summary, which is on the next page, DSW 036629. The conclusion is, in quotes: In conclusion, Aroclor 1260 appears to be slightly tumorigenic at levels of one hundred parts per million when fed continuously in a diet for two years. Correct?
A. That's what the report says, yes.
Q. Okay. And Monsanto asked IBT subsequent to getting this report to change the words "slightly tumorigenic"

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to noncarcinogenic. Right?
We have this report, and subsequently, I was given another version, draft -- maybe this could be considered graft, I guess -- but another version of the same report, which contained the statement "does not appear to be carcinogenic."
And since IBT had changed the terminology in two or three reports from "slightly tumorigenic" to "does not appear to be carcinogenic," I asked them if they would be consistent and make a summary change in all the reports because the issue we're talking specifically of at this time was carcinogenicity.
Q. Okay. But you personally asked them to change the language from "slightly tumorigenic" to "noncarcinogenic," correct?
A. If I recall correctly, what I said to them was: You have made the change in

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two out of three times. The change is preferable. And I said something, like, may I request that you consider your review or something, make the change to third one. So to that extent, yes I did make that request with them.
Q. Okay. When you say two out of three times, what are you referring to?
A. We're talking about three two-year rat studies on 1242, 1254, 1260. The second version of the reports that I was presented with used two of three times on the second version. And then, IBT had inserted -- had replaced the language of tumorigenicity with "does not appear to be carcinogenic."
Q. Did IBT do that at your request?
They did not do it at my request. I did not make request of them until after I had seen the changes they had made.
Q. Did they -- Did anyone else at Monsanto

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ask them to change the two -- in the two other studies where the reports were changed from "slightly tumorigenic" to "noncarcinogenic"?
A. First off, let me make one thing clear. The original two-year rat studies are -- have never been altered, as far as I know. In the original two-year rat studies, the conclusions were drawn Those stayed unchanged. We're talking now only about the additional liver sections.
I have never made the request of them. I am not aware that anybody else has made that request of them. In sofar as I can know, the change was initiated by IBT, and it was my purpose in writing to them to say: You have changed your mind in two out of three cases. Why don't you go the whole way and change to be consistent since the findings in all three studies are quite similar?

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Q. Okay. When IBT made these changes on -- on the studies, they did so months after the original reports were submitted to Monsanto, didn't they?
A. No.
MR. DAVIDSON: Objection.
A. What I -- whether I -- That's why I made the earlier comment. I'll go back to it.
In this report, which says in the title on the first page of the exhibit -- It says: Two-year Chronic Oral Toxicity Study with Aroclor 1260 in albino rats. Underneath it, it's "Histopathological Evaluation of Additional Liver Sections." So we're talking now only about this additional report with the additional work done on additional livers.
Q. Okay.
A. We have not gone back and said -- asked them to do anything or done anything with the original reports that were

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submitted three years earlier.
The additional reports that were submitted, such as this: Subsequently, the language was changed from "appears to be slightly tumorigenic" to "noncarcinogenic," correct?
I believe they did accept my recommendation, yes.
And when they did that, they did so months after the original findings, this original report was submitted to you; isn't that right?
No, no.
The best of your recollection is that --
To the best of my recollection, I think both of the reports unfortunately bear the same date, March 24, 1975. But they were done within a relatively short time of each other. This was not months later or years later or anything of that sort.
Just put that aside for now.

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MR. ATKIN: Let's just mark this for identification as --
MR. Cox: Nine.
MR. ATKIN: -- Levinskas' Nine -- thank you -- bearing Bate's Numbers DSW 004225 through 004228. It's a report to Monsanto Company, Two-year Chronic Oral Toxicity Study With Aroclor 1260 in Albino Rats; Histopathological Evaluation of Additional Liver Sections; March 24th, 1975.
(Levinskas' Exhibit Number Nine was marked for identification.)
THE VIDEOGRAPHER: We're off.
(Discussion held off the record.)
MR. ATKIN: Levinskas' Nine is being withdrawn as a -- as

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an exhibit. Levinskas Ten is a document bearing DSW 004225 through 004228; Report to Monsanto Company; Two-year Chronic Oral Chronic Oral Toxicity Study With Aroclor 1260 in Albino Rats; Histopathological Evaluation of Additional Liver Sections; March 24th, 1975; IBT number 641-06672.
MR. COX: That is identical to Nine.
MR. STEWART: Well, I didn't think it was.
MR. ATKIN: No, because the one you have -- What's the Bate's Number you have there?
MR. COX: 4225 to 4228.
MR. STEWART: There's one I handed you that's the same as the one -- I believe

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there were some signatures on the back page.
MR. COX: One signature.
THE COURT REPORTER: Do y'all want to me to go off for just a minute?
MR. ATKIN: Yeah, go off for a second.
(Discussion held off the record.)
MR. ATKIN: Okay. After a bit of -- There seems to have been a bit of confusion as to Levinskas' Nine, which was withdrawn. Levinskas' Nine was -- was the correct exhibit, and it is now being reoffered into evidence and is being shown to the -- to the witness.
MR. DAVIDSON: If you're going to enter it again, I am going to interpose an

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objection as to the completeness of the report referred to in the first page.

MR. COX: And for the record, Levinskas' Nine is Bate's Number DSW 004225 through 004228.

(Levinskas' Exhibit Number Nine was marked, offered, and attached as an exhibit hereto.)

MR. ATKIN: Yes, thank you.

THE VIDEOGRAPHER: Okay. I'm off again.

(Discussion held off the record.)

Q. Okay. This is the report that was reissued by IBT after you requested that they change the language from "slightly tumorigenic" to "noncarcinogenic." Is that right?

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MR. DAVIDSON: Objection.

A. This is the report they issued in response to my request for them to be consistent in the phrasing of findings -- phrase -- of their findings.

Q. Okay.

A. And -- And as a result of which I requested that they make this report similar to the other two, and this is what they did.

Q. Okay. And that's what they did on page two, right, in the summary in where it says: In conclusion, Aroclor 1260 does not appear to be carcinogenic in rats fed for two years at levels up to and including a hundred parts per million. Correct?

That's correct.

Q. Okay. On that same page -- No, on the next page, DSW 004227, Dr. Richter stated: There is evidence of a chemical effect on the liver which was

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most evident at the time of the 12-Month and terminal 24-Month sacrifices. This consists of a hepatocellular alteration beginning as focal hypertrophy which progresses to nodular hyperplasia, and in a few animals to hepatoma or cholangiohepatoma.

What is hepatocellular alteration?

A. An organic change in the liver cells -- hepato, the liver. And cellular is any change in liver cell.

Q. Did Monsanto reach any conclusions about the toxicity of Aroclor 1260 as a result of that finding?

A. I think the -- The summary of the report on the second page says: In most instances, the spectrum of treatment-related histopathological findings in the liver from this re-evaluation did not differ significantly from that previously

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reported in our original report dated November 12, 1971.

And I would say that that would be my reaction, that they found basically the same -- reported basically the same thing they reported earlier.

Q. I understand. But I'm asking you specifically about the finding of chemical effects on the liver and hepatocellular alteration of the liver. And I'm asking you whether Monsanto reached any conclusions as a result of that finding regarding the toxicity of Aroclor 1260.

A. I think I said the findings in this additional review -- additional liver sections was similar to the initial findings. So we would have not made any different conclusions. I don't see why anybody would draw any different conclusions.

Q. Did you draw any conclusions at all

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when you received the original report -- Did Monsanto draw any conclusions regarding the toxicity of Aroclor 1260 when it received a finding that there was hepatocellular alteration and a chemical effect on the liver?

MR. DAVIDSON: Objection. Multiple question. I think it's asked and answered.

Q. I don't think you've given an answer to that question.

A. I think I said before that I -- I really don't know conclusions Monsanto made. It was well-known that chlorinated hydrocarbons produced liver changes. We did talk about liver changes, and you asked me some specific questions about liver changes in the IBT studies? So that we have another repetition of what they said. These things affect the liver in high enough

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doses.

Now, I don't see that they would draw any different conclusions than what were drawn earlier.

Q. Okay. What is a hepatoma?

A. A hepatoma is a benign tumor. A hepatoma is a tumor which pathologists consider the benign tumor. It is not carcinogenic.

Q. Okay. What is a cholangiohepatoma?

A. The cholangio involves the bile ducts, and so it would be a -- A hepatoma would be of liver origin, benign tumor in the bile duct, as I recall.

Q. Can a -- Can a hepatoma lead to improper function of the liver?

A. I would suspect it could.

Q. And could a cholangiohepatoma lead to problems with the liver?

A. I suspect it could.

Q. Okay. And just so the record's clear, IBT also changed the conclusions -- With respect to the Aroclor 1254 and

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the 1242 studies, they changed the language from "slightly tumorigenic" to "noncarcinogenic." Isn't that right?

A. I -- I dont' recall the three studies. There were three studies. In two of the three instances, IBT, insofar as I know, made the change at their initiative from "slightly tumorigenic" to "does not appear to be carcinogenic."

And my request was that they changed the third one to be consistent with the other two. Basically, I was saying that if you have reached the conclusion in two out of three cases; the findings are similar in all three cases, why not be consistent and use the same language because this was after Dr. Kimbrough raised the issue the issue of carcinogenicity, and it's a more specific addressing of that subject.

Q. Okay. Do you know why IBT decided to

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make those changes at their -- at its own initiative?

A. I have no idea.

MR. ATKIN: Okay. Let's -- That's Levinskas' --

MR. COX: Ten.

MR. ATKIN: Thank you. Let us mark as Levinskas' Ten for identification a three-page document bearing Bate's Number 100737 through 100739. It's a letter from Dr. Levinskas to Dr. Calandra, dated July 18th, 1975.

(Levinskas' Exhibit Number Ten was marked, offered, and attached as an exhibit hereto.)

(A break was taken.)

Q. I would just like to -- For identification purposes, I would just

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like to have it confirmed. Is this the letter in which you asked IBT to change the previous conclusion of "slightly tumorigenic" to "does not appear to be carcinotic"?

A. This is a copy of a letter I sent to IBT in which I summarized my review of the two sets of the reports I had. And one of the statements in it was the -- It stated the conclusion of "slightly tumorigenic" to "does not appear to be carcinogenic." And so I asked them if they would do it in the third case so that all three were consistent.

Q. Okay.

A. Yes.

Q. And when we took a took a break, just before, you had a chance -- You were conferring with Monsanto's attorney about this document, weren't you?

A. He made a comment on it, yes.

Q. Okay. Did Dr. Calandra have any discussions with you about your

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request?

A. I think that they did issue the reports with the -- the report with the change from "slightly tumorigenic" to "carcinogenic."

Q. I know that, but did you have any discussions with Dr. Calandra --

A. I do not recall a face-to-face or telephone conversation with him about it. I do not recall such.

Q. Okay. Do you recall having discussions with anyone else at IBT other than Dr. Calandra about your request?

A. No, I did not discuss it with anybody else at IBT.

Q. Okay. Did IBT ever refuse to adopt any changes that Monsanto proposed to any toxicity reports?

I cannot speak for the generalities of all of Monsanto. I can say that I do not think it was unusual on my part or on the part of others. I don't believe that a contract laboratory is the

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repository of all knowledge in that when we look at things, we have the right to question or to raise questions about what they're doing.

Q. Okay. I'm going to move to strike as nonresponsive and ask you again: To your knowledge, did anyone at -- Did IBT ever refuse to adopt any changes that were proposed by Monsanto to any toxicity reports?

A. I do not know that Monsanto has made requests for changes, and I do not know that -- whether they ever refused to make them.

Q. Okay. Well, you do know of the change that you requested.

A. I feel that I was not asking them to change the report. I was asking them to be consistent in the reporting of their findings.

Q. Okay.

A. And I think that's pointed out by the last page, which shows that the two

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versions of the reports have "slightly tumorigenic" in three cases and "It does not appear to be carcinogenic" in two of the other three.

And I might -- We talked earlier about the exhibit was about 1260, and I said I thought one of the three.

Q. All right. You've --

A. It was 1254 that the statement was changed. So that was with respect to 1260. That was the exhibit. There was no change. IBT made that change.

Q. Okay. You're referring to the third page --

A. Yes.

Q. -- of this exhibit. And that reflects that in Aroclor 1260, Aroclor 1254, and Aroclor 1240 -- 1242, Supplemental Report Number One received from IBT, for each of those Aroclors reflected "slightly tumorigenic." And Supplemental Report Number Two, delivered by J. C. C. -- Is that Dr.

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Calandra?
A. The Supplemental Report and Supplemental Report Two in my -- The way I identified these when I was reading the comparison of the two of them. And I had two sets of reports that I had, and I was asked to compare them.
Q. Okay.
A. And I was reporting what I saw when I reviewed those two reports.
Q. All right. And what you saw when you read those reports?
A. I saw that in two instances, IBT had changed the phrasing of "slightly tumorigenic" to "It does not appear to be -- does not appear carcinogenic." And they had made that change in two out of three. And I said: Since the results are similar in all three, why don't you be consistent and change the third one. And I did say that that wording "does not appear carcinogenic"

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is preferable because we're talking about the carcinogenicity of the compounds.
Q. The language in all three was changed by IBT from "slightly tumorigenic" to "does not appear carcinogenic." Is that correct?
MR. DAVIDSON: I'll object to that.
A. Let me put this kind of in a -- Insofar as I know, IBT changed that terminology in two out of three instances. I don't know what provoked the change, and I don't know anything about.
Q. But --
A. My request to them was: Since you have already made the change in two out of three instances, I am asking if you would -- And I think I say here: May we request -- I'm the writer -- May we request that 1254 report be amended to say that it does not appear to be carcinogenic? I'm asking them: Since

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you've done it in two instances, I'm asking you to make that third change.
Q. Sure. I understand that. But what I'm trying to get at is that ultimately in all three reports, the language, "slightly tumorigenic --" The language which initially appeared as "slightly tumorigenic" subsequently became "does not appear carcinogenic."
MR. DAVIDSON: Well, let me object to that. And you are mischaracterizing what he's been telling you and what the document says. Why don't you ask him: Did they comply with the request you made in this letter?
MR. ATKIN: Okay. I have -- I have my --
MR. DAVIDSON: And now I'm objecting.
MR. ATKIN: Okay. I got your

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objection.
Q. You can answer.
A. Well, I've said, insofar as I know, IBT made that change in two out of three instances. I asked them to make one change in the third one to make all three studies consistent.
Q. So that in all three studies, ultimately -- The language was changed in all three studies by IBT from "slightly tumorigenic" to "does not appear to be carcinogenic." Isn't that right?
A. I will accept the fact that IBT made a change in all three studies, but I would qualify it by saying that I requested the change in only one of three studies.
MR. STEWART: That's not --
MR. ATKIN: That's all on this one. Okay. Thank you. Let us mark for identification as

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Levinskas' --
MR. COX: Eleven.
MR. ATKIN: -- Eleven a one-page letter from Dr. Calandra to Dr. Levinskas, dated August 4th, 1975.
(Levinskas' Exhibit Number Eleven was marked, offered, and attached as an exhibit hereto.)
THE VIDEOGRAPHER: Okay. We're off.
MR. ATKIN: Okay.
(Discussion held off the record.)
Q. This is a letter dated August 4th, 1975, that you wrote -- I'm sorry, that Dr. Calandra wrote to you; correct?
A. That's correct.
Q. Do you recall receiving this?
A. Yes, I do.

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Q. Okay. And in this letter, Dr. Calandra states that we will amend our statement in the last paragraph on page two of the Aroclor 1254 report to read, "does not appear to be carcinogenic" in place of "slightly tumorigenic" as requested.
A. That's correct. That's consistent with what I asked them to do, which I've been trying to explain. They changed it in the one report.
Q. Okay. And they put the same dates on the supplemental report that they had on the original report, didn't they?
A. When we say the same date, the dates we're talking about are the reports -- on the reports of dealing with the histological evaluation of additional liver sections. They're not the dates on the original --
Right, right, right.
-- reports. Yes, they have the same date on both reports.
Okay. That's all I have on that one.

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Now, you mentioned earlier about Dr. Kimbrough's findings the results of her toxicity studies of PCBs. And she, in fact, concluded that Aroclor 1260 did cause liver tumors in rats; correct?
A. That's correct.
Q. Who did Dr. Kimbrough work for?
A. At that time, she was with the Centers for Disease Control at Chamblee, Georgia, outside of Atlanta.
Q. Do you know where she is now?
A. She was with the EPA after she left that, and she's now with a -- the name of a consulting group that I can't recall in the Washington area.
Q. Okay. Have you had any contact with Dr. Kimbrough since 1975?
A. Many times.
Q. Okay. When was the last time you had contact with her?
A. I couldn't be precise, but probably a few years before I retired, about the

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late 80s, 1980s.
Q. Did you ever talk to -- Did you ever to talk to her about PCB ligation?
A. Never.
Q. Okay. Now, when Dr. Kimbrough came up with her findings at that time, in or about 1975, Monsanto was very upset about those findings, wasn't it?
A. I don't know what Monsanto's reaction was, but it did not particularly upset me.
Q. Okay. Why is that?
A. Well, she came up with some technical data. I knew Kimbrough for many years before I came to work for Monsanto. I think she's a competent scientist. And my question became: How can I resolve or understand the difference in findings that Kimbrough reported versus the ones that Monsanto found?
Q. Dr. Kimbrough's findings were confirmed by Dr. Squires, who was the head of the Tumor Pathology Branch of the National

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Cancer Institute, correct?

MR. DAVIDSON: Object.

I'm -- I'm not sure he's the head of the National Cancer Institute at that time, but he was a pathologist at the National Cancer Institute. Dr. Squire had proposed a new form -- a nomenclature for defining carcinogens. Using his criteria, he concurred with Kimbrough, and Kimbrough had used his criteria, so I think that there's a -- that's understandable.

Q. Okay. Monsanto asked IBT to examine the lesions that were observed by Dr. Kimbrough and determine if they were carcinogenic, correct?

MR. DAVIDSON: Objection.

A. I made reference earlier to the fact that in an attempt to understand the differences of the findings of the two studies. Among the things that we did in addition to reviewing the sections -- additional sections from

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the IBT studies -- was to take representative samples from the IBT studies and the pathologists from IBT, and they all talked to Dr. Kimbrough and Dr. Squire. And so that -- At that time, the pathologists could look at the slides from both sets of datas and see if they could come up with some understanding or some reason why the findings were different.

Q. Okay. Dr. Richter of IBT confirmed that the lesions that Dr. Kimbrough and Dr. Squires called carcinomas were, in fact, carcinomas, didn't he?

MR. DAVIDSON: Objection.

A. My recollection is that he said if we use their criteria, they aren't carcinogenic. They also agreed that -- I think Squire, Kimbrough, and Richter and Donovan -- or Gordon, Don Gordon -- agreed that the lesions seen in the IBT studies were more advanced, more severe than the -- I'm sorry -- Kimbrough's

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studies that lesions were more advanced and more severe than IBT's and that Kimbrough had only done her study in female rats. And so we were trying to see whether it could be a sex difference or what the differences could be between the two sets of data.

Q. Okay. The -- When Dr. Richter confirmed that the lesions seen by Dr. Kimbrough were, in fact, carcinomas, he said that they were carcinomas according to IBT's criteria too, didn't he?

A. I don't recall that he said that specifically.

MR. ATKIN: Okay. Let's mark this as an exhibit, L-Twelve for identification.

MR. STEWART: Have you got this?

MR. ATKIN: Yeah -- No, bring that back. This is a one-,

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two-, three-, four-, five-, six-page document bearing Bate's Number DWS 034839 through DSW 034844.

MR. COX: She needs to mark it. Did you mark it for her, Donald?

MR. STEWART: Yes.

(Levinskas' Exhibit Number Twelve was marked, offered, and attached as an exhibit hereto.)

THE VIDEOGRAPHER: We're off.

MR. STEWART: I would point out something. It's twenty to twelve. And we're going to finish this document, and y'all can check out. Why don't we finish this document and break for lunch?

(Discussion held off the

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record.)

Q. Okay. On the second page of this document, under number five, toward the end of the page, it says: However -- In quotes: However, the lesions in Dr. Kimbrough's study were more severe than those in the Bio-Test study. The lesions that she and Dr. Squire are calling carcinomas are also carcinomas by my criteria.

A. I see that.

Q. Okay. Does that refresh your recollection as to whether or not Dr. Richter's confirmation that Dr. Kimbrough's -- that the lesions seen by Dr. Kimbrough were carcinogenic -- were also carcinogenic according to the IBT criteria?

A. I'd to make two comments. I think that the earlier question was: Did Dr. Squire agree with Dr. Kimbrough -- the evaluation on the earlier question --

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Q. Yeah, I know --

A. And so I made the comment back forth that since they were both using Squire's terminology, they were in agreement. I take it now this is another question -- is: Did Dr. Squire --

Q. No.

A. I don't --

Q. No, actually, I'm asking you about Dr. Richter?

A. I'm sorry. Did Dr. Richter agree that there were carcinogens or cancers in the Kimbrough study? I think that's evident from the reports that -- In the discussions I've had, I've never denied that IBT pathologists agreed that there were lesions in the Kimbrough -- that they call cancer in the Kimbrough study.

Q. I understand, but that wasn't my question. My question was: Do you agree, and does this refresh your

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recollection, that Dr. Richter not only agreed that the lesions seen by Dr. Kimbrough were carcinogenic according to her criteria or Dr. Squire's criteria but also according to his own, to IBT's criteria?

A. In the preceding section four above that, Dr. Squire delineates his terminology and Dr. Squire's terminology for carcinomas. And under that scheme, I agree that he says that even using his criteria, the cancers or the lesions seen in Kimbrough's study were cancer. I don't think I have ever indicated -- and I don't I've indicated -- that doc -- anything about the type of criteria that Squire used or that --

Q. Richter?

A. -- that Richter used to draw his conclusions. I don't think I've ever said that if Richter agreed -- If he

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uses those criteria, that he would agree with -- with Squire. If I did say that, I did not mean to say that.

Now, when Squire says, yes, the lesions were more defined, more advanced. They are cancers. And I think the IBT and the NCI and Kimbrough all agreed that Kimbrough had cancers in the rat livers from her study.

Q. Okay. And Dr. Richter, in fact, says just that at the end. He says: I would conclude from an examination of their material that Dr. Kimbrough's study demonstrated carcingenis -- carcinogenicity. Correct? It's on the end of that -- on the end of page two onto page -- Papa -- page three.

A. Yes.

Q. Okay.

A. I don't think we ever denied that -- that Richter saw cancers in the Kimbrough study.

Q. Okay. Thank you.

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MR. ATKIN: Should we go on or --
(Discussion held off the record.)
MR. ATKIN: Okay. This is a document -- Let's mark for identification as Levinskas' Thirteen a document -- a letter dated April 18th, 1975, from Mr. -- from Dr. Calandra to Dr. George Roush, Jr., of Monsanto Company, bearing Bate's Numbers -- I'm going to go with the only one I can read, which is 203 through 208.
(Levinskas' Exhibit Number Thirteen was marked, offered, and attached as an exhibit hereto.)
(Discussion held off the record.)

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Q. Who was Dr. George Roush?
A. At that time, he was the medical director for Monsanto Company.
Q. Okay. And you received a copy of this letter, correct?
A. Yes.
Q. Do you remember receiving it?
A. Not particularly.
Q. Okay. Do you remember reading it?
A. I don't particularly recall reading it.
Q. Okay.
A. I should say the content is familiar to me, but I don't recall specifically when I read this memo.
Q. Okay. Now, in the first sentence of this letter, it says: Dear George, I fully appreciate that the meeting on PCBs today was not completely satisfactory and that many nagging questions remain.
Were you at the meeting that was referred to in this letter?
A. I don't recall specifically, but I

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probably was.
Q. Do you recall what was discussed?
A. Other than reading back with the letter, which is attached to this, these are the sorts of things that we were trying to -- among other things we were doing to try to resolve or understand the difference in the findings between Kimbrough's study and the IBT studies. But I don't recall the specifics of this meeting as such.
Q. Okay. Do you know why the meeting wasn't completely satisfactory or what was meant by that?
A. I do not know what -- what we actually created on Dr. Calandra -- and why he said that, I don't know.
Q. Okay. Do you know what nagging questions remained?
MR. DAVIDSON: Objection.
A. I think there was one big nagging question, which was: How do we understand the differences, or can we

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resolve the differences between the Kimbrough and IBT studies?
Q. Okay.
A. And that the efforts that we were trying to undertake to understand that.
Q. Okay. Can you turn to page five, the last page? This is where Dr. Calandra wants to point out how -- He believes it is important to point out the following. I would like you to look at number five and specifically the part which says: We are prepared to assist Monsanto in any adversary situation in or out of Government.
Do you know what he meant by that?
MR. DAVIDSON: Objection.
A. I don't know what he meant by that, but it would not be out of order for a laboratory which had did the hands-on study to stand by and defend their data or present it to people if -- if it was challenged. And I think that's just a

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general response that most scientists who have laboratories take. Do you know if he -- if he meant ligation as well?

MR. DAVIDSON: Objection.

A. I don't know if he meant that because at this time, I had no eye concept of litigation. To me, that was not -- not part of my reference work.

Q. Would it be expected that laboratories that are doing toxicity testing for chemical companies would be prepared to provide assistance to the chemical companies in connection with litigation?

MR. DAVIDSON: Objection.

A. As I say, litigation was not part of my reference at this time. When I talk about a laboratory standing by its data, if it was submitted to an agency or it was -- it required explanation, I would go back to the laboratory personnel and say, look, you did the

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work. You have a more intimate knowledge of it than I do. I would like you to come forward and to explain or get the idea of the same. And that's the context in which I would take that.

Q. Okay. Do you know if Monsanto ever asked IBT to assist it in any adversary situation in or out of Government?

A. I do not know whether they did or not.

Q. Okay. Was it part of Monsanto's agreement with IBT when it contracted with IBT that IBT would be prepared to assist Monsanto in adversary situations, in or out of Government?

MR. DAVIDSON: Objection.

A. The relationship with IBT was an ongoing one when I came to Monsanto. I have no knowledge of how it started or what the terms of the agreements might have been.

Q. Well, during the course of your employment at Monsanto, did you ever

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learn whether there was any written agreement or oral agreement between Monsanto and IBT that IBT would assist Monsanto in any adversary situation in or out of Government with regard to toxicity testing that IBT did for Monsanto?

A. I think I've indicated I have -- There's a preexisting relationship. I have no idea what the terms of the agreement might have been nor -- either then or later. I don't know what the relationship was, if any, the nature of the relationship or contracts or so forth might have been.

Q. Okay.

MR. COX: Jack, can you give her a minute?

THE COURT REPORTER: Just one second, please.

MR. ATKIN: Certainly. Okay. I've got one more.

Okay. That's fine.

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How about if we take a break now? Will that be all right? It's twelve o'clock. We'll take a lunch break and hook up again around eleven o'clock.

(A lunch break was taken.)

MR. ATKIN: Okay. We're back on the record after -- after a lunch break.

I would like to have marked as Levinskas' Fourteen for identification a document dated October 14th, 1981, authored by Dr. Levinskas, titled: Toxicity of Aroclor Products 1242, 1254, and 1260 to the Liver of Albino Rats. This is a -- I don't know what the cover page

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is -- one-, two-, three- -- thirteen- -- Okay. It's a sixteen-page document. It bears Bate's Numbers SCM 058930 through SCM 0598945.

(Levinskas' Exhibit Number Fourteen was marked, offered, and attached as an exhibit hereto.)

Q. And I would ask you, if you could, to take a look at it.

THE VIDEOGRAPHER: I'm off.

(Discussion held off the record.)

Q. Okay. In the -- This is a report that you prepared on toxicity of Aroclor products 1242, 1254, and 1260 to the liver of albino rats, correct?

A. Yes.

Q. Okay. On page six of the report in the discussion section, in the first paragraph, the last sentence says, in

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quotes: Since there were increased incidences of vacuolar -- that's v-a-c-u-o-l-a-r -- changes in the cytoplasm of the hepatocytes and focal hypertrophy at all dose levels for all three Aroclor products at the 24-month sacrifice, a, in quotes, no-effect, end quotes, level was not established for liver effects.

What did you mean when you said a no-effect level was not established for liver effects?

A. We have talked earlier about one of the objectives of a toxicity study is to determine the so-called, quote, no-effect level, a level at which there were no observable changes or differences from the control analyst.

And so, looking at this statement now -- And I cite that there were the vacuolar changes, which we talked about or referred to earlier. And I said they were fatty -- or the reports that

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they were fatty, and they confirmed that there was fat present in those livers because of the special stains that detect fat and that hypertrophy was a swelling, if you will, of tissues in these focal areas. Since these were observed for all three products at the lowest levels fed, we did not have a no-effect level because I'm calling those effects on the liver.

Q. Okay. Is it possible to extrapolate human carcinogenic effects from animal toxicity -- toxicity studies?

A. There are many attempts to use animal data in terms of setting safety standards, but from a strictly scientific, technical viewpoint, I would have to say no. The only way to know whether it produces cancer in man is to observe whether it produces cancer in men.

Q. Okay. Let me ask you this: If a study shows that a particular chemical causes

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cancer in animals, would this raise concerns about whether it would cause cancer in humans?

MR. DAVIDSON: Objection.

A. I think that any time one detects any adverse effect in animals, one has to assume that there is a potential that this could happen -- the same effect could happen in humans. Otherwise, there would be little logic for doing animal tests. What has to go in the equation, though, of assessing human risks would be considerations of degree of exposure, duration of exposure, and many other variables, which would not be answered by the results of an animal test alone.

Q. Okay. Did Monsanto ever reach a conclusion one way or the other as to whether or not PCBs can cause cancer in humans?

A. Some years back, Bill Gaffey, who was an epidemiologist with Monsanto,

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reviewed all of the available data on human reports of adverse effects, including cancer. And his conclusion was something to the effect that the one consistent finding in all of these studies was a lack of consistency, that none of these were reproducible or replicated in other studies. And therefore, as I recall, his conclusion was that there had been -- so far, there had been no indication that they produced problems in humans.

Dr. Kimbrough herself, in a report written in the late 1980s, which was published and in review of the pharmacology and toxicology and talked -- the PCB among halogen hydrocarbons. And she said something to the effect that while they produce interesting effects in animals, at the levels to which humans have been exposed, PCBs had not been shown to cause any significant adverse health

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effects.

Q. Do you have -- Do you have any idea what levels of PCBs the residents of Anniston, Alabama were exposed to on --

MR. DAVIDSON: Objection.

Q. -- during 1971 through 1991?

MR. DAVIDSON: Objection.

A. I would have no idea.

Q. Or from 1991 to the present?

MR. DAVIDSON: Objection.

A. Same question. I have no idea at any time that they were exposed to --

Q. Okay. That would include, also, from 19 -- from 1930, and I guess, from any time from the 1930s to the present.

MR. DAVIDSON: Objection.

A. I have no knowledge of what, if any, exposures people of Anniston ever had to PCBs.

Q. Do you know if anyone at Monsanto knows that information?

MR. DAVIDSON: Objection.

A. I don't -- I don't know if anybody

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knows. I -- I don't know anything about it.

Q. Okay. And when Dr. Gaffey -- Was it Gaffey?

A. Gaffey.

Q. I'm sorry?

A. Gaffey.

Q. How do you spell that?

A. G-a-f-f-e-y.

Q. Okay. When he did his study -- And when was that? When did he do that?

A. I was not involved in the study, so I wouldn't really recall, but I guess it would really began in the late - the latter part of the 1980s.

Q. Okay. Do you know whether the EPA or any other Governmental authority has concluded that PCBs are a problem with carcinogen in humans?

A. I think the PCBs are listed as possible or probable human carcinogens by some agencies, yes.

Q. When did that first happen? Do you

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know?

A. I don't recall when that first listings were made, no.

Q. Okay. How did you learn about that?

A. I don't know when I learned about them or how I learned about them, just from conversations or watching the literature somewhere along the line, just --

Q. Okay. Was Paul Wright a person at IBT responsible for the rat and dog studies on PCBs that were done for Monsanto?

A. We had a question somewhat similar to that before, and I don't know what Paul Wright did while he was at Monsanto.

Q. Okay. Oh, I'm not talking -- I'm not talking about while he was at Monsanto.

A. I'm sorry, at IBT.

Q. Okay. Do you know if Mr. Wright worked for Monsanto before he joined IBT?

A. I learned after I came here and I had met Paul Wright that he had worked for Monsanto, yes.

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Q. Do you know from when to when?
A. No, except that he was not here when I came.
Q. Okay. Do you know what he did for Monsanto before he joined IBT?
A. It's my understanding that he was a -- He worked in the area of animal nutrition who programmed the agriculture division of the company, and that program had been terminated or cut back, whatever, and Paul had decided to leave.
Q. Okay. Do you know what position he accepted with IBT?
A. I do not know his title with IBT.
Q. Do you know when he left Monsanto to start working for IBT?
A. I do not know except as I said, he was not here when I first came to Monsanto. I did not meet him until after I came to Monsanto.
Q. Okay. Do you know how he got his job at IBT?

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A. I have no knowledge of that.
Q. Okay. Do you know if he ended up leaving IBT and returning to Monsanto?
A. Yes.
Q. Do you know when that was?
A. He came to Monsanto probably about September, '72.
Q. Was that after IBT had concluded its toxicity testing of PCBs for Monsanto?
A. I don't know the status of the reports at that time. It was after Dr. Hunt had died, though. That's why I remember the time.
Q. Okay. Mr. Wright was criminally indicted, wasn't he?
A. Yes.
Q. Okay. Do you know when that was?
A. I don't recall specifically, no.
Q. Okay. Do you know why he was indicted?
A. The allegation was that he had submitted false data to the Government.
Q. Okay. In connection with what?
A. As I recall, there were four compounds

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with raw materials involved. None of them were PCBs.
Q. Okay. Was one of the compounds trichlorocarbenomyl?
A. Yes.
Q. Or TCC?
A. Yes.
Q. Okay. And that was a Monsanto product?
A. Yes.
Q. And as you understand it, part of the charges he was indicted for involve false identifying data in connection with that study?
MR. DAVIDSON: Objection.
A. About all I know is that indictments were returned against Paul Wright and others, and the bases of the charges were that they had submitted false data to the Government and that -- In some, it was using the mails to defraud, and I guess Jeff was using telephone lines or something to defraud or to submit the data. And that's the extent of

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what I know about the allegations.
Q. Okay. And were -- was Dr. Calandra also indicted on the same charges?
A. Yes.
Q. Okay. Was Marino Keplinger of IBT also indicted on those charges?
A. Yes.
Q. And Mr. Wright and Dr. Calandra, and -- Is it Dr. Marino?
A. Yes.
Q. They were all convicted, weren't they?
A. Dr. Calandra was not convicted.
Q. Doc -- Paul Wright and Marino were convicted?
A. Yes.
Q. And their convictions were upheld on appeal, right?
A. I never heard that formally, but that's the impression I have, yes.
Q. Did you know that Mr. Wright went to jail?
A. I have no direct knowledge of that.
Q. Okay. Do you have any knowledge of

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Mr. Wright refusing to answer questions at his trial concerning the PCB studies that IBT did for Monsanto?

MR. DAVIDSON: Object.

A. The trials were in Chicago. I was in St. Louis. I have no knowledge of what transpired at the trial.

Q. Did you ever hear about what transpired at the trial?

MR. DAVIDSON: Object.

A. Oh, I'm sure the comments were going back and forth, and I may have heard things. But I have no knowledge still of what really happened at the trial.

Q. Do you recall hearing anything about Mr. Wright's refusing to answer questions at his trial concerning the PCB studies that IBT did for Monsanto?

MR. DAVIDSON: Objection.

A. I don't recall hearing any specifics about what Dr. Wright's testimony may have been or may not have been. And I'll say that they -- There were

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comments here in the newspapers about the trial, and I looked at some of those, but I don't know the specifics.

Q. Okay. Were you aware of any problems with the survival of the rats used in the PCB studies that were done by IBT for Monsanto?

MR. DAVIDSON: Excuse me. What was the word?

MR. ATKIN: Survival.

A. Oh. If you'll look at Exhibit Fourteen, which you've just handed me and look at the last page. The first entry when they talk about the Aroclor studies, and they presumed a lifetime were two-year studies. Many people probably felt that they were conducted for two years, which is -- which was a term -- the duration for two-year studies.

But if you look at footnote one on the table, and this is my tabulation of the survival or

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mortality, whichever way you want to look at it, of the animals on test.

And I say: Control group had animals dead at nineteen months and two marked extra. One ppm group has animals dead at twenty, twenty-two, and twenty-two months. So that -- This indicated to me that not all of those animals had been on test for two years, which was an inference that people would probably take from saying the lifetime or two-year study in rats. This -- This would be my first conscious awareness of it.

Q. Okay. Were you aware, or did you ever hear that the tumor incidents in females who had been exposed to Aroclor 12 -- in the female rats, who had been exposed to Aroclor 1254 was eighty-two percent and a hundred percent at a hundred parts per million?

MR. DAVIDSON: Objection.

A. When you say the -- you give incidences

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for tumors -- First, I don't think I've heard that, and I'm not sure what studies you're referring to when you say that.

Q. Okay. Did you ever hear from anyone that the raw data for the IBT-PCB studies was falsified?

A. I don't recall hearing that commission with the IBT studies on PCBs.

Q. Do you know who a Phillip Smith is?

MR. DAVIDSON: Objection. Asked and answered.

A. I don't recall the name Phillip Smith. I -- I -- Without some context that might jog my memory, I don't --

Q. Well, maybe this will jog your memory. Mr. Smith, I believe, worked with Mr. Wright in connection with the Aroclor studies that were done by IBT for Monsanto. Does that jog your recollection at all?

A. I don't recall -- I don't recall Phillip Smith at IBT.

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Q. Okay. Are you aware that Mr. Smith -- Did you ever hear from anyone that a Phillip Smith testified under oath that he signed two Aroclor reports that contained false data?

MR. DAVIDSON: Objection.

A. I never heard that.

Q. Okay.

A. Until you said it now, rather.

Q. Okay. Did you know, or did anyone at Monsanto know that IBT employees were submitting or signing reports of PCB studies being done for Monsanto that contained false data?

A. I do not know that. I don't know whether anybody at IB -- at Monsanto knew that.

Q. Did you ever hear -- Did you ever hear that Mr. Smith has testified in another case that Mr. Wright forged his name to some of the PCB studies?

MR. DAVIDSON: Objection.

A. I have indicated I have no recollection

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of Phillip Smith, and therefore, I would have no recollection of what he may or may not allegedly have done.

Q. Do you know if anyone at Monsanto was aware that -- that Mr. Wright had forged Mr. Smith's name to IBT reports?

MR. DAVIDSON: Objection.

A. I would answer similarly along the line before. I don't know anything about it, and I don't know if anybody at Monsanto would know anything about it.

Q. Did you hear anything about the fact that approximately seventy percent of the animals which died during the course of the IBT rat study were too badly decomposed to be included in the study results?

I don't know the basis of that statement. I don't think I've heard it before.

Q. Okay. Let me ask you this, hypothetically: If seventy percent of

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the animals in a study were too badly decomposed to be included in the study results, would that skew the results?

MR. DAVIDSON: Objection.

A. There's -- There's several problems with that. From what I can remember when I looked at the available records to me which are shown -- are summarized in the tables of this report, I have no indication that seventy percent of the animals were too badly autolyze to examine.

Q. Okay. I understand that.

A. And -- And so it would depend on what one's looking for. Some tissues autolyze so quickly that they would be useless in diagnosis. Tumors generally tend to be more resistant to autolysis and so that one could detect tumors and could make some diagnoses, even from a badly decomposed animal.

So there are a lot of caveats around that statement, so it would be

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hard to make a definitive statement.

Q. Well, if, in fact, seventy percent or more of the animals in the PCB studies that were done by IBT for Monsanto were too badly -- too badly decomposed to be included in the results, would that skew the results on the studies?

MR. DAVIDSON: Objection.

A. I have indicated I have no indication that a certain percent of the animals were missing.

Q. I understand that. I'm asking you a hypothetical.

MR. DAVIDSON: You didn't say hypothetical.

MR. ATKIN: I did the first time.

MR. DAVIDSON: Well, the first time, you did.

A. Hypothetically, if the remaining thirty percent of animals had tumors, would then -- they would be indicative of the effect of the compound. And so the

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only hypothesis then would be -- Any discrepancy then would be in the estimate in the degree of incidents or the effect. But the effect would be detected.

So, again, when you say if this was done and this was done, I think there's so many conditions to which those statements attached, and it would hard to give a definitive answer.

MR. ATKIN: Okay. I'm going to mark for identification as Levinskas' Fifteen a two-page document hand-written on the letterhead of Industrial Bio-tests Laboratories, Inc., signed by Otis, addressed to Don. It bears Bate's Numbers -- Geepers. I'm going to go with the Bate's Numbers that are on the top of the -- top of

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the document. There's an 088 and an 089. This letter is dated January 14th, 1972.

(Levinskas' Exhibit Number Fifteen was marked, offered, and attached as an exhibit hereto.)

(Discussion held off the record.)

MR. ATKIN: All right. We're going to go back on.

MR. DAVIDSON: I would like to note an --

MR. ATKIN: Oh.

MR. DAVIDSON: I would like to note an objection for the record to the admissibility of what has been marked as Exhibit Fifteen.

Q. Okay. Do -- Do you recognize this document at all?

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A. I don't recall having seen it before.

Q. Okay. Do you know who the Don is that's referred to in this letter?

A. I would not know who the Don is, no.

Q. Okay. Now, in this letter, at the end of the first paragraph, Dr. Fancher states that the documents that he reviewed in drafting the Aroclor paper, in quotes: Tend to confirm my notion that much of the data are either fudged or collected with carelessness or incompetence, particularly the data for the supplementary study with 1242.

Do you see that?

MR. DAVIDSON: I'll object to the characterization that this is actually Dr. Fancher, except for the assumption that you're making.

Q. Okay. Do you know if this was -- In reading this and putting it in context, do you know if this was written by Dr. Otis Fancher?

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A. I don't think I know Dr. Fancher's handwriting well enough to make a statement on it. I don't know.

Q. Do you know any other Otis who worked at IBT?

A. No.

Q. Now, in the part that I just read, do you know what Aroclor paper Dr. Fancher was referring to?

A. I do not.

Q. Do you know which data Dr. Fancher was referring to when he said that certain data had been collected carelessly or -- and had been fudged?

A. I have indicated I don't think I've seen this document before. I can read his statements. I have no basis for attempting to even guess at what he's talking about.

Q. Are you aware of any data and any tests that were done by IBT for Monsanto on PCBs having been fudged?

A. I'm not aware of such, no.

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Okay. In the last paragraph of this document, it says as follows, in quotes: I am ashamed to publish the work done in these studies. One must report the data but with interpretation without conviction of reality. This is perhaps the most significant of the Aroclor studies, and some of my conclusions are not in agreement with those of the reports, in parens, which I signed without detailed analysis, close parens, or with statements which have been made by Kip and by Monsanto in discussion with FDA and environmental groups. There's nothing like writing for publication to disclose defects, end quotes. And it's signed: Sincerely, Otis.

Do you know why Dr. Fancher was ashamed to publish the work that was done in the studies that he's referring to in this -- in this letter?

MR. DAVIDSON: Objection.

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A. I can read the statements that you read, and he makes that statement. I don't know what he -- I don't know what he's talking about in terms of study. I don't know what the basis of his being ashamed is or anything else.

Q. Okay.

And so I'm not in a position to judge that or comment on it.

Q. Did you ever hear that Dr. Fancher had reservations about publishing the results of the IBT studies?

MR. DAVIDSON: Objection.

A. Until I saw this memo, I do not recall having heard that.

Q. Okay. Did you ever hear that Dr. Fancher had reservations about publishing the results of the IBT studies?

MR. DAVIDSON: Objection.

A. Until I saw this memo, I do not recall having heard that.

Q. Did you ever hear that Dr. Fancher had

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signed reports for that detailed analysis?

MR. DAVIDSON: Objection.

A. He makes that statement in his report. That's all I know about it.

Q. Do you know who the Kip is that Dr. Fancher's referring to?

A. I do not know a Kip.

Q. What was Dr. Marino's first name? Do you know?

A. Marino.

Q. And what was his last name?

A. Keplinger.

Q. Okay. Did Dr. Keplinger ever make any statements to the FDA or environmental groups regarding IBT studies?

MR. DAVIDSON: Objection.

A. I -- I do not know what statements, if any, he may have made to such groups.

Q. Okay. Do you know what discussions between Monsanto and the FDA and environmental groups Dr. Fancher was referring to?

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MR. DAVIDSON: Objection.

A. I would point out that this letter is dated January 14, '72, which is ruffly six months after I joined the company, and I would have no idea of what discussions or things had been going on, if any.

Q. Okay. Did you ever hear about any discussions -- any discussions regarding conversations or communications between Monsanto and the FDA regarding PCB tests that were done by IBT for Monsanto?

MR. DAVIDSON: Objection.

A. It's my understanding that the test results, as they were being developed, had been presented to the FDA.

Q. And what is that understanding based on?

A. Just hearing conversations about it.

Q. Okay. Was that on all IBT tests that were done?

A. We're talking specifically now of PCBs.

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Q. Yeah, but all PCB tests?
A. I don't know it was all of them, but I assume it was probably all of them.
Q. And what's that assumption based on?
A. Just because they said they were making data available to the agencies.
Q. Who said that?
A. Just conversation. Elmer Wheeler may have said it the first time, assuming.
Q. Okay. What about -- Did you ever hear of any discussions that -- that IBT test results on PCBs were shared with environmental groups?
MR. DAVIDSON: Objection.
A. I don't know who the data would have been made available to, other than the awareness I have that they were made available to the FDA.
Q. Okay. Were the IBT studies that were done on PCBs for Monsanto submitted to Monsanto's attorneys for their review before they could be published?
A. I don't know what the review process

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was for information to be published. I don't know who would have been involved. I mean, outside the medical department, I would -- If I were doing it, I would have submitted it to my superiors, but I don't know what happened afterwards.
Q. Okay. Was it common for Monsanto's lawyers to review toxicological studies done by outside consultants before they were published?
MR. DAVIDSON: Objection.
A. I don't know what the practice was.
Q. Okay. Did you ever do that?
A. Do what?
Q. Did you ever submit to Monsanto's lawyers the results of studies that were done by outside consultants before the final studies were actually published?
MR. DAVIDSON: Objection.
A. Would you repeat the question, please? I want to make sure I get two things

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clear.
MR. ATKIN: Okay. Why don't you read it back?
(Record read.)
A. I told -- There are two parts of that question. One is I don't ever recall ever submitting a report to an attorney for his comments before a study was published. When we did publish results of studies, whether they were things we had done ourselves or consultants, as I indicated earlier, I would submit them to my immediate superior and we'd send them to a medical -- I assume the medical director at that time. And then we would get clearance to publish, but I don't know who took what steps and what comments would have been made.
I'll mend that lightly. If comments were made, they would come back to us, but that's not import -- But we would put them in the hopper as it were for -- whatever procedures were

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for clearance. And someone would make the decision as to what -- who would see it -- who would review it. I did not specifically say they should go to the attorney, they should go here, they should go there.
Q. Did the procedures for clearance prior to publication include review by the attorneys?
A. I don't know whether that was a requirement. As I have indicated, I would hand mine to my superior, and he would handle them through the channels as they were. And I don't know who would be included in that process.
Q. Okay. Hold on to that for a second.
MR. COX: Oops, sorry.
Q. I may have another question or two.
MR. ATKIN: Okay. Let's mark this for identification.
This is a two-page letter from Elmer Wheeler to Dr. Fancher, dated April 28th,

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1972, bearing Bate's Numbers DSW 034780 and 034781.

(Levinskas' Exhibit Number Sixteen was marked, offered, and attached as an exhibit hereto.)

(Discussion held off the record.)

MR. ATKIN: Okay. We're back on.

Q. I would like to ask you about the next to last -- or last full paragraph, which states as follows, in quotes: I hope to get copies of all of the studies in the hands of Bill Papageorge and Scott Tucker and the lawyers next week. I do not anticipate a lot of changes from them and hope that the attorneys agree that we can go ahead with publication, period, end quote.

Do you know what attorneys are

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being referred to here?

MR. DAVIDSON: Objection.

A. I do not. I point out that Elmer was my superior at that time, and he has made statements of what he's going to do, and I don't recall being asked whether he should do it by him. And I don't recall what was done about it.

Q. Okay. Did you ever hear -- Withdrawn.

Do you know whether or not Monsanto's lawyers ever made any changes to the IBT-Aroclor studies before they were published?

A. Insofar as I know, nobody has made changes in the IBT reports.

Now, if there were proposed publications or synopses or something of those reports that people put together that the lawyers may or may not have looked at, I have no knowledge of that.

Q. Okay. To your knowledge, did Mr. Papageorge ever make any changes to

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studies before final publication?

A. I would say what I just said. To my knowledge, nobody has changed a Monsanto report after it was received and logged in and accepted in the department. Nobody has gone back and changed any of those reports that I am aware of.

Q. Okay. Did you -- I'm not sure I understood one thing.

I think you mentioned something about proposals. Did you ever get any proposals in that were changed?

A. What do you mean by proposals? Proposal for what?

Q. Well, I wasn't sure. I thought that perhaps you mentioned something about proposals -- proposals and whether or not there had been any changes to proposals.

A. Oh, if somebody were to take a report and write a summary of it or condense it or do something with it for

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distribution to other people in the company or elsewhere -- I don't know whether people would, you know, might -- they might extract information from the report in a different manner than I would.

Q. Okay.

A. But I don't consider that changing the report. I make that distinction.

Q. Okay. I appreciate that -- appreciate your clarifying that. We're done with this document.

Okay. Did you ever visit the IBT labs?

A. Yes.

Q. Did you ever observe the conditions in the labs?

A. I have been through the labs, not all of them, but I have been through some of the labs at different times, and yes.

Q. Did you ever observe the conditions of the -- the lab conditions of the

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animals that were used in the PCB studies?
The PCB studies were basically done when I got there, so I don't -- can't say that I saw those in progress.
MR. ATKIN: Okay. Let's go off for a second.
(Discussion held off the record.)
Q. Okay. Were you ever told that during the IBT-Aroclor studies, many of the test animals in IBT's labs were running loose in the labs?
A. No, I was never told that.
Q. Okay. When I say -- When I say were you ever told that, I mean, at any point in time have you ever heard that?
A. No. The -- the -- As I stated before, the IBT studies were basically done when I came here -- the animal parts at least. I have never been told that. In my visits to the laboratory, I did not see animals running all over the

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place.
Q. Okay. Do you know if Mr. Wright ever visited the IBT labs after he returned to work with Monsanto?
A. Yes.
Q. Okay. After he returned to work for Monsanto, did Mr. Wright continue to be involved in the Aroclor studies that IBT was conducting for Monsanto?
A. I don't know what involvement he had before he came back to Monsanto, so I can't say he continued involvement but --
Q. But you do know -- You do know that he was involved in --
MR. DAVIDSON: Objection. He was in the middle of answering.
Q. I thought he was done. I'm sorry.
MR. DAVIDSON: Were you done?
THE WITNESS: No.
A. I said that those studies, the animal parts of those studies were done basically when I came to Monsanto. And

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I don't know what Paul's involvement was. We actually hired Paul to work with me on environmental assessment of new products and new uses of existing products. Unfortunately, between the time that Paul returned -- or Paul came back -- the job offer was made until the time he came back. Dr. Hunt died, so an Elmer Wheeler suggestion, Paul took up more contact with IBT than I -- than my doing it because he had a familiarity with Monsanto products from his employment by Monsanto. So that started Paul dealing with the sorts of things that the late Bill Hunt had been doing.
Q. Paul also had familiarity with it because he, in fact, worked on the PCB tests that were done by IBT for Monsanto when he was employed by IBT; isn't that right?
MR. DAVIDSON: Objection.
A. He had familiarity with Monsanto

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products because he had worked for Monsanto. Which of the studies Monsanto sent to IBT that Paul had worked on, I have no knowledge of.
Q. Okay. And you say you worked on environmental assessment?
A. Yes.
Q. Okay. Did that include environmental assessment of PCBs?
A. I'll repeat once more that my duties were to deal with new products and new uses of existing products. Since PCBs were an old product and were basically being curtailed in use, no, I was not particularly involved with PCBs in environmental assessments.
Q. Did you ever hear of anyone say that Mr. Wright, when he returned to IBT after -- after returning to employment at Monsanto, when he would go visit IBT, he would dictate changes to reports regarding studies on Monsanto products?

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MR. DAVIDSON: Objection.
A. I did not hear that, and I'm not aware that it happened.
Q. Okay. Have you ever heard from anyone that a majority of the data on the test animal body weight used in the IBT Aroclor studies was falsified by Mr. Wright?
MR. DAVIDSON: Objection.
A. I would state my earlier comment. I'm not aware of it, and I haven't heard that.
Q. Would such factors as the housing of test animals, their feeding, the dosage of PCBs administered, the watering and survival of test animals be relevant to any of the findings in the IBT-PCB studies?
MR. DAVIDSON: Objection.
A. You have mentioned several considerations that Mon -- takes into account and findings of the studies. So yes, they do have a relevance on the

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study.
Q. Okay. Did you or anyone else from Monsanto ever visit IBT to evaluate those factors before signing off on the IBT-Aroclor studies?
A. Again, I would say that I don't know what others did. But I did not. They were not in my purview at that time.
Q. Were you at all involved in -- in Mr. Wright's being rehired by Monsanto?
A. I had a say in that, yes.
Q. Okay. What did you say?
A. When they decided that I should have someone assisting me, we started naming candidates. And it was suggested to me that Paul had worked for Monsanto, and that people considered him a great, competent scientist. As I have indicated, I had not met Paul before I came do Monsanto, so I made inquiries of the people he had worked for earlier at Monsanto, including director of research in the ag division.

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Q. Okay. Which division? I'm sorry.
A. The agricultural division, ag division.
Q. Okay.
A. They all talked highly about Paul and his competence, and so it seemed like a prudent thing to do. And Paul had been in the St. Louis area and was willing to come back here, so we made him a job offer.
Q. Okay. Who else was involved in the decision to hire -- to rehire Mr. Wright?
A. Probably the most directly involved, and perhaps the biggest factor in making the decision was Elmer Wheeler himself, and I'm sure Dr. Kelly would have been involved.
Q. They had both worked with Mr. Wright before he went to work for IBT?
A. They were both familiar with his work at Monsanto.
Q. Okay. When the Government investigation of IBT's testing and

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reporting practices was initiated, was Mr. Wright placed on a paid leave of absence by Monsanto?
MR. DAVIDSON: Objection.
A. Paul continued to work for Monsanto for sometime after the allegation surfaced. He no longer reported to me at that -- just before that, he no longer was reporting to me, and then he was placed -- He was kept on the payroll, but put in other areas reporting directly to medical director. And I don't know when he left, and what the arrangements were. Whether it was paid leave of absence or the details, I have no knowledge of those.
Q. Okay. Did you ever hear that Monsanto paid Mr. Wright's legal fees?
MR. DAVIDSON: Objection.
A. I have heard that comment made in depositions. I have no knowledge about the subject.
Q. Okay. Did you ever hear in depositions

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or elsewhere what Mr. Wright's legal bill was?

MR. DAVIDSON: Objection.

A. That, I can truthfully say I've never heard even the slightest reference to it.

Q. Would it surprise you to learn that Monsanto would pay more than a million dollars in legal fees for Mr. Wright?

MR. DAVIDSON: Objection.

A. I don't think I would have a reaction to it one way or the other.

Q. I'm sorry?

A. I don't think I would have a reaction to it one way or the other.

Q. Okay. Now, after Mr. Wright returned to Monsanto after working at IBT, you recommended him for an achievement award, didn't you?

A. Yes.

MR. ATKIN: Okay. Let's mark this into evidence, please, as Levinskas' Seventeen for

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identification. A one-page document currently signed by Dr. Levinskas, dated 16, July, 1976. And it's -- Okay. We could stop with that.

(Levinskas' Exhibit Number Seventeen was marked, offered, and attached as an exhibit hereto.)

(Discussion held off the record.)

MR. ATKIN: And I just want to note for the record that in portions of the documents that the ends of certain lines are cut off.

MR. DAVIDSON: And for that reason, we would object to the document.

MR. ATKIN: Right. And that's the way it was provided to

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us obviously.

MR. COX: It doesn't have a DSW or MONS number, so it came out of another direction.

MR. STEWART: That means y'all didn't give it to us, then.

(Discussion held off the record.)

Q. Doctor Levinskas, did you sign this document?

A. Yes, I did.

Q. Okay. And this is this the document where you recommend a -- an achievement award for Mr. Wright?

A. That's correct.

Q. Okay. Can you tell me on the upper right-hand corner, it says: Achievement award data -- something. Do you know what word came after that?

A. It looks like an S. It may have been data sheet.

Q. Okay.

A. I don't know, but I --

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THE COURT REPORTER: Data what?

MR. ATKIN: Sheet.

THE WITNESS: Sheet.

Q. Okay. Was Mr. -- Withdrawn.

Okay. Let's take a look at the second paragraph. It begins, in quotes: Dr. Wright's professional and personal characteristics have contributed significantly to Monsanto's at EPA. He has shown unusual perseverance and dedication, frequently involving his own time to review and inter -- terpret, I presume, large volumes of data, which he subsequently organized for presentation to APA officials -- the "to," I don't see, so I just assumed that it would be there.

Then, you say -- Well, let me ask you first, what personal characteristics were you referring to?

A. Well, let me make a comment first. You said -- When you started, you said quote, and you did this several times.

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The quote is yours?
Q. Yes, yes.
The quote does not appear in the document.
Q. That's correct.
A. Okay. I think I -- When I talk about the characteristics, I go back to the first paragraph. Glenn Schweitzer, who had been appointed the head of the EPA's Office of Toxic Substances, was going around -- As far as I know, he went around to several companies to find out what they were doing so he'd get some familiarization with the company's efforts in environmental areas, the toxic substances area. And he came to Monsanto several times. The first was for a general visit, and a few times after that, he invited himself back to further discuss what we were doing and what we were attempting to do. And so when I say his professional and personal

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characteristics, I'm referring to that sort of situation where Paul would interact with others in the company came -- when we had people from regulatory agencies come down and ask what we were doing, how we were doing, and get ideas about his -- his behavior, his knowledge and so forth. These are the things -- And then a lot of these issues that we had, particularly when it comes to the water situation that's referred here, EPA was proposing regulations and publishing proposed regulations for the federal register. And they were soliciting comments, and there were various professional groups and trade groups that were getting together to consolidate their comments and make recommendations to the agency. And Paul was working on these groups, and again, he managed to do a good job, and that's the basis for my making the

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recommendation for the achievement award.
Q. Okay. You go on to say: Particularly noteworthy were his efforts on PCBs -- well, polychlorinated biphenyls, in parenthesis, Aroclors -- and chlorinated isocyanurates, in parenthesis, ACL products, close paren, period. In former instance -- I presume, referring to his efforts on PCBs?
A. Correct.
Q. -- his excellent analysis and synthesis of widely scattered observations played a prominent role in forestalling EPA's promulgation of unrealistic regulations to limit discharges of polychlorinated biphenyls.
Do you see that?
A. Yes.
Q. Okay. Did Dr. -- Did Mr. Wright receive the award that you were recommending him for?

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A. He did receive an award as a result of this recommendation, yes.
Q. What kind of award did he get?
A. I don't recall the amount, but there's -- on the bottom of this -- the center block at the bottom says amount -- Award Amount Recommended. This would have been reviewed by others in the department, depending on the budgetary availability and also their assessment of this with giving an amount. I don't recall the amount that he got for this.
Q. Okay. Was he given the amount -- Was he given the award based on your recommendation?
A. That was a major factor, yes.
Q. Okay. Was he given it as recognition for his role in forestalling EPA's promulgation of regulations on PCBs?
MR. DAVIDSON: Objection.
A. That was among the reasons when I say forestalling -- limit -- Let me get

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this part here. Forestalling EPA's promulgation of -- Unrealistic regulations.

A. -- unrealistic regulations. In many of the regulations, we start off with basically zero discharge. And it is impossible to operate anything from the zero discharge system.

And besides which, the EPA published these in the federal registers, soliciting comments from people in favor and against their suggestions. And I think that if every zero recommendation in an agency were proposed or published, that would make it very unrealistic.

So I think we're doing consistent with what the Government's system calls for. And we're trying to get together the best information we can and make it available for people to consider in setting their regulations, and I see nothing wrong with that phrasing.

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Q. Okay. I'm going to move to strike as nonresponsive. My question is really a very simple one: Was Doc -- Was Mr. Wright given the award in part, at least, as recognition for his role in forestalling EPA regulations on PCBs?

MR. DAVIDSON: Objection.

A. I think I have indicated that in my answer, and I would say it's not forestalling regulations. It's forestalling unrealistic regulations, which were entitled to express our view on realism and unrealism.

Q. Okay. And -- And you were concerned that the EPA's regulations would have precluded the use of -- of PCBs by Monsanto's customers; is that right?

A. It wouldn't preclude the use of PCBs by anybody.

Q. Okay. Were the IBT-PCB studies the only chronic toxicity studies that were conducted by the Monsanto regarding PCBs?

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A. Chronic has a somewhat variable loose definition, but the rat reproduction studies, the chicken studies, would be considered chronic. Whether you would wanted to call the one-year dog study chronic or not, this is -- There is some arguments, I guess, among people. At that time, they were probably, among the few studies apart -- I shouldn't say that -- study, which would be considered chronic study. But those were probably all of the studies that were available at that time for consideration, in terms of chronic.

Q. Okay. I may be -- Maybe you're mis -- Maybe I wasn't clear on my question.

I guess what I would like to know is the studies that conduc -- Certain studies were conducted by IBT. Did anyone else ever conduct similar studies for Monsanto?

A. Not for Monsanto that I'm aware of.

Q. Okay.

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A. But there have been similar studies conducted since then.

Q. Now, if -- If the data and conclusions of the IBT studies on PC -- the PCB studies were falsified, then the results would be unreliable; isn't that right?

MR. DAVIDSON: Objection.

A. I would say that if anyone was using false information, you would probably draw false conclusions. We have no indication that the studies were falsified.

Q. Okay. Did Mr. Wright's conviction ever cause you any concern about the work that he did on PCBs when he was employed by IBT?

A. I'll go back. I don't know what the agreement of involvement he was involved with on PCBs and IBT. IBT was not a basis of the lawsuit, and I don't think I have any opinion of that.

Q. Did the fact that Dr. Keplinger and Dr.

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Calandra -- that they were indicted, did that ever cause you any concern about the reliability of the PCB studies that were done by IBT for Monsanto?

MR. DAVIDSON: Objection.

A. IBT was probably one of the larger contract toxicology laboratories at this time. They had done numerous studies for several companies and several regulatory agencies, and I can assume -- I wouldn't want to make any estimate of how many studies they must have done or may have done over that period of time. And if they had four allegations of wrongdoing or misuse of data, I would have not have extrapolated that to the whole realm of the studies that they have conducted.

Q. Okay. Did it cause you any concern at all about the reliability of the PCB studies that were done by IBT?

MR. DAVIDSON: Objection.

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A. My major concern was to understand how good the data were that we had that we used to defend our products. As a result of other things, we did go back and make attempts to validate the IBT studies.

Q. Did you reach any conclusions as to the validity of the IBT studies when you went back and looked at them after the indictments of Mr. Wright and Dr. Calandra and Dr. Keplinger?

MR. DAVIDSON: Object.

A. We probably started to validate them before the indictments were handed down.

Q. Okay.

A. When the questions were first raised, we got concerned about this, and we started -- I can't recall all of them, but I would say to a large extent that virtually everything that we looked at or a substantial part of what we looked at, we validated to our satisfaction

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and to the satisfaction of regulatory agencies.

Q. Okay. Isn't it true that the review that you did showed that databases, including the lack of a protocol, were insufficient for a complete validation of IBT studies?

A. I don't know that a protocol is necessary for a complete validation of the study.

Q. Do you recall ever writing anything like that?

A. If you have something that I've written, I would like to see it to refresh my memory.

Q. Okay. Why don't we do that? Why don't we take a look and -- Sure, why don't we do that?

This is -- We're looking now at what has been previously marked as Levinskas' Fourteen for identification, which was Dr. Levinskas' report on toxicity of Aroclor products 1242,

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1254, and 1260 to the liver of albino rats, dated April 14th, 1981. And I would ask you to look at page eight, if you would, in your footnotes?

MR. ATKIN: Okay. You can cut it. We'll go off.

(Discussion held off the record.)

MR. ATKIN: Okay. All set.

Q. Does that refresh your recollection?

A. Yes.

Q. Okay. How so?

A. Well, let me put a comment -- When we decided to validate the IBT studies, we broke the Monsanto studies that IBT done in three categories.

The first and foremost were studies that we had submitted to a regulatory agency with a request that they do something -- approve a food additive contact or something. And we felt our primary responsibility was to find out whether the information we had

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given to an agency was valid or not. So that was our first category.

The second category were things that had not been sent to a regulatory agency that were of interest to Monsanto -- long interest -- and we felt that we should look at it.

And the third category were things that had been experimental samples or discontinued products, and those we decided we were less concerned with.

IB -- PCBs have never been submitted to an agency for a regulatory action. They had not -- They were no longer existing products at this time. We had an ongoing project to look at, as I say, our high priority items, and I might add that we were the first people to respond to EPA's request for validation. And when we finished our validation procedure on the first product, EPA held our procedure out as

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an example to the rest of the industry to copy.

That's -- Now, when it came to IBT, we could deal only with the information we had. We did not have enough information to do a validation in the sense of all details on the IBT-PCB studies. Since we were focusing on the question of whether or not they produced cancer in the rat livers, I put my emphasis on looking at the rat liver studies, the supplemental studies that we talked about, the additional rat liver sections, not the entire study. And so, there were some records that we completed indicating that animals had been purchased about that time, that diets had been prepared, the animals had been put on test. And that was a reasonably good basis of pathology records and so forth that I could put together in this report.

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And I'll go back to what I said earlier. If you look at the last table, you will see all of the aberrations, imperfections, warts, whatever you want to call them, in the study, that I encountered from the records. And I laid them all out for people to see so that when we made statements about what we concluded and what we felt about those IBT studies on PCBs, we could hand the people this information. And if they didn't want to accept our conclusions, they could review this, and they could draw their own conclusions.

Q. Who was this information given out to?

MR. DAVIDSON: What information are you referring to?

MR. ATKIN: The report right there.

MR. DAVIDSON: The --

MR. STEWART: L-Fourteen.

MR. ATKIN: Yeah, L-Fourteen.

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A. I really don't know who it was given to, but if you look at the second page, it says: Distribution. It went to the Reports Library. It went to the Medical Library. It went to individuals in Monsanto, and it went to Dr. Jesse Norris at Dow Chemical.

THE COURT REPORTER: I'm sorry?

MR. ATKIN: At Dow Chemical.

THE WITNESS: Dow Chemical.

Q. Did it ever go to any other companies, anyone in any other companies, other than the person you just mentioned?

A. Well, I did not put this distribution list together.

Q. Okay.

A. I sent it over to the library for archiving, as it would, in the company records. But it could have been sent to any other people without my knowledge and without my information.

Q. You don't know?

A. I have no knowledge of it, but when

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discussions would come up, I think, if not this report, I gave similar information to Dr. Kimbrough about the IBT studies, others who might ask could get a copy of this.

Q. Okay. Now, when you say in here in number six, if you can go back to that on page eight in your footnotes.

A. Yes.

Q. Okay. You said: The review showed that the databases, including the lack of a protocol, were insufficient for a complete validation of the study.

What did you mean by the lack of a protocol?

A. To me, a protocol is a road map that says this is how we proceed to make our journey. I'm going to go from here to there. If I get on a road, I may want to change my direction, so I don't think a protocol is necessary.

When these studies were done -- With the original studies, I don't know

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about a protocol. They were started in '69 or so because they finished in '71. I don't know anything about -- We did not get copies of protocol. I really don't know what they were proposing to do or if they had. There was no requirement for protocols in laboratory tests prior to the passage of the Good Laboratory Practices Act, so that people put a lot of emphasis on protocols. But for practical purposes, a protocol is not a necessity.

Q. Okay. When was that act passed, the one you just mentioned? What was that act again you just mentioned?

A. The Good Laboratory Practices Act was probably passed in the late 70s, early 1980s.

And prior to that time, it wasn't necessary to have protocols in conducting studies?

A. I dare say most studies being done did not have a protocol.

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Q. How about the studies that were done by IBT for Monsanto? Did they have a protocol?

MR. DAVIDSON: Object. He's already -- He just told you that, just answered that.

A. When you say a protocol, we're talking about a formal written -- There could have been an agreement, a verbal. They could have said do it like the last study you did. There could have been many ways that they had an idea what they were going to do, or they agreed on what on what they were going to do.

But this requirement of a written protocol where you have to document every variation and so forth was not a requirement until the late 1970s and the early 1980s under the Good Laboratory Practices Act.

Q. But the fact that the lack of a protocol -- that you observed the lack of a protocol in the databases in the

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IBT studies led you to believe that data -- that that data was insufficient for a complete validation of those studies?

MR. DAVIDSON: Objection.

A. I think I said that. The same I've written here, it says: The review showed the databases, including the lack of a protocol, close paren. I said earlier that the information to do a complete validation wasn't there. I focused on the fact that there were records to show animals had been ordered about this time, that there were diet mixes records, though they weren't all there. There were body weight records, though they weren't there for the complete, entire study. There were autopsy records. There were records of slides being made and examined of the livers. So I put emphasis on what assurance I did have that was -- what records were available

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and had been examined.

And where I showed discrepancies, I footnoted them all. So what I said earlier. You can look at what I said, and you can see the basis from which I draw the conclusions. And if you don't like my conclusions, you're free to draw your own.

Q. You state in this same footnote, footnote six -- withdrawn.

A complete audit of the IBT studies was never undertaken; is that right?

MR. DAVIDSON: Objection.

A. I think I've said that twice already. Yes.

Q. Okay.

A. And I add because it was not information that we had submitted to the Government agency with a request for regulatory action.

Q. Okay. Did Monsanto ever have any other laboratory repeat any of the studies

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that had been done by IBT?

A. You mean any study or any PCB study?

Q. PCB -- PCB.

A. To the best of my knowledge, they haven't had it repeated in other laboratories.

Q. Do you know why not?

A. I think I indicated that earlier. It would take -- It would probably take three or three and a half years to repeat a two-year study from the time you started the initial work up until you finished it. And you're faced with the question by Dr. Kimbrough as to whether these caused cancer in the livers of rats, so our immediate response was to do what we could. We had tissues that had been exposed to PCB rat livers, and we asked the IBT to look at them. We got to IBT -- and we -- Kimbrough and the NCI pathologist to look at them to see if we could get some understanding of this. Then we

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took other actions that we could do rather than wait three and a half or four years before we could come up with some information.

Q. Okay. But at any point in time, from 1981 until you left Monsanto in 1991, did Monsanto have any other outside laboratory repeat any of the studies that had been done by IBT?

A. I said no earlier, and I'll repeat it. There have been studies done by other people on these. The National Cancer Institute had a study done on Aroclor 1254 and still concluded it was carcinogenic, two-year rat feeding study. And we knew that study was underway, and we made attempts to keep current on what the developments were in there.

Q. Do you recall any -- any discussions at all at Monsanto about whether or not there should be a repeat done by another independent laboratory of the

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work that had been done by IBT on PCBs?

A. There may have been discussions. I don't recall specifically, but I'll go back and say that it would be undertaking a lot of work that would take years to come up with an answer. IBT -- not IBT. The National Cancer Institute had a study on Aroclor 1254, a two-year feeding study in rats that they were doing. I don't see that it would have added much of anything one way or the other to our knowledge on the subject.

Q. And it would have been expensive too, right?

MR. DAVIDSON: Objection.

A. It would have been relatively expensive. But it's not a question of expenses. It's a question of time. It would be three and a half to four years before we'd have an answer we could talk about.

Q. Are you aware of the -- any results --

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Withdrawn.

Are you aware of any studies having been conducted by Monsanto on the effect of PCBs on monkeys?

A. Yes, we did a study on monkeys.

Q. Okay. And when you say we, who did it?

A. Monsanto. It was done by bionomics.

Q. When was that done?

A. I think we started again in the late -- latter part of the 70s, mid to latter 70s.

Q. I'm sorry. Did you say you started again?

A. I didn't say started again. The time again, would have been the mid to latter 70s.

Q. Okay. Do you know what the results were of those studies?

A. Yes.

Q. What were they?

A. I can give you general comments.

Q. That would be great.

A. Dr. Allen at the University of

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Wisconsin had said that monkeys fed -- First, go back. FDA set tolerances for foods -- for PCBs and different food stuffs as a result of the usual episode. They then -- The FDA data were based largely on their assessment on the exposure of humans. Allen at Wisconsin fed monkeys as he said, quote, at the tolerance level and even half the tolerance level. And he reported reproductive difficulties with monkeys. I looked at his data, and it took some figuring because he spreads his data all over lots of journals, through mutual friends I talked to a few times, and I had a very difficult time getting him to answer direct questions. But it turns out that when I finally got enough data to make some calculations, Allen was actually feeding his monkeys about one hundred times the FDA-recommended levels.

But just for calculations, we can

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go through that, if you wish. But just let it stay there for a moment.

So we decided that we would check this out because that was about the most sensitive thing that had been reported yet. So we undertook a study of bionics with Aroclor 1254 in monkeys. And we fed it at a hundred times the FDA tolerance, at twenty-five times the FDA tolerance, and at the FDA tolerance.

Q. What was the FDA tolerance at that time?

A. It was one microgram per kilogram of body intake.

Q. Okay.

A. One microgram intake per kilogram of body weight.

Q. Okay.

A. At a hundred micrograms per kilo -- a hundred micrograms per kilogram dosage, there was impairment -- decided impairment in the monkey with -- I'm

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going to go back. We dosed males, and we dosed females. We dosed -- We bred the dosed males with undosed females, and the undosed males with dosed females so if there was an effect, we could try to determine whether it was due to the male or the female. For practical purposes -- and as I stated, I haven't looked at the data, but just -- this is just generally.

There was no effect -- adverse effect on males. Females up to a hundred times the tolerance level had a very difficult time conceiving and carrying their pups to term. At the twenty-five micrograms per kilo, most of the animals got pregnant. Like I said, most of the animals lose control of a hundred percent to get pregnant. Most of the animals got pregnant. Most of them carried them to term. And there were some microscopic changes in the tissues of the pups. The pups were

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kept with the mothers until they were sacrificed about three to six months after birth. At the one microgram per kilogram level, which is the tolerance level, there was one pup that had a slight change in the -- I think it was the mandible, the jawbone, a very minor change, and that was about the only adverse effects seen.

Q. Okay. Dr. Levinskas, would you worship in a church that you knew was contaminated with high levels of PCBs in the air?

MR. DAVIDSON: Objection.

A. Well I have -- There are two questions. One is: What do you mean by high levels? And then while I have my own religious faith, I'm not sure that I can instill faith in the church that you're talking about.

Q. Dr. Levinskas, would you eat fish that you knew were contaminated with hundreds of parts per million of PCBs?

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MR. DAVIDSON: Objection.

A. If I knew fish were contaminated a hundred parts per million with PCBs, then I would suspect somebody else knows it, too. And I would not expect to be served those fish. But would I eat it? I don't know. It depends, I guess, on the fish and my appetite.

MR. ATKIN: Thank you very much.

MR. DAVIDSON: Let us confer for a minute and look at our notes?

MR. ATKIN: Sure.

MR. DAVIDSON: We have no questions for this witness.

MR. ATKIN: Thank you very much.

MR. DAVIDSON: And this concludes the deposition.

MR. ATKIN: Yes, it does.

(AND FURTHER DEPONENT SAITH NOT.)

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I do hereby certify that the witness whose attached deposition was taken before me was by me first duly cautioned and sworn to tell nothing but the truth in the cause aforesaid; that the testimony contained herein was by me reduced to writing in the presence of said witnesses by means of stenography and afterwards transcribed by means of computer aided transcription. The foregoing is a true and accurate transcript of the whole of the testimony given by said witness, as aforesaid.

I do further certify that I am not connected by blood or marriage with any of the parties or their attorneys or agents and that I am not an employee of any of them, nor interested in the matter of controversy.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my notarial seal at Gadsden, Alabama, County of Etowah, this 11th day of May, 1998.

_____

Misty Parry
Notary Public, Alabama-at-Large
My Commission Expires: 11-12-2001

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