NORTH CAROLINA) IN THE GENERAL COURT OF JUSTICE
)
RANDOLPH COUNTY) SUPERIOR COURT DIVISION

MID-STATE FARMS COOPERATIVE COMPANY,
Plaintiff

vs. 72 CVS 76

INTERNATIONAL PROTEINS CORPORATION; EAST COAST TERMINALS, INC.; SOUTH PACIFIC PROTEINS, INC.; and MONSANTO COMPANY,
Defendants

NORTH CAROLINA) IN THE GENERAL COURT OF JUSTICE
)
WILKES COUNTY) SUPERIOR COURT DIVISION

HOLLY FARMS POULTRY INDUSTRIES, INC.,
Plaintiff

vs. 71 CVS 1173

WILBUR-ELLIS COMPANY; INTERNATIONAL PROTEINS CORPORATION; EAST COAST TERMINALS, INC.; SOUTH PACIFIC PROTEINS ASSOCIATION, INC.; and MONSANTO COMPANY,
Defendants

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DEPOSITION OF WILLIAM B. PAPAGEORGE

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The deposition of William B. Papageorge was taken at the Albert Pick Motor Inn, Greensboro, North Carolina, commencing at 2:00 o'clock p.m. on Thursday, the 3rd day of August, 1972.

APPEARANCES

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I N D E X

WITNESS	EXAMINATION BY	PAGE
William B. Papageorge	Mr. Vance	600 699
	Mr. Murrelle	655 703
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	Mr. Hayes	680
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	Mr. Hutchins	685
	Mr. Henson	690
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	Mr. Smith	699

EXHIBITS

NUMBER	IDENTIFIED
Defendant's No. 1	645
Plaintiff's No. 7	667

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WILLIAM B. PAPAGEORGE

having been previously sworn, testified further as follows:

EXAMINATION BY MR. VANCE

Q Mr. Papageorge, in connection with Mr. Jordan's question about finding all incidents involving PCB's of which you were aware in 1970, you mentioned the three-ring notebook and the file with the band on it, and used the expression "other possible indices", or words to that effect. What did you mean by "other possible indices"?

MR. SMITH: I believe I'll object to the form insofar as it might not conform to what has been previously testified.

A (By the witness) The word "indices" is a strange word to me. I don't recall using it.

Q (By Mr. Vance) You did not use it then?

A It would help me if we could review for my recollection, what the question was.

MR. HENSON: The witness said, when he was asked about all these episodes before 1970, and Mr. Jordan asked him if he wouldn't have to go back to his notebook and his other materials to refresh his recollection, and he said, "Yes, that and other indices."

MR. SMITH: I object to counsel's testimony. Whatever the record shows.

MR. HENSON: He may have had other indexes to go

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to other than that material. That's what I understood the witness to say.

A (By the witness) Here recently with the publication of an extensive bibliography which I understand - I have not counted them personally - there are nine hundred references to articles referring to polychlorinated biphenyls or subjects somewhat related to polychlorinated biphenyls. I am finding that I am using that document as a reference document for locating these articles.

Q (By Mr. Vance) Is this a published document?

A Yes, sir. It is a document published by the Library of Medicine, edited - I believe is the correct expression - by Dr. Quinby, Griffith Quinby, and it was available about March, April 1972.

Q Do you know who published it?

A I believe it is the Library of Medicine, somewhere in Maryland, sir. I would have to look up the address.

Q Do you have a copy of it?

A Yes, sir.

Q Where do you keep it?

A It is in my files, business files.

Q Do you have an index or table of contents to your files?

A No, sir. My secretary at one time helped me to put together a listing of the various files. It may still

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be in my desk drawer. I have not used it recently.

Q So the index is not kept up to date?

A No, sir.

Q But the one that you do have is in your desk drawer?

MR. SMITH: He said it might be.

A I have not referred to it for months. I cannot say with certainty that it is still there.

Q (By Mr. Vance) Now, as to records again, does Monsanto have a policy of keeping all of its records indefinitely?

A I am not aware of such a policy, sir.

Q Does Monsanto keep any of its records indefinitely?

A I would not know. I am in no position to know that.

Q Do you know whether or not Monsanto has a policy of disposing of all or certain of its records after periods of time?

A As I indicated yesterday, I was aware of such a policy as of the end of 1969. Since then I personally have not been involved in such matters. I have not inquired into them. I do not know what the current policy is.

Q Do you know whether it is a random system or automatic system?

A At that time?

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Q Yes.

A I do not know what is meant by "automatic". Each location at that time, to the best of my knowledge, was responsible for the assigning of an individual to make certain that the activities relating to the record keeping complied with the instructions that we'd received.

Q I believe you said that these were written instructions?

A As best I can recall, yes, sir.

Q Do you still have copies of these instructions?

A Not in my possession, no, sir.

Q What did you do with them?

A When I left the Anniston, Alabama location, I left all papers there.

Q And you do not have any written instructions in your present office about records?

A No, sir.

Q What is Monsanto's policy in respect to the records of the heat transfer fluid department?

A I have not heard any policy relating to records.

Q Of the heat transfer fluid department?

A Of the heat transfer fluid department.

Q What is Monsanto's policy with respect to the IBM print-outs previously discussed?

A I do not know of any policy statements relating

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to IBM print-outs.

Q You do not know whether they have a policy of retaining them or filing them?

A I do not know, sir.

Q What about medical records?

A I don't know anything about them.

Q Well, what is your personal policy and what is Monsanto's policy concerning disposal of the records and documents maintained in your office, or in the fifteen filing drawers that you maintain?

A They are not all full, sir. My policy, sir, is one of personal judgment, really. If a document appears to me to have some future value, I tend to keep it. On occasion, when I retrieve it and use it for some purpose, I again apply my judgment whether to keep it or not or I may discard it in the wastebasket, or I may tell the girl to dispose of it. I don't know that I have any formal policy. It is a subjective approach to these matters.

Q Have you received instructions from anyone to maintain and not destroy all documents presently in your personal files which may have a bearing on this lawsuit?

A No, sir.

Q Has anyone else at Monsanto to your knowledge received instructions not to destroy and to maintain any records or documents which may be relevant to this lawsuit?

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A I am not aware of any such instructions.

Q Does anyone else at Monsanto besides you keep personal records which may be relevant to this lawsuit?

A I do not have personal knowledge of that, sir.

Q Well, you realize, of course, that all the documents in your personal files could potentially have some bearing on the lawsuit, do you not?

MR. SMITH: Object to the form of the question.

A Yes, sir.

Q Have you caused any of your personal records to be destroyed since January 1st, 1970?

A No, sir.

Q Has anyone else caused any of your personal records or the records in your office to be destroyed since January 1st, 1970?

A No, sir.

Q Do you plan to destroy or cause to be destroyed any of your personal records?

A I haven't given any thought to it. However, in due time I must do some housecleaning. I may run out of space. That's the only reason I know of that I would clean them out.

Q To your knowledge, has anyone from Monsanto destroyed or caused to be destroyed any records which may potentially have a bearing on this lawsuit?

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A No, sir.

Q To your knowledge, is anyone from Monsanto presently intending to destroy or cause to be destroyed any records which may have a bearing on this lawsuit?

A I do not know of any such intention.

Q Has anyone asked you to destroy or cause to be destroyed any of your own records since January 1970?

A No, sir.

Q When do you plan to do this personal housekeeping, Mr. Papageorge?

MR. SMITH: I object to the form of the question.

A I haven't given any thought at all to this matter, sir. As yet it hasn't reached the point where it is a high priority on my list of things to do.

Q It wouldn't be any inconvenience to you to hold up on it a while, would it?

A That is correct.

Q You have described certain talks or lectures or statements or speeches made to certain groups and meetings and agencies. Now, excluding those instances in which the statements were made to attorneys for Monsanto, tell us all instances in which you have discussed with or written to or been written to, by Telex or otherwise, how it came to pass that letters such as those you described as having been mailed to some heat transfer customers in February and June,

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1970, were not sent to East Coast Terminals.

MR. SMITH: Object to the form of the question. The testimony is that it was sent to all heat transfer customers of record in February 1970.

MR. VANCE: We want to know why it was not sent to East Coast Terminals.

A (By the witness) I have no information, no knowledge, that I can share with you relating to that. I do not know.

Q (By Mr. Vance) Now, I ask the same question with respect to discussions or communications in which you were involved with respect to how it came to pass that no inquiry was made by the order taker as to what the Therminol FR-1 ordered by Dean Morton in May and June of 1971 was to be used for.

MR. SMITH: Object to the form of that question.

A I have had no personal communications with the order taker; therefore, I have no knowledge in this area.

Q (By Mr. Vance) I ask the same question with respect to discussions and communications in which you have been involved with respect to the knowledge of any Monsanto Company employee prior to July 12th, 1971, that there was a fish meal pasteurizer at Wilmington, North Carolina.

A Prior to July 12th, I had no discussions on that matter.

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Q Have you heard anybody else talking who had some information about it?

A No, sir. Prior to July 12th, I heard no discussions relating to fish meal of any kind.

Q Have you talked to anybody at Monsanto after that time who made any statements as to their knowledge about a fish meal pasteurizer at Wilmington, North Carolina?

A I could find no one in the Monsanto organization who had any knowledge of the fish meal pasteurizer in Wilmington, North Carolina.

Q Now, just to crystalize this, Mr. Papageorge, has any employee of Monsanto Company, past or present, told you or written to you or communicated with you in any way or form that he was aware prior to July 12th, 1971, that there was a fish meal pasteurizer at Wilmington, North Carolina?

A No one has done so, sir.

Q Has any employee of Monsanto, past or present, told you or written you or communicated with you in any way or form that he was aware prior to July 12th, 1971, that there was a fish meal pasteurizer at Wilmington, North Carolina, and that this pasteurizer was located on the premises owned by East Coast Terminals?

A No, sir.

Q Has any employee of Monsanto Chemical, past or present, told you or written to you or communicated with

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you in any way or form that he was aware prior to July 12th, 1971, that there was a fish meal pasteurizer at Wilmington, North Carolina, located on the premises owned by East Coast Terminals, and that this pasteurizer was leaking?

A We're still prior to July 12th?

Q Right.

A No, sir.

Q What did Dr. Romoser tell you on July 12th, 1971, about Mr. Charles Burgess' involvement in the fish meal trade?

A Dr. Romoser told me that there was a company which he called South Pacific Proteins Company and whose president was Mr. Charles Burgess involved with fish meal; it could be that they know something about the operation in Wilmington.

Q Well, didn't he tell you that he knew Mr. Burgess and that Mr. Burgess had told him about the fish meal plant in Wilmington, North Carolina?

A No, sir, he did not tell me that.

Q Well, when you told him about the matter in Wilmington, North Carolina, he immediately said that he would contact Charles Burgess, didn't he?

MR. SMITH: Object to the form of the question.

A No, sir, not Dr. Romoser.

Q (By Mr. Vance) Not Dr. Romoser?

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A No, sir.

Q Who was it then? Pullman?

A Mr. Pullman indicated that he had heard something about South Pacific Proteins Company and that he would attempt to reach Mr. Charles Burgess.

Q And this was when Mr. Pullman was asked about or informed about the Wilmington pasteurizer problem?

A That is correct.

Q Have you given any written statement to any insurance adjuster or representative of any insurance company except for insurance company lawyers?

A No, sir.

Q Have you made any attempt to collect or retain or list articles appearing in magazines, newspapers, or other mass media, in which statements by you are quoted or summarized, or your name was mentioned?

A No, sir.

Q Do you have any kind of scrapbook or articles from magazines, newspapers, or other mass media, in which statements by you are quoted or summarized?

A No, sir.

Q Does your wife?

A No, sir.

MR. VANCE: Off the record.

(Discussion off the record.)

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Q (By Mr. Vance) Mr. Papageorge, you described some forty plants owned by Monsanto Company located throughout the United States. In addition to these plants, did Monsanto in 1970 and '71 have district or regional sales offices throughout the country?

A Yes, sir.

Q Describe, if you can, where these offices were located and what kinds or types of products were sold at these district or regional sales offices.

A I'll try as best I can, sir. I do not propose to imply that I know all there is to know about all of these offices. I am aware of offices in New York City; Akron, Ohio; Cincinnati, Ohio; Chicago, Illinois; Wilmington, Delaware; Atlanta, Georgia; St. Louis, Missouri; Houston, Texas; Santa Clara, California; Seattle, Washington. Those are the locations that come to mind. Generally at these locations, Monsanto has representatives representing the complete product line of Monsanto Company, ranging from textiles to chemicals to Astro-Turf - a total line.

Q At each of the sales offices?

A Generally. Now, dependent on activity, it's conceivable that some of these products are not as fully represented as they could be, and in those instances the inquiry is referred to some other location where knowledgeable people are present.

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Q Were there other sales offices which were not regional or district sales offices which were maintained in 1970-71?

A I have heard of some instances, sir, where some sales representatives are located in cities other than those listed. In many cases they operated out of their residences, and this becomes a place of business for them. But administratively they are listed as belonging to one of the offices that I recalled earlier. I just don't remember any other locations that are listed officially as being Monsanto reference places.

Q Would it be fair to say then that Monsanto Company during 1969, 1970 and 1971 had either plants, district or regional offices and other offices located in almost all if not all states in the United States and sales representatives in all states?

MR. SMITH: Object to the form.

A I believe that is a reasonable statement, sir.

Q (By Mr. Vance) Was any effort made to make use of this network throughout the country in the gathering and collecting of information relation to PCB's?

MR. SMITH: Object to the form.

A Efforts were made relating only to those using the services of those individuals who were knowledgeable in the application involving polychlorinated biphenyls.

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Q (By Mr. Vance) What type of effort was this?

A An informal type of effort which consisted of informing the salesmen of the problem as we understood it and a request of them that they be listening and looking for information that would be helpful either from the customers or from the local popular media.

Q How was this information disseminated?

A Sometimes I would get a clipping in the mail. Sometimes I would get a copy of a customer call report. Occasionally I would get the information through other Monsanto personnel who had in turn received this information either by mail or telephone. It is an informal channeling of this information, and eventually it would be brought to my attention.

Q Well, what I'm getting at is how did this network of salesmen and sales offices know to be aware to get this information for the company?

MR. SMITH: Object to the form.

A (By the witness) I personally wasn't present when all of this was communicated. It would follow the normal way to communicate, which would be one of the managers of field sales would either by letter or more likely by telephone be discussing many matters, some of them relating to polychlorinated biphenyl, with the regional and district managers, and it is conceivable to me that they in turn

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would pass on this type of information to the field salesmen, either at sales meetings or informally on a person to person basis.

Q (By Mr. Vance) Did you do anything to make sure that this was done?

A No, sir.

Q Did anybody else to your knowledge?

A Not to my knowledge.

Q What system, if any, was employed to insure that all scientific reports and test reports would be brought to your attention, or to the attention of someone who would relate them to you, after you assumed your duties in January of 1970?

A There was no formal system established. As people became aware of my interest in polychlorinated biphenyls, they would send me copies of these articles.

Q Now, Mr. Papageorge, you testified before that the conferences you attended concerning the revision of the Therminol FR labels took place between June and August of 1970, is that correct?

A I don't know that I referred to conferences, plural.

Q Was it one conference?

A As I recall, there was one conference, and from that point on these were discussions with individuals or the

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relaying of notes or memoranda.

Q Did this go on between June and August of '70?

A As best I recall, yes, sir.

Q Now, I believe you also testified that Monsanto received preliminary reports from Industrial Bio-Test concerning certain animal testing in April 1970, is that correct?

A Yes, sir.

Q And the reports in April of 1970 showed that the higher chlorinated biphenyls at higher dosages adversely affected dogs and rats, is that correct?

A Yes, sir.

Q These reports in April 1970 showed that PCB's affected their livers, is that right?

A Yes, sir.

Q Did it have any adverse effects on anything else?

A Not to my knowledge.

Q Now, the final report from Industrial - what it it? Bio-Test?

A Bio-Test.

Q Was received in June 1970, is that correct?

A I don't recall when we received it, sir. That's the date of the report. I do not know when it was received in our offices.

Q Now, this report showed that lower chlorinated

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biphenyls affected hatchability of chickens at a level of only ten parts per million, isn't that right?

A Yes, sir.

Q Did it show any other adverse effects of PCB's?

A No, sir. There were no effects relating to any other symptom.

Q Had Monsanto Company received results of any other PCB testing either by Monsanto or by any firm performing tests for Monsanto before June 1970?

MR. SMITH: Object. I believe he's been over that by your questions and by others.

A (By the witness) The only reports we were aware of at that period of time were those that appeared in scientific journals which we discussed yesterday.

Q (By Mr. Vance) Now, did any of these reports show that PCB's had an adverse effect on the environment?

A In general, these reports showed the presence of PCB's in the environment. It showed the type of poly-chlorinated biphenyl in the environment. And there were claims that they were affecting the environment.

Q Well, by "claims", isn't it true that the reports showed that they affected the environment, whether Monsanto agreed with the reports or not?

MR. SMITH: Object to the form.

A Sir, it's my understanding that there were state-

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ments in many of these reports that were not based on scientific data accumulated by the investigators. They were premises made by the writer of the reports. For instance, the reference to the demise of the brown pelican off southern California was not based on scientific statistically significant data; it was based on an opinion of a scientist on an analysis of some eggs on an instrument that gave a graph that looked like polychlorinated biphenyls, but no attempt was made to confirm and no studies were made using brown pelicans as test creatures. So there is, in my understanding, serious question raised about many scientific reports relating to polychlorinated biphenyls.

Q (By Mr. Vance) Right now I'm not really asking you for your personal opinion but what was available by test to Monsanto?

MR. SMITH: Objection.

A My intent, sir, was to show that we had received reports, that these reports are not what is considered scientific testing leading to conclusions.

Q (By Mr. Vance) Did you consider the report of Industrial Bio-Test a scientific test leading to a conclusion?

A Yes, sir.

Q Well then, in fact, in June of 1970 when these Therminol labels were revised, or during the period that

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they were revised between June and August of 1970, to include the paragraph relating to PCB's which you read with Mr. Jordan, some of Monsanto Chemical's own studies had shown that polychlorinated biphenyls had a definite adverse effect on the environment, isn't that true?

A I don't think so, sir.

Q Well, didn't you say the Industrial Bio-Test showed that?

A The Industrial Bio-Test data showed us that three species of creatures were exposed to three different commercial polychlorinated biphenyl mixtures at three different levels in their diets for given periods of times, and that some effects were noted in some of these creatures at some levels. This does not say that definitely polychlorinated biphenyls affect the environment no more than a test, say, with table salt with these very creatures would indicate table salt is detrimental to the environment. I would personally think that it is an irresponsible conclusion to reach with one big jump.

Q So you say at that time that you were not convinced that PCB's had an adverse effect on the environment?

A No, sir.

Q And was this the position that Monsanto took at that time?

A To my understanding, yes, sir.

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Q And this is the position that was taken in spite of the numerous reports which you have testified about which were available and with which Monsanto was acquainted at the time that they revised the label?

A That is correct, sir.

Q Now, at that time Monsanto was aware of reports of other persons or organizations which were to the effect that polychlorinated biphenyls were an environmental contaminant, were they not?

A Yes, sir.

Q And Monsanto was aware of numerous incidents being reported wherein it was claimed that PCB's were an environmental contaminant, isn't that right?

A Yes, sir.

Q And while some studies may have shown no adverse effects in particular instances, many studies and many reports were indicating by June of 1970 that PCB's were an environmental contaminant, were they not?

A Yes, sir.

Q Still the label said, "This product contains polychlorinated biphenyls which some studies have shown may be an environmental contaminant." Is that right?

A That is right.

Q And while the label says, "This product contains polychlorinated biphenyls," it could truthfully be stated

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that, "This product" - meaning FR-1 - "is 100% polychlorinated biphenyls." Isn't that right?

A In that instance, yes, sir.

Q Is it true also that the label makes no reference to the microscopic portions of PCB's that Monsanto Chemical's tests had indicated would cause adverse effects upon leghorn chickens?

MR. SMITH: Object to the form. The evidence so far is that certain tests were run with various dosages at various levels for considerable periods of time. I don't believe there's any evidence that any microscopic amount would cause any damage to anybody or anything. So I object to the form.

Q (By Mr. Vance) Well, didn't you say yesterday that ten parts per million was a microscopic amount, or made some reference to the microscopic portion?

MR. SMITH: Mr. Henson did.

MR. VANCE: I don't think Mr. Henson testified.

Q (By Mr. Vance) Do you understand this question, Mr. Papageorge?

A Sir, I find myself confused with the word "microscopic". To me this means that there are laboratory instruments which use either lenses or electrons for observing either with the naked eye or photographic film material being studied.

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Q Well, what about the word "minute"? Would that be more suitable?

A That, too, is subject to individual definition. These are small quantities we're talking about, yes. I don't know how else to describe it except to use the common expressions of parts per million, parts per billion, parts per trillion. This is why the scientific community finds itself that it must use this terminology to avoid confusion.

Q I believe you testified that at the conference someone suggested that the label be worded so as to include the effect-- with reference to the effect on fowl or wild life or animals. Is that correct - someone suggested that some wording be put on to that effect?

A I don't remember saying that, sir.

Q What did you say about-- I think Mr. Jordan asked you was it considered - did you ever consider expanding the label to include "hazardous effect" or "contaminant" as to wild life or animals.

MR. SMITH: Object to the form. Whatever the record shows is the only way to determine what Mr. Jordan asked him about. If you want to ask him anything about it--

A (By the witness) I don't remember that specific reference. I recall a reference relating to foods, and I believe I responded by saying that we had considered and

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decided in our best judgment that the use of the word "use" would be adequate to cover the varied applications involved.

Q (By Mr. Vance) Did you make this suggestion to the conference - that they include the word "food"?

A I don't recall doing so, no, sir.

Q Do you remember who did?

A No, sir. It came up during the discussion, and I just don't recall the individual who mentioned it.

Q Was there any suggestion to include the word "feed"?

A I don't believe the word "feed" ever came up in our discussion, sir. I don't recall it.

Q And you don't remember any suggestion as to including the words "animals or wild life"?

A No, sir, I do not remember.

Q At the time the label was prepared, or revised rather, did you know that one of the definitions of "contaminate" shown in Webster's Third New International Dictionary Unabridged, 1963 edition, is - quote - "to make inferior or impure by mixture"?

A No, sir.

Q Did you know it gives an illustration as - quote - "iron contaminated by phosphorus"?

A No, sir.

Q Well, you knew at the time then that when the label was revised "contaminate" does not in all instances

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mean or imply danger or harm, isn't that correct?

A I don't know, sir, that I thought of the definition of the word "contaminant" along any of those lines.

Q Well, you knew it was proper to use the word "contaminate" to suggest mixing an amount of salt with an amount of sugar when you would say sugar was contaminated with salt, wouldn't you?

A That would be my understanding of the use of "contaminant", sir.

Q And your understanding at the time the label was revised, wasn't it?

A My understanding of the use of the word "contaminant" is the unintended presence of a material.

Q In fact, if you were selling FR-1 and some dirt got into FR-1, you would say or could say that FR-1 was contaminated with dirt?

A That is true. Dirt is not intended to be present.

(Discussion off the record.)

Q (By Mr. Vance) Mr. Papageorge, at the time you were working on the drafts for the revised label, did you have a copy of the label as it then existed before you?

A Not at every instance in which the matter was discussed, no, sir.

Q Sometimes you had it and other times you were remembering what it said, is that correct?

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A That is correct, sir.

Q Were you aware of the size of the type on the left side of the label, or the print?

A Yes, sir. Yes, I recall.

Q Are you also aware that generally the larger the print, the more attention it draws?

A I personally have never given it that thought, sir.

Q That's generally true, isn't it?

A To a degree. Sometimes there are other devices used to attract attention.

Q Well, in a newspaper, for instance, the headlines are the first things people see, aren't they?

A That's right.

Q And they attract the attention to the news story?

A Yes.

Q Magazines on a magazine rack, the headlines on the magazines attract the attention, don't they?

A That's my understanding, sir, yes.

Q Was it your decision to print the material relating to PCB's in small print compared to the print on the lefthand side of the label?

MR. SMITH: Object to the form.

A No, sir.

MR. SMITH: You've got the label in front of you. I believe the print is the same point size.

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MR. VANCE: Let me just - for us all to know what we're talking about, let me show the witness the label identified as Exhibit A attached to the answer of Monsanto Chemical Company.

Q (By Mr. Vance) I ask you if that is not the label that we are referring to?

A This is the label, yes, sir.

Q Now, I'll ask you for your opinion. Which is the larger print - the writing on the left, "Caution: Contains hydrochlorinated hydrocarbons. Avoid prolonged breathing of vapors or mist." Or the writing on the right which begins, "This product contains polychlorinated biphenyls."

MR. SMITH: Mr. Vance, we'll stipulate that the "Caution" and exclamation mark--

MR. VANCE: I'm not asking you to stipulate anything, Mr. Smith. I appreciate your offer to assist me, but I want the witness to answer.

MR. SMITH: Don't ask him about three things and ask him which is the larger.

Q (By Mr. Vance) Which is the larger print? On the left side or the right side?

A It appears to me, sir, that the left is larger than the right.

Q Is that true for all of the writing on the left?

A Yes, sir.

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Q All right. That's all I wanted. Now, was it your decision to print the label with the larger writing on the left and the smaller writing on the right, the smaller writing relating to polychlorinated biphenyls?

A No, sir.

Q Whose decision was it?

A Mr. G. R. Sido is the individual in Monsanto who concerns himself with the design of labels.

Q What department is he in, Mr. Papageorge?

A I believe, sir, I believe he's a member of our Monsanto Central Distribution Department.

Q Is he a chemist by trade?

A I do not know his formal training.

Q Does he have legal training?

A I do not know.

Q At the time the new labels were prepared, Monsanto was certainly aware that many, many barrels of Therminol FR-1 had been sold, or drums of Therminol, isn't that right?

A Yes, sir.

Q And it was intended for customers to purchase Therminol FR-1 after the label change, isn't that correct?

A Yes, sir.

Q Were the drums upon which the new labels were placed marked in any special way to indicate that the label was being changed or something was being added?

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A Not to my knowledge.

Q Was any notation made on the invoices?

A Not to my knowledge.

Q Do you, sir, make it a habit each time you purchase a product you have purchased in the past and have previously examined the label to re-examine the label with each new purchase?

A When you ask me that, are you referring, sir, to things I purchase at home or in an industrial situation?

Q Purchases in general.

A In general, I believe my attitude varies with the situation. In the chemical plant, I have trained myself to be very, very sensitive to what's on labels. I don't believe I follow that same practice relating to the package my shirts arrive in at home and so on. So I have a different approach depending upon the situation.

Q And with toothpaste, you don't read the whole toothpaste label every time you purchase one, do you?

A No, sir. I'm relying on the governmental agencies to help me there.

Q Wouldn't you agree that this is an almost universal habit not to re-examine a label with each new purchase?

MR. SMITH: I believe I'll object to that question.

A (By the witness) Well, sir, I cannot agree to that.

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Q (By Mr. Vance) Would you admit to the tendency of any person of the habit not to re-read a label each time a person purchases a product he has purchased before?

MR. L. MOORE: Object to the form.

A Sir, based upon my experience, I cannot agree with that.

Q Well, any portion of the population. Wouldn't you agree that there are many people who don't re-read a label?

MR. SMITH: I object. It seems to me that we've gone far beyond the scope of any proper examination.

MR. MARSHALL: We submit it's highly pertinent, because of the changing of the label of the initial product that which was thereafter shipped by Monsanto was under different label.

MR. SMITH: If he wants to ask him a question about industrial application, that's one thing. But to ask about any portion of the population as to what their reaction might be, I think it's beyond the scope---

Q (By Mr. Vance) Let me ask you about this, Mr. Papageorge. Does it say on the drum - is there any appearance on the drum or the label that this is an industrial chemical? Is that statement made on the drum or the label anywhere?

A Not that statement, sir.

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Q I'll ask you if in Technical Bulletin OPL 36-A there is a page entitled, "Environmental Hazards"?

A I think, sir, you are referring to O/PL 306-A.

Q Right.

A As I recall--

Q You are familiar with that bulletin?

A Yes.

Q And on this page the statement is made that, "Aroclor 1232, Aroclor 1242, Aroclor 1248, Aroclor 1254, Aroclor 1260, Aroclor 1262, Aroclor 1268, Aroclor 4465, and Montor 1, all contain polychlorinated biphenyls (PCB) of various types and in varying amounts. PCB residues in small amounts have been found in the environment, and some studies have indicated that they may be harmful to certain forms of animal life." That statement appears in the technical bulletin?

A As best I recall, yes, sir.

Q And this technical bulletin was put out in March of '70, I believe it was?

A No, sir.

Q Do you know the date?

A Sometime in the latter part of 1970 ~~that~~ it was available.

Q I'm just going by 3/70.

A I was asked that question the other day, sir. I

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do not know what that means. I can only guess.

Q All right. I remember that.

MR. VANCE: Can we take a short break?

(A brief recess was taken.)

Q (By Mr. Vance) Mr. Papageorge, Aroclor 1242 is the equivalent of Therminol FR-1, isn't that right?

A That is correct.

Q And Aroclor 1242 is Monsanto's trade name for Therminol FR-1?

MR. SMITH: Object to the form of the question.

Q (By Mr. Vance) Well, Therminol FR-1 is the trade name for Aroclor 1242?

A Sir, they are both trade names to describe the same type of polychlorinated biphenyl mixture.

Q Did Monsanto put this wording on Aroclor labels, or wording to this effect, that PCB residues in small amounts had been found in the environment and some studies have indicated that they may be harmful to certain forms of animal life?

A I don't believe those are the exact words. The intent is the same.

Q Now, this is the wording that I have read to you - I have read to you from the wording on a technical bulletin O/PL 306-A, and I am asking if wording to that effect was placed on any Aroclor labels?

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A Yes, sir.

Q That is a reference to "some studies have indicated that they may be harmful to certain forms of animal life"?

A The paragraph we had referred to earlier which we discussed as being on the Therminol FR-1 label was also placed on Aroclor labels.

Q Well now, the paragraph on Therminol FR-1 does not refer to animal life, does it, or does it specify animal life?

A No, sir.

Q What I'm asking is does any Aroclor label give any reference to animal life, or harmful effect to animal life?

A No, sir.

Q And therefore no Aroclor labels or FR-1 labels have any specific reference to a harmful effect on certain forms of animal life, is that correct?

A I don't think the word "animal" is used, sir. I'm trying to recall. There is another word, I believe, to describe wild life or creatures in the environment.

Q Is there any reference to creatures in the environment on these labels?

MR. SMITH: Are you talking about prior to July 16th, 1971?

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MR. VANCE: Yes.

A (By the witness) I would have to refresh-- I'd have to look at the label again. I thought there was some reference in there to the effect on the environment.

Q (By Mr. Vance) I'll hand you the label again.

A I was incorrect. There is no reference, no, sir.

Q And that holds true for Aroclor labels, too?

A That is correct.

Q What about other PCB labels for any use? Do you know of any labels that have any reference to any harmful effect or possible harmful effect on animal life?

MR. SMITH: Your question again is directed to prior to July 1971?

MR. VANCE: Yes.

A (By the witness) I do not know of any labels containing reference to animal life that would be applied to products that contain polychlorinated biphenyls.

Q (By Mr. Vance) Has Monsanto added any reference since that date?

A Yes, sir.

Q When and what did they add?

A Sometime in 1971. I don't recall the exact words. As I recall, we added reference to the fact that these materials should not be used in food, food related, feed, pharmaceutical - that kind of application. That's all I

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recall at the moment, sir.

MR. MARSHALL: May we go off the record a moment?

MR. VANCE: All right, sir.

(Discussion off the record.)

MR. VANCE: Back on the record.

Q (By Mr. Vance) I believe your answer to the last question was that sometime in 1971 Monsanto--

MR. SMITH: After July.

Q (By Mr. Vance) After July--

MR. MURRELLE: He said "sometime in 1971".

MR. SMITH: The whole question was directed to after July 1971.

MR. VANCE: I withdraw-- well, the record speaks for itself. So I withdraw my trying to rephrase the answer.

Q (By Mr. Vance) Can you tell us specifically what the label stated after it was revised again, and this time the revision being in 1971?

MR. SMITH: I believe he couldn't remember exactly. I'll be glad to get a copy of the label and furnish it to you, without waiving any objection that I have that it's incompetent.

Q (By Mr. Vance) Is that right? You can't remember exactly what it says?

A I cannot remember the exact words, sir. I do know

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that there were words added to further identify restrictions on use.

Q Now, do you know what Monsanto Chemical's tests prior to July 1970 showed with respect to the rat oral LD-50 for FR-1?

A You mentioned July 1970?

Q Yes.

A I don't recall the exact LD-50 value. I was told by those who understand these things that the material is classified as mildly toxic. And to help me in my understanding of what is meant by mildly toxic, I was also told that you might compare it to ordinary table salt.

Q Do you know what Monsanto Chemical's tests prior to July 1970 showed with respect to the chicken oral LD-50 for FR-1?

A Sir, I don't recall any chicken oral LD-50, although I understand it is customary to conduct such tests before instituting long term feeding studies to establish lethal levels and to establish the subsequent test levels. I don't remember any numbers though.

Q Who in Monsanto would know if such tests were made as to the results of tests?

A Mr. Elmer Wheeler.

Q And you have identified him earlier?

A Yes, sir.

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Q Now, do you know whether or not such tests were made on chickens?

A No, I do not know.

Q Mr. Wheeler would have that information?

A Yes, sir.

Q What is Mr. Pullman's job?

A He is the field marketing representative for the Specialty Products Business Group of Monsanto Industrial Chemicals Company.

Q And by marketing, that includes selling and sales?

A Yes, sir.

Q Would it have been helpful in his job to have known what Monsanto's policies were with respect to restrictions on sales?

A Yes.

Q When you talked to him on July 12th or July 13th, did he appear to be knowledgeable about these policies?

A Yes, sir.

Q Would it have been helpful to Mr. Roush to have known what Monsanto's policies were with respect to restriction upon sales?

A Yes, sir.

Q When you spoke to him from time to time, did he appear to be knowledgeable about these policies?

A Yes, sir.

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Q Is there any kind of Monsanto newsletter or newspaper either for any division or operating company or business group?

A Yes, sir.

Q What type of letter is that, or newsletter?

A Well, there are several that I am personally aware of.

Q Can you tell us about them?

A There is a magazine type publication called "Monsanto News". It's published by Monsanto Company.

Q What is the distribution of this? To all employees?

A All employees, all customers, all stockholders, all friends - very wide distributions.

Q All right. Go ahead. Are there any others?

A I am aware of a periodical that is sent - that is intended for the pensioner, former employees of Monsanto, which is also sent to - to the best of my knowledge - some of us still active in Monsanto. There is another periodical newsletter type of publication that was intended for the marketing personnel in the former Organic Chemicals Division which is still being issued periodically to almost the same distribution list, to the best of my knowledge. I don't recall any other publications.

Q Has there ever been any mention of the sales restrictions on PCB's in any of these periodicals or maga-

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zines, or the magazine "Monsanto News"?

A I don't recall of any, sir.

Q Have there ever been any statements relating to the PCB problem in any of the publications you have mentioned?

A I don't recall.

Q None whatsoever?

A No, sir.

Q Has there been any mention of reduced sales of PCB products in these periodicals?

A I don't specifically remember any, sir.

Q Have you ever had occasion to try to obtain the address or locate any employees who had left Monsanto Company?

A No, sir.

Q Do you know anybody in Monsanto who has tried to locate the address of a former employee?

A Still with Monsanto, sir?

Q Yes.

A No, sir.

Q Did you ever discuss polychlorinated biphenyls with anyone from Moran - is it William Moran - William J. Moran - before July 1971?

A No, sir.

Q With Joy Manufacturing Company?

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A No, sir.

Q With Baker Engineering Company?

A No, sir.

Q With Berlin Chapman Company?

A No, sir.

Q With Holly Farms?

A Before July '71?

Q Yes.

A No, sir.

Q With Mid-State Farms?

A No, sir.

Q With Wilbur-Ellis?

A No, sir.

Q With International Proteins?

A No, sir.

Q In 1970 and 1971, was Therminol FR-1 susceptible for use in any kind of plasticizer application?

A Susceptible?

Q Usable.

A Usable.

Q Applicable. Could it have been used?

A It could have been, but highly improbable.

Q In any open system application?

A Not to my knowledge.

Q In any hydraulic fluid use?

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A Not to my knowledge.

Q In any other use for which Monsanto restricted sales?

A Not to my knowledge.

Q Did you say yesterday that Therminol was used in open system applications in 1970 and early 1971?

A No, sir.

Q You did not?

A No, sir.

Q What did you say about open system applications, if you recall?

A If I remember, I was asked if I was aware of fluids used in open system applications, and I believe I mentioned that I was aware of personally some small systems that I had in my laboratory test systems, and that I had heard of some larger systems in which hot fluids were used for processing items of manufacture.

Q So Monsanto was not selling Therminol FR series for open system applications in 1970 or 1971?

A Not to my knowledge, sir.

Q What did Monsanto do to insure that it would not be used for open systems, if anything?

A I personally was not involved in any of that, so I cannot describe what was done.

Q Does a closed system using Therminol FR heat

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transfer fluid sometimes vent hydrogen chloride gas?

A I don't have personal experience in that matter, sir, but I am aware that chemically if the fluid is stressed thermally at temperatures beyond the point for which they were designed, the hydrogen chloride could be generated, and then depending on the design of the system it would have to go somewhere. That's all I can say on that matter.

Q All right. And if this gas comes in contact with moisture, it tends to form an acid, doesn't it?

A The hydrogen chloride with water does form an acid, yes, sir.

Q And this acid is corrosive to certain metals, isn't that correct?

A Yes, sir.

Q How about mild steel?

A If the concentration is proper, it can be. Yes, it would be corrosive to mild steel.

Q And youwere aware of the fact that when you viewed the pasteurization plant in Wilmington that it was located near the Atlantic Ocean and there is a great deal of moisture in the air at that location. Isn't that common knowledge?

A I only have a layman's understanding of environmental atmospheric moisture in nearness to the ocean.

MR. SMITH: I believe you can get some other witnesses about the location of Wilmington.

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Q (By Mr. Vance) Did Monsanto, to your knowledge, ever request a list of Therminol FR customers from the Moran Company, William Moran Company?

A I am not aware of such a request.

Q From Joy Manufacturing Company?

A I do not know.

Q From Baker Engineering Company?

A I don't know.

Q From Berlin Chapman?

A I don't know.

Q Who would know?

A I would guess, sir, that again this is the area in which the marketing manager and his staff, if such action were taken, they would be either directly involved or aware of it in some manner.

Q Mr. Papageorge, is a personnel file maintained for each employee of Monsanto?

A Yes, sir.

Q Where are these files retained?

A I have seen these files in two different locations. In one instance, or in some instances, they are retained in the supervisors' files, and in other instances they were retained in the personnel department files of the appropriate sub-unit of Monsanto - at one time the division and currently the operating company.

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Q Have you ever seen your own personnel file?

A No, sir.

Q When an employee leaves one place in Monsanto, such as Anniston, Alabama, and is transferred to another place, such as St. Louis, is any kind of entry made? Do you know?

A Yes, sir.

Q Is there any chart or report or evaluation made of each employee?

A Yes, sir.

Q Were you in the armed services?

A Yes, sir.

Q Do you know what an efficiency report is?

A Yes, sir.

Q Is that report kept in an employee's file?

A Yes, sir.

Q Would you know where the file of J. R. Fallon would be?

A No, sir.

Q Do you know what the system is for evaluating employees?

A Well, sir, I don't know what part of the procedure you have reference to. But in general, it involves the presence of a position or job description outlining the duties expected, the duties and responsibilities assigned

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to the employee.

Q Does a man rate the people, the employees directly below him?

A The supervisor evaluates the performance of the people who are reporting directly to him and reviews this evaluation with his supervisor.

Q Who makes the decisions with respect to either promotion, change of job, assignment, and raises, with respect to Monsanto Company employees?

A I believe that varies from unit to unit, sir, but generally - and this is my understanding - generally the supervisor arrives at a decision, recommends to his supervisor on the appropriate action to be taken, and an understanding is reached and the action is taken.

Q You have mentioned Mr. Howard Minckler. Do you know where he lives now?

A Nothing other than the New York City area.

Q Have you been in touch with him since he left the company?

A No, sir.

Q Do you know a man by the name of Gazella who worked in the agricultural chemicals division?

A No, sir.

Q You do not know where he lives?

A No, sir.

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Q Do you know what the policy of Monsanto is relating to the retention of personnel files after an employee leaves the employment of Monsanto?

A I do not know.

Q Do you know how long those files are maintained?

A I do not know.

Q I assume that your transfer from Anniston to St. Louis in your job as director of environmental control represented a promotion for you, is that correct?

A It was intended to be so, yes.

Q What special training did you have that especially qualified you for this job?

A I was told by the individuals who selected me for the assignment that my specific experience relating to the manufacture of polychlorinated biphenyls would be most helpful, and that my experience as plant manager in Alabama had exposed me to situations relating to contacts with the press, governmental agencies, and the general public, that they felt would help me in this new assignment. That is my understanding of why I was selected.

Q Now, Mr. Papageorge, Monsanto Chemical pushed the sales of Therminol, or urged people to purchase Therminol, greatly on the sales pitch of the simplicity of using Therminol, did it not, or how simple it was to use? Isn't that true?

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A Sir, that's not my understanding. The real benefits that were expounded by Monsanto representatives related to fire resistance. The more or less secondary benefits were the high temperatures achievable and the simplicity of use.

Q But they did emphasize simplicity of use and safety as well, did they not?

A Yes, safety as relates to fire, yes, sir.

Q Are you familiar with Monsanto's booklet entitled, "Why Therminol?"

A This is one of the technical bulletins I had in mind yesterday when we talked about Therminol technical bulletins, yes, sir.

MR. VANCE: Let me identify this document as Defendant South Pacific Deposition Exhibit No. 1 to Papageorge Deposition.

(The document above referred to was marked Defendant Exhibit No. 1, Papageorge Deposition, for identification.)

Q (By Mr. Vance) I hand you what purports to be a copy of Monsanto's booklet entitled, "Why Therminol?" It is a Xerox copy of a booklet. When was this booklet first published, if you know?

A I do not know, sir. In fact, this particular one does not look familiar to me at all.

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Q On the first page of that booklet, it illustrates uses of Therminol, does it not?

MR. SMITH: If it's not familiar to the witness, I don't think he should be asked about it.

A (By the witness) I don't recall this particular publication at all. I have never seen this before.

Q (By Mr. Vance) Does it appear to be published by Monsanto?

A I don't see any reference to its being published by Monsanto. I don't know.

Q Well, turn to what I have numbered as page 5 at the bottom in pencil. Does it list the series of Therminol FR?

MR. SMITH: Off the record.

(Discussion off the record.)

MR. SMITH: Let the record show that during the pause while counsel was looking at the exhibit, the South Pacific attorney produced an additional sheet, which he said was the last page, that had not been attached to the exhibit as it was identified and presented to the witness.

MR. VANCE: Well, let's go on with the questions and see.

MR. SMITH: Well, let him look at it.

Q (By Mr. Vance) Do you know when this booklet was

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first published?

A I have never personally seen this before.

Q Do you know whether it is still being distributed?

A No, sir.

Q If not, when was it last distributed?

MR. SMITH: If he's never seen it before, I don't know that he can have any knowledge.

MR. VANCE: Let me ask him and see.

A (By the witness) I do not.

Q (By Mr. Vance) You do not know who at Monsanto distributed it then, do you?

A No, sir.

MR. MARSHALL: Mr. Vance, would you excuse me? I never did get the answer, if there was an answer, to your question, "Does it appear to have been published by Monsanto?"

MR. SMITH: I believe he answered that he did not see anything to indicate that it was.

MR. MARSHALL: Let's see what the record says.

MR. SMITH: Well, play it back.

MR. VANCE: I'll ask it again.

Q (By Mr. Vance) Does this booklet appear to have been published by Monsanto?

MR. SMITH: Now, you're asking about the original exhibit that did not have the last page.

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MR. VANCE: Let me say for illustration, the copy that I handed him I thought I said was a Xerox copy, or a copy made from a copying machine, where the pages are clipped together with a paper clip, and we inadvertently omitted the last page when we handed it to the witness. But I ask him in its form now, does the booklet purport or appear to be a booklet of Monsanto Chemical?

MR. L. MOORE: We object to the form of the question.

A (By the witness) It contains some of the features that I have associated with bulletins printed by and issued by Monsanto, such as the list of offices and use of Monsanto trademarks, but I see nothing that tells me that this is a Monsanto publication.

Q (By Mr. Vance) Does this booklet purport to advertise Therminol?

A Yes, sir.

Q Does it purport to illustrate the different uses of Therminol such as heating of apartment buildings, offices, hospitals, tankers?

A Yes, sir.

Q Does it purport to advertise Therminol for use in any food application?

A Yes, sir.

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Q On the second page, does it contain a paragraph on safety of Therminol?

A Yes, sir.

Q And does it refer to more than 2,500 customers who have specified Therminol for new installations?

A Yes, sir.

Q Does it emphasize lower capital costs and lower operating costs?

A Yes, sir.

Q And on page three, does it list several benefits of a liquid heating system?

A Yes, sir.

Q Does it show an illustration of the Detroit River House Cooperative which is stated to have converted from steam boilers to Therminol heating?

A Yes, sir.

Q And does page four give information about - quote - "The Therminol Family"?

A Yes.

Q And page five lists the different series of Therminol FR?

A It lists some of the members of that product group.

Q And page six lists other members?

A Yes, sir.

Q And is page seven entitled, "Therminol, Applica-

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tions Unlimited"?

A Yes, sir.

Q And page eight is entitled, "You Don't Have to be an Expert," is that right?

A Yes, sir.

Q And then the last page lists the sales offices of Monsanto Chemical, is that correct?

A Yes, sir.

Q Now, on page three, let me refer back to that again. Under "Benefits of a Liquid Heating System," does it not list as the first benefit, "In many locations, codes favor Therminaol systems, thus eliminating the need for expensive operating personnel."

A Yes, sir.

Q And page eight, next to the last page, does it not contain the statement, "From design and engineering to start up operations, you'll be surprised at how easy it is to work with a Therminol heat transfer system."

A Yes, sir.

Q Do you agree with those statements?

A Yes, sir.

Q What department would have printed that booklet, if it is a Monsanto publication?

A I don't know how to quite respond to your question. The marketing group of a product initiates the activities

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that end in a publication. They get assistance from other functions within Monsanto, such as engineering, research, advertising, medical, and so on. The final product is approved by the marketing manager. He then places on order with our printing department the request for as many copies as he believes he needs and further arranges for these copies to be delivered to the appropriate offices in Monsanto who can use such a document.

Q All right, sir. Now, I know - with the understanding, Mr. Papageorge, that you stated that you have not seen this booklet prior to this time and you have had just a few minutes to peruse it. With that understanding, did you find anything in the booklet in the short time that you've had to peruse it which mentions polychlorinated biphenyls?

A No, sir.

Q Or any statement in the booklet relating to a hazard or a contaminant to the environment?

A Not in this document, no, sir.

MR. VANCE: Excuse me. Off the record.

(Discussion off the record.)

MR. VANCE: Back on the record.

Q (By Mr. Vance) To your knowledge, has Monsanto ever worked with a construction or design company in designing a heat transfer pasteurization plant?

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A Not to my knowledge, no, sir.

Q So you don't know whether they worked with Joy, Moran, Baker, or Berlin Chapman?

A I have no information relating to that activity.

Q Who would know?

A Again, I would suggest that the marketing manager and his staff might be aware of this.

MR. SMITH: You mean by your question if in fact there was?

MR. VANCE: If in fact there was, yes, sir.

Q (By Mr. Vance) Now, you have mentioned technical bulletins, letters to customers, certain bulletins relating to heat transfer applications, material prepared for scientists. Now, what other written documents or writings of any type or description are you aware of that were written or published by Monsanto Chemical, or reviewed by Monsanto Chemical before being published, which relate to restrictions in sales--

MR. SMITH: Objection to the form.

Q (By Mr. Vance) --of the Therminol FR series?

A I believe the articles and pamphlets and letters you have just described describe the total activities.

Q I ask you the same question relating to hazards or possible hazards of PCB's to the environment.

MR. SMITH: Object to the form.

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A I don't recall you including the label.

Q (By Mr. Vance) It didn't include the label.

A The label is the primary method for communicating the hazards and proper use. Bulletins and letters and all these others you have mentioned are intended to amplify and support the information on the label.

Q Now, Mr. Papageorge, I believe you indicated that you made these calls to Wilmington, and was it July the 12th?

MR. SMITH: No.

A (By the witness) No, sir. My calls to Wilmington, Delaware - I'm sorry - Wilmington, North Carolina, to Mr. Dean Morton were made on July 16th.

Q (By Mr. Vance) July 16th?

A Yes, sir.

Q Was that a Friday?

A Yes, sir.

Q And I believe you stated that you conferred with one of Monsanto's attorneys about this matter on the 17th, Saturday, is that right?

A No, sir, not on Sunday.

MR. SMITH: Object.

A (By the witness) As I recall, I referred to Monsanto's attorneys, an attorney in Monsanto with whom I had discussions during the week of July 12th off and on.

Q (By Mr. Vance) So you were discussing this matter

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with your attorneys during the week of July the 12th, is that right?

A Yes, sir.

Q Prior to coming here to Greensboro for these depositions, or for this deposition, did you talk to any of your superiors about the testimony you would give?

A No, sir.

Q Did you talk with any attorney or attorneys representing Monsanto concerning your testimony at the deposition?

MR. SMITH: Are you including both house counsel and counsel of record?

Q (By Mr. Vance) Well, first, house counsel.

A Yes, sir, we had discussions. I don't know if we talked about the testimony itself.

Q How long did you talk with them?

A I didn't keep a record of the time, sir. I would guess six hours total.

Q And then you have conferred with counsel in this case about your deposition, have you not?

A Yes, sir.

Q Have you talked with them at night during the depositions?

A In the evening, yes, sir.

Q And at breaks and during the lunch break?

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A Yes, sir.

MR. VANCE: I believe that's all.

(Discussion off the record.)

EXAMINATION BY MR. MURRELLE

Q Mr. Papageorge, what was the name of the company which constructed the incinerator at Sauget?

MR. SMITH: Object. He's been over that. He's testified at least twice on that.

MR. MURRELLE: I'd like to know the name of it, if I may.

A (By the witness) It would help me, sir, if we could clarify "constructing the incinerator".

Q (By Mr. Murrelle) What was the name of the general contractor?

A Let me describe my understanding.

Q All right.

A The unit - that is, the incinerator and its accessories - were designed by the John Zink Company whose headquarters is Tulsa, Oklahoma, and they were fabricated by either John Zink Company's fabrication subsidiary or they were subcontracted. I do not know which. The erection and installation of the unit was of course - took place on the premises at Sauget, Illinois. I do not know who was hired as contractor for that part of the activity.

Q Now, you mentioned possible subsidiaries of John

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Zink. Do you know the names of any of those?

A I do not know them by name, no, sir.

Q So you don't know the name of any company connected with the design or construction other than John Zink Company?

A That is correct.

Q During the design and/or construction of the incinerator, did you have any contact with any officer or employee of John Zink Company?

A I personally did not have any contact with any employee of John Zink Company during the design stages and period subsequent to that.

Q Did you have any contact with any person who was involved in the construction of the incinerator or design of it?

A With what company, sir?

Q Any company.

A Any company? Yes, I had contact with Monsanto engineering personnel.

Q Anyone outside of Monsanto?

A Yes, sir. I had contact with John Zink personnel.

Q Can you give us the names?

A I don't remember them, sir.

Q Did Mr. J. R. Fallon have an assistant in 1970?

A Yes, sir.

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Q What was his name?

A Donald Roush.

Q Do you know who has replaced Mr. Fallon, if anyone has?

A Dr. Cumming Paton.

Q Do you know the name of Mr. Fallon's secretary in 1970?

A I don't know if the lady I am aware of was his secretary for the entire year. I don't know when she started working for him. I only know of one secretary, and I don't know when she worked for Mr. Fallon.

Q What is her name?

A Mrs. Carole Sandifer.

Q Did Mrs. Sandifer work for Mr. Fallon in 1971 at any time?

A Yes.

Q Is she still employed by Monsanto?

A Yes.

Q Mr. Papageorge, do you know whether or not when a purchase order is received by the Monsanto Company if that purchase order is retained after the order is filled?

A No, I do not, sir.

Q So you don't know what happens to the purchase order after the order is placed into this IBM system that you described?

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A No, I do not.

Q You have indicated, I believe, that the meeting of eminent scientists which was called by MIT at Williams College was held sometime in June of 1970. Do you know the exact date?

A No, I don't recall the exact date.

Q Do you recall whether it was late June or early June?

A I am under the-- as best I recall, it was more likely the middle of June.

Q Would there be something in the Monsanto Company records to which you could refer to refresh your recollection and ascertain what that date was?

A I am not aware of any document in Monsanto's file. The only item that comes to mind, sir, and I suspect it was not kept, it was a newspaper clipping referring to this meeting, and the item described the lengthy discussions that were held on the effect of the supersonic plane on the environment. I don't believe a copy of that clipping was kept because it was irrelevant to our activities. I don't remember any other document that would give us a date.

Q Do you know how many days the meeting lasted?

A No, sir.

Q Do you know who called it?

A I don't recall the professor's name.

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Q Was it a department within MIT, or do you know?

A I do not know.

Q Did someone request of Monsanto that the document which has been identified as Plaintiff's Exhibit 3 be furnished at this meeting?

A I do not know of any request for such a document.

Q Did anyone request that the topics considered in that document be furnished?

A Not to my knowledge.

Q This was just decided by Monsanto?

A Since I don't know if the request was made or not, I can't answer that.

Q As far as you know, has any other document similar to Plaintiff's Exhibit 3 been prepared by the employees of Monsanto Company?

A There have been versions of that document prepared in an attempt to up-date that have been issued from time to time.

Q Could you give us the approximate number of editions?

A The first page of that document was revised approximately three times, as best I can recall. The remaining portions of that document, to the best of my recollection, were revised once.

Q All right. Now, with respect to the parts of the

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document other than the first page, what was the date of the revision?

A Sometime in November 1971.

Q So between the time this document was prepared - sometime in approximately May of 1970 - except for the revisions which were made on the first page, no further revision was made of this document until November of 1971?

A As best I can recall, that's correct.

Q Now, was the document which has been identified as Plaintiff's Exhibit 3 distributed to any person, firm or corporation other than the meeting called by MIT?

A Yes, sir.

Q Either during 1970 or 1971?

A Yes, sir.

Q Tell me the names or descriptive titles of as many of the people that you can think of, or companies, to which it was distributed. As many as you can think of.

A I do not recall specifically by company or individual or title to whom these documents were mailed. However, it was customary in response to the general question of "what are PCB's; can you send me reading material?" - in many instances, this information was included in the mailing. I would venture to say that the number exceeds one hundred. I don't remember specifically by name, title or company.

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Q Was the document furnished to any governmental agency?

A I suspect so, sir, yes. There was no distinction made.

Q Was the document furnished to any university or college laboratory?

A Yes, sir.

Q Was the document furnished to any companies?

A Yes, sir.

Q And those last three answers apply to the period approximately May 1970 to approximately November 1971?

A For that version, yes, sir.

MR. SMITH: Ed, you have made it clear, have you not, that you're not talking about the bibliography which has been updated several times?

Q (By Mr. Murrelle) I suppose that when the revision was sent out, it included the current bibliography?

A Yes, sir.

Q Mr. Papageorge, when you were employed in Anniston until the end of 1969, did you have any environmental duties with Monsanto?

A I had the normal responsibilities relating to environmental pollution as it applies to manufacturing operations, yes, sir.

Q Now, I believe this morning you have indicated

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that when you were informed that you would take over as environmental control director of your business group, that you were advised that one of the particular attributes you had was that you had dealt with certain situations in Alabama. Is that true?

A Yes, sir.

Q What were those situations?

MR. SMITH: I object. He operated the plant in Alabama. I suppose that was the situation.

Q (By Mr. Murrelle) Unless I am mistaken, you indicated that when you were advised of this new position--

A Yes, sir.

Q You were told that the attributes that you had which made you a good prospect for the job were that you had been involved with manufacturing PCB's and that there had been certain situations in Alabama which would help you with the new job. Do you recall testifying to that effect?

A I don't know whether I used those words, sir, but I believe I mentioned that my - and I don't know if I used these words - contacts with the press, contact with federal and state agencies, the general public, these kinds of contacts were considered to be useful.

Q What was the first time the label was changed after it was prepared in May, June, July 1970 on Therminol FR's?

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A In about August '70, 1970. As best I can recall, the additional information was included on labels to be affixed to containers which were to be packaged subsequent to that point in time. In addition to that, we had printed what we called supplementary labels, which were small labels - I don't recall the size; two by three or four by three inches - with this information, and these supplementary labels were sent to all warehouses that contained inventory packaged prior to that date, which I don't recall. These small labels were affixed to all packages in stock of Monsanto material containing polychlorinated biphenyls. The place to which it was affixed was generally on the head of the drum, right near the bung, so that any employee attempting to empty the contents of that package could not help but see that label. It was intended to be extremely obvious.

Q Now, my question was after the label was changed in that period of time - June, July, August of 1970 - when was it next changed?

A It was changed sometime in the latter part of 1971.

Q And that was when it was changed to make reference to wild life or animal life?

A I don't recall the exact words, sir, but I believe it had specific references to caution against use such as

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food, feed, pharmaceutical, drinking water - these kinds of things. I don't remember all the wording.

Q Mr. Papageorge, I believe on occasion Monsanto Company has furnished to laboratories other than Bio-Test Laboratories samples of Aroclor material, is that correct?

A Yes, sir.

Q Now, when those samples were furnished, was any request made by Monsanto for a copy of the reports of any tests conducted with those Aroclors?

A It is customary, sir, in response to a request for a sample in those instances where the person making the request indicates the type of study he plans to conduct, I normally would say, "We are very interested in this activity and we would appreciate that you keep us informed of the results of your work as it develops." Unfortunately, very seldom were we ever informed of the results until the report was formally presented at some conference or meeting, or published.

Q Were you ever informed?

A I do not recall-- on occasion we would get a very brief general summary of activities from the Fish Pesticide Laboratory in Columbia, Missouri, indicating the general trend of the study being conducted, but never the final numbers or final conclusions until the report was formally published.

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Q Now, on these interim reports - if we can call them that - which were made, where are those maintained?

A They were over the telephone or oral discussions.

Q Were there any notes made of them?

A No, sir.

Q Now, I think it's implicit from what you say that when the final report was published or given as a talk, that the report was made available to Monsanto - at least on occasion, is that true?

A Only on request, sir.

Q On request by whom?

A By the medical department, the research department, and me sometimes.

Q Were requests made?

A On occasion, yes, sir.

Q And were reports received?

A On occasion, yes, sir. ..

Q As well as you can, tell me what reports you received, or the medical department received, that you know anything about, and the approximate dates.

A I have requested reports from the laboratory in Columbia, Missouri that I referred to. The date escapes me. To the best of my recollection-- I just don't remember. I do not remember when this occurred, but I do recall that the author very graciously sent me a copy of his presentation

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at a conference.

Q What was the subject matter?

A This investigator had prepared some polychlorinated biphenyls using a radioactive chlorine and had exposed fish to this synthesized material, and his purpose was to trace the path - if you will - of this material through the fish in its tissues, and he was reporting his analytical findings. I don't remember the numbers that he reported.

Q All right. Other than that test or report, have you requested and received any other reports?

A There was a group which was doing wild bird studies at Cornell University, Ithaca, New York, headed by Dr. David Peakall, assisted by his associate, Dr. Lincer, and as I recall, I made and Mr. Wheeler made requests for copies of papers they had prepared, and they sent us some of them. Again I would have to guess as to the date; I do not recall the date.

Q Approximately what was the date?

A 1970, the latter part of '70 or early 1971.

Q Did you see the report before it was published?

A No, sir.

Q But you did receive a copy of it?

A Yes, sir.

Q Do you recall whether you received it at approximately the time it was published?

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A I believe so, sir.

Q Now, was the study conducted by Dr. Pekall and Mr. Lincer or Dr. Lincer, as the case may be, one for which Monsanto Company furnished the Aroclor?

A Yes, sir.

Q Do you know whether or not that report or article was published in the "Bioscience" magazine?

A Yes, sir.

MR. MURRELLE: Would you mark this as Plaintiff's Exhibit No. 7?

(The document above referred to was marked Plaintiff's Exhibit No. 7, Papageorge Deposition, for identification.)

Q (By Mr. Murrelle) Mr. Papageorge, I will hand you a document which has been marked Plaintiff's Exhibit 7, Papageorge Deposition, and ask you if this is a copy of the study, the report of the study conducted by Dr. Peakall and Mr. Lincer?

A Yes, sir.

Q In connection with conducting this study, state whether or not you or someone else with Monsanto Company furnished to Dr. Peakall and Mr. Lincer Monsanto Technical Bulletins O/PL 311-A and O/PL 306 and O-FF/1. Do you recall?

A I do not know who in Monsanto, if a Monsanto representative was involved, sent those bulletins to Dr.

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Peakall and Lincer.

Q You did not?

A Not to my knowledge, no, sir.

Q Can you tell us very briefly what Technical Bulletin O/PL 311-A is?

A I can't recall it clearly. It's a technical bulletin which has information on polychlorinated biphenyls as they at that time related to plasticizer applications, I believe. I do not know; I can't recall specifically any of the details of that particular bulletin. That's all I remember on it.

Q Can you tell us what Monsanto's Technical Bulletin O-FF/1 was?

A O-FF/1 was a technical bulletin describing the polychlorinated biphenyls sold by Monsanto as functional fluids. It had the physical and chemical characteristics of these materials in it, and as I recall, it had short sections - small concise sections describing such uses as dielectrics, heat transfer, vacuum pumps, these kinds of applications.

MR. MARSHALL: Gentlemen, it's 12:30 p.m.

MR. SMITH: What time do you want to come back?

MR. HENSON: 1:30.

(Whereupon, at 12:30 p.m., a recess for lunch was taken until 1:30 p.m.)

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AFTERNOON SESSION

Q (By Mr. Murrelle) Mr. Papageorge, have you checked the IBM print-out for the year 1970 to ascertain whether or not Commodity Pasteurizing purchased any Therminol during that year?

A No, sir.

Q Do you know whether they did or not?

A No, I do not.

Q Do you have any information that they did?

A No, sir.

Q Do you have any information that any Monsanto Company employee went to the premises of Commodity Pasteurizing during the year 1970?

A No, sir.

Q What about 1971?

A No, sir.

Q Do you have any information that Commodity Pasteurizing purchased any Therminol during the year 1971?

A No, sir.

Q Do you keep any kind of office diary?

A I don't know what is meant by - what you mean by office diary.

Q How do you keep up with your appointments?

A I have a desk calendar which looks very much like a book. It's a spiral bound book on which I jot down

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appointments.

Q Were you keeping such a desk calendar in 1970?

A Yes, sir.

Q Were you in 1971?

A Yes, sir.

Q Do you still have the desk calendar for 1970?

A Yes.

Q Do you still have it for 1971?

A Yes, sir.

Q Now, other than that desk calendar to which you have made reference, did you have any other way of keeping up with your appointments?

A No, sir.

Q Do you carry one around in your pocket?

A No, sir.

Q Do you keep any kind of time records with respect to your activities during any given day?

A No, sir.

Q Do you make any report concerning your activity during any given day to any Monsanto official?

A No, sir.

Q Is there any Monsanto Company product other than the products containing PCB's which are handled only at the St. Louis offices of Monsanto only?

MR. SMITH: I believe I object to the form.

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A (By the witness) I find your question confusing, sir - this reference to polychlorinated biphenyls.

Q (By Mr. Murrelle) Are there any Monsanto Company products other than products containing PCB's which are not sold through distributors?

A I do not know.

Q Are there any products manufactured by Monsanto Company other than products containing PCB's which are not sold through the district and regional sales offices?

A I do not know.

Q Do you recall who it was in 1970 who suggested that this might be a good way to control the sales of PCB products?

MR. SMITH: Object to the form of the question.

A (By the witness) What might be, sir? What might be a good way?

Q (By Mr. Murrelle) To handle all sales only through the main office in St. Louis.

MR. SMITH: Object to the form.

A (By the witness) I am still baffled, because I think you're thinking of this telephone ordering system to a centrally located order-taking center. Is this what you have in mind? Or at least this is what is in my mind and confuses me.

Q (By Mr. Murrelle) Mr. Papageorge, as I understand

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it, prior to - let's say - February 1970, products containing PCB's were in some instances sold through distributors, were they not?

A Yes, sir.

Q As a part of the restrictive sales program and sometime in 1970, Monsanto Company decided no longer to sell products containing PCB's through distributors?

A That is correct, sir.

Q Prior to February 1970, were some sales of products containing PCB's handled at the district and regional office level?

A Yes, sir.

Q Now, after the restrictive sales program went into effect, were products containing PCB's still sold at the district and regional sales office level?

A Some of them, yes, sir.

Q Which ones?

A All of the products, but not all of the sales had to necessarily go through those offices. They could have come to the general offices also, and this in turn would be relayed back to the field.

Q So after the restrictive sales program went into effect in 1970, it was still possible for a customer to order a product containing PCB's and that product would be shipped to the customer without any communication on the

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part of the regional or district sales office with the main office in St. Louis?

MR. SMITH: I believe I'll object to the form.

A If you will recall, I attempted to describe the order placing procedure which involved teletype receiving units. There is one of those located at the general office site which received that request - the purchase order - simultaneously as it was being received at the shipping point, the warehouse. So somewhere in the general offices a machine was reproducing this information, and this is the document that I referred to as used for administrative purposes - invoices and what have you - relating to that order.

Q (By Mr. Murrelle) Prior to the implementation of the restrictive sales policy, were the general offices in St. Louis involved in every sale of PCB products by Monsanto?

A Not every sale, no, sir.

Q But after the implementation of the restrictive sales policy, the general offices in St. Louis of Monsanto were involved in every sale, were they not?

MR. SMITH: Object to the form.

A What is confusing to me, sir, by "involvement" do you mean prior to the delivery or at any time, in any manner relating to the delivery of that shipment or that order?

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Q (By Mr. Murrelle) Well, take both and tell me what the facts were.

A As I indicated earlier, I am not qualified to speak of the details of the order processing activity, but it is my understanding that at some point in time someone in the marketing management function receives all information relating to the marketing and selling of a product to a customer. So somebody in St. Louis is involved with every order eventually. I cannot tell you the exact details of who does what and when.

Q Was someone in St. Louis involved with every sale of products containing PCB's prior to the implementation of the restrictive sales policy in 1970?

A There is someone in St. Louis who eventually becomes involved with every order in some fashion, yes, sir.

Q Now, you said "is". I'm asking you prior to the implementation of the restrictive sales policy in 1970.

A This is after the elimination of distributors. That's my understanding. The distributors were removed.

Q All right. Well, say before the elimination of the distributors.

A Before distributors. There were sales made through distributors in which no Monsanto representative ever became involved.

Q All right. Now, after the removal of the dis-

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tributors.

A There was someone who eventually did become involved.

Q At the general offices in St. Louis?

A That is correct, sir.

Q Have you received any letter from any medical doctor seeking any information with regard to PCB's so that the doctor could treat a patient of his?

A No, sir.

Q At no time?

A No, sir.

Q Mr. Papageorge, are you familiar to any extent with what steps the marketing or order taking department utilizes in order to determine whether or not to sell products containing PCB's to customers on credit?

A I know nothing about that, sir.

Q Do you know whether any department within Monsanto has a credit file on its customers?

A I personally do not know of such a department. I do not have personal knowledge.

Q Do you have any information about such a department or about such information?

A I can only assume that a company like Monsanto has some function - some department that performs that function.

Q Would there likely be a department within each

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business group, or would there likely be some central credit department?

A I know of no such department within the business group; therefore, I am assuming it is a central function, a central department function.

Q Would that be located in St. Louis?

A Yes, sir.

Q What would be the name of the department?

A It could be an accounts receivable department; it could be a credit department; it could be the accounting department. I do not know, sir.

Q Mr. Papageorge, when you made the talks at seminars to which you have made reference, were your expenses reimbursed by Monsanto?

A Yes, sir.

Q In your business group, or in the functional fluids business group, in 1970 was there a marketing man in charge of national accounts?

A No, sir.

MR. MURRELLE: That's all.

EXAMINATION BY MR. HARRELL

Q Mr. Papageorge, did I understand you to testify this morning that Monsanto had regional or district sales offices in or for every state?

A As I remember the question, sir, not only did it

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include locations at which marketing activities were conducted but also manufacturing locations, and if we were to consider the combination of the two, virtually every state is covered. I have not made an analysis to be positive that this is true.

Q In 1970 did Monsanto have a district or regional sales office for the sale of its heat transfer products in North Carolina?

A I am not aware of such an office.

Q Do you know why in the fall of 1970 Therminol FR-1 would have been ordered by a North Carolina customer in a phone call made directly to St. Louis instead of going through a regional or district sales office?

MR. SMITH: Object to the form of the question.

A (By the witness) No, I do not know, sir.

Q (By Mr. Harrell) Do you know whether or not at that time Monsanto had a policy of providing to its customers of Therminol FR-1 a toll-free number in St. Louis, Missouri?

A In 1971?

Q 1970, the fall of 1970.

A In the fall of 1970, I don't believe such a toll-free call service existed, sir.

Q Are you aware that orders for Therminol FR-1 were placed by North Carolina customers by phone calls directly

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to St. Louis, Missouri?

A At what time, sir?

Q In the fall of 1970?

A I am under the impression, sir, after checking with individuals that these orders were placed through the Atlanta, Georgia office in 1970.

Q Didn't the Atlanta, Georgia office instruct the customers in North Carolina - or a customer in North Carolina, or East Coast Terminals, to place the call directly to the St. Louis, Missouri office?

MR. MARSHALL: Objection to East Coast Terminals.

A (By the witness) It is my understanding, sir, and I believe I am correct--

Q (By Mr. Harrell) In the fall of 1970.

A In the fall of 1970, I am not aware of any such instructions being given to the customer.

Q Is some record kept, or was some record kept of toll-free calls that would have come from North Carolina to the St. Louis office in the fall of 1970 - to the best of your knowledge?

A If there were such a service, I would suspect that a record was kept, yes, sir.

Q When did the Anniston, Alabama plant stop manufacturing Therminol FR-1?

A April or May 1971.

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Q Ordinarily would orders that were placed, let's say, in North Carolina in the fall of 1970 for Therminol FR-1 - would those orders have been filled from the Anniston plant or from some other plant?

A This, sir, would depend on the inventory situation that existed at that time.

Q Do you know of any reason why the Atlanta sales or district sales office would have told customers not to place orders at the Atlanta sales office?

MR. SMITH: Object to the form.

A (By the witness) The only reason I can think of, sir, is the fact that the order placing procedure had undergone a change in which the responsibility for this activity was transferred from the Atlanta office to St. Louis.

Q (By Mr. Harrell) I've got three more questions. Now, in answer to a question put to you either by Mr. Vance or by Mr. Henson, did you testify that one of the key persons enforcing Monsanto's sales program would be the outside salesman?

A Yes, sir. He played an important role.

Q How long have you been familiar with the Woodson-Tenent Laboratory?

A As best I recall, the latter part of 1970.

Q Do you know whether or not after your conversation with Dr. May of the Woodson-Tenent Laboratory, Woodson-

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Tenent adopted in whole or in part the analytical methodology that Monsanto had developed with respect to PCB testing?

A If you will permit me, sir, so that there is no confusion, Dr. May is not associated with the Woodson-Tenent Laboratories. As to the remainder of your question, I do not know what methodology the Woodson-Tenent Laboratories employs in its determination for polychlorinated biphenyls.

Q Who did you receive a call from from Woodson-Tenent? Did you receive a call from anyone from Woodson-Tenent Laboratories in 1971?

A I recall a telephone conversation with Mr. James Laubscher who was associated with the Woodson-Tenent Laboratory, and this conversation had to do with his request for samples of polychlorinated biphenyls to use in his laboratory as standards and a request for more information on methodology. And as best I can recall, I offered and did send him some samples, and I also arranged to have our laboratory contact him for further discussions.

Q Do you know whether or not Woodson-Tenent adopted in whole or in part any of the Monsanto methodology that was relayed to them?

A I do not personally know, no, sir.

MR. HARRELL: No further questions.

EXAMINATION BY MR. HAYES

Q Mr. Papageorge, do you know how long, or do you

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have information as to how long that Monsanto had been selling chemicals to Holly Farms?

A I do not know, sir.

Q Prior to 1970 and '71?

A I do not know.

Q I believe you testified that Holly Farms had been a customer of Monsanto?

A I have been told that they have been customers, yes, sir.

MR. HAYES: We might shorten this, if we could. Would Monsanto furnish us a copy of the shipments of chemicals to Holly Farms, the place of origin of those chemicals, the time, the kind of chemicals, and the point of shipment?

MR. SMITH: I'll make inquiry and I will advise you.

MR. HAYES: Thank you.

Q (By Mr. Hayes) Do you know of any other customers for PCB in North Carolina during the years 1970 and '71 that Monsanto had?

A No, sir.

Q Do you know-- excuse me. By that do you mean you just don't know, or could you find out if they had other customers for PCB?

A From my response, sir, I meant that I had had no

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experiences either in looking at records, IBM print-outs, or correspondence, or discussions, that tell me that poly-chlorinated biphenyls had been purchased by companies or individuals in the State of North Carolina.

Q Do you know what type heat transfer fluid, if any, that is used by Carolina By-Products?

A No, sir, I do not.

Q Do you know if Carolina By-Products is a customer of Monsanto?

A I do not know, sir.

Q Do you know what type heat transfer fluid, if any, is used by Holly Farms' by-product plant over near Mocksville?

MR. MURRELLE: Objection.

A (By the witness) I'm not even aware of the plant, sir.

Q (By Mr. Hayes) Do you know what heat transfer fluid, if any, that is used by Patterson Grease and Tallow Company of New Jersey?

A I have never heard of that company, sir.

Q Now, I believe you stated in your previous examination that most orders in 1970 were placed through the Atlanta office for your chemicals and your PCB?

A I don't know that I stated that, sir. The Atlanta office is an active office and covers generally the south-east part of this country. I have no measure of whether

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they were the most orders or not.

Q Well, at the points of shipment of PCB, you ship other chemicals including the PCB, don't you?

A Yes, sir.

Q You do not know whether other ingredients of poultry feed use PCB as a heat transfer fluid, do you?

MR. MURRELLE: Object.

A (By the witness) Sir, I was told that there were instances where polychlorinated biphenyls were used as heat transfer fluids in some meat by-product plants, and I am told that some of the products of these plants are components in animal feed.

MR. HAYES: Would it be possible for you to furnish us a list of those by-product plants that use PCB as a heat transfer fluid?

MR. SMITH: I will look into that and advise you.

MR. HAYES: Thank you. I believe that's all for the moment.

EXAMINATION BY MR. ELSTER

Q Mr. Papageorge, the change in labeling that you previously described--

A Yes, sir.

Q Were any of those suggested or dictated by the Federal Food and Drug Administration?

A No, sir.

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Q Do you know whether any agency of the federal government made any suggestions or took part in the changes that were made on the label?

A No, sir. Polychlorinated biphenyls do not come under any state or federal regulations or statutes that describe materials for purposes of labeling or shipping. They are not that kind of material.

Q With regard to the report of testing within Monsanto that you testified about in 1969 and '70, the work that was being done by or for the company, were any of those marked under Monsanto's security system as confidential or otherwise classified?

A Are you referring, sir, to the analytical methods used for determining--

Q Yes, sir.

A No, sir. We have shared those with anybody, including universities, regulatory agencies, customers - anybody that's interested we have shared with them.

Q None of the testing was ever classified within the company at any time - on the PCB I'm talking about?

A Are you talking about the methods, sir?

Q I'm talking about the results.

A The results of analytical--

Q I'm not talking about the method; I'm talking about what the tests show.

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A Sir, some of the samples that our laboratory anlyzed were sent to us by our customers who requested that we keep this information confidential. In that regard, some of the information is sensitive, yes, sir.

Q Well, as to that information, is there some type of security procedure such as you may be familiar with from your military experience of stamping a document with a certain classification?

A No, sir.

Q Is it kept in a different record-keeping place?

A No, sir. It is just a request on the part of the customer that we not divulge this to others.

Q Is Therminol FR-1 more or less profitable per unit than Therminol 55 or 66?

A I don't know the cost of manufacturing or distribution to make that analysis. No, sir, I don't know.

MR. ELSTER: That's all.

EXAMINATION BY MR. HUTCHINS

Q Mr. Papageorge, you never saw the contract which was made regarding the building of the pasteurizer in Wilmington, did you?

A No, sir.

Q So if you made a statement in your previous testimony with regard to Mr. Vance about the shipments of Therminol to Baker Engineering Company in care of J. W.

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Moran, care of East Coast Terminals in Wilmington, and you made in that statement that the pasteurizer was being built for East Coast Terminals, you don't know who the pasteurizer was built for, do you?

A I don't recall making that statement, but I would not know.

Q You did not have any knowledge that it was built for East Coast Terminals?

A Nothing but what I heard.

Q All you know about what Baker Engineering did with regard to the pasteurizer at Wilmington is what you have heard, is that right, from others?

A That is correct.

Q Not from Baker Engineering Company.

A That is correct.

Q And you don't know exactly what part they did play, if any, in the fabrication of building that pasteurizer at Wilmington?

A No, I do not.

Q Mr. Papageorge, how long has the product Therminol-- has the product - I believe it's Monsanto 55 --

A Therminol 55?

Q Is it called Therminol 55?

A Yes, sir.

Q How long has that been produced by the Monsanto

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Company?

A As I believe I testified earlier, I don't recall, sir, but it was in existence as a product of Monsanto's in 1970 when I assumed my present responsibilities.

Q You don't know how many years prior it had been--

A No, I do not.

Q -- in production?

A I have not looked into that, no, sir.

Q Was the product Therminol 55 tested before it was marketed, to your knowledge, as far as the effect it would have on chickens or pigs or dogs, or anything like that?

A Before it was marketed, it underwent - to my understanding - all of the tests that every industrial chemical is put through to establish proper methods of handling and proper methods for packaging and shipping and proper labeling. These are the normal industrial hygiene type of tests.

Q Who would have done those tests with Monsanto Company?

A I do not know the laboratories that were asked to do this work.

Q Can you ascertain this from the records at the Monsanto Company?

A I would have to ask our medical department to search their files to see what they had on this, yes, sir.

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Q And is it your understanding that from the tests that were run on Therminol 55, that it was not hazardous to the environment, to food, or to feed, in anyway?

A These early tests do not lead to those conclusions, sir.

Q Do you know if a study was done on chickens such as the study that was done on chickens for your Therminol FR-1 product?

A There are some studies. There have been some studies recently conducted, but I don't recall if chickens were the test animal or not, sir.

Q Well, there had been some studies on some kind of animal?

A Yes, sir.

Q And did the studies which were done show that it was a contaminant for the environment or for the animal in any way?

A No, sir. The studies conducted indicate to us that they are not an environmental problem.

Q Does that include a problem as far as animals would go, too?

A That is right, sir.

Q So that if your Therminol 55 product got into fish meal which got into chicken feed and which was eaten by chickens, it would have no effect on the chickens if your

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study as far as other animals held up?

A Well, there are some points that we should consider, sir. It is always risky to extrapolate test data from one species of animal to another, very risky. I also would submit that whether it is Therminol 55 or any other material produced or not produced by Monsanto, it should not be in that animal feed.

Q Well, your study shows as far as some other animal. Do you know what other animal?

A I'm trying to recall, sir. I don't recall at this moment whether it is dogs and rats, or rats and chickens, or dogs and chickens. We just recently completed some feeding studies involving laboratory animals, and I do not remember which species of animals these were.

Q And your studies, I think you said, showed no effect to whatever animals were tested?

A That's right.

Q With being injected with Therminol 55?

A The situation I am in, sir, is when the results are made known to our medical department, I get from the medical department an interpretation. The interpretation I have from them is that the material which we call Therminol 55 is safe to use in heat transfer systems that are closed, and the material is not intended to be mixed with any product being processed.

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Q Even though it is in a closed system, if it has an accident and does get into something accidentally, your studies show as far as whatever animals you are concerned with that it does not hurt them?

A To the levels tested.

MR. HUTCHINS: Thank you. That's all.

EXAMINATION BY MR. HENSON

Q Mr. Papageorge, the Monsanto label on Therminol FR-1 says, "This product contains polychlorinated biphenyls."

A Yes, sir.

Q That was the new warning put on?

A Yes, sir.

MR. BARNHILL: Objection to "warning".

Q (By Mr. Henson) Over on the left, the left side of that label, it says, "Caution. Contains chlorinated hydrocarbons." Now, will you tell me what is the difference between - if any, between chlorinated hydrocarbons and polychlorinated biphenyls?

MR. BARNHILL: Objection.

A (By the witness) The expression "hydrocarbon", as we discussed yesterday, is a term used to define a very broad family of chemicals which contain carbon and hydrogen. Biphenyls is a member of that family. And the reference in both instances to chlorine indicates that the material contains the element chlorine. So polychlorinated biphenyls

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is a member of the family which is more broadly defined as chlorinated hydrocarbons.

Q (By Mr. Henson) All right. Now, do you know whether any tests have been made of the broad family of hydrocarbons to ascertain whether this big broad family is also toxic to chickens under certain conditions, other than just polychlorinated biphenyls?

A I am not aware of any study, sir, involving other chlorinated hydrocarbons.

Q Now, is it your information that Holly Farms does buy, or did in '70 and '71, fish meal and other parts that went into the making of fish meal and processed it or made it themselves?

MR. MURRELLE: Object to the form.

MR. SMITH: Mr. Henson, will you state that again?

MR. HENSON: His information that in '70 and '71 Holly Farms made their own chicken feed from raw materials purchased from others.

MR. SMITH: The information he has now?

A (By the witness) I have been told that that is true, sir.

Q (By Mr. Henson) All right, sir. During that period of time, did Holly Farms purchase from Monsanto chemicals within the family of hydrocarbons?

A I do not know, sir.

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Q Do you know whether or not during the period of '70 and '71 they bought FR-1 in any connection for the manufacture of chicken feed?

A They did not.

Q All right. Now, is Wilmington, North Carolina within the Atlanta sales area?

A Yes, sir.

Q All right. Now, FR-1 and FR-2 are made up of polychlorinated biphenyls?

A That is correct.

Q FR-1 contains a chlorine content of forty-two percent, and FR-2 contains a chlorine content of forty-eight percent?

A That is correct.

Q The chlorine content is the only difference between those two products, as far as you know?

A Unless you are referring to their physical differences; one being more viscous than the other. And unless you are also referring to the isomers that are blended to make the mixture. There is a different combination of these isomers which results in a different chlorine content and slightly different physical and chemical characteristics.

Q But those differences would be-- The different characteristics and the difference between the two products then would be brought about because one has a chlorine

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content of forty-two percent and one a chlorine content of forty-eight percent?

A There is a direct relationship, yes, sir.

Q Now then, as far as your tests on chickens are concerned, there wouldn't be any significant difference between the effect on chickens between FR-1 and FR-2, would there?

A I cannot say that would be true, sir.

Q Well, what would you say?

A If you recall, we tested the material that had fifty-four percent chlorine by weight, and it showed an entirely different effect on chickens than the forty-two percent material. I think we can surmise that the forty-eight percent material could conceivably fall between the two, or be more like one than the other. We truly don't know unless you test it specifically.

Q And we can truthfully say then that if there is any difference, the higher - the FR-2 would be more toxic than the FR-1?

A No, sir. I would tend to think it is the reverse.

Q The FR-1 has a lower chlorine content?

A Yes, sir. We're still talking about poultry?

Q Yes.

A Well, if you recall, the fifty-four percent material was not harmful. It did not show any adverse

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effects at the levels that did show effects as the forty-two percent material. So for the poultry tests, the lower chlorinated material showed an effect whereas the higher chlorinated did not.

Q And it was in the reverse in animals?

A In the mammals, yes, sir.

Q In the mammals?

A Yes, sir.

Q Do I understand that FR-1 and FR-2 and FR-3 are in the area of polychlorinated biphenyls which you refer to as the lower type?

A The FR-1 is the one, you recall, the lower type, or predominantly so. The FR-3 is the type we refer to as the higher chlorinated types, and the FR-2 is somewhere between the two.

Q Somewhere between the two?

A Yes.

Q Now, as far as you know at this time, have any tests been conducted by Monsanto or any other laboratory which you know as to whether there is any real difference between the toxic effects on chickens of FR-1 and FR-2?

A No, sir.

MR. HENSON: All right. No further questions.

EXAMINATION BY MR. FEERICK

Q Mr. Papageorge, in mid 1971 were you or your

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company ever contacted by Woodson-Tenent Laboratories about the methodology - the use of methodology in the detection of PCB's in various samples?

A I was contacted by Woodson-Tenent regarding the methodology for the determination of polychlorinated biphenyls, but I don't know, sir, that it was mid 1971. I believe it was prior to that.

Q What time did they contact you?

A As best I can recall, it was the latter part of 1970 or the early part of 1971.

Q And with whom did you talk at Woodson-Tenent?

A Mr. James Laubscher.

Q And what is his title there?

A I don't know that I ever heard the title, sir.

Q Did Mr. Laubscher indicate to you that he had any degree of expertise of the use of GLC?

A From his questions I quickly perceived that he was technically much more competent than I was, and this is the reason I had our laboratory personnel get in touch with Mr. Laubscher.

Q And who in the Monsanto lab talked with Mr. Laubscher?

A Dr. Scott [redacted] Tucker.

Q What is the earliest study which you are aware of relative to the environmental effects of PCB?

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A The earliest planned study-- it would help me, sir, if we could clarify what is meant by a study.

Q Well, you talked to us about studies made by Jensen in 1966 - that type of study.

A Okay. These studies--

Q What about prior to that time, prior to 1966?

A I'm not aware of any of that type of study. And let's remember that Dr. Jensen and Widmark's study was really an audit of samples from the environment. It was not a case of where any laboratory tests were conducted whereby animals or plants were exposed.

Q So you are not aware of any other study other than the Jensen study then prior to that one?

A Prior to that one I'm not aware of any study, that's correct.

Q When did you first become aware of the Jensen study?

A I first became aware of this work in early 1970.

Q You stated in reviewing these early studies you felt that some of these scientists had reached their results and even jumped to results with inadequate data. Can you describe which studies those were to which these scientists jumped to these--

MR. SMITH: Objection to the form.

A (By the witness) Well, sir, I don't believe there

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is any scientific data to support the contention that the perigrin falcon is disappearing because of polychlorinated biphenyls.

Q Whose study was that?

A There was no study. This was an accusation or a claim that has been made by many scientists, among them Dr. Robert Riseborough.

Q All right. What about any other studies or assertions?

A I don't believe there are any studies to support the claim that fish kills have resulted from exposure to polychlorinated biphenyls.

Q And who performed that study? Who made that assertion?

A I have seen that assertion in some of the popular press articles. I on the other hand do not recall seeing that in any scientific journal.

Q Did you ever see any study which had lab data which you discounted, that you felt that it came to an inconclusive result even though it had lab data?

A No, sir, I don't recall any such incident.

Q What was the early study which you became aware of that had lab data concerning the effects of PCB on the environment?

A The earliest that comes to mind is a study by Dr.

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Peakall we have mentioned earlier from Cornell in his work with ringneck doves.

Q Did you agree with Dr. Peakall's conclusion?

A Sir, from the data that he was able to present, his conclusion was appropriate.

Q What about any other studies that had laboratory data?

A There was a study by the Commercial Fisheries Laboratory located in Gulf Breeze, Florida, in which it was determined that polychlorinated biphenyls affected juvenile brown shrimp.

Q Do you agree with that conclusion?

A From the data reported, we have to agree with the conclusion, yes, sir.

Q And when did you become aware of that study?

A Oh, by the middle of 1970.

Q Any other studies of that nature? Mr. Papageorge, you must have reviewed more than three studies in the course of making your determination.

A Yes, I did, sir, but you are asking me to recall dates, people, and journal articles, and which there were many, and they just don't come to mind at the present.

MR. SMITH: If you have any material you want to offer and ask him about, please do so.

MR. FEERICK: We have nothing further at this time.

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MR. VANCE: I have just two short questions.

MR. SMITH: That's the third time.

MR. VANCE: Yes. Let the record so show.

EXAMINATION BY MR. VANCE

Q Wasn't it Monsanto's policy in 1972 not to reveal the names of customers and the amount of Therminol they purchased even to government officials?

MR. SMITH: In 1972?

MR. VANCE: In 1972.

A (By the witness) Yes, sir.

MR. SMITH: I object to the question.

Q (By Mr. Vance) Was this the same policy in 1971?

A Yes, sir.

Q Does Monsanto have any bonus system related to sales or earnings of a particular business group?

A I'm not aware of any, sir.

Q You're not aware of any bonus?

A No, sir.

MR. VANCE: No more questions.

MR. SMITH: Anybody else? (No response.)

EXAMINATION BY MR. SMITH

Q You have been asked about the labels, Mr. Papageorge. Tell us what color the printing was in on those labels.

A Red. Red ink on a white background.

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Q You have also mentioned a supplementary label that was printed by Monsanto that was used on the head of the drum or container near the bung. Do you remember being asked about that earlier today?

A Yes, sir.

MR. BARNHILL: He wasn't asked about it, Mr. Smith. He volunteered it in response to a question.

Q (By Mr. Smith) Well, would you tell us when you visited the East Coast Terminals' premises at the time when most of these other lawyers were there - which I believe was in February 1972 - did you see Monsanto containers for Therminol FR-1 on those premises?

MR. BARNHILL: Objection to form.

A (By the witness) Yes, sir.

Q (By Mr. Smith) Now, would you tell us what you observed with reference to the labels. Well, did you see the labels that have been shown you, including in particular the label that was attached as Exhibit A to the Monsanto answer? Did you see that?

MR. BARNHILL: Object to form.

A (By the witness) I saw the label that is in that exhibit, yes, sir.

Q (By Mr. Smith) Now, did you also see the bung label, the label near the bung?

A Yes, sir.

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MR. BARNHILL: Object to form.

Q (By Mr. Smith) And in some instances, were both labels on the drums, the containers?

MR. BARNHILL: Object to form.

A (By the witness) Yes, sir.

Q (By Mr. Smith) Now, Mr. Vance asked you whether anyone had ever told you to destroy or to discard any materials. I want to ask you if you have received any instructions to keep any materials that might have any bearing on this lawsuit?

A Yes, sir, we did - orally, and as I recall, I also received a memorandum from the director of the business group.

Q Now, you were asked about leakage at the Pensacola plant, and in answer to someone's question you said it was a hydraulic application, and I believe you testified that that was a closed system. First, was it a heat transfer system?

A No, sir.

MR. BARNHILL: Object to the question.

A (By the witness) No, sir.

Q (By Mr. Smith) What kind of a system was it?

MR. BARNHILL: Object to form.

A (By the witness) It is a machine used to compress air in which the polychlorinated biphenyl fluid was the fire

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resistant lubricant, and by its very nature and design that lubricant is self contained. It is self contained in the system, and it is physically a closed system. That's what I meant by my response to the question, "Is it a closed system?"

Q (By Mr. Smith) When that leakage occurred at Pensacola, did any of the polychlorinated biphenyls leak into any product?

MR. BARNHILL: Objection to form.

A (By the witness) No, sir.

Q (By Mr. Smith) Now, are most hydraulic applications considered to be open applications?

MR. BARNHILL: Object to form.

A (By the witness) Yes, sir.

Q (By Mr. Smith) In some instances, do hydraulic systems have a compressor such as the one at Pensacola where it would be closed?

MR. BARNHILL: Objection to form.

A (By the witness) Normally, sir, the compressor in itself is not a part of another hydraulic system. This is a different application of the same type of fluid.

Q (By Mr. Smith) All right, sir. There was a suggestion to some question - and I may have objected to the form - but I want to ask you have you had any knowledge or information that there was any leakage of any Therminol FR

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fluid into a product at Commodity Pasteurizing Company in Stockton, California?

MR. BARNHILL: Objection to form.

A (By the witness) I'm not aware of any, sir.

Q (By Mr. Smith) Was Therminol sold through distributors?

MR. BARNHILL: Objection to form.

A (By the witness) No, sir.

Q (By Mr. Smith) Now, in connection with the Bio-Test reports about which you have been asked many questions, was it your understanding that any of the chickens died as a result of ingestion or contact in any way with polychlorinated biphenyls?

MR. BARNHILL: Object to the form.

A (By the witness) No mortalities, no deaths were attributed to the polychlorinated biphenyls.

Q (By Mr. Smith) Was that so even at the highest dosage level?

MR. BARNHILL: Objection to form.

A (By the witness) That is correct.

MR. SMITH: Thank you very much.

MR. MURRELLE: I have what may be one question.

EXAMINATION BY MR. MURRELLE

Q Mr. Papageorge, with reference to the document which has been identified as Plaintiff's Exhibit 3--

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A Yes, sir.

Q As I recall it, you prepared page one?

A Yes, sir.

Q And others prepared the remaining pages?

A Yes, sir.

Q But I believe I understood you to testify that at the time that the group of documents which is Plaintiff's Exhibit 3 was being prepared, that you dropped by somebody's office and saw a pencil draft of it. Is that true?

A I saw a pencil draft of that portion that relates to Monsanto's program and that portion that relates to the biodegradation studies.

Q All right. Now, in whose office did you see the pencil draft of the control program?

A Mr. John Mason.

Q And in whose office did you see the pencil draft of the biodegradation study?

A Mr. John Mason's office.

MR. MURRELLE: That's all.

(Whereupon, at 2:40 p.m., the deposition was concluded.)

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THIS IS TO CERTIFY THAT THE TESTIMONY HEREIN GIVEN BY ME IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

_____
William B. Papageorge

DATED: _____

Sworn to and subscribed before me
this _____ day of _____,
1972.

_____
Notary Public

My commission expires:

_____

WATER_PCB-SD0000016555

CERTIFICATE

STATE OF NORTH CAROLINA

COUNTY OF FORSYTH

We, Graham Erlacher and Betty P. Julian, Notaries Public in and for the County of Forsyth, State of North Carolina, do hereby certify:

That on the 3rd day of August, 1972, the foregoing witness appeared in the above-entitled case;

That the said deposition was then taken at the time and place mentioned, beginning at 2:00 o'clock p.m. on August 3, 1972;

That the said witness was sworn and examined to tell the truth, the whole truth, and nothing but the truth in said case;

That the foregoing testimony was taken on stenomask and thereafter reduced to typewriting either by me or under my supervision, and the foregoing seven hundred five (705) pages contain a full, true and correct transcription of all the testimony of said witness;

That neither the undersigned Graham Erlacher or Betty P. Julian is of kin or in any wise associated with any of the parties to said cause of action or their counsel, and are not interested in the event thereof.

IN WITNESS WHEREOF, we have hereunto set our hands this 31st day of October, 1972.

Graham Erlacher
Notary Public and Court Reporter

My commission expires:

August 23, 1975

Betty P. Julian
Notary Public and Court Reporter

My commission expires:

November 28, 1974

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