IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NEW HAMPSHIRE

Bethlehem Mink Farm, et al	:	
v.	:	Civil Nos. 3456, 72-148
Jurgielewicz Duck Trucking, et al	:	72-273

TESTIMONY OF WILLIAM B. PAPAGEORGE

VOLUME II

(October 23, 1974)

COPY

GERARD J. NOLIN, *Official Court Reporter*
U.S. DISTRICT COURT
CONCORD, NEW HAMPSHIRE 03301

WATER_PCB-SD0000058331

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IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF NEW HAMPSHIRE

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BETHLEHEM MINK FARM, et al.
v.
JURGIELEWICZ DUCK TRUCKING, et al.

Civil No. 3456,
Civil No. 72-148, and
Civil No. 72-273

- - -

Concord, New Hampshire

October 23, 1974

Wednesday

- - -

TESTIMONY OF WILLIAM B. PAPAGEORGE

- - -

BEFORE: The Honorable Hugh H. Bownes, U.S District Judge, and a jury

- - -

APPEARANCES:

STANLEY M. BROWN, ESQ.,
JAMES R. MUIRHEAD, ESQ., and
DAVID B. SULLIVAN, ESQ.,
Counsel for Plaintiffs Bethlehem Mink Farm

RONALD SNOW, ESQ., and
NEIL F. CASTALDO, ESQ.,
Counsel for Plaintiffs Poole/Petterssen

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APPEARANCES (Continued):

LAWRENCE E. SPELLMAN, ESQ., and
EDWARD M. KAPLAN, ESQ.,
Counsel for Defendant Jurgielewicz Duck Trucking

PHILIP G. PETERS, ESQ., and
ROBERT L. CHIESA, ESQ.,
Counsel for Defendant Monsanto Company

N. MICHAEL PLAUT, ESQ., and
STILLMAN D. ROGERS, ESQ.,
Counsel for Defendant Agway

THOMAS H. RICHARDS, ESQ.,
Counsel for Defendant Rozansky

- - -

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(Resumed at 9:50 a.m.)

THE COURT: All right, I guess, Mr. Plaut, you are up.

And, Mr. Papageorge, of course, you are still under oath.

MR. PAPAGEORGE: Yes, sir.

... WILLIAM B. PAPAGEORGE, having been previously sworn as a witness, was resumed and testified further as follows ...

CROSS-EXAMINATION
CONTINUED

BY MR. PLAUT:

Q. Mr. Papageorge, I think when we suspended yesterday, I was asking you about eight laboratories that you considered qualified before December of '71 at that time to make PCB tests, and you mentioned Dr. Risebrough, I think, at the University of California?

A. Yes, sir.

Q. As being one?

A. No, sir. I did not mention him as a laboratory that is available for analytical services.

Q. Did you say he was qualified to make PCB

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testing?

THE COURT: Just a minute. I forget my mechanical duties. Put the microphone on.

THE WITNESS: Dr. Risebrough had access to an instrument that was capable of doing the analytical work at the University of California, and that is the facility that he used to support his research work.

BY MR. PLAUT:

Q. Was there some machine that was necessary to make this testing that he did not have, a mass spectrograph or something like that?

A. That's correct, sir, there is another machine for that work.

Q. And is that pretty well essential to do this work properly?

A. It's only essential in the early stages of developing methods. Once those methods are developed and the chemist has become familiar and experienced, they do not need this second instrument.

Q. Now, you were talking about Mr. Rice in Agway's laboratory yesterday.

By the way, did you ever visit Agway's laboratory?

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A. No, sir.
Q. Do you know where Agway's laboratory was?
A. No, sir.
Q. Do you know if they had more than one laboratory?
A. Yes, sir.
Q. Where did they have laboratories, if you know, or can I help you out? Was it Buffalo?
A. I am sorry. I have heard some cities mentioned. Ithica.
Q. Buffalo?
A. I don't recall Buffalo being mentioned.
Q. All right.
MR. BROWN: We will agree you had one in both places.
BY MR. PLAUT:
Q. Do you know which was doing PCB testing?
A. I believe it was the Ithica laboratory.
Q. And that is where Rice was from?
A. I believe so, yes, sir.
Q. Did that laboratory handle mass spectrograph?
A. I do not know.
Q. Now, I am correct that you speak for Monsanto on matters affecting PCBs; is that correct?

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A. Yes, sir.

Q. Your job description, would you be kind enough to give us this, you act as a central point of liaison; is that right?

A. That's correct, sir.

Q. And you work with the Public Relations Department to handle all "outside" matters of concern and maintain Monsanto's image in the most favorable manner?

A. That's correct, sir.

Q. That is part of your job description.

And you participate directly with business, with customers' plants and others; is that correct?

A. That's correct.

Q. And that position title originally was Aroclor Toxicity Project Manager; is that right?

A. That was the title at the time, yes, sir.

Q. It has since been changed?

A. Yes, sir.

Q. Now, did I understand you to say yesterday, sir, that there was something unusual about your relationship with Agway in this matter, that it did not start off the way they usually start off?

A. That is correct.

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Q. You received an inquiry from one of your Vice Presidents, did you not?
A. That's correct.
Q. With the request to call somebody at Agway?
A. That is correct.
Q. Well, now, didn't the same thing in essence happen as far as an outfit called Intercounty was concerned?
A. No, sir, not to my knowledge.
Q. Well, didn't one of your people approach you as far as Intercounty was concerned?
A. Yes, sir, but he was not a Vice President by any means.
Q. Well, he was a doctor, wasn't he?
A. A Doctor of Science, yes, sir.
Q. And actually, with the information that you gave to him to pass on to Intercounty, was essentially the same information that you gave to Agway; isn't that correct?
A. I give everybody--yes, I give everybody the same information.
Q. And matters came to your attention in various ways: Sometimes it would be a telephone call, sometimes there would be a memo, sometimes there would

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a letter, would there not?

A. Yes, sir.

Q. Why is it so unusual for a Vice President to make an inquiry of you as head of this project?

A. Well, that is just a fact of life. That was the only instance in five years where a Vice President became involved in a matter of this type.

Q. At that particular time, you were what, impressed because a Vice President said that one of your customers in another field was interested and had a problem?

A. Yes, sir.

Q. And he asked you to call somebody?

A. That is right, sir.

Q. That is the basis of it being unusual; is that right?

A. At the start, yes.

Q. Now, after that, the questions which were asked you were pretty much the same as anybody asked you, weren't they?

A. Some of them, yes, sir.

Q. Well, actually, the conversation was fairly typical with Agway's representative early in January, was it not?

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A. Most of it involved the areas that all other requests from people who had a PCB problem had been asking.

Q. Well, let me just call your attention to your deposition. This is, I think, the last day, and on Page 35, I guess Mr. Richards asked this question of you. Question No. 95:

"Question: Well, assuming you did have a conversation, what was the date of your first conversation?"

And we are referring now to Agway.

"Answer: As I thought I indicated yesterday, starting in early 1971, fairly early in January, I was communicating with representatives of the Agway Company. The conversation, as best I recall, followed the very typical type where the initial discussions are held relating to a description of polychlorinated biphenyls, trademarks used, the applications, what effects they have on test animals, in general what do I know about polychlorinated biphenyls, and the discussions eventually end up with is there a test method, can we get samples, what laboratory service can Monsanto

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provide, are there other laboratories; this is the general gist of the discussion.

"And with the Agway representatives, we offered them test methodology samples for their laboratory standards, offered to coach one of their analytical chemists, have them come to our laboratory and work with our people."

Now, that was your answer at that time?

A. That is right, sir.

Q. And it was fairly typical of first contact, wasn't it?

A. Sir, I think--I don't know if I can make myself clear. There is a difference in my mind between the true subject matter and the way the discussion takes place, the way the questions are worded, the hesitation at the other end of the telephone line. It was not a free kind of discussion as I recall it.

This is subjective, I must admit. But after answering many, many requests over the phone, I vividly recall this dialogue as being different in tenure and tone, not in true substance.

Q. Did you indicate that in your answer when your deposition was taken before?

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A. I don't believe it was asked of me at that time. I thought I mentioned my reactions at the time, but not in that section you just read.

Q. Now, who was your original contact with?

A. I believe it was a Mr. or Dr. Gary Rumsey.

Q. And then your next contact was with Dick Rice?

A. Yes, sir.

Q. And went back to Rumsey because you said Rice was not available to you, not any longer?

A. That's correct.

Q. Were they both at the same place, or different places?

A. I am led to believe at the start of this dialogue they were both at the same location.

Q. Do you know if they were there throughout?

A. I have not followed them since then, no, sir.

Q. Now, Mr. Papageorge, how much correspondence did you have with Agway about this problem that they were talking to you about?

A. I only recall one, sir. No, two that I recall.

Q. And which are those?

A. As best I recall, one of them involved my transmittal of analytical methods and informing them that samples of Aroclor were being sent to them [illegible]

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separate cover. The second correspondence I recall was to Mr. Rice after he had visited us, and I believe I sent with that letter available copies of articles, general kinds of information on PCBs.

Q And did you tell him at that time that some study he asked about had not been completed?

A Yes. This had to do with our animal studies, yes, sir.

Q The letter you are referring to, you recall, is dated January 15, 1971, is that it?

A Yes.

Q And that was addressed to Mr. Richard Rice in Ithica, New York, was it not? That is from Exhibit 225.

A Right.

THE COURT: 225?

MR. PLAUT: We have it from Exhibit 225, your Honor.

MR. CHIESA: There is also 21, your Honor.

THE COURT: All right. Take 21 first. There are duplicates in there, I noticed that. 21. What letter is it, do you know? Give us -- what is the date of the letter?

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MR. PLAUT: The date of it is January 15, 1971, from Mr. Papageorge to Mr. Richard Rice.

THE COURT: Okay. Are you offering it?

MR. PLAUT: Might just as well, yes, your Honor.

MR. BROWN: Just the letter?

MR. PLAUT: Just the letter, yes.

THE COURT: Just the one-page letter. That is 15-21A, letter from Papageorge to Rice.

BY MR. PLAUT:

Q And that is the full extent of your correspondence with Mr. Rice or with Agway; is that correct?

A I am sorry, sir?

Q I say that letter, we will say, was the last communication you had with Agway?

A As best I recall, yes, sir.

Q Now, getting back to this question of introductions, Dr. Romoser was what in your company?

A I have difficulty remembering his exact title. But he is an animal nutritionist; he is part of our Agricultural Division's Marketing Services Section. And he gets involved with the technical service involved with the marketing of animal feed supplements.

Q And did he talk with you about Intercounty?

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A. Yes, sir.

Q. And did you tell him substantially the same thing that you told us that you told Agway concerning procedures, what you would do, what you could do, and so forth?

A. I don't recall that kind of conversation, because Dr. Romoser had asked me these questions for prior inquiries. I don't believe I would have had to, in essence, re-educate him.

As I recall, Dr. Romoser's discussions with me had to do with is Monsanto able to help Intercounty with some sampling and can we have a cooperative arrangement with them on looking at samples and comparing results.

That is the best of my recollection on that.

Q. Third day, Page 40, somebody asked you about Dr. Romoser's comments, Question 123:

"And what was the substance of Dr. Romoser's comments to you," and, as best I recall, is your answer:

"Answer: He said I have got a good customer, Intercounty in New York. They have a polychlorinated biphenyls problem. They are asking for some help. Can we give it to them.

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This is the kind of remark as best I remember that Dr. Romoser made. My answer was along the lines just like everybody else, we would like to help the best we can. What do they need? Dr. Romoser apparently went back and discussed further with Intercounty what their needs were.

"Question: What did he report to you what those needs were?

"Answer: As best I recall, he said something about they want us, Intercounty, could like Monsanto analyze many, many samples, and I told Dr. Romoser that we would like to help, but we certainly can't tie up our laboratory with just one customer with all of that work on a high-priority basis, that we would prefer assisting in terms of training analytical chemists, supplying samples, perhaps running a few samples just to make sure their chemists or laboratory is getting the same information we are. If they don't have a lab, virtually we would like to suggest private laboratories as a better way to go. This is the kind of conversation that took place."

Is that correct?

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A. That is correct, sir.
Q. And isn't that substantially the same thing that you told Agway?
A. Well, all of that was included with the Agway discussions, but I believe I also discussed with Agway representatives some of the uses of the PCBs and what types there were, in an effort to at least on their part to try to determine what the source might be.
THE COURT: Mr. Papageorge, do you want a glass of water?
THE WITNESS: I am all right. Thank you, sir.
BY MR. PLAUT:
Q. In other words, you went over with personnel, with Agway, what various uses were of PCBs?
A. That is the best I recall, yes, sir.
Q. Going through the whole list?
A. Well, I don't know if I covered everything, but as much as I could remember.
Q. In general?
A. Yes, sir.
Q. Such as the uses for paper, inks?
A. Yes, sir.
Q. Hydraulic fluids?

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A. Yes, sir.

Q. Heat exchange fluids?

A. Yes, sir.

Q. All those were gone into with them?

A. That is right.

Q. Is Chemical Week a magazine that you subscribe to?

A. I do not personally subscribe to it, but I have access to copies.

Q. They gave you quite a writeup, didn't they, in April 21, 1971?

A. Yes, sir.

Q. Did you give them an interview?

A. Yes, sir.

Q. The title of that article was "Pollution Cops Not Happy."

Is that the article?

A. That is the article.

MR. PETERS: That is not Rockefeller's wife?

THE COURT: No, it's a parody on Gilbert & Sullivan.

MR. BROWN: Which one of Gilbert & Sullivan's?

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THE COURT: I know it's not The Pirates of Penzance, but that is as far as I am willing to go. I think it's The Pirates of Penzance.

MR. BROWN: We will find out at the recess.

THE COURT: I will find out.

Anybody on the jury know?

Well, it's going to be a long case, so we have got to have a few light moments.

BY MR. PLAUT:

Q. Now, in connection with the so-called Campbell Soup incident and Sullivan County incident, you didn't do any field work, did you?

A. No.

Q. You didn't go out in the field to check up and see what was going on there?

A. No, sir.

Q. And you received a telephone call from Mr. Rozansky early in 1971, did you not?

A. Yes, sir.

Q. And did you go over this same information with him that you went over with Intercounty through the doctor and Agway through its representatives?

A. Basically the same kind of information with

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Mr. Rozansky. I think we had a little more specific in terms of discussing his particular facilities and his particular piece of equipment.

Q. And did you go over with him the potential list of areas that PCBs would come from?

A. Yes, sir.

Q. All the way through the list of paper?

A. Yes, sir.

Q. Tapes?

A. Yes, sir.

Q. Heat exchanger fluids?

A. Right, yes, sir.

Q. Did you make any tests for Mr. Rozansky?

A. Yes, we did.

Q. And at what period of time were those tests made?

A. The early part of 1971.

Q. Are you sure you didn't refer him someplace else?

A. As best I recall, when we talked about analyzing materials--and I don't know which of the conversations this was mentioned in--I believe I mentioned the laboratories that I had some experience with and conveyed their names to him over the telephone.

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Q. And didn't he get his testing done, as far as you know, at Woodson-Tenant?

A. Some of his testing was done at the Woodson-Tenant Laboratories.

Q. And another laboratory, Eastern?

A. Yes, sir.

Q. What samples did he submit to you?

This I don't remember. Maybe I should. I don't remember that he submitted any samples to you for testing.

A. As I recall, they represented the samples of the kinds of materials that his trucks would pick up from the various sources, and the primary purpose for our looking at the samples was to see if our results compared with the Eastern Research Laboratories' results.

Q. Do you have copies of those tests? I am drawing a blank on this. I am drawing a blank on tests on this particular one.

THE COURT: Well, do you know?

MR. PETERS: Yes, we have. You do, too. If you don't have them, I will give them to you.

MR. PLAUT: Okay.

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BY MR. PLAUT:

Q. That is a test of April 7, 1971, where there is a spaghetti analysis, Muller's, of Rozansky; is that correct?

A. That sounds like it is, correct.

Q. That was in April?

A. Yes, sir.

Q. Did you make any tests for him prior to the time that you made the tests for Agway which came up in 700 parts per million on bakery meal?

A. No, sir.

Q. Well, if I understand it correctly, in 1970, I think this is already in evidence, you wrote a letter to human food processors, is that correct, a warning letter?

A. Yes. But human food processors, whom we knew had PCBs and heat transfer systems, not the total food industry.

Q. You did not circularize the entire food industry, advising them of PCB problems?

A. That's right, sir. There is no evidence this would be of benefit to anybody.

Q. You didn't send letters of warning to animal food processors?

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A. No, because there again, we had no evidence there was any problem.

Q. You didn't find any evidence of a problem even after these calls from Agway and Rozansky and Intercounty?

A. Well, that was the first evidence of a potential problem.

Q. Then others cropped up in 1971?

A. Yes, sir.

Q. But you sent out no warning also to the feed industry at all concerning PCBs?

A. No warning letters, that is correct.

Q. You didn't issue any public relations statements concerning PCB danger in animal food, did you?

A. No, sir.

Q. And it is fair to say, isn't it, that you probably personally have as extensive a file on this that exists in the U.S.?

A. That is difficult for me to answer, because I don't know what the Food and Drug Administration and the U.S. Department of Agriculture keep in their files.

Q. Let me put it this way: You, from the time you took this work on, started accumulating every single piece of information you could about PCB problems

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anywhere they arose; is that correct?

A. Yes, as much as I could, and that doesn't mean I caught everything.

Q. But it was a pretty extensive file?

A. Well, I cannot say that, because I found when I had 100 articles, which I thought was extensive, I find out later there were 900 possible articles. That is far from being a complete file.

Q. No question about it. You were the one person in this country, or Monsanto was--you for Monsanto; put it that way--you knew more about this problem in 1970 than the government itself knew?

A. That was our understanding, yes, sir.

Q. And it is still your understanding, isn't it?

THE COURT: You mean as of 1970?

MR. PLAUT: As of that time.

THE WITNESS: That is right, sir.

BY MR. PLAUT:

Q. And with all this knowledge, you did nothing to warn anybody about PCB possible contamination wherever it might exist as relating to animal food, or when it results from the contamination of animal food?

A. No, sir. It was, from our perspective there wasn't

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any problem. We were not aware of any potential. We just didn't see the need for such a letter.

Q. You didn't see any problem as far as the feed industry was concerned?

A. Not at that time.

Q. In 1970?

A. Yes, sir. Keep in mind we had removed the sale of PCBs to the uses of the kind we thought contributed to incidences like the one we are discussing. So once we discontinued the marketing of PCBs to those uses, what further notice or help a letter might help with, we don't know.

Q. But am I correct, you didn't actually withdraw PCBs from heat exchangers for use in the food industry until sometime in '71?

A. No, sir. The withdrawal of heat transfer fluid from food industries was targeted for July 1970, and was terminated by September 1970.

Q. And yet with these problems arising, these problems arising early in '71, you didn't see any point in warning anybody about the potential dangers involving PCBs?

A. We didn't know really what good a letter would do, sir. Keep in mind we have been discussing this

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matters with representatives of government agencies whom we think are responsible for informing the general public. And, in their opinion, the problem was not of a magnitude that required any action, at least at that time.

Q. And you are talking now about '70 and early '71?

A. That is right, sir.

Q. And were any restrictions put on by the FDA, as far as tolerances, prior to March of 1971?

A. There was an action guideline placed on the amount of PCBs that could be present in poultry for human consumption.

Q. When did that go into effect?

A. I don't personally know when it went into effect, but it was used in the incident we have talked about here in the Suffolk County, New York, incident.

Q. Up to the time of the Suffolk County, New York, incident, there were no such guidelines, were there?

A. I was not aware of any, sir. I am not aware of any.

Q. Excuse me, Mr. Rogers has commented I said Suffolk County.. I meant Sullivan County.

A. I am sorry, that's correct. I misled you.

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Q We are talking about the Campbell Soup incident, aren't we?
A That is right, sir.
Q And, by the way, are you aware that the FDA became involved in that?
A Yes, sir.
Q The Department of Agriculture, the State of New York became involved in that?
A Yes, sir.
Q Any other governmental agencies that became involved?
A I am not aware of any other.
Q Two is enough, one from federal and one from the state; is that enough?
A That is.
Q Would you tell me what your conversations were with Mr. Rice when he came to see you on January 12 and 13?
A As best I recall, I had conversation with Mr. Rice, other than the usual social-type comments, centered around the repeat of the kind of things I discussed over the telephone with Mr. Rumsey, a discussion of these PCBs again, where they possibly could have been so they could get into feed ingredients.

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That is the general gist of our discussion, along with some specific discussions about samples he had brought with him, the re-emphasis about keeping his laboratory immaculate, so he doesn't contaminate it, some review, although not in total depth, of the methodology and how to use the charts and how to quantify and identify the material.

Q So he had a lot of training to get, did he not?

A I wouldn't call it--no, sir, I wouldn't call it a lot of training. I think he had the basic understanding, that all he needed, in my opinion, was sort of a polishing up of his techniques so that the numbers he was reporting could truly reflect what was in the sample.

Q Yes, but actually, the two days that he spent there was just a beginning of a training exposure?

A Yes, if you consider experience as being part of the total requirement here, yes. The more samples a chemist looks at, the better he becomes.

Q Well, in your opinion, certainly, the two days he had in St. Louis was simply the beginning of his training exposure in the PCB field; is that correct?

A That is correct.

Q And, as you say, that was January 12 or 13,

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1971?

A. That is correct.

Q. When it came to the actual instruction on methodology and things of that kind, I assume that you didn't give him that. You turned him over to somebody in your laboratory, did you not?

A. That is correct.

Q. You weren't the one that went through everything with him, step by step, showing him what to do?

A. No, sir.

Q. Did you actually make any of these tests or were these made by other people? I am talking now about the 770 parts per million test.

A. These were done by people in the laboratory that prepare the sample and turn the dials and make the charts, and so on.

Q. And these tests were made as a result of the other samples having been checked before that and coming up with higher results elsewhere; is that correct?

THE COURT: You want it read back?

THE WITNESS: Yes, I am confused by the question.

THE COURT: Mr. Nolin will read it,

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unless you want to withdraw it.

MR. PLAUT: I will withdraw it, your Honor.

BY MR. PLAUT:

Q. You knew when these tests were made in Monsanto's laboratories on the wafer meal, the bakery meal, which gave this high reading of 770 and some parts per million, that that same bakery meal had been tested elsewhere beforehand?

A. It was our understanding, yes.

Q. You understood, did you not, that it had been tested in Agway's own laboratories; what they were doing is sending it out to you for verification?

A. That is correct, yes.

Q. So that, as a practical matter, you came up with a higher count than they did?

A. That is right, sir.

Q. There was somewhere around 400 parts per million on one test?

A. It's that order of magnitude. It wasn't anywhere near the 700 our laboratory found.

Q. Did you ask them for any more samples after this first one came there so that you could double-check it to make sure that your testing was accurate?

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A. No, sir. The fact that the report we looked at yesterday showed two results on the same sample, it would indicate that our laboratory did go back and look again at another portion of that same total sample to verify its number. This is why we see two numbers in the 700 range.

Q. I think what I am trying to inquire to is whether the sample which was received by Monsanto was in sufficient quantity to be a representative sample?

A. Oh, sir, we don't know. We never know when we look at a sample whether it's representative of anything. All we say is that the material, as we received it, analyzes in this fashion. But we know nothing about the history of the sample, the size of the original source of the material, or how the sample was taken, and so on.

Q. What you are, in effect, saying is that you wouldn't know from this sample it was part of we'll say a five- or ten-pound bag which was, in turn, taken from a whole load?

A. That's right.

Q. Of what, 20 tons or something like that?

A. We really know nothing about the sample.

Q. Now, was this sample, however, high enough

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cause any alarm on your part as to a pollution in the feed industry?

A. No, sir.

Q. That didn't bother you a bit?

A. No.

Q. But you knew this was an ingredient in feed?

A. Yes, sir.

THE COURT: Now, I want to get something straight. Are you talking about the Rozansky sample or the Agway sample?

MR. PLAUT: I am talking about the Rozansky sample--I am sorry, your Honor. I am talking about the sample of Rozansky meal which was submitted by Agway.

THE COURT: Well, I understand that, but there was later some other samples submitted.

MR. PLAUT: There was later a sample, as I understand it, from Rozansky, which was pure spaghetti.

THE COURT: It's not the spaghetti; it's the Agway sample, then. All right. I assume you understand that?

THE WITNESS: Yes, sir.

THE COURT: Okay.

WATER_PCB-SD0000058363

BY MR. PLAUT:

Q. And when that sample came out at 775 parts per million, that was of no consequence to you at Monsanto?

A. No, sir, because as I have indicated earlier, one sample doesn't really tell us anything. And in a mixture of this type, which is not by any means totally uniform, not homogeneous, it's very easy to get a single sample that they measure into the thousands of parts per million, and these high numbers don't tell you very much.

Now, if many, many samples are taken from this total amount of material that is being looked at and they all averaged out at these high levels, that has significance.

Q. What you are saying, then, is that if there is one sample taken, it's a high-level one, it's of no significance as far as the overall picture is concerned?

A. It could well have no significance. Next sample may measure nondetectable right next to it.

Q. And you saw no reason to discuss this matter with Agway one way or the other?

A. Well, I don't know that it wasn't discussed, sir.

WATER_PCB-SD0000058364

Q. Not by you?

A. Not by me, no, sir. The two laboratories were talking over the telephones about these results, so discussion no doubt took place.

Q. Did the thought go through your mind and did you discuss it with anybody as to the probable source of contamination of this particular sample?

A. Oh, yes. Oh, yes.

Q. It did?

A. Yes.

Q. Did you talk it over with anyone else?

A. Yes, sir, in our laboratory.

Q. Did you disclose your thinking to your laboratory people?

A. Yes, sir.

Q. And did they in any way communicate your thinking to Agway that you know of?

A. I understand that they passed on these thoughts to Agway people.

Q. And one of the thoughts had to do with leakage in heat exchangers?

A. Possibly.

Q. As being a cause of pollution?

A. Yes.

WATER_PCB-SD0000058365

Q. And even with that thought in mind, you didn't see any point in issuing any warnings either to Agway or people in the feed industry?

A. That is correct, sir.

Q. With the Sullivan County Campbell Soup problem in mind, did your concern do any independent--I used the word "investigation" before, which I understand you didn't do, but did you do any testing on your own?

A. No, sir, I wouldn't know what to test for.

Q. You weren't trying to assist industry or the feed industry in any way to try to discover sources of contamination and cure up the problem, I take it?

A. Well, we did assist one feed company, which I think was related to this incident that we referred to.

Q. No, I understand. You are talking now about what you did with and for Agway?

A. Well, there was another company that asked for help similar to Agway's.

Q. And that was Intercounty?

A. Yes, sir.

Q. And you assisted them by giving them some advice?

A. Yes, sir.

WATER_PCB-SD0000058366

Q. But you made no independent studies of your own; I think that is what I am getting down to.

A. No, sir. I wouldn't know what to study. If you recall, the incident was one of presence of PCBs. No harmful effects were reported.

Q. Except what, no exception to that? No harmful effects reported?

A. At that time, with the New York chicken incident, as we call it, only the presence of PCBs was reported.

Q. That was a sufficient problem to get the FDA involved, to get the Department of Agriculture of the State of New York involved?

A. Yes, sir.

Q. And have them set up new standards?

A. Yes, sir.

Q. But it didn't involve you?

A. We are not involved in setting the standards, no, sir.

Q. You didn't assist in any way in any conferences, going over the problem, advising as to what standards should be?

A. No, sir.

MR. PLAUT: I think that is all, your

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Honor. Thank you.

THE COURT: Mr. Spellman?

MR. SPELLMAN: I have no questions, Mr. Papageorge. Thank you.

THE COURT: Mr. Brown.

REDIRECT EXAMINATION

BY MR. BROWN:

Q Mr. Papageorge, you were inquired of as to whether you made any warnings to people in the animal feed area and I think when I opened I indicated that you did.

I think the answers to Mr. Plaut indicate that you didn't. But do you recall in the summer of 1970, in August, that there was a form letter put together to be sent out to somebody or other, strongly recommending that PCBs not be used in applications which could lead either directly or indirectly to the contamination of food and water supplies for humans or animals?

A I recall that letter, yes, sir.

Q To whom was the letter directed?

Let me show you from Exhibit 5, and I don't know what part of 5, but it's a letter.

WATER_PCB-SD0000058368

THE COURT: What is the date of the letter?

MR. BROWN: August 14, 1970.

THE COURT: August 14. I thought that was in evidence.

MR. BROWN: I discussed it with the witness, but it's not in evidence.

THE WITNESS: I recollect the letter. This letter was sent to the customers who purchased PCBs that we referred to yesterday as the plasticizer applications. These are the adhesives, the inks, the sealants, the miscellaneous types of uses.

BY MR. BROWN:

Q But not to the people who had heat transfer applications in food processing plants, because they are on a different list?

A They are on a different list, yes, sir.

Q But that did go out to some of Monsanto's customers, those that the Plasticizer Group felt were using it in application to which it might apply?

A Could have used it. This would cover the ink, the adhesive, carbonless copy paper, all of these miscellaneous uses.

Q Attached to the letter, Mr. Papageorge, are t

WATER_PCB-SD0000058369

lot of other sheets indicating viruses and various concentrations of polychlorinated materials and non-polychlorinated materials.

Now, do those spec sheets go with the letter, do you recall?

A. Yes, sir.

Q. And those that indicate the types of uses and the types of materials for which the letter was directed

A. That is right, sir.

MR. BROWN: I offer the letter and the attachments, your Honor.

THE COURT: All right. This will be 16-5B, letter of Monday, August 14, 1970.

BY MR. BROWN:

Q. At that time, Mr. Papageorge, the Food and Drug Administration had already established maximum levels of PCBs allowed in certain foods, 5 parts per million in fish, and .2 of 1 percent of a part per million in milk?

A. Yes, sir.

Q. It's referred to in the letter itself?

A. That is right, sir.

Q. And that was the guideline level established that you were mentioning to Mr. Plaut, and that is

WATER_PCB-SD0000058370

one of the earliest that were put out?

A. The guideline level I mentioned to Mr. Plaut was in addition to the one for milk and fish. The level I mentioned earlier was the first guideline with reference to poultry.

Q. That came after these guidelines had already been established. They established a different level in early 1971 for poultry?

A. That is correct, sir.

THE COURT: I think we have marked what was--that is your copy, Mr. Brown?

MR. BROWN: Yes, I understand.

BY MR. BROWN:

Q. Now, in this August 14 letter, Monsanto did admit that the danger of food contamination for humans and animals was a hazard, correct; you even point out particular applications which are more hazardous than others at the bottom of the letter?

A. That's right, sir.

Q. So you were familiar with the fact, as of August, the contamination of food for humans or animals was a hazard if PCBs were in the area, where they could get into the food?

A. Correct.

WATER_PCB-SD0000058371

Q Now, you recall a letter to, addressed to Dr. Rice, the fellow that Mr. Plaut is now--

THE COURT: We don't know whether he is a doctor or not.

BY MR. BROWN:

Q But addressed to him as Dr. Rice, January 15, which was introduced?

THE COURT: Excuse me?

BY MR. BROWN:

Q In the third paragraph, and this is January 15, 1971, in this third paragraph it indicates knowledge by Monsanto of a relationship between the hatchability of eggs and contamination by PCBs, right?

A No, sir, there is no reference to hatchability. There is a reference to the chickens' ability, and I am quoting, "To lay normal hard-shelled eggs."

Q Well, us poultry fellows take the view, don't we, that if the shells aren't hard enough, the chicken can't sit on the egg long enough to hatch it without breaking the shell.

Isn't that the problem they talk about with regard to the ability to lay a hard-shelled egg, hatchability of the egg?

A It's a matter, sir, of how thin is thin. It

WATER_PCB-SD0000058372

it gets this thin, it's fragile, it can't hatch. There are evidences, too, that there have been eggs that did hatch which are thinner than normal egg-shells.

Q But the concern you are expressing in the letter, Mr. Papageorge, and you are the one doing this, you tell Dr. Rice that the results of studies on Leghorn chickens will be presented, and then published?

A Right.

Q Show that Aroclor affects the chickens' ability to lay normal hard-shelled eggs similar to the phenomenon noted by investigators on some species of wild birds, right?

A Correct.

Q And you are referring there to studies by others of the wild birds becoming unable to get a thick enough shell on the egg to permit the egg to be hatched?

A That is right.

Q All right. Neither one of us are poultry experts; is that correct?

A That is true.

THE COURT: I thought youboth were.

WATER_PCB-SD0000058373

BY MR. BROWN:

Q Now, you also sent Dr. Rice a part of your library, a collection of the scientific literature, so he would have that readily at hand?

A Yes, sir.

Q And you advised him concerning this animal toxicity, the study project that was going on at your independent laboratory for Monsanto?

A Correct.

Q Now, your last paragraph says that you make reference to having received a call from Dr. George in Albany, and also having received a call from Mr. Hans Crump, U.S. Geodetic Survey, Water Quality Control, Washington, D.C., in which he mentioned that some problem of chlorinated biphenyls in chickens had developed in New York State, correct?

A That is correct.

Q Now, when you wrote that, did you have in mind that the prior calls that you had had from New York officials and federal officials actually related to precisely the same incident?

A That was my impression, yes, sir.

Q And I want, if I may, to have you as specific as your recollection will permit it, as to when you

WATER_PCB-SD0000058374

first had that incident brought to your attention. I am trying to fix the date of the incident, and you were inquired about this in your deposition on the fourth day.

Now, do you recall, sir, when it was that either the New York State people or Campbell first talked to you, what month it was?

A. The best I recall, it was before the Agway inquiry, and it's sometime in November or December, as close as my recollection will permit me to state.

THE COURT: Excuse me just a minute.

Mr. Peters, I overlooked you. I know you wouldn't let anything get by you if you didn't want to. I assume you do not wish to examine Mr. Papageorge at this time?

MR. PETERS: Your Honor, I will examine him at this time, but after Mr. Brown is done. Perfectly all right.

THE COURT: I am sorry.

MR. PETERS: Perfectly all right.

BY MR. BROWN:

Q. Fourth day, Page 109, so the jury will know the witness' recollection today is the same as it was back in January when his deposition was taken.

WATER_PCB-SD0000058375

Question 327 was:

"When do you say you first learn about PCB residue showing up in chickens grc New York State for us by the Campbell plant?

"Answer: I first heard"--then re referring to counsel's looking at anot deposition in another case, and the t deposition you said, "I first heard -i are looking at that you will find t g dates in there. As I recall in th d ition it was mentioned I said something a t November-December 1970. I first learr about it in January. No, I am confused on t . About November or December I first hea f what I called the New York Campbell So incident. It was in January that I fir - heard from the Agway people."

That is what you said then?

A. That is what I said then.

Q. And that is your recollection today, as to the sequence of events?

A. There is a correction, though. The Agway contact was made late December.

WATER_PCB-SD0000058376

Q Late December rather than January?
A That's correct.
Q So the actual sequence was that Campbell and the New York authorities contacted you in November, December, and at the end of December, Agway?
A That is right.
Q And do you recall, Mr. Papageorge, the first contact, whether it was Campbell or New York authorities, what did they actually tell you the situation was that was of concern to them?
A As I recall, the incident was described to me as a situation where what they call the spent laying hens remained ready for slaughter and some laboratory in looking for other chlorinated hydrocarbons found PCBs present.

The call made to my office was an attempt to again find out where could they come from. Why would they be in the poultry. And this is the gist of that conversation. There was no request at this time for analytical methods or help with samples or anything of the sort.
Q Well, they told you that they weren't actually looking for PCBs, but found something that wasn't what they were looking for which turned out to be

WATER_PCB-SD0000058377

PCBs?

A. That is my understanding.

Q. Now, in the type of monitoring, if that was what that type of testing is, what are the other items that looked like PCBs or which may be interpreted to be something else, but actually have PCBs there that are not noticed unless the man knows what he is looking for? What are they?

A. DDT is the chemical they're looking for, sir. And as I understand it, it becomes a matter of most routine, as best I understand it, for the food industry to be on the lookout for the presence of DDT, and the established routine procedures for looking for DDT.

It's at this point in time in 1970 this laboratory apparently was sensitive enough to the PCB type of fingerprint that the analyst was able to identify it as a PCB and reported it.

Q. What is Dieldrin?

A. Dieldrin is the name of another pesticide. It's considered a chlorinated hydrocarbon.

Q. And does it give a fingerprint in the same general area that an unsophisticated fellow might-- let me ask it this way: Is the PCB fingerprint

WATER_PCB-SD0000058378

close enough to that one so an unsophisticated fellow might report Dieldrin when he actually is looking at PCB?

A. When you use the description "unsophisticated," it's possible.

Q. But it's in the same part of the spectrum?

A. Yes, sir, if he is not careful.

Q. And what about Hepachlor epoxide?

A. No, I understand. Hepachlor epoxide. I have never been involved in discussions involving hepachlor epoxides and whether they fall in this range, so I can't comment on it.

Q. You don't know whether there that is inaccurately reporting when they're looking at PCBs or not?

A. No, I don't, sir.

Q. I have just a couple of other things, sir.

On that big sample, that sample that gave us a 747 reading, by Monsanto, you have indicated that since you were only sampling one sample, although you make two tests out and divide it out so you can run it through two times, that was of relative insignificance to you because you couldn't depend upon the one being indicative of the amount of PCBs in the mass?

A. That is correct.

WATER_PCB-SD0000058379

Q. Now, does the fact that Agway had previously tested it several times and come up with readings in the range of 100 to 400, does that indicate that maybe you should pay more attention to it?

A. Yes. If I were the people that were using this product, I would determine the source, yes, sir.

Q. And if Warf examined additional samples and came up in the four to five hundred range, so that you have got Agway down to 100, but going up to 400, Warf testing it from four to five hundred, and Monsanto getting up into the seven hundreds, so that indicates the 20 pounds or whatever it was being used for all these samples are pretty well laced with PCBs?

A. Yes, that 20-pound sample, yes, sir.

Q. And that being so, it's not just a little bitty piece that goes into a hypodermic needle that goes into the machine; you have got enough there that whoever is handling that feed and putting it into trade should be concerned, right?

A. I would be, yes.

Q. Actually, Mr. Papageorge, actually, didn't Monsanto also test some other Rozansky dried bakery product, I guess supplied by Intercounty?

A. Yes, sir.

WATER_PCB-SD0000058380

Q. Well, it's in a batch of papers that Mr. Plaut didn't put in, but which come out of Exhibit 21, attached to the letter from Exhibit 21 that went into evidence.

Is this longhand test report, numbered up in the upper right-hand corner 157486, a test report on some Intercounty Farmers Association chicken feed samples and Rozansky, indicating that Rozansky's feed was tested in a couple of places?

A. One place, sir.

Q. Well, there is an indication that Rozansky at the top in the caption, Rozansky above the middle of the page, and the test result down at the bottom on Rozansky certainly from other things tested.

A. That is correct.

Q. Do you know anything about that test?

A. Well, I know it's on this document. I don't understand what I am expected to know.

Q. Well, you know that was done?

A. I know it was done.

Q. Apparently it was done in June, June 27 of 1971.

A. That is right.

Q. Do you know what part of Rozansky's production was being tested, that is when it came out?

WATER_PCB-SD0000058381

A. No, I don't.
Q. So we don't know when?
A. I don't know the source and I don't know when.
Q. The result of the test showed what, so far as PCB contamination is concerned?
A. 1.82 parts per million on the total weight basis. 19.7 parts per million on a fat basis.
Q. Lipid?
A. Lipid.
Q. Lipid is 17.7. Total is 1.82 parts per million in both instances.
A. 1.82 on the total weight of the material as it arrives. And then the slash mark and 19.7 is the parts per million on the fat portion of the total sample.
Q. Next page in this group is something in long-hand addressed to Mr. Papageorge, dated February 15, 1971, signed by someone by the name of Scott.
A. Yes, sir.
Q. And the advice was what?
A. It says, "Today"--you want me to read what it says?
Q. Yes..
A. "Today I received a sample of bakery meal for

WATER_PCB-SD0000058382

Dick Rice. We will analyze it, ASAP," which means "As Soon As Possible." Signed Dick Scott.

THE COURT: It doesn't say Dick Rice? My copy says D. Rice.

THE WITNESS: D. Rice.

BY MR. BROWN:

Q That is a note to you indicating Rice's sample, some sample of his has arrived and it's a sample of bakery meal?

A That is correct.

Q Going through the other papers in this group, February 12 letter to Rozansky by E. Scott Tucker.

A Yes, sir.

Q And he is sending Mr. Rozansky's samples of Aroclor to use for testing?

A Yes, sir.

Q Offering further assistance?

A Yes, sir.

Q Letter on the same date, February 12, to Mr. Cecil Shirley of Eastern Research Associates in Delaware.

A Yes, sir.

Q Sending Mr. Shirley also samples to use for testing?

WATER_PCB-SD0000058383

A. Yes, sir.
Q. And a copy of the methodology?
A. Yes, sir.
Q. And offering further assistance?
A. Correct.
Q. Then there is a May 13, 1971 letter to Dr. Romoser from Intercounty Farmers Co-Op?
A. Yes, sir.
Q. Asking your Monsanto's Lab to test three or four samples of finished feed per month to test for PCBs?
A. Yes, sir.
Q. And then there is a January 27, 1971 sheet reporting on analysis of Agway samples for PCBs.
A. Yes, sir.
Q. There is one, two, three, four, five, six, seven items tested?
A. Yes, sir.
Q. And in the lipid, in the fat, all of them were more than three parts per million?
A. That is right.
Q. One of them as high as 30.81?
A. Yes, sir.
Q. And this particular set of tests were confirm

WATER_PCB-SD0000058384

by--

A. Mass spectrophotometer, yes, sir.

Q. And what is this longhand? Can you tie that to the other documents?

A. I will try. I am looking at a sheet here that is identified as a work request form, which is a Monsanto form, which is used by the different parts of the Research Department when they request help from each other, and this document says that Dr. Scott Tucker, who is responsible for running the GLC, gas liquichromaphotography test, was asking another group in the department to run mass spectrophotography tests to confirm the PCBs, to confirm numbers he was reporting were truly correct.

Q. And he is making the request with regard to the previous page where he didn't double-check in that fashion?

A. That's correct, sir.

Q. What is the other longhand sheet? Can you make anything of that?

THE COURT: It's unintelligible in this one.

THE WITNESS: I will read it. Presence of PCBs could not be confirmed because of high low

WATER_PCB-SD0000058385

known E.C. present.

He is saying that there is no interfering material in this sample. He means none. E.C. means none. It lacks property needed to make the instrument respond and form a chart.

BY MR. BROWN:

Q Is this the reason why in this instance the double-check was being used because of interfering material that made them doubt it?

A I cannot tell from this which sample he is referring to.

Q All of these papers, then, except possibly for the one the Court can't read and neither can I, but you can, all the rest of them are referring to testing of feed out of Sullivan County with Rozansky's bakery products involved in the testing?

A Yes, sir.

MR. BROWN: I offer the entire group, your Honor; the first page was previously introduced this morning.

THE COURT: All right. Subject to the exception of Rozansky, the objection of Rozansky and Agway, they may be marked. That would be 17-21A-- excuse me, B. Call that Monsanto Tests - Sullivan

WATER_PCB-SD0000058386

County.

BY MR. BROWN:

Q I had thought somebody else would ask for the warning letters, but nobody else did. You did send out warning letters in February to customers with regard to environmental problems developing with PCBs?

A That is correct, sir.

MR. BROWN: I would like to offer the letters as an exhibit. 5-E through N, I am told, on the new numbering.

THE COURT: Exhibit 5-E through N or M?

MR. BROWN: N, your Honor.

May I go over them with the witness and perhaps the Court and counsel can find them.

BY MR. BROWN:

Q First one, Mr. Papageorge, February 9.

THE COURT: Well, we don't have them marked in the exhibits that were turned over to me. They're not marked A, B, C, et cetera, so you will have to. Well, at the recess we can put them in. Get them to identify them. We will take a recess and we can pick out of our exhibits which letters you are putting in.

MR. BROWN: Very good.

WATER_PCB-SD0000058387

which is slowing us down a little bit.

THE COURT: I don't know how inadvertent it is, but let's go.

MR. BROWN: Well, I didn't do it.

BY MR. BROWN:

Q The first folder which is in the 5 series contains a February 9 letter, that is a warning letter sent to what group?

A This letter was sent to those customers who purchased heat transfer fluids and industrial hydraulic fluids.

Q Now, that one would have gotten to food processing plants that had heat transfer installations?

A That is correct.

Q All right. The next one is February 18; to what group of customers did that go?

A This letter was sent to customers who purchased the PCBs for us in electrical equipment, dielectric application.

Q All right. The next one is February 19, and to what group of customers did that go to?

A This went to the customers who used PCBs in those applications we referred to earlier as the plasticizer applications.

WATER_PCB-SD0000058388

Q. The next one is a form letter of February 27, mailed February 27.

A. This also was sent to customers who purchased PCBs for plasticizer applications.

Q. This was made up for your distribution to send to distribution customers, correct, indirect customers so far as Monsanto is concerned?

A. No, sir, I don't see that.

Q. All right. These are direct customers?

A. This is the direct, as best I can tell.

Q. All right. The next one is another one of February 27, also, and to what group of customers did this go?

A. This is a duplicate, sir, of the one I just described, as best I can tell.

THE COURT: Well, if it's a duplicate, we really don't need it.

MR. BROWN: If it's a duplicate, I will take it out, your Honor.

BY MR. BROWN:

Q. It's a duplicate?

A. Yes.

Q. Those warnings also were sent out in February?

A. Correct.

WATER_PCB-SD0000058389

Q And they merely alerted your customers to the reports of an environmental problem developing with PCBs without any suggestion that supplies would be cut off at that point?

THE COURT: Call that 18-5B.

How many letters are there? Whatever they are they'll be called number of warning letters, February of '71; is that right?

MR. CHIESA: February 1970.

THE COURT: February 1970. Count them. I can't wait to know how many there are.

MR. BROWN: I think there are four, your Honor.

THE COURT: Okay.

THE WITNESS: In response to your question, yes, these letters were sent out and we did describe the presence of PCBs as distinguished from your word "problems" of PCBs.

BY MR. BROWN:

Q You wouldn't have sent it out if you hadn't thought there wasn't going to be a problem. You're warning the customers that the presence of PCBs is now being reported, they're out in the environment, and for goodness sakes, let's be careful?

WATER_PCB-SD0000058390

A. That's correct.

Q. You do not suggest as of February that you are going to cut off supplies?

A. That is correct.

Q. And the next one we come to, Mr. Papageorge, is 5-D.

THE COURT: This is 5 still?

MR. BROWN: They're all in 5, your Honor.

BY MR. BROWN:

Q. As of May 11, what is that letter?

A. This is a copy of a letter signed by our Sales Director of PCB Fluids in 1970, addressed to Mr. Reback, Federal Pacific Electric Company, in which he, Mr. Olson, is reviewing with Mr. Reback some suggestions that have to do with proper disposal, proper use of PCBs, and this letter also informs Mr. Reback that Monsanto will accept scrap material for temporary storage pending the completion of our disposal incinerator.

Q. This is the beginning of Monsanto's alerting people that you will, as soon as you can, get something to dispose of it; and, in the meantime, you will stockpile it for them, waiting for a chance to get rid of

WATER_PCB-SD0000058391

it safely?

A. That is correct.

Q. Then there is a May 12 letter to Mr. Fleming, and what is that?

A. This letter to Mr. Fleming of the Wagner Electrical Corporation, it appears to be a case of response to Mr. Fleming's question of where is this letter you refer to. So attached to this top sheet is a copy of the February 18 letter which was sent to the dielectric customers.

Q. That is an indication of your second letter generating some interest, the first general warning apparently didn't get through to them?

A. In this instance, yes, sir.

THE COURT: All right. Now, those are the May 1970 warning letters, right?

MR. BROWN: Two, your Honor.

THE COURT: That is 19-5DB, two letters.

BY MR. BROWN:

Q. Then we come to Exhibit 5-E, to a letter addressed to Mr. Gillruf of Central Solvents and Chemical Company. What are you advising him of?

A. Mr. Gillruf is a representative of one of our distributors, and in this letter we are informing him

WATER_PCB-SD0000058392

of some actions we are going to take, and the actions are that we will discontinue the sale of PCBs to the plasticizer applications as of August 30, 1970, and we are telling him that we are going to notify our customers, those customers that we deal with directly, and we are also suggesting that as a distributor, it would seem appropriate that he do the same thing.

And we have attached to that some sheets giving him some information on where our sales officers are and what some of their replacement suggestions are for these materials.

Q. In other words, this is so your distribution can alert customers that Aroclors listed on the first page are not going to be available, but Monsanto has some replacement materials that perhaps will satisfy their needs?

A. That is correct.

Q. The next one is indicated to have a date at the end of May or June 1 in longhand, and is that the same, is that a form letter for the distribution to send out giving the same information?

A. No. This letter we are looking at now is a letter, a copy of the letter that was sent to those customers who purchased directly from Monsanto.

WATER_PCB-SD0000058393

Q But with the same information?
A The same information, yes, sir.
Q So the two of those letters are the advice to your distribution to your direct customers with regard to these withdrawals and possible replacements?
A Correct.
THE COURT: Those are two letters, May and June of 1970. This would be 20-5EB.
BY MR. BROWN:
Q Then from 5-G, we have already introduced a June 8 letter that you sent to the heat exchange applications in food processing, but in addition to that, on June 11, what was the letter that was sent out by Mr. Olson?
A This letter of June 11 sent by Mr. Olson, Marketing Director for the Functional Fluids Group, a letter to our customers informing them that we are going to remove the PCB-containing products which we have called the industrial applications.
This had reference to the hydraulic fluids.
Q Hydraulic gas turbines, that type of thing?
A That' type of application, yes, sir.
Q On June 11 you sent out a similar letter with regard to your trademark Pydraul, which is a

WATER_PCB-SD0000058394

hydraulic application?

A. Yes, sir.

Q. And the third document in here is the Regional Sales Office listing, and do you know why that is there?

A. That is put in there as a convenience to our customers to give them some point they can contact Monsanto.

Q. And that went with the letters?

A. Yes, sir.

MR. BROWN: Offer the two letters of June, your Honor.

THE COURT: All right, 21-5FB, two June letters of Monsanto.

BY MR. BROWN:

Q. And 5-H, first letter we have is August 6 with regard to MCS1016. What is that a notice of?

A. This is a notice sent to our customers who use PCBs in the manufacture of capacitors, informing them that we had purified one of our Aroclors, the Aroclor 1242, to remove the higher-chlorinated members in the mixture; we had renamed that material MCS1016 while it was being studied in the laboratory. And this letter does refer to MCS1016 as now being the

WATER_PCB-SD0000058395

recommended material for use in capacitors instead of the old Aroclor 1242.

Q Now, this is a replacement by better distillation to reduce some of the hazards of capacitors?

A Yes, sir.

THE COURT: 22-5HB, letters to electrical customers.

BY MR. BROWN:

Q Now, 5-J, they are all of August 27, 1970. Now, what is this about, Pydraul again?

A This has reference to the introduction of a replacement Pydraul, which did not contain the PCBs.

Q And this indicates that as your inventory of the one that did contain PCBs runs out, this will follow?

A Yes, sir.

Q And then in this same folder, February 1, 1971, is there a further Pydraul notice?

A Yes, sir. This is a notice that informs our customers that five of our old Pydraul formulations have been changed to remove the PCBs.

Q And as soon as those with the PCBs are out of inventory, these will follow?

A That is correct.

Q Then April 15, '71, is there another Pydraul

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notice?

A. This is the final notice that says all of our Pydrauls are now reformulated with no PCBs.

Q. And this is an indication of the manner in which the Pydraul was staged out?

A. Yes, sir.

MR. BROWN: We offer it, your Honor.

THE COURT: All right. This is 23-5CB, three letters re: hydraulics.

BY MR. BROWN:

Q. Out of 5-K, back in September 28, 1970, now this letter, which is addressed to a Robert Crabbe of Aerovox Corporation, down here in New Bedford, Massachusetts, this is with regard to the disposal problem?

A. Yes, sir.

Q. And what generally was the advice being given as of September 28?

A. We are informing Mr. Crabbe that it appears that our incinerator will be ready--will not be ready until early 1971. In the meantime, you may ship scrap material for incineration, and give him an address and copy of label to put on the container.

Q. Next document is October 26, and this is with

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regard to vacuum pump fluids?

A. Yes, sir.

Q. What was this notice?

A. This notice says, informs the customer that our vacuum pump fluids, which we call Santovac 1 and Santovac 2, contained PCBs, and that since the FDA had announced guidelines as of October 1970 for PCBs permitted in fish and milk, we were suggesting that-- I will read: "Therefore, control of waste and of spills is imperative, and in no case should materials be discharged directly into streams."

Q. This is a disposal warning letter?

A. That is correct. And we offered to dispose of it for them.

Q. If they wanted, you would take it in and dispose of it for a slight service charge, plus freight?

A. That is correct.

Q. December 15, 1970, is again a letter to the trade on disposal?

A. This is a letter to the dielectric fluid customers, informing them of some suggestions on disposal. It's really a status report on what we hope to achieve.. And at that time we hoped to be able to handle solid material, like insulation, rags,

WATER_PCB-SD0000058398

sawdust.

Q. These PCBs get into insulation when they leak inside of insulated pipes, so you have soggy insulation and you dispose of that type of thing?

A. No, in dielectrics, he is referring here to the insulating materials used in the inside of the transformers to accept different metal parts, that kind of insulation. And this letter also asks the customer to give us an idea of how much waste he will generate so that we can put the numbers together and design a unit to handle the total anticipated volume.

Q. And the November 25 letter to users, again of heat exchange fluid, what is that one about?

A. This is all that we saw yesterday.

Q. That is the one already in evidence?

A. I believe so, sir.

Q. This is the one that extends to December 31 the supplying of Therminol FR-2 and FR-3?

A. No, there is no extension, sir. As of December 31, we were telling our customers we were not going to give you all of the Therminols we used to at one time. We are going to remove the two that have the higher-chlorinated members in them, and we suggested that Therminol FR-1 is an appropriate alternative for

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FR-2 and FR-3.

Q. Now you are offering this to the users of PCBs in heat exchangers other than in food processing plants?

A. That is correct.

Q. Now, actually, you are withdrawing those two, actually, because of the reports of the PCBs being in the environment with these problems such as you show that probably occurred because of a possible hazard, right?

A. I can't use the word "hazard," sir, because as of that time there was no evidence that the environment was being harmed in any way.

The material being reported in all of the reports we saw was identified by the analyst as Aroclor 1254. This is why we decided if this material is being found in the environment, we should do all we can to remove as much of that material as we can from sales, and this will reflect that thinking.

Q. But it's an effort to pick up your own fumble before it gets any worse, to stop contaminating the environment any more than has already been done, right?

A. The environment, yes, sir.

Q. In this letter that is not what you tell your

WATER_PCB-SD0000058400

customers, that is the reason you are withdrawing it?

THE COURT: Are we still on 5-K?

MR. BROWN: Yes, your Honor, it's already in evidence.

THE COURT: While he is reading that, the letters of 5-K, maybe that one is in evidence, but others aren't?

MR. BROWN: That's correct. This is the only one that is.

BY MR. BROWN:

Q You tell your customers here the reason you are taking Theminol FR-2 and 3 out is that it has received limited market acceptance. Isn't that what you said; isn't that what Monsanto said?

A I want to read further, yes.

This letter does say that the reason for discontinuance is for limited acceptance.

THE COURT: The letter being referred to now is Exhibit No. 11. To be specific, 11-5KB.

MR. BROWN: Yes, your Honor.

THE WITNESS: That is correct.

BY MR. BROWN:

Q So that when Mr. Foland, the Marketing Manager, decided to send this one out, he was fudging a little

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bit with his customers, wasn't he? He wasn't alerting them it was because of possible hazards that it was being withdrawn; what he is saying is that it's being withdrawn because it hasn't sold very good? That is what he is saying in plain language, isn't it?

A. All right, that is what he is saying.

Q. Because he wants to try to keep the trade by getting them to substitute Therminol 1 for 2 or 3, whichever they had?

A. Correct.

THE COURT: All right. Now, there were some other letters?

MR. BROWN: I am offering them.

THE COURT: Those will be marked 24-[illegible], and those are two, then, right?

MR. BROWN: Yes, your Honor.

BY MR. BROWN:

Q. Then we come to those that are in 5-L, May 26 letter to the Corps of Engineers, and this is with regard to what?

A. This is in response to the Corps of Engineers' request for suggestions on the disposal of poly-chlorinated biphenyls.

Q. The whole area rather than any particular

WATER_PCB-SD0000058402

application, Mr. Papageorge?

A. Well, the request came from the Corps of Engineers referring to a specific amount of material at one of our customers' plants in Hudson Falls, New York. The letter was addressed to Monsanto, generally found its way to my desk, and I responded by describing in my instant letter our method for storing the material until the incinerator was ready and we had disposed of it properly.

MR. BROWN: We offer the letter, your Honor.

THE COURT: 25-5LB, letter to Corps of Engineers.

BY MR. BROWN:

Q. And from 5-M we have a group of letters here, July 27, July 6, both 1970, July 14, 1970, July 7, 1972, February 18, 1972, February 4, 1972, February 3, 1972, and we find on the bottom of this the letter you were answering in the previous exhibit.

A. That's right.

MR. BROWN: I am going to move it over to that exhibit, if I may, your Honor.

THE COURT: All right.

WATER_PCB-SD0000058403

BY MR. BROWN:

Q And would you look at these, Mr. Papageorge? Are these all examples of your disposal letters, advising people how to get rid of this material safely?

THE COURT: Why don't we put them all in with the disposal letters, then, 24-5K.

MR. BROWN: I really don't know where these were accepted.

THE COURT: You're right about that.

MR. BROWN: I will add the Corps of Engineers 1970 to the previous exhibit.

THE COURT: 25-5LD.

THE WITNESS: All of the letters described are responses to inquiries from customers on the proper method of disposal of PCBs, and in each letter we refer to the incineration approach.

BY MR. BROWN:

Q The first one is Westinghouse Electric?

A That is correct.

Q Hooker Chemical Company, S.B. Manufacturing?

A Correct.

Q Electrical World?

A This is Electrical World. It's a trade journal.

WATER_PCB-SD0000058404

Q. Trade journal, Electrical World. Mr. Hayes of that group asked for information?

A. Yes, sir.

Q. International operation of some kind, Rockefeller Center.

A. That is a Japanese representative of the Japanese producer of PCBs.

Q. Industrial Waste Department of Gilbert Associates.

A. Right.

Q. Texaco.

A. Right.

Q. What is this one?

A. That is the representative in the U.S. of the French producer of PCBs.

Q. So that at the time of these letters, you were receiving indications that other people now were becoming concerned with the disposal?

A. Correct.

THE COURT: 26-5MB.

BY MR. BROWN:

Q. I think this is the last one, Mr. Papageorge.

THE COURT: This is the labeling?

MR. BROWN: I don't know.

WATER_PCB-SD0000058405

THE COURT: Well, according to my list, this is the August 19--5-N, anyway, if that is what you are doing, is the August 1970 Monsanto memorandum re: Therminol labeling.

I don't know if you want to get into that now or not. They're in a different category, I would think, than the others.

MR. BROWN: I don't know. It was just handed to me. I am not going to do anything with it until I find out.

An August 14 letter I examined on in regard to keeping PCBs away from humans and animals. I thought I introduced it.

THE COURT: Yes, you did. Just a minute. You started on that.

MR. BROWN: At the beginning of my re-examination.

MR. MUIRHEAD: I believe it's Exhibit 16, your Honor.

THE COURT: There is a 16-5B. That is it. Exhibit 16.

MR. BROWN: Just be sure it's in.

THE COURT: Yes, it's in.

MR. BROWN: Thank you, your Honor.

WATER_PCB-SD0000058406

Then I don't need this one.

BY MR. BROWN:

Q Mr. Papageorge, in addition to sending out those warnings, you also made a label change, but finding it out in the late spring--you talked about that the other day--your Aroclor had a new label with an environmental warning, and you had a temporary sticker being put on the Therminol, and finally the Therminol in August had a labeling.

A That is correct.

Q Now, I examined you at some length the other day with regard to the Monsanto pamphlet on heat exchangers, and after you went through all these changes you had to change that pamphlet, didn't you?

A Oh, yes, sir, that pamphlet was, as I recall, 1959.

Q Yes.

A And in the 1960's we had the trademark Therminol, so there were changes in that pamphlet that were occurring through the years.

THE COURT: 15-A?

MR. BROWN: That is what I am looking for, yes.

WATER_PCB-SD0000058407

BY MR. BROWN:

Q. After all these various changes, you came out with a new brochure on heat exchange uses, didn't you?

A. Yes, sir.

Q. And that is actually an update of the old pamphlet, isn't it? Do you find some of the illustrations identical between the old one and the new one?

A. There is some similarity, yes.

Q. This heating unit is identical with what appears in the other one, isn't it?

A. That is right.

Q. Now, in connection with the new pamphlet, sir, you also have in the pocket insert in the back sheets with regard to Therminol on the new numbering system, Therminol 66.

Do you find that?

A. Yes, sir.

Q. Now, that is the same substance, isn't it, that you told Mr. Snow yesterday that you had available since 1967?

A. Yes, sir.

Q. And are there any of those Therminols in that Therminol 60, was that available back before 1967?

A. I don't believe so, sir.

WATER_PCB-SD0000058408

Q That is a new one?
A That is, yes, sir.
Q Therminol 55?
A That is a new material.
Q That is a new one?
A Yes, sir.
Q The other numbers that are in there, are they all new or is 66 the only pre-existing one?
A That's correct, sir.
Q 88 is new?
A That is right.
Q 44?
A That is new also.
Q When did the new ones become available?
A I don't recall the exact date, but we started developmental research work in '70, late '69, 1970, and I am trying to recall; 55 I believe was the first of the new series that came out in early '71, and it was followed shortly by the 44, 60, and 88.

So the new products were available starting in early '71 to the current date.

Q Mr. Papageorge, having brought that to your attention, that situation to your attention, wouldn't you be willing to agree that actually your witness

WATER_PCB-SD0000058409

of PCBs for heat transfer was also staged back until you had a replacement fluid so you wouldn't lose that market?

A. No, I can't say that, sir.

MR. BROWN: I offer the new pamphlet and the new designated line of Therminols.

THE COURT: All right. That is 27-15AB. That would be the Therminol 55 booklet.

Is that a fair description; Therminol 55, isn't it?

THE WITNESS: No, sir, your Honor. Therminol 55 is only one of five or six products in there.

THE COURT: We will call it the Therminol booklet, then.

THE WITNESS: I believe it's dated 1973.

THE COURT: 1973?

THE WITNESS: Yes, sir, I believe that is the date I saw.

BY MR. BROWN:

Q. It's the new one replacing the old one, updating it?

A. It's an update, yes, sir.

WATER_PCB-SD0000058410

They are related and not going to take very long.

In reading through this material, I find the word "migrate," PCBs migrate. What is meant when they're talking about the PCBs migrating?

A. The word "migrate" is used by those of us who talk about PCBs to describe the movement of PCBs from the place in which they were originally put to a place where it was not intended that they be found.

Q. But where they show up?

A. Where they show up. The migration can take place by the physical means. For example, if PCBs get on, say, sand particles, and water rushes through this sandy area, they carry along that sand particle, the PCBs go along with it. So the PCBs are found at a place other than the original place.

Another use of the word migrate is the movement of PCBs from, let's say--

Q. A silo paint.

A. Take a coating, a paint, it's in this coating. There is silage in it. The material, the PCB in this coating gets into the silage either by particles falling off of the coating into the silage or by the juices, the liquids in the silage having enough fatty material in them so the PCBs are in essence absorbed or

WATER_PCB-SD0000058411

extracted from the coating like a solvent action. So that is another form of migration.

Q And in that instance, the PCBs show up in the milk of a cow that ate the--

A In that instance, yes.

Q Starts out being in a thin coating for profit purpose, used to coat the interior of silos?

A That's correct.

Q To the point, paint to the silage, to the cow, to the milk; that is migration?

A That is a form of migration.

Q What I would like to ask you--and this is one thing I would like to see if I can get your opinion on--the known possible sources of the PCB contamination of Rozansky's dried bakery product are, number one, PCBs migrating from paper and carton content that he ground in with the meal. He talked with you about that. Do you recall when you first talked to Rozansky?

A Yes, sir.

I am pausing a bit because my understanding of the word "migrate," I don't think it covers a situation where PCBs present in an item which is ground up with other materials, I don't know that that is the way migrate has been used.

WATER_PCB-SD0000058412

Q. All right. But if actually he got substantially all of the paper content out, but had it in contact with the materials as he was mixing it before he took it out, you then would have a situation where migration from the paper to the material might well take place?

A. It's possible, yes, sir.

Q. I am talking about that whole situation, regardless of whether we are talking about the chickens and the ducks eating the paper or whether the paper was merely mixed in there during the amalgamation of it and then removed; but, either way, taking that as one possible source, the contamination of the bakery product, or, second, contamination from accidental spills or leaks of liquid PCBs from a heat transfer system known to be installed in at least two of the bakeries where the man was picking up and to which Monsanto shipped additional PCBs at about the time that the contamination presumably occurred.

Now, as between those two alternates, as possible sources of contamination of that bakery product, which is the more probable source?

A. I would say the source from the containers or wrappers would be the more probable.

Q. Well, I thought you indicated to Mr. Richter

WATER_PCB-SD0000058413

the other day that you probably couldn't get enough paper on the truck to produce enough PCBs to produce the amount of contamination?

A. I did, sir. But you will remember Mr. Richards asked me to assume that 8 part per million level in this paper, which is a very low level, which incidentally is acceptable even under today's FDA regulations.

Q. What level of PCBs do you have in mind--nobody's asked you this--how much of a level of PCB contamination can you get through the paper recycling or could you at the time this was going on?

A. This can certainly vary. I know, for example, that carbonless copy paper has 3,000 parts per million in the finished product. Cardboard made by recycling this kind of paper solely--and I understand this used to happen.

Q. This is the corrugated carton?

A. Not necessarily. Most of it goes into what is called the greyboard, the kind of box you might find in shirt boxes, shoe boxes. The outer layers might have had it.

Q. This is the type of thing?

A. Some of that, but more predominantly the

WATER_PCB-SD0000058414

greyboard. The kind of board you find in the back of your writing tablets, that kind of paper is very popular, used in cereal boxes, cracker boxes.

Q This?

A That kind. That is the most popular type of recycled paper.

Q Like in the Shredded Wheat box to keep the shredded wheatlets apart? That has got a lot of PCB in it?

A Used to have.

Q How high do you say that level goes?

A 3,000 parts per million, in finished paper. Depending upon how much of that finished paper is used in a recycling process, you can get PCBs in this greyboard ranging into the hundreds, even over the thousand parts per million.

Another possible source, in adhesives, in order for the PCBs to be effective in adhesives, they have to be present in percentage amounts, not parts per million amounts, and I am talking now without any personal knowledge of the secret formulations that all of these adhesive manufacturers have, but percentages ranging from, say, 1 to 10 percent. We are talking now a thousand parts per million up to ten thousand

WATER_PCB-SD0000058415

parts per million.

If you can picture, let's say, for discussion purposes, a cereal box, which has this greyboard in it, which starts off with so many parts per million, probably in the hundreds and thousands of parts per million in 1970, let's keep that in mind, between the two layers of board at the bottom of the box, which is folded over to make the bottom, and there is an adhesive in there, it's possible for that adhesive to be PCB type.

You can imagine--now, that may contain, as I said, from 1 to 10 percent, up to 10,000 parts per million. Running that carton through the shredding machinery, even if it doesn't stay in, just running it through--

Q Or do you want to keep it in the shredder?

A I understand the shredder is quite efficient. It's conceivable and very possible that those pieces of cardboard with adhesive between them get ground up and don't get thoroughly mixed.

A sample is taken and you come up with numbers like this 700 parts per million we came up with. The inks that are on the packages--

Q These are bakery packages we are talking about?

WATER_PCB-SD0000058416

A. They're made from paper products or plastic type coverings. There are inks on these. Many of the inks at one time contained PCBs as one of the solvents. Again, we are talking in the ink formula in terms of 1 percent, let's say to 10 percent, again a thousand parts per million to ten thousand parts per million.

You can see, then, where all these packages, containers, could be a significant source. And when you talk about probability, in my understanding, concept, I would say that is the probability.

Q. You would say that is more likely as the source than the heat transfer as the second of the possibilities?

A. Yes, sir. And this is tempered by my understanding of responsible companies in the food business who have an awful lot at stake in terms of reputation as well as government compliance, and these bakeries are inspected, unannounced, by Food and Drug Administration representatives, and they must keep these places and maintain it clean, and their records must be of a certain type.

There are many regulations they must comply with. No reputable company in the food business can afford not to be in compliance, and they must maintain

WATER_PCB-SD0000058417

their equipment.

So when you ask me is a leak in a bakery probable, I would say not so.

Another thought goes through my mind. Keep in mind that the unit in which the fluid is heated is remotely located. It's not in the area in which the heating takes place. And that is where the fluid undergoes the most stress in terms of its pumping and heating and filling operation, and what-have-you. That is not near the food supply, where the food is being processed.

Q Mr. Papageorge, in spite of all of the sanitation efforts, government inspections, and everything else of bakeries as bakeries, do I understand you correctly that they were nevertheless packaging perfectly good bakery products in paper and cardboard that was laced to the levels you are talking about with PCBs without knowing of the danger; was that the situation up to 1970?

A That was the state of the knowledge of our society in 1970, sir, yes, sir.

Q And that you suspect is the more likely source of the contamination that got into the bakery product, from the bakery product into the Agway meal, from the Agway meal into Jurgielewicz ducks and Jurgielewicz

WATER_PCB-SD0000058418

ducks' byproducts into our minks and did the damage?

A. That is my evaluation, yes, sir.

MR. BROWN: Thank you, sir.

THE COURT: Now, Mr. Peters, do you wish to go ahead now or wait until Mr. Snow questions?

MR. PETERS: No, I will wait until these gentlemen--how many times are they going after him?

THE COURT: I am not going to give you any special treatment. I was going to allow everybody to go by twice. You sat silent and Mr. Brown went ahead at my suggestion. I thought you were waiting until later on in the case. I will allow Mr. Snow, if he has any questions, to go ahead, and then it's your turn, Mr. Peters.

MR. SNOW: I have no questions, your Honor.

THE COURT: Now it's your turn.

RECROSS-EXAMINATION

BY MR. PETERS:

Q. Mr. Papageorge, you know, you took over the job of investigating PCBs in January, 1970, didn't you?

A. That is correct.

WATER_PCB-SD0000058419

Q. Right after the first of the year?
A. Correct.
Q. And within four and a half weeks you had letters sent out to all of your customers concerning possible dangers of PCBs; is that correct?
A. That's correct, sir.
Q. You prepared that and had your people under your supervision within four and a half weeks send out a letter to all your customers, didn't you?
A. That is right.
Q. At that time, in 1970, was Mr. Rozansky a customer of Monsanto?
A. No, sir.
Q. At that time, were the Jurgielewicz Brothers a customer of Monsanto?
A. No, sir.
Q. At that time, was Dr. Polonsky or Bethlehem Mink Farm a customer of Monsanto?
A. No, sir.
Q. At that time was Mr. Poole a customer of Monsanto's?
A. No, sir.
Q. At that time, was Mr. Petterssen a customer of Monsanto's?

WATER_PCB-SD0000058420

A. No, sir.

Q. And as far as Agway is concerned, was Agway a customer of Monsanto's as far as selling PCBs were concerned?

A. No, sir.

Q. So these people were not at all in the picture with Monsanto, were they?

A. That is correct.

Q. All right. So in February--I am not going through all those letters; Mr. Brown has put them in, so-called warning letters.

In February you notified all your customers?

A. As best we knew.

Q. As best you could?

A. Right.

Q. And then between February and June, you sent additional letters out to specific types of customers, did you not?

A. That is correct.

Q. And by June 8, 1970--what is that, less than six months after you took over the job--you announced to the people in the food processing industry that you weren't going to sell them any more Therminol and you didn't recommend its use any more; isn't that correct?

WATER_PCB-SD0000058421

BY MR. PETERS:

Q. Now, in January of 1970, in addition to Monsanto, now you described Anna Labs and Geneva as being possible manufacturers of PCBs. Now, when Mr. Brown cross-examined you and he was asking you whether they were competitors, in your interrogatory, isn't it true that the question that was asked of you was who produced or manufactured PCBs; isn't that correct?

A. That was my understanding of the question, and I was trying to be responsive to the question.

Q. Right. All right.

Now, who else manufactured PCBs besides Monsanto in the world in 1970?

A. Well, it's a lengthy list, but I can recall a few of them.

Q. All right. Just give us a few of them throughout the world.

A. Well, there are two producers in France.

Q. All right.

A. One producer in Germany, a producer in Russia, one in Italy, one in Spain, and I believe there were three total in Japan. One of them was a joint endeavor with Monsanto.

Q. And you had a plant in England?

WATER_PCB-SD0000058422

A. And we had a unit in Wales, Southeastern part of Great Britain, yes.

Q. And in 1968 did Monsanto have anything to do with the production of PCBs in Japan?

A. No, sir.

Q. When did Monsanto first have anything to do with the production of PCBs in Japan? Roughly.

A. The Japanese facility began operations in late 1969, as I recall.

Q. All right. Now, we are into the fall, September of 1970, sent out all these various warning letters. I am not, as I say, going to read all of the contents of the warning letters, but you also made changes, as I understand it, in your labels that you put on your drums; is that correct?

A. That's correct, yes, sir. As we got more information, we would consider the need for different labels, different wording.

Q. Did you then put the new labels on your product?

A. Yes, sir.

Q. Did you send anyone labels, any of your customers labels, new labels, do you recall?

A. You mean separately or on the container?

Q. On the container, yes, sir.

WATER_PCB-SD0000058423

A. As soon as we would develop the new label, we would put them on all the containers before they were shipped.

Q. Mr. Brown asked you questions about sending warning letters or letters to customers. Now, you also sent some to your distributors, did you not?

A. That is correct.

Q. And at one time you also sent to each distributor a letter instructing him to notify his customers; isn't that correct?

A. That is correct.

Q. So that it started with Monsanto to the distributor and to the actual customer?

A. The intent--that's right, the intent was to inform the recipient of our product in its original container.

Q. And at sometime you eliminated all your distributors, didn't you?

A. Yes, sir.

Q. Roughly when was that?

A. Middle of 1970.

Q. Middle of 1970. Now, you got rid of all your distributors and you are dealing directly with your customers?

WATER_PCB-SD0000058424

A. Correct.
Q. And also in 1970 it's true, is it not, that you decided and made a decision, Monsanto did, to build a big incinerator to degrade the PCBs?
A. That's correct.
Q. You started that in '70 and it was completed in early 1971; am I correct?
A. That is correct, yes, sir.
Q. And--
THE COURT: You said "degrade." I thought the purpose of the incinerator was to destroy them?
THE WITNESS: Destroy is a better word, yes, sir.
THE COURT: Which is the better word?
THE WITNESS: Destroy.
BY MR. PETERS:
Q. So the incinerator does destroy them, doesn't it?
A. That's correct.
Q. That went in operation early in '71 or sometime in '71?
A. I think it was the middle or latter part of 1971.

WATER_PCB-SD0000058425

Q. All right. Do you still have this incinerator in operation?

A. Yes, sir.

Q. And during the course of 1970 when you were changing your labels, issuing warning letters, you also offered to take back PCBs and store them until your incinerator was ready and then destroy them, did you not?

A. That's correct.

Q. And that, in fact, did happen, didn't it?

A. That is correct.

Q. When you took your job over, this particular job, you had been with Monsanto now, what, 25 years?

A. About 23, sir.

Q. Twenty-three years. Were you born and brought up in St. Louis?

A. Yes, sir.

Q. When you took over the job in January 1970, studies were already under way, weren't they, by Monsanto to determine the effects of PCBs on animals?

A. Yes, they were.

Q. And I won't rehash that all over again. Mr. Brown has gone through it. But starting when, in late '68, you had an independent laboratory start checking

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on rats and white Leghorn chickens and beagle dogs?

A. Yes, sir. This was in response to the information we were receiving in which we kept hearing of the presence of some of the PCBs, not the total product line; and there were some papers that followed that indicated that they might be causing trouble with certain species of birds and certain species of animals.

We could find no proof in any of these papers that were being published. We, of course, were concerned, talked with the government authorities that existed at that time.

You must recall then the Environmental Protection Agency had not been formed yet, so we went back to our normal contacts, the Food and Drug Administration with whom we had done previous business, with the Department of Agriculture people, and tried to get from them some guidance as to the type of tests that would tell us something about how this product behaves in the environment.

We knew how they behaved back in the factories. We had that data. No one could give us guidance, so as a last resort, really, we decided to have these products tested the way they would test food-approved

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chemicals.

And this is when the decision was made to go to these two-year studies with the rats and the dogs, which is typical for food chemical evaluation. The chicken incident was interesting in that we had hoped to start some studies using some wild bird species because the environment was still our concern rather than domestic animals.

We were told that getting enough eggs to study mallard ducks and the quail was virtually impossible at that time, and we were concerned about doing this fairly quickly. So we chose the Leghorn chicken really as an example of a bird to see how birds react to PCBs.

Since then, I am told the Leghorn chicken is not a typical bird, unfortunately. But, nevertheless...

THE COURT: Certainly not like a wild duck or quail.

THE WITNESS: They're a unique species in themselves, a domestic chicken.

THE COURT: Probably easier to shoot!

THE WITNESS: So it's a result of these studies that we found, yes, the Leghorn chicken is affected. Its eggs do have a thinner shell and its eggs don't hatch. So we decided--and this preliminary

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data came about early in 1970, and that is when we decided putting out these notices and changing the labels and so on.

So this whole process, really, has been one of evolution. As we learn, we took some actions.

BY MR. PETERS:

Q All right. As a matter of fact, when Mr. Rice came to see you in January 1971, you gave him the material that you had available to you on PCBs, did you not?

A I gave him--yes, it wasn't a complete report; it was a status report we had at that time.

Q So he actually, Mr. Rice and Agway, got knowledge from you in January of '71 of what was going on in your studies; is that correct?

A That's correct.

Q And in January 1971 Mr. Rice, as soon as he left, or while he was there, knew from you about the possible damage to the eggshells of chickens?

A Well, Mr. Rice--we talked about it and it was after he returned that I mailed him the written material.

Q I think Mr. Brown asked you, but when was it, based on your knowledge in this case, that Monsanto

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first became familiar with the so-called Jensen report of Sweden, so that it was understood by you, roughly?

A. As best I recall, it was in 1967, middle of 1967.

Q. You testified earlier that that report talked about the "presence" of PCBs; it wasn't until sometime later that Monsanto first became aware of an alleged claim of damage. Isn't that correct?

A. Oh, yes, that was a year and a half, two years later.

Q. Roughly when was that?

A. I am thinking of Dr. Robert Risebrough from California, in his report at that time on the pelican of Southern California, and I believe he referred to the seals also there, the brown seals.

Nevertheless, Dr. Risebrough claimed that PCBs were causing problems with these species of birds and mentioned the fact that the brown pellican was not reproducing because its eggs either had the very, very thin shells or no shells at all.

Q. Roughly, when was it that you, that Monsanto, became familiar with that?

A. I know our first exposure with that was an

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article in the San Francisco Chronicle, early '69.

Q Early '69?

A I believe that was it. February 1969 is a date that I recall.

Q At that time Monsanto had already made plans to have studies that you have already described?

A Oh, yes. In fact, at that time we were having the laboratory do the preliminary work that is involved in preparing for the future studies to be made to determine what levels should the final study be conducted at, and so on.

So there is much preliminary work on test animals and that was active at that time.

Q During the year 1970, when you had this job concerning PCBs, Mr. Papageorge, did you, so far as you know, or anyone from Monsanto have any knowledge that people like Mr. Rozansky were using packaging materials and grinding it up to be used as a part of dried bakery product?

MR. RICHARDS: Objection to that, your Honor. I object to the characterization.

THE COURT: All right. I assume, Mr. Peters, there is going to be some proof to that effect?

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MR. PETERS: Yes, your Honor.

THE COURT: All right. Your objection is overruled, subject to a motion to strike at the proper time, Mr. Richards.

THE WITNESS: I have not found anyone within Monsanto who is aware that bakery type products as found in bakery meal were used along with portions of their containers.

BY MR. PETERS:

Q Now, was the first time that you became aware of that when Mr. John Rozansky called you on the telephone and told you about it?

A Yes, sir.

Q The way you described?

A Yes, sir.

Q And you told, I believe, Mr. Brown yesterday, when Mr. Rozansky described his operation to you, that you were "shocked" as to the process he was using. Do you recall that?

A Yes, sir.

Q Why were you shocked?

A I suppose because I am naive about the animal feed business. I just didn't think packaging would be fed to animals. It never occurred to me.

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THE COURT: One more question, Mr. Peters, and we will take the noontime recess, or do you want to go a little bit further?

MR. PETERS: No, I would just as soon take the recess.

THE COURT: You mean you want to think of some more questions?

MR. PETERS: What I thought I would like to do is eliminate as many as I can.

THE COURT: Bearing that representation and bearing in mind you are an officer of the Court, take the noontime recess.

Ten minutes of 2:00, Mr. Foreman and ladies and gentlemen.

(Luncheon Recess at 12:25 p.m.)

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AFTERNOON SESSION
1:50 P.M.

... WILLIAM B. PAPAGEORGE, having been previously sworn as a witness, was resumed and testified further as follows ...

RECROSS-EXAMINATION
CONTINUED

BY MR. PETERS:

Q. Mr. Papageorge, just to go through this as quickly as we can, I made reference in my opening statement about products produced by Monsanto other than PCBs, and I listed the Astroturf, hosiery, carpeting, nylon, fertilizers, animal feed, car mats, door mats, leveling agents, and rubber chemicals.

Was I accurate in stating those are and were, in fact, produced by Monsanto?

A. That is right, sir.

Q. And I made reference to the fact that PCBs are used in ships and submarines; is that correct?

A. Yes, sir.

Q. In what manner are they used in ships and submarines?

A. In their electrical systems.

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Q How about use of PCBs in railroad electric cars?
A There again, they're used in the electrical equipment: Capacitors and transformers.
Q Where are generally the transformers on these railroad cars?
A Generally they're located right above the railroad bed, at the bottom part of the car, underneath.
Q What is the purpose of having the PCBs there?
A The purpose is to control the use of electricity and still have a fire-resistant, yes, fire-resistant fluid involved.
Q I stated also that there are PCBs in the lights, the fluorescent lights in this courtroom; is that accurate?
A That is true, yes, sir.
Q How are they placed, the ones that are in the courtroom here?
A Well, the PCBs in these units are inside a plastic container which contains a little transformer which doesn't contain PCBs, but also contains a capacitor which has the PCBs. The whole purpose there is to give enough electricity initially to start the fixture glowing.

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Q Does it have anything to do with safety?

A Oh, yes. The whole intent is to have a device that will not catch fire.

Q I also mentioned in listening for a motor in this courtroom, and does that type of a motor have PCBs in it?

A The motor itself doesn't, but there is a capacitor in the system that helps start up this motor without damaging the motor or without lowering all the lights throughout the building.

In other words, it provides again that initial surge of power it takes to start up a motor.

Q Would you tell us briefly what a capacitor is? You have already described a transformer. Now, I would like you briefly to describe a capacitor.

A If I may, sir, let me describe a PCB-type capacitor, because there are many types of capacitors. The type we are interested in here are the PCB type, and what that amounts to, it's a tightly-woven double layer consisting of a layer of aluminum and a layer of kraft paper, brown kraft paper, of high purity, and it's tightly wound, and when it gets to the proper size for service that the capacitor is designed for, this roll of aluminum and paper is

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immersed in a can and these cans range from the size of the paper cup here to the large, say the food can type, to those as big as a wastebasket, we'll say.

Now, in order to make the paper even more insulating, because the purpose of the paper is to keep the aluminum, each layer from touching each other, PCBs are added to fill the void spaces in the paper, and at the same time the PCBs are used because, again, of the need for a material that will not burn if the electricity is too great or gets out of control.

Q All right. I also mentioned air-conditioners and washing machines, clothes washers and dish washers, and Mr. Brown's refrigerator.

MR. BROWN: He has not seen my refrigerator.

MR. PETERS: All right.

MR. BROWN: Yet!

BY MR. PETERS:

Q Do they also have PCBs in some form?

A Capacitors are involved in the starting of electric motors of that type, yes, sir.

Q Now, in 1970, were there any laws, to your knowledge, federal or state, prohibiting the manufacture of PCBs in the U.S.?

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A. No, sir.

Q. In 1970 were there any rules that you know of, not statutes, but guidelines or rules of the FDA or any other governmental agency concerning the use of PCBs, early, let's say, in January 1970?

A. No.

Q. Did you, after you took your job in this particular field in January of 1970, Mr. Papageorge, make any attempts to find out from the U.S. Government or the Tariff Commission as to whether or not any PCBs were being imported in the U.S.? Did you make any attempt to find out?

A. Yes, sir. We made--I didn't keep count. But there were many attempts made and I recall these were made to the Tariff Commission itself, to the Department of Commerce representatives, to the representatives of the Office of Science and Technology, and to the Council on Environmental Quality, and we just didn't get any information, and I found out after many months, years had gone by really through '70-71, that the reason we didn't get the information, there were no records kept on the imports of PCBs.

Q. Did you keep negotiating with government officials to try to get some work done on that?

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A. Yes, sir, and we must have succeeded, because finally in 1971 they started keeping records.

Q. Well, Mr. Brown or Mr. Muirhead originally offered prior to trial an exhibit called U.S. Tariff Commission Imports of Benzoate, Chemicals and Products for the year 1971.

Are you familiar with this article?

A. Yes, sir, I have seen that.

Q. And does this give the amount of imports from the U.S. Tariff Commission for the year 1971?

A. Yes, sir.

Q. And that figure, on Page 13--

THE COURT: What number is that?

MR. CHIESA: 23, your Honor.

THE COURT: 23.

MR. BROWN: This is the calendar year 1971?

MR. PETERS: For the calendar year 1971.

MR. BROWN: Not 1970, but '71?

MR. PETERS: Right.

MR. BROWN: All right.

BY MR. PETERS:

Q. This figure is 640,000-odd pounds for chlorinated biphenyls. . .

A. That is it, yes, sir.

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Q 640,000, 610,000 pounds, am I right.

A That is correct.

MR. BROWN: What page is that on, Brother Peters?

MR. PETERS: That is on Page 13.

I would like to offer this, please.

THE COURT: That is 28-23M, Tariff report on imports of PCB.

BY MR. PETERS:

Q Now, Mr. Papageorge, what use was made of PCBs in the mines, how is it used in the mines?

A Much of the mining machinery involves the use of fluids to operate, very much like in an automatic transmission automobile, where fluid does the actual driving of mechanisms, and because of the fire and explosion hazards in mines, the use of PCBs in these fluids was most important.

Again, for the fire safety reasons.

Q All right. Now, I have here all dated September 17, 1963, from the U.S. Department of Agriculture to Monsanto Chemical, concerning the use of Aroclor 1254 and 5460 for treating concrete floors in federally inspected meat-packing establishments.

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A. That's correct.

Q. And that is an approval, was it by the U.S. Government, for the use in 1963 of 1254 in such meat plants inspected by the U.S. Government?

A. That is correct.

THE COURT: What number is that, if you are going to cover it?

MR. PETERS: There isn't a number.

THE COURT: Okay.

MR. PETERS: I offer it. You know, we have a rule.

THE COURT: That's right. Mr. Peters is talking about a rule that is particularly helpful in a case like this where we have a lot of exhibits, that is all the exhibits have to be marked and offered ahead of time; then lawyers can't waltz in at the last minute with a lot of other material nobody has had a chance to look at.

But Mr. Peters is now circumventing that rule to a certain degree.

BY MR. PETERS:

Q. Now, Mr.--

MR. BROWN: That is too remote, so consequently--

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MR. PETERS: That is out.

BY MR. PETERS:

Q Did Monsanto, sir, as I stated in my opening statement, receive a directive from the U.S. Department of Commerce, Bureau of Domestic Customers, directing you to accept an order from Emerson and Cummings for 3,000 pounds of Aroclor 1242, 600 pounds, on or before November 21, 1970, and 600 pounds each week thereafter until the order is met? Did you get such a directive from the U.S. officials in November of '72?

A Yes, we did.

Q And did you want to--at that time you had stopped selling it generally, had you not?

A Yes, we had.

Q And what was your attitude towards the government when you received this directive from them that you have to produce it for them?

MR. SNOW: His attitude or his company's attitude?

MR. PETERS: Company's attitude.

THE COURT: Since he is in charge of PCBs, I suppose his attitude is his company's attitude.

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MR. PETERS: Right.

THE WITNESS: My attitude shared by many others, including my supervisors and all, was one of frustration, disappointment. We did verbally battle the request over the telephone. There was continued badgering from Emerson and Cummings representatives, as well as their prime contractors, the Raytheon Corporation, and after many, many weeks of dialogue, discussion, we finally got the letter from the Department of Commerce ordering us to place the order.

We responded later to the Department of Commerce with our reasons for not honoring the order initially, and we go on to say that if we are forced to place the order, it must meet certain conditions that we ask of our current customers, the dielectric customers.

So we had them also met, the sales contract which involved the hold-harmless arrangement, and so on.

BY MR. PETERS:

Q And the Emerson Cummings, Incorporated, what was it, a subcontractor for the U.S. Government on a particular project?

A As I understand it, they made something using

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our PCBs that was forwarded to the Raytheon Corporation, who in turn incorporated this material in the Chapparal Missile.

Q Well, what is the Chapparal Missile, briefly?

A I think it's one of our weapons in our armory of the Defense Department. I don't really know much more about it than that. I don't know whether it's an air-to-air missile or air-to-ground, or submarine-type missile. I don'tknow that.

Q And as far as use in dielectrics is concerned, that is using PCBs in dielectrics, there was, was there not, negotiations, there were with officials of the U.S. Government concerning the use of dielectrics or whether they should be taken off the market?

A Oh, yes. This was a subject of many discussions. No single discussion stands out in my mind, but it was a type of discussion, however, in which we found very little, if any, resistance. There was understanding of the need for fire-resistant dielectric fluids.

Q Did the General Electric Company itself file formal petitions with the government for approval of the use of dielectrics, to your knowledge?

A Yes, sir. I recall a report to General Electric

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Company, submitted, I believe it was the Department of Commerce, at least one of the departments of government, in which they described the use and the need for this material and the ramifications, if they were banned.

Q All right. Sometime in the spring of 1970, did you go to Europe to find out what the situation in Europe was concerning the manufacture and use of PCBs?

A Yes, sir.

Q When you got to Europe, in what countries did you visit on this particular problem?

A The United Kingdom, Sweden, Germany, Belgium.

Q Netherlands?

A Netherlands, yes.

Q When you went to those countries, did you, obviously, talk to the people that were involved with the production of PCBs?

A Yes, we did. We met with the producers of PCBs from France, Italy, and Germany.

Q Did you also discuss the PCB situation with any government officials in any of those countries?

A Yes, we did. We spoke to government officials in Sweden. And, as I recall, they were representatives

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health group I mentioned earlier to analyze for the presence of PCBs in food items, marked and sold in Sweden.

So, really, the net result of that discussion with Widmark really was one of Monsanto representatives bringing Dr. Widmark up to date from what was happening as we understood it at that time.

Q When you entered the Netherlands, did you talk to a person by the name of Dr. Vos?

A Yes, sir, we talked with Dr. Vos.

Q Had he done work on PCBs?

A Yes. He was at the University of Utrecht, which is just south of the capital of the Netherlands. And Dr. Vos and his co-workers had been studying the effects of PCBs on poultry. And they noticed effects and they were using, incidentally, not only Monsanto's PCBs, from the German producer and the French producer.

Dr. Vos and his co-workers noticed that the European material was causing effects that he didn't notice with the U.S. material, the Monsanto material.

Q Did you try to determine what the difference in the composition of the Monsanto PCB and the French and German PCB was?

A Yes. At that time Dr. Vos reported they had

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discovered another contaminant in the European material which is known as chlorinated diobenzofuran, and this material is many times more toxic than PCBs to test animals.

Q. Did in 1970 Monsanto's PCBs have any diobenzofurans?

A. No, sir. We have looked and found none.

Q. As a result of that, have you done investigation or work to find out whether or not Japanese PCBs manufactured by the Japanese themselves, not connected with Monsanto, also had the diobenzofurans?

A. We tried to get samples of the material, and we failed, because by this time the Japanese producers had stopped manufacturing, stopped selling, claimed there was no material available. But we did get a report from FDA officials that eventually they got ahold of a sample of the type of PCB that was used in the incident we referred to earlier, and this material had diobenzofurans in it, chlorinated diobenzofurans.

Q. In 1970 in Europe when you were there, were there any prohibitions against the manufacture of PCBs?

A. No, sir. In fact, in Europe, our distinct feeling was they didn't feel there was a problem.

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Q. Were there any type of governmental restrictions or guidelines in Europe concerning the use of PCBs?

A. No, sir, not at the time.

THE COURT: Well, that of course doesn't include Dr. Jensen, does it? When you said in Europe they didn't feel there was a problem.

THE WITNESS: Well, Mr. Jensen was a student at the university, did not represent the Government of Sweden.

THE COURT: All right.

BY MR. PETERS:

Q. And, to your knowledge, in your discussions in Europe, with the manufacturers of PCBs in Europe, had they started any program similar to Monsanto's for the control, restriction and withdrawal of PCBs from the market?

A. They had started no such program. The group we talked to could not commit their companies to such a program. But--well, frankly, they were most disappointed in Monsanto, to use their words, creating a problem.

Q. They felt you were creating a problem?

A. Yes, sir, by our actions, withdrawing from the

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Q Did you also cooperate with Agway, Intercounty, Rozansky or anyone else that asked you to give them information about PCBs?

A We have tried to cooperate with every request we received.

Q Did you furnish everyone that asked you, whether customer or not, with this information?

A Yes, sir, that is our policy.

Q Did you also furnish laboratories in colleges and universities throughout the country samples of your PCBs which they could use as standards?

A Yes, sir.

Q I made a statement in my opening statement when we were talking about one part per million is equivalent to one ounce in a glass being poured into a tank holding 10,000 gallons.

Would you say that was an accurate description of one part per million?

A It's very close, yes, sir.

Q Oh, yes, in case there is any misunderstanding, Mr. Papageorge, when people are talking about food establishments and cooking, are PCBs used in the actual cooking oils of food, were they ever done that way?

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A No, sir, that is a good question, because I find, surprisingly, many people thought that the food item itself was immersed in this PCB while it was being cooked.

In every case, the PCBs are enclosed in a metal wall or metal jacket or metal pipe, and the cooking oil, if cooking oil is used, is separated by that metal wall, metal pipe, and only the heat is transferred through this metal wall to the cooking oil.

Q And you have testified about the government directing you to produce 1254, if you recall, for Emerson Cummings in 1972. Did they also make the same directive to you this year, in 1974?

A Yes, and it was 1242.

Q 1242?

A Yes, sir.

Q And did you comply with their directive under the same materials and conditions as you had in 1972?

A Yes, sir. We went through the same resistance to sell. The discussions over the telephone, the pleas, and finally the Department of Agriculture ordered us again to honor the order, and we did.

Q Have you done any work in trying to determine a study or read about the possibility of PCBs being

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created in municipal sewerage treatments?
A. Well, we had studied, we are aware of reports of this type, where it's been shown that in the normal treatment of municipal wastes in which chlorine is bubbled through the waste, to deodorize it, really, to purify the water. If there is any biphenyl present, and there is in many instances, these PCBs are formed, and one report even compares the PCBs that are formed to one of the commercially available products.
Q. Am I correct, sir, in stating that in 1970 you were asked to speak for PCBs before the U.S. Department of Agriculture, Food and Drug Administration, National Boiler Association, Egg and Poultry Institute, American Grocery Manufacturers Association, American Paper Institute, Great Lakes States, Governor's Pesticide Council, Michigan, United Conservation Council, and American National Standards Institute?
A. Yes, sir.
Q. And did you comply with their request that you do give them some talk about PCBs?
A. Yes, I did.
Q. Generally speaking, I believe Mr. Brown or someone asked you this yesterday and you gave the

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answer: Are PCBs ordinarily and normally used in hydraulic fluids like in trucks or front loaders or that type of equipment used by people?

A. Not normally, no, sir.

Q. In your judgment, did Agway have in August and September of 1970 the Food and Drug Administration's methodology or shall I say it this way: Was the Food and Drug Administration methodology for the determination of PCBs available to Agway in August and September of 1970?

A. To the best of my recollection, yes. The method was published in a journal. I believe it's the Journal of the American Association of Analytical Chemists, and the authors were, let me think, Armour and Burke, Judith Armour and Jerry Burke.

Q. Of the Federal Drug Administration?

A. Of the Federal Food and Drug Administration, yes.

Q. Did you have any--that is, initially--have any problem with convincing the U.S. Government that they should remove PCBs from pesticides in the way they were being used, you said inside?

A. Yes, we did. Surprisingly, we got no response from Dr. Kelly's letter to the Department of

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Agriculture. And I don't recall the exact timing, but it was many months later we saw some reference to the fact that we were critically looking at refrigeration formulas to see if PCBs were included in the formulations being registered.

Q Mr. Brown asked you about Therminol 66, 67, on th pamphlets that came out concerning 66 and 67.

Now, is Therminol 66 and 67 fire-resistant the way the original Therminol was?

A No, sir.

Q Mr. Plaut asked you whether or not you conducted any investigation into the so-called Sullivan County episode that occurred in New York involving PCBs in poultry; remember that earlier this morning he questioned you about that?

A Yes, sir.

Q He questioned you about whether or not you cooperated--he used other words, I am sure--with the FDA in trying to find out what happened in Sullivan County.

THE COURT: Are you asking him whether he did that or not? He did, I will take judicial notice of it. Go ahead.

MR. PETERS: All right.

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BY MR. PETERS:

Q. Now, you know that the FDA conducted an investigation in New York the way Mr. Plaut suggested; isn't that correct?

A. That is true.

Q. And after their investigation they made known to you and to Agway and to the world as to what their opinion was as to the source of contamination of the chickens in the Sullivan County episode; isn't that correct?

A. Well, I know what they told me and Monsanto. I don't know what they told Agway and others.

Q. What were you told as to the source of contamination by the FDA?

A. The FDA has officially, after their own independent study of this situation, and without Monsanto's participation, really, as far as FDA is concerned, they have gone on record officially as saying that the source of the PCBs in that instance was the packaging and wrappings involved with the bakery meal material.

Q. All right.

I am almost through, your Honor. I am keeping my word.

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While Mr. Chiesa is looking at them, you recall that Mr. Rice--and my colleague here, Mr. Brown, calls him Dr. Rice--Mr. Rice came from Agway to your place at Monsanto to spend some time in your laboratory with Scott Tucker, didn't he?

A. Yes, sir.

Q. Mr. Plaut asked you about the fact of March 9, 1971, you made an analysis of some wafer meal that Agway turned over to you which had come originally from Rozansky; do you recall that?

A. Yes, sir.

Q. And your laboratories found over 700 parts per million?

A. I remember.

Q. All right. Now, but, in addition to that, your laboratories in January and February and in March of 1971 ran tests of other materials, Agway's materials, that were turned over to you by Dr. Rice, did they not?

A. Yes, sir.

Q. And they checked chicken muscle, and chicken feed, and soon I am going to have Mr. Brown find that for me.

THE COURT: What are you looking for.

MR. CHIESA: Here's one.

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MR. PETERS: There they are.

BY MR. PETERS:

Q Now, Exhibit 17-21B, this wasn't a one-shot affair with Agway. As Mr. Brown pointed out, January 27, Agway turned over to you seven different samples to be tested, didn't they?

A That is right.

Q And these came from Agway?

A That is correct.

Q And the first four were Agway feed?

A Yes.

Q Right. And two of them were Agway chicken homogenate?

A Correct.

Q One was Agway egg extract; isn't that correct?

A That is correct.

Q And in every single instance, you found the presence of PCBs in Agway's material, did you not?

A That is correct.

Q And it varied from 3.21 parts per million to one chicken homogenate, which was 30.81 parts per million; isn't that correct?

A That is correct.

Q And this is in January of '71?

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A That is correct.

Q They were produced voluntarily by Agway, weren't they?

A You mean the samples were?

Q The samples.

A Yes, sir.

Q There are other descriptions in this, in June 2 of '71, I guess these two are from Intercounty, and Rozansky?

A Yes.

Q But there were other studies, were there not, that were made--or do you recall--of Agway's material in addition to these seven contained in Plaintiff's Exhibit 17-21B? Do you recall that, if there were any others?

A I thought there were--I am a little confused. I think there are two more samples there we looked at earlier of materials, so these six or seven plus two more represents the total.

Q I have here, Mr. Papageorge, a worksheet from Monsanto's laboratory, dated January 15, 1971, and there were two samples of chicken muscle submitted by Dick Rice, were they not?

A Yes, sir.

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Q And those were found--were they found to contain PCBs?
A Yes, sir.
Q And what type of PCB, 1248?
A It says here calculated as 1248. These were reported on that previous document.
Q And the Agway extract, was that also reported on a previous document?
A Yes, sir.
Q As Aroclor 1248?
A Yes, sir.
Q And the same date as Agway sample of egg, also submitted by Dick Rice, and apparently these are the worksheets for the samples submitted.
A That is correct.
Q These, what you are looking at now, in front of me are the worksheets for the ones that we have already described as having been submitted and tested?
A That is correct.
Q Did Mr. Rice ever discuss with you whether or not he was worried or surprised at all of these samples that he was turning over to you contained amounts of PCBs?

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A Oh, yes, this was--I think the prevailing concern that resulted in his visit to us and all. So this was this concern about the amount, and where it might be coming from.

MR. PETERS: That is all I have.

THE COURT: Mr. Richards.

Unless something extraordinary develops, this is the last go-around, gentlemen.

BY MR. RICHARDS:

Q Mr. Papageorge, you previously testified as to Exhibit 17-21B, these various tests that were performed on behalf of Agway and Intercounty; is that correct?

A That is correct.

Q And one of these tests was of the Intercounty and Rozansky feeds, as I understand it, which is the last page of the exhibit; is that correct?

A That is correct.

THE COURT: Now what exhibit are we working with?

MR. RICHARDS: 17-21B, your Honor.

THE COURT: All right.

BY MR. RICHARDS:

Q You had indicated in response to Mr. Brown's

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questions, I believe, that the Rozansky feed samples tested out at what levels, if you can recall or if it's indicated there?

A It's indicated on this report sheet dated June '71 that that sample identified as Rozansky had 1.82 parts per million as Aroclor 1242, and this is on the total weight basis. That means on the sample as received.

Then there is a slash with another number, 19.7, which means 19.7 parts per million on the lipid weight basis. This is the fat basis.

Q So what you were talking about is that apparently two tests were made or whatever the procedure is, but you determine what the concentration of PCBs is in the fat content of that particular sample; is that correct?

A No, you determine the amount of PCB present in the sample and then when it's reported, it's calculated as how much would be on a fat basis, how much is it on the total basis. The calculation that results is the four report numbers.

Q And do I understand that generally, from your previous testimony, that PCBs tend to concentrate in or migrate to fat or fatty tissue?

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A. That is correct.

Q. So that this indication here is of the content of the fat in that particular sample, which would be 19.7; is that right?

A. That is the indication of how much PCB is present, based on the amount of fat that is present. That is all that tells us.

Q. And the fat is a small--or a percentage of the total overall--

A. Sample.

In this instance, yes.

Q. Do I understand 1.82 parts per million is the percentage of Aroclor 1242 in that particular total sample as was calculated?

A. I don't think you mean percentage.

Q. Or parts per million.

A. The concentration in the total sample, yes.

Q. So that this sample, as a sample, contained 1.82 parts per million of Aroclor 1242?

A. That is correct.

Q. And this finding would not be a significantly significant quantity of PCBs for a sample of that nature, we are not talking about six or seven hundred parts per million?

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A That is true. That level there meets the current FDA tolerance levels for feed components.

Q So that finding in this particular case of PCBs in this sample was within the FDA tolerances for PCB concentrations in a sample of that sort?

A My answer is yes, but that is the tolerances that we derived in 1973, which did not exist . June of '71.

Q All right. But it does meet current FDA standards?

A That is correct.

Q And if we assume that the evidence will be that bakery meal would constitute no more than 10 percent of a finished feed, be it duck feed or chicken feed or anything of this nature, what would the percentage or parts per million concentration of PCBs be in that?

A Assuming no other source of PCBs, that level in the final mixture would be a tenth of that, which would be .18 parts per million.

Q And that is also within the current FDA tolerances for finished feeds?

A That's correct, sir.

Q Now, Mr. Papageorge, you had previously testified in connection--on several occasions in this

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matter of paper, recycled paper and so forth getting into the bakery product.

For my information and the jury's, how long has this or how long was this carbonless carbon paper being recycled for the kinds of uses that you have described prior to this incident in 1971?

A. The use of carbonless copy paper, as best I recall, started in either--or the middle 1960's, so we can say that for about ten years, then, this type of paper has been involved in recycling paper processes.

Q. And Monsanto has been aware of this particular application of the carbonless carbon paper and so forth since the early to mid-sixties?

A. Yes, sir.

Q. And you were aware, then, that the recycled paper or the greyboard, I believe you described it as, also contained substantial quantities of PCBs?

A. No, we were not aware, because those of us that have anything to do with PCBs don't follow the recycled paper business.

Q. You were aware this carbonless copy paper was being used and being recycled?

A. I never gave it a thought, sir.

Q. When did you, you personally and/or Monsanto,

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since you speak for them?

A. Yes. Let me think here.

My first exposure to this, as best I recall, this came up in a discussion with Food and Drug Administration officials in about August, September or October of 1970, at which time the FDA had some what they call market basket survey results, in which they were finding PCBs in some cereals and products of that type, crackers and so on.

That was my first exposure to this potential source of PCBs.

Q. And what did you do about it once you discovered it?

A. Well, at that time, of course, we had already initiated our program of withdrawal from these carbonless copy paper applications and all, so there really wasn't any more that we could do. The FDA was already talking to the American Institute people about the recycling process and the need to be careful there. So those that could do anything about them, they were already informed.

Q. You were aware in August or September that recycled paper contained parts or parts per million of PCBs up to a thousand parts, I think you previously

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testified to?

A. Yes, that is possible, yes.

Q. And you were aware of this fact when you talked with Mr. Rozansky early in February of 1971?

A. That is correct.

Q. In fact, you profess to be shocked when you-- at what you understood to be his methods or procedure for grinding up his bakery product and creating this end product; is that right?

A. That is right, sir.

Q. Well, if you knew at that time that this paper that was being ground up in the particular bakery product contained or could contain this higher concentration of PCBs, why didn't you tell him at that time that that was the probable source of his contamination?

A. I think I did. I told him to look at the paper and the inks and the adhesives as a source.

Q. Did you also tell him any other things? You talked about hydraulic fluids, you talked about heat transfer, you talked about this, that and a dozen other applications.

A. That is true. I was trying to think of all the possibilities that could come to mind. In fact, as

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I recall correctly, my response about hydraulic fluids was it caused--he asked a question would it be in his front-end payload or in his trucks, and that is how we got to talk about hydraulic fluids.

Q. Well, you answered Mr. Brown's question to say in your opinion that was the most probable source of contamination in this whole thing. Did you--

THE COURT: Wait a minute. He interrupted to say "This being..."

BY MR. PETERS:

Q. This being the ground-up paper. You told Mr. Brown that was your opinion?

A. Right.

Q. That this was the most probable source. Why didn't you tell Mr. Rozansky this was the most probable source, instead of telling him about all these other sources?

A. Well, I think I did both, sir. I don't remember the exact words, but I know in my own mind that I was just recently involved with discussions involving New York State's chicken incident, and I was, if you will, sensitive to the paper problem, packaging problem, although I don't keep this kind of record, I wouldn't be at all out of order, I am

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certain I probably mentioned this in the first part of the discussion.

Q Did you also, once you learned this fact from Mr. Rozansky, that this might be his problem, did you turn around and call Agway about this discussion?

A Sir, I never told any party about a conversation with another party.

Q So you had no conversation about Rozansky and his problems?

A That is correct.

Q Now, Mr. Papageorge, we are talking in terms, in this recycled paper, of approximately, oh, concentrations up to a thousand parts per million, possible concentrations.

If I ask you to assume--and the proof, in fact the evidence will be that no more than five percent of the material that Mr. Rozansky picks up consists of paper or cellophane or wrappers of any sort, and that further, as a result of the processing, that no more than two-tenths of one percent of his finished product is actually paper or cellophane or other materials; let's assume that there is, that all these materials do in fact have a concentration of a thousand parts per million.

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Taking that or projecting that out, what would be the total concentration in his finished product, assuming those facts?

A. I will have to get out my paper and pencil.

Would you repeat the numbers again, sir?

Q. All right. Let's assume a concentration of a thousand parts per million.

A. Assume a thousand, all right.

Q. We will assume, then, with Rozansky that no more than two-tenths of one percent of his finished product consists of those wrappers, cellophane, cardboard, whatever.

Now, what percentage or what concentration in his final feed will there be, based on those figures, of PCBs?

MR. PLAUT: What concentration in its final--

MR. RICHARDS: What concentration in his final bakery product.

MR. PLAUT: All right.

THE WITNESS: Well, let's see here.

BY MR. RICHARDS:

Q. Take it step by step, if you want to. I am sure it's easier that way.

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A. (Witness calculating on a piece of paper.)

MR. PETERS: Your Honor, for the record, I merely want to object. I assume that he will prove the facts contained in the question.

THE COURT: Well, the question does assume some facts not yet proven and I am going to allow it to stand on his implied representation that there will be evidence to that effect.

MR. RICHARDS: There will be, your Honor.

THE WITNESS: If we assume a million pounds, just to make the calculation, of the finished meal, and let's say two percent of that is this package-type material--is that what you said?

BY MR. RICHARDS:

Q. Yes.

A. That means that 2,000 pounds of that material is of that source, packaging source, and we said that that 2,000 pounds of material had a thousand parts for every million parts, which is one percent, all right? If my arithmetic, my decimal points and all, are right, this says that--let me check again.

That will be 2,000 pounds of this material--

THE COURT: You said something there that led me to believe that you were saying that

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1,000 pounds was one percent of a million pounds.

THE WITNESS: That is right. One percent is equivalent to a thousand parts per million.

THE COURT: All right.

THE WITNESS: Okay. And I have got now 2,000 pounds of packaging material, which has a concentration of a thousand parts for every million, so there is 2,000 pounds represents the 50th, so as I see it, 50 into 100 gives me 20.

BY MR. RICHARDS:

Q I think if you found 20, your arithmetic may be off or maybe mine is. I come up with 2.

A I am looking for my error, if there is one.

MR. BROWN: Brother Richards, why don't you ask the witness to assume it's 1 percent instead of two-tenths of 1 percent, and that result is 2. It's much easier if you do it that way.

THE COURT: Doesn't anybody have a pocket calculator?

MR. PLAUT: I have one here, your Honor.

THE WITNESS: I don't know how to use it.

THE COURT: You don't?

THE WITNESS: I have never used one.

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Again, the question was how much of the paper product of this concentration would it take so that the total mixture--

MR. PLAUT: Will this help?

THE COURT: Can we go on to another question? We are going to take a recess and we will let you figure it out during the recess.

MR. RICHARDS: We can do that during the recess.

BY MR. RICHARDS:

Q If I understand your testimony correctly, then, Mr. Papageorge, all of this recycled paper with this high content of PCBs in it for a period of some five to ten years was being used as packaging for food for consumption by human beings, cookies, crackers, all kinds of high-fat-content materials to be packaged in this sort of material; is that correct?

A Yes, it is.

Q And this practice was not stopped until sometime in mid to late 1970?

A It was not stopped until--the use of the word "stop" bothers me a bit, because efforts were made starting in 1970 to reduce. But the official regulation that the Food and Drug Administration

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finally published in July of 1973 placed the limit at 10 parts per million of PCBs in food packaging materials. So that placed an upper limit.

Q Well, as a result of these practices over the years, is there in fact any contamination among the human population of this nation?

A That is well established that most of us have PCBs in us, yes.

Q To what level or concentration, Mr. Papageorge?

A It's a low level. Is it a part per million?

Q A part per million or is it five parts per million?

A I don't remember the five part per million. I thought it was more near one, two.

Q So that every human being in this courtroom has at least one or two parts per million of PCBs in it; is that right?

A I don't know about every human being. Many have been found to have it.

MR. RICHARDS: I don't have any more questions, subject to the computation.

THE COURT: Okay. Mr. Plaut.

MR. PLAUT: I have a few, your Honor, but I rather wanted to hear the answer to that question,

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so maybe I can ask him a few before then.

BY MR. PLAUT:

Q I want to get one or two things clear, Mr. Papageorge.

In all this questioning about customers of Monsanto, just so there will be no confusion, although Agway was apparently a customer of Monsanto, it's not the type of customer to which any PCB letter was ever sent in the nature of a warning; is that right?

A That is correct; unless the company had purchased PCBs, they wouldn't have gotten a letter.

Q You have no knowledge of Agway buying PCBs from Monsanto?

A That is correct.

Q So they would not be one of the ones to get a warning letter?

A That is correct.

Q Now, Mr. Richards asked you the question about John Rozansky and the telephone conversation about his method of packaging, putting it through, screening it out and so forth, and you being shocked, and you indicated you didn't indicate in any way to Agway that you had had this conversation with Mr. Rozansky; is that correct?

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A. That is correct.

Q. That was your policy, not to disclose what one person told you to another?

A. Unless I got permission to, that is correct.

Q. Did you get permission from John Rozansky to do it?

A. I didn't ask for any, sir, so I didn't get it.

Q. When the 700 parts per million test came along, you did have conversation with other people in your shop or with people from Agway, did you not?

A. Yes, sir.

Q. Did you at that time in any way disclose the opinion which you voiced to Mr. Brown that you considered more probable that the packaging papers, or what you will, were the cause of the contamination rather than, let's say, a leak of heat exchanger fluid?

A. I believe I expressed my belief as to the source being that packaging, but when you say at that time, I don't recall.

Q. That is what I am talking about. At that time, when this 700 parts per million came out, did you disclose that opinion to Agway at that time?

A. I don't recall.

Q. You don't recall?

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A. That is right.

Q. Well, wasn't this something fairly important? I mean you knew Agway was concerned, you knew Inter-county was concerned, you knew Rozansky was concerned, people were trying to find out what the source of this contamination was.

If you knew this, wouldn't you really have disclosed it if you had that opinion?

A. Well, we had already disclosed it, sir. It's a repetitive kind of discussion.

Q. Did you disclose this as being the probable source at that time?

A. My impression is that in my discussions with representatives of Agway, with Dick Rice in particular, that the packaging was the probable source; discussion that the packaging was the probable source probably did take place. I don't remember the exact words. I am sure we harped on packaging, inks, adhesives, and I am sure they were listening.

Q. And heat exchanger fluids?

A. Yes--well, yes, but at a different tone, a different connotation, as a possible. We even talked about hydraulic fluid as a possible, transformer fluids misused as a possible.

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Q By the way, Mr. Papageorge, did you keep any notes of this opinion that you had formed, did you write it down someplace?

A No, sir.

Q At that time?

A No, sir, that would be an abnormal act on my part. I never keep notes like that.

Q You don't keep any notes at all and you have got all these problems coming up and you remember that was at that time?

A Yes, sir, because this was pretty important.

Q Well, then, what was your recollection about the conversation that you had--I want it for the record, then--about the conversation which you had after receiving the 700 parts per million test with the representative from Agway and who was it with?

A I don't remember who it was with. I believe this was a period of time when I couldn't reach Mr. Rice, so I don't recall the individual. It would have to be with Mr. Rumsey.

Q Glen Edick?

A I don't remember the name Edick at all.

Q Actually, when your deposition was taken, a while ago, we asked you about the sample, and this

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was on the third day, and on Page 59, and we asked you about whether Monsanto had done any testing of plastic wrappers since 1968. I am leading into this, and I think your answer was "I am not aware of any analytical tests made on plastic materials and the type you referred to."

MR. BROWN: 39, you say?

MR. PLAUT: 59, Mr. Brown.

BY MR. PLAUT:

Q And I don't know who the questioner was at this point, whether it was me or somebody else.

Then the question was asked whether Monsanto did any analysis of inks, printing inks, for the presence of PCBs since '68, and you said, "No, sir, not to my knowledge."

And we kept on going down concerning kraft paper or cardboard and you said, "Not to my knowledge." And finally the question was, and I am referring to Question 183:

"Question: Was any attempt made to-- do you have any knowledge as to whether or not there were any substances in that sample other than bakery product, spaghetti, candy, and that sort of thing?

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"Answer: I know nothing about the sample."

Is that correct?

A. Yes, sir.

Q. Was that question asked of you and was that your answer?

A. That is the answer.

Q. And now you have given Mr. Brown this opinion, but at the same time you now say that you had knowledge because of Mr. Rozansky's conversation with you that other materials were in there besides spaghetti and candy and so forth; am I right?

A. Yes, sir. That was my first opportunity to find out what was in bakery meal.

Q. So you had this knowledge what was in bakery meal when this sample was analyzed; am I correct?

A. Yes, sir.

Q. But you said you knew nothing about the sample?

A. Well, that statement is a little more broad than I intended it to be. In terms of--what I am trying to say is that at that time I knew nothing about the source of the sample, what it had been exposed to, and so on, what had happened to it, how it was sampled, what it represented.

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Q Whether there was cardboard in it, any of those things?

A There are many things we don't know about the sample.

Q And, in any event, I am not going to prolong this, in any event, despite the fact you gave Mr. Brown the opinion saying it's one thing rather than the other?

THE COURT: He said it was more probable.

BY MR. PLAUT:

Q More probable, excuse me.

One of the reasons that at the same time--or, in other words, early '71, late in 1970, Monsanto was in the process of taking its Therminols out of heat exchanger units because of dangers of leaking and spillage; is that correct?

A To be more precise, we were recommending they not be used in heat exchanger systems in food processes because of the potential for contaminating food intended for human use. That was our thinking.

THE COURT: Let's take the afternoon recess.

(Recess taken at 3:05 p.m.)

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THE COURT: All right, Mr. Richards, will you ask your question again?

MR. RICHARDS: May it please the Court, I think we have our arithmetic straight.

BY MR. RICHARDS:

Q The question was this, Mr. Papageorge: Assuming that the PCB content-concentration in the paper that Mr. Rozansky picks up is as much as 1,000 parts per million, and assuming that for any given load--we don't care what size it is--that all of that paper is removed, with the exception of two-tenths of 1 percent, what would the final concentration of PCBs be in that load of material spread throughout, assuming no other contamination?

A As we determined, it was two parts per million.

Q So that the maximum concentration from that source in any given load--we don't care whether it's a 10-pound load or 100,000-pound load--assuming these facts, would be no more than two parts per million?

A With all those conditions, yes, sir.

Q Do I understand that two parts per million is within the FDA tolerance for feedstuffs or for ingredients that go into animal feedstuffs?

A That is correct.

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Q And that if that ingredient were then mixed into animal feed to an extent of no more than 10 percent, what would the total concentration of PCBs in that final feedstuff, assuming no other contamination, be?

A It would then be a tenth of that, which would be .2 parts per million.

Q And that is also within the current FDA standard and tolerances for feedstuffs?

A That's correct.

MR. RICHARDS: I have no further questions.

MR. PLAUT: I have no further questions, your Honor.

THE COURT: All right. Anything else?

MR. BROWN: I have some.

MR. PETERS: I don't want to object. This is the third time around.

THE COURT: Well, I am going to limit him now on my own to what was testified to under examination by Mr. Richards and by Mr. Plaut.

MR. BROWN: And Mr. Peters examined after I did, after I did.

THE COURT: Yes, he did, and that is my

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fault.

All right, go ahead.

MR. BROWN: I am sorry you made that mistake.

THE COURT: All right, go ahead. I want you to object if anybody thinks it's repetitious.

REDIRECT EXAMINATION

BY MR. BROWN:

Q The last answer, if there was migration from the adhesive in the other materials, if there was migration while there in this conglomerate being chopped up and so forth, that would add additional PCB content to the wafer meal above the figure you gave my friend, Mr. Richards?

A That is correct.

Q Mr. Peters had you advise the jury what the imports were reported by the Tariff Commission in 1971 for the '71 year.

I show you Page 12 of the same report for the 1970 year. Tell me how many polychlorinated biphenyls were reported to have been imported that year.

A I don't believe, sir, although I have never seen

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that before, I was told there was no records kept prior to 1971 on polychlorinated biphenyls.

Q. Well, regardless of what you were told, sir, running right down the same items, cellulose, acetate, chloronanil, PCBs, two prime, chloronal this and four prime chloral that, you find the same listing of the same items and no PCBs reported for 1970 year as reported in the Tariff report, correct?

A. That is correct, because no records were kept. Nothing to report.

Q. One reason for not reporting is nothing came in?

A. Oh, yes.

Q. Well, if anything had been coming in under tariff, they would have had some indication of it, wouldn't they?

A. Well, no, sir.

Q. All right.

A. Prior to 1971, no agency in the government was that interested in polychlorinated biphenyls to ask the Tariff Commission to keep records of what was arriving in this country.

Q. You said that the Department of Agriculture had put itself on record with regard to the contamination

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in Sullivan County that it was most probably due to wrappers which contained high PCB levels being ground into the bakery goods; that is what you testified to?

A. I thought I said the Food and Drug Administration, but the Department of Agriculture has also stated this.

Q. Well, you are referring, sir, to this report in Appendix E to the polychlorinated biphenyls and the environment report in May of 1972, distributed by the National Informational Service Department of Commerce, that appendix being the Federal Drug Administration Surveillance Program, USDA Sampling Program, Industrial Accidents, aid poultry, New York State incident, Campbell Soup Company.

MR. RICHARDS: Your Honor, I object to this unless Mr. Brown is going to bring somebody in from the FDA to determine what types of test.

THE COURT: Well, the evidence has already gone in, unfortunately for you, Mr. Richards, and there was no objection made at the time.

MR. RICHARDS: I don't know whether this is marked or not, your Honor.

THE COURT: Well, he did testify in response to a question by Mr. Peters about the FDA

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report. Isn't that in evidence?

MR. BROWN: No, your Honor.

MR. PLAUT: I object to it further, your Honor. It's dated May 19, 1972, and it's irrelevant.

MR. BROWN: Your Honor, we have had testimony without objection opening this thing up, right up to what the current situation is.

THE COURT: Now, what is that about? Is that the Agricultural Department report?

MR. BROWN: This is a Task Force report published in '72, with a report date of the 20th of March, 1972.

THE COURT: All right.

MR. BROWN: Which goes back.

THE COURT: I am going to sustain the objection. There wasn't any objection to Mr. Peters' question. But there has been an objection to this on the grounds reports of those tests are hearsay unless there is somebody here to explain them.

That is the basis of Mr. Richards' objection. On that ground the objection is sustained and your objection to my ruling is noted.

MR. BROWN: I have offered as an exhibit

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generally the report that I identified. It has been excluded; is that correct?

THE COURT: Well--

MR. BROWN: Subject to my objection.

THE COURT: Yes.

MR. BROWN: Now, I now offer--

THE COURT: I thought there was a book like that in there, that is why I am confused.

MR. BROWN: No, your Honor, we have got a lot of books, but haven't got any of them in yet.

THE COURT: All right.

MR. BROWN: I now offer, your Honor, and I will offer at this time extract pages so your Honor can see them separately, I will now offer the material starting with Page 107, including 107, 108, 109, 110, 111, 112, 113 through to the end of the reference to the Campbell Soup incident, and I believe I am correct that the material in that section entirely relates to events and facts known prior to the end of 1970, and I offer that separately.

THE COURT: I don't doubt that is so. What number was that on your original exhibit list?

MR. BROWN: No. 3.

MR. SNOW: 3-O.

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THE COURT: All right. Well, there wasn't any objections. All right, well, the reason I am rejecting the offer at this time is because the objection is made on the grounds that those tests are hearsay. You didn't participate in them, did you?

MR. BROWN: In the task force?

THE COURT: Yes.

THE WITNESS: I was consulted, if I can use that expression. My opinions were requested. I did help.

THE COURT: Did you have anything to do with these reports?

THE WITNESS: I didn't put that report together, no, sir.

THE COURT: I am not talking about the report. About the tests that the report is about. It's 3-P. Did you get the page numbers?

THE CLERK: 107 to 113 of Campbell Soup.

THE COURT: The ruling stands because of the hearsay rule.

MR. PETERS: May I join Mr. Brown?

THE COURT: In making an offer?

MR. PETERS: Making an offer to the pages that Mr. Brown requests.

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MR. SPELLMAN: I would like to join in that, your Honor.

MR. PETERS: And I have, I think, a more compelling reason than that.

THE COURT: Why don't we discuss the compelling reason a little bit later? Let's get on with the questioning. If this man doesn't know anything about this, you can put this report in, if it's admissible, which I doubt, at any time.

BY MR. BROWN:

Q Mr. Papageorge, the report here in this government publication is the report to which you were referring when you testified that the Federal Government has gone on record on this matter?

A That is right.

Q And that is the material that appears on the page top, Page 114, starting on Page 113?

A That is correct.

Q Now, sir, one other thing. We are not going to get very far with this either, but are you familiar with the fact--this is Exhibit 3-S, your Honor--that there was a publication Environmental Health Prospectus, the first issue of which came out in April of 1972, and which in that issue devoted its

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entire issue to perspectives on PCBs?

A. I am familiar with the document.

Q. And did that document put together in one publication a large number of articles relevant to the PCB problem, many of which were also reflected in and submitted to the task force and reflected in the government publication?

A. Yes, sir.

Q. Any reason to suppose that those articles aren't reasonably reliable as investigative reports by the scientific community?

A. There is no reason that I know of.

MR. BROWN: I offer the Environmental Health Prospectus, Experimental Issue No. 1, your Honor, as an exhibit generally.

MR. RICHARDS: I object for the same reasons, your Honor.

THE COURT: I am going to sustain your objection, although I will note neither you nor Agway made the objection in time for me to consider it prior to trial.

MR. RICHARDS: My apologies, your Honor.

THE COURT: Never mind the apologies. I have sustained the objection at the present time.

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And to make it clear on the record, I don't think the report would be helpful to the jury without some expert evidence to explain it. I don't know what it has in there or anything else.

MR. BROWN: My objection is noted, your Honor?

THE COURT: Your objection is noted.

Mr. Peters, your objection is noted, and Mr. Snow's objection is noted, and Mr. Spellman's objection is noted. This is--

MR. BROWN: Can't be right all the time. None of us can. You can't satisfy everybody.

THE COURT: I will forgive the inference that underlies that remark. As you know, Mr. Brown, I may not be right in the final analysis after the case is appealed, but I am right now.

They ought to be marked for identification, Mr. Nolin. Mark those in sequence for identification. That would be 29-30B for identification. And that is the first one.

Now, the next one is what, 30-3SB for identification.

MR. BROWN: Your Honor, I would like to offer the 1970 Tariff report that I used in examination.

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I don't think anybody objected to that and that is 1970

THE COURT: That is admissible.

31-23B is 1970 Tariff report.

BY MR. BROWN:

Q Mr. Papageorge--

MR. SPELLMAN: Excuse me, your Honor. I am still not clear on the number of the item containing the findings of the USDA.

THE COURT: That is 29-3PB for identification. Task Force report.

MR. SPELLMAN: It's 30.

THE COURT: Well, it was 3P. It was marked 3P. Well, change it to 30. 39-30B for identification.

BY MR. BROWN:

Q Mr. Papageorge, going back to 5, 5A, is this the collection of changes and labels and correspondence concerning changing labels that you testified about?

A Yes, sir.

Q Will you accept that this folder is that folder, subject to Mr. Chiesa's double-checking me in this case there is anything in there that shouldn't be?

A It looks all right so far.

MR. BROWN: I offer the whole bunch, with

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no further questions.

THE COURT: 32-5AB, Monsanto label change file.

BY MR. BROWN:

Q Now, Mr. Papageorge, you said this was a hexin ring with a benzine molecule that you can convert. It sometimes appears as a biphenyl in this structural form?

A Yes, sir.

Q If I draw a couple of lines down here and put an "O" between them for oxygen, what is it now?

A That is what I referred to earlier as the diobenzofuran. And when chlorine is added it becomes this toxic material chlorinated diobenzofuran.

Q In the PCBs they make in Europe where some of this substance showed up in their PCB material, it showed up there accidentally, didn't it; they didn't intend to put it in?

A That is correct.

Q And all that happened is you get a double bond in some manner with oxygen invading the basic biphenyl before chlorination in some manner, or during the chlorination?

A It could be during or even after.

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Q But this is one of the accidental things that can happen in the formation of the polychlorinated compound or its treatment and distillation and cooling down, that type of thing?

A Yes, sir.

Q Two other questions.

You said earlier that a regular loss in heat exchange of 66 pounds a month would not be unusual, talking about might be vented out. What system would that be normal to, that is the total charge of a system that would vent off that amount?

MR. PETERS: I want to object. He has had ample opportunity to go into this and I didn't go into it.

THE COURT: I will overrule your objection. This is one question and I am not going to allow any more questions along heat exchange lines.

THE WITNESS: I don't know, Mr. Brown, that I can relate that to the size of the unit. It's primarily a function of how many startups and cooloff periods the unit undergoes during that period of time; it's also a function of how high a temperature is the unit exposed to, how high is it pressed, if you will, beyond the recommended operating range, how many times

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is the operator either willfully or accidentally allowing it to reach 700 degrees, maybe even 800, approaching 800, when many of the fumes go out that vent and we have lost the material and bring it back under control, you find the level in the tank has dropped, so additional material must be added.

So it's really primarily a function of how is the unit operated, rather than the size of the unit.

BY MR. BROWN:

Q You might get this even though it's only a 1,000-pound system, as well as 150,000-pound system?

A Well, yes, but then you have to severely over-tax a unit that is smaller so that the effect would be noticeable.

THE COURT: All right. No more questions relative to that.

BY MR. BROWN:

Q Last question, different subject.

Bethleham Mink still has about 50,000 pounds of this duck byproducts still frozen in those 40-pound things and apparently with a bunch of PCBs in them.

How are we going to get rid of them safely? What should we do with them?

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A. My recommendation is to find a properly-operated landfill, which is not near any water, and bury this material, and that is it. It will stay in the soil, in the clay particles. The PCBs will not find their way to do any damage.

Q. Is there such a place in New England where land is far enough away from water to make that practical, or would you have to go out to some prairie state?

A. I understand there are some of our capacitor customers that are burying failed capacitors in that fashion. I am led to believe there are approved landfills for this purpose.

MR. BROWN: Thank you.

THE COURT: Mr. Chiesa, do you have another copy of your exhibit list?

MR. CHIESA: Yes, I do, your Honor.

THE COURT: I don't know whether you made this or who made it, but it's a complete list of the exhibits, or at least it's complete as I have been able to find. Goes through. Would you give it to Mr. Kirby here? It might help him a little.

MR. CHIESA: Sure will.

THE COURT: Mr. Peters, any other

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questions?

MR. PETERS: No, your Honor.

THE COURT: Anybody else?

(There was no response.)

THE COURT: Thank you, sir. You may step down.

THE WITNESS: Thank you, gentlemen.

(witness excused)

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I hereby certify that the foregoing is a true and correct transcript of my stenographic notes in the aforementioned matter.

Court Reporter

Transcribed by: James P. Gunning, III

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