STATE OF MICHIGAN

IN THE CIRCUIT COURT FOR THE COUNTY OF HURON

ROGER A. HALEY, and VALLRIE J. HALEY, Husband and Wife; and DONALD L. HALEY, and FLORENCE S. HALEY, Husband and Wife,

Plaintiffs,

-vs-

MICHIGAN SILO COMPANY, a Michigan Corporation, C & B SILO COMPANY, a Michigan Corporation; MONSANTO COMPANY, a Corporation; and CONCRETE SILO COMPANY, INCORPORATED, a Corporation, Jointly and Severally,

Defendants.

No. 77 002593 NP

VOLUME XXXIV

Excerpt of the proceedings had and testimony taken in the above-entitled matter on Wednesday, May 23, 1984, at 9:00 o'clock A.M., at the Huron County Courthouse, Bad Axe, Michigan, before the Honorable M. Richard Knoblock.

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WILLIAM B. PAPAGEORGE,

a witness herein, having been previously duly sworn, testified further on his oath as follows:

REDIRECT EXAMINATION, (Continuing)

BY MR. JUNGERHELD:

Q. Mr. Papageorge, on Tuesday you told Mr. Woodworth about a letter you received from a Mr. Jenkins who replaced Dr. Hill at the Ohio Department of Agriculture.

Do you recall that?

A. Yes, I do.

Q. Would you tell the Jury what did you tell Mr. Jenkins in response to his inquiry about recoating of silos?

A. I told Mr. Jenkins that the experience in Tennessee where the silo walls were sandblasted and replastered was proving quite successful and I suggested that he consider that type of approach for the silos in the State of Ohio, and also suggested that he may wish to talk to the president of the silo company in Tennessee that was doing this type of work.

Q. Who was that?

A. Mr. Charles Boswell.

Q. And had you, by that time, been in contact with Mr. Boswell of the Monteagle Silo Company?

A. Yes, quite frequently.

Q. Also on Tuesday, Mr. Papageorge, you were asked some

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questions about furans being a by-product under the right conditions in the manufacture of PCB's.

Do you remember that testimony?

A. Yes, I do.

Q. Did these conditions occur in the Monsanto manufacturing process?

A. No, they did not.

Q. And were Monsanto's PCB's, to your knowledge, and European and Japanese PCB's, analyzed at various times for furans?

A. Yes, they were.

Q. Were furans found in Monsanto's Aroclor versus European or Japanese PCB's?

A. They were found in the European material. They were not found in the Monsanto material. I don't recall any results relating to the Japanese material.

Q. Why, if you know, was there the difference between the Monsanto Aroclors and the European PCB's?

A. The only difference in the two processes that I'm aware of is that Monsanto's procedure uses lime to neutralize the acid that is formed when PCB's are manufactured. The European processers use a much more -- stronger alkali. They use caustic soda. That's the difference in the two processes.

Q. Mr. Papageorge, in connection with Exhibit 87, which was

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one of the several product bulletins, I guess, we could call them. You testified that there was an example formula there, I believe, for a paint for food processing buildings.

Do you recall that testimony?

A. Yes, I do.

Q. And what would that paint be used for? What kind of surfaces, in other words?

A. That paint was used in food processing plants for those surfaces that did not come in contact with food. And it was intended to protect rusting, chipping, all kinds of material from forming that would fall into food as it's being processed in that plant.

Q. Did those examples or those formulations have anything to do with actual food contact surfaces?

A. No, it was never intended for that.

Q. Did Exhibit No. 87, or any other of those product bulletins that dealt with coatings, advocate such a use, that is, for food contact surfaces?

A. It did not advocate such use for those coatings that contained the PCB's.

Q. Do you recall, once again, Mr. Papageorge, when you talked to Mr. Egan of the Michigan Silo Company?

A. I don't recall -- I recall the incident. I don't remember the specific day.

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Q. But when and what year?
A. It was in 1970, in the period right after my initial discussion over the telephone with Dr. Hill. So this would have to be late March, early April of 1970.
Q. Did the conversation deal at all with the silo situation?
A. Yes.
Q. And do you know if Dr. Kelly's conversation with Mr. Egan occurred about the same time frame?
A. Dr. Kelly had talked to Mr. Egan first and I called Mr. Egan to just make certain that Mr. Egan understood what PCB's are used for and what they're intended for and to re-emphasize, really, what Dr. Kelly had told him.
Q. And when was it that you talked to Mr. Boswell of the Monteagle Silo Company?
A. 1970.
Q. And with reference to your conversation with Mr. Boswell, did you communicate the same kind of information to him that he did to Mr. Egan?
A. Yes.
Q. Are you aware of any communications between Mr. Egan, to whom you talked, of the Michigan Silo Company in Massillon, Ohio, to Mr. Rex Autrey of the Bloomfield Silo Company?
A. I'm aware of that communication, yes.
Q. How do you happen to be aware of that?

A. I saw a copy of a letter that Mr. Egan wrote to Mr. Autry.

Q. And did that deal with the silo situation and PCB's?

A. Yes.

Q. Now, let's take a look at Exhibit No. 156. And, Mr. Papageorge, I want to ask you a few questions about that exhibit.

Turn to Page No. 1, would you please, of that exhibit. Do you have that before you?

A. I have it.

Q. What does that page deal with? What is the heading on it?

A. The heading is "some important applications for protective and decorative coatings plasticized with Aroclor compounds."

Q. Would you read down that list for us and read to us what the applications appearing thereon are?

A. "Wood and metal used in yachts, barges and other marine craft. Structural steel for bridges, buildings, roofs and power lines. Structural material for chemical plants, pulp and paper mills, textile mills, petroleum refineries and gas works for protection against acid fumes, alkalies and gas.

Tank cars and other rolling stock and construction machinery for protection against corrosive materials

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"and weathering. Equipment and stop-off lacquers used in electroplating. Masonry wall floors and walls, concrete swimming pools, highway markings, cable coatings requiring fire resistance, chemical resistance and excellent electrical properties. And textile coatings resistant to chemicals, fire and water."

Q. In those listed applications, Mr. Papageorge, are there any listed for food or animal feed contact surfaces?

A. No.

Q. I want you to turn to Page 6. Do you have that before you?

A. I have it.

Q. At the top of the page, what does it say there in darker print?

A. It says the "solvent compatibility."

Q. Have you looked through that list of solvents that are suitable, I guess you'd say, for compositions with Aroclor and, quote, Parlon, unquote?

A. I have looked at it, yes.

Q. Are there a number of solvents listed there?

A. Yes.

Q. Are there a number of solvents listed there that are not in the formulation for the Cumar silo coating that has been introduced in evidence in this case?

A. Yes, there are.

Q. How about Xylene, Mr. Papageorge? How would you characterize Xylene?

A. Xylene is a chemical obtained primarily from petroleum crude oil and it can also be obtained from kotzar distillation. It's a liquid. It looks very much like gasoline and it's a quite common solvent used in the paint industry and other industries.

Q. And what, by the way, is Parlon?

A. Parlon is a tradename for chlorinated rubbers.

Q. Who makes it?

A. Produced by the Hercules Company.

Q. Now, in this brochure or bulletin, for instance, Page 8, there are, are there not, some example-type formulations?

A. Yes, there are.

Q. Where did these formulations come from, if you can tell the Jury that?

A. There are three sources. Some of them were originated in Monsanto's research laboratories, others were formulated and developed in other companys' laboratories such as the Hercules Company with their Parlon materials, and they, in turn, would share that information with Monsanto.

And finally some of these came from customers who had

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used our products and were willing to divulge the formulations to us.

Q. Let me get out Exhibit 317, which is the formula for the silo coating.

Mr. Papageorge, directing your attention now to Page 8 of this particular product bulletin. At the top is there a listing of some alkaline resistant coatings that you were asked in part about yesterday?

A. Yes.

Q. Now, how many of these suggested examples appear on that page, up under alkaline resistant coatings?

A. There are three suggested formulas.

Q. And looking through those suggested formulas, can you tell the Jury if there are ingredients in the suggested formulas that do not appear in the formulation for the Cumar silo coating?

A. There are.

Q. Similarly, Mr. Papageorge, with both exhibits before you, are there ingredients in the formulation for this Cumar silo coating that do not appear under these ingredients that appear on Page 8 of this product brochure?

A. There are.

Q. For instance, as we look down the list of ingredients in this product bulletin, there is something called

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Rezyl 869.

Does that appear in the formulation for the Cumar silo coating?

A. It does not.

Q. There is also something listed as Beckosol 31.

Does that appear on the Cumar formulation?

A. It does not.

Q. Tung oil thermolized 976 that appears in the product brochure here, the Aroclor brochure.

Does that appear in the formulation for the Cumar silo coating?

A. It does not.

Q. How about Titanium oxide which also appears in the product brochure, the Aroclor brochure?

Does that appear on the formulation for the silo coating?

A. No, it doesn't.

Q. Zinc oxide, that appears in the Aroclor brochure. Does that appear in the formulation for the silo coating?

A. It does not.

Q. The same question with Silica Flour?

A. It does not appear in the Cumar formulation.

Q. Harmen Black?

A. That also does not appear in the Cumar formulation.

Q. Something called Hi-Flash Naptha?

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A. That does not appear in the Cumar formulation.
Q. And looking in the Aroclor brochure at the Aroclor 1254, does that appear in the formulation in the brochure up near the top?
A. Yes.
Q. Now, at what percent does it appear in this formulation?
A. Well, since there are three formulations, there are two numbers that shows -- two of the formulations it appears at 10 percent by weight, and the third formulation is 4.4 by weight.
Q. And do you have an understanding in this case as to what the percentage of Aroclor 1254 was in this silo coating?
A. Yes. My understanding is that it ranges from 19 to about 24 percent.
Q. Looking at the formulation for Cumar, and let's work the other way for a moment. Thinner 470 appears in the formulation for Cumar, does it not?
A. Yes, it does.
Q. And does that appear in the formulation on Page 8 of the Aroclor brochure?
A. It does not.
Q. And then there is R-16-A Neville. Does that appear in the Cumar silo coating formulation?
A. No, it does not.

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Q. In the Cumar, I'm asking you, does that appear, R-16-A Neville? Does that appear in the silo coating?

A. Oh, my mistake. It appears in the Cumar formulation.

Q. And does that appear in the listing of ingredients in this Aroclor brochure?

A. It does not appear in the brochure.

Q. China clay, does that appear in the formula for Cumar, the silo coating?

A. It appears in that formula, yes.

Q. Does that appear in the formulation set forth in this product -- in this Aroclor brochure?

A. It does not.

Q. Paradene No. 2 flake, does that appear in the formula for the Cumar silo coating?

A. It does.

Q. And does that appear in the product bulletin here, the Aroclor bulletin?

A. It does not.

Q. Who made Paradene No. 2 flake, by the way?

A. I'm not certain at the moment. I'd have to look in this bulletin to refresh my memory.

Q. By the way, what is Neville R-16-A?

A. To my understanding that R-16-A Neville is the Neville Chemical Company's version of a resin which the Barrett Division of Allied Chemical refers to as Cumar resin.

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Q. On Page 8, halfway down the page, is there another suggested series of example formulas?
A. Yes.
Q. How many appear there?
A. There are five examples.
Q. And, once again, Mr. Papageorge, are there ingredients, if you will, that appear in this listing of formulations in the Aroclor brochure that does not appear in the Cumar formulation?
A. Yes, there are.
Q. Perhaps a couple of examples would suffice.

Does Bakelite XJ-12895 appear in one of those formulations appearing at the bottom of Page 8 in the Aroclor brochure?
A. It does.
Q. And does that appear in the formula for the Cumar silo coating?
A. It does not.
Q. Same question as to Rezyl 807, parens, solids, close parens?
A. It appears in the Aroclor bulletin. It does not appear in the Cumar formulation.
Q. Same question as to Aroclor 1260.
A. Aroclor 1260 appears in the Aroclor bulletin but not in the Cumar formulation.

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Q. Is Tung oil thermolized No. 976, again?
A. Yes.
Q. And is that in the formula for the silo coating?
A. No.
Q. Iron oxide. Does iron oxide appear in one of these suggested -- one or more of these suggested formulations?
A. It appears in several, yes.
Q. Does that appear on the formula for the Cumar silo coating?
A. It does not.
Q. And are there items or ingredients in this recipe for the Cumar silo coating that do not appear in these formulations at the bottom of Page 8 of this Aroclor brochure?
A. I'll try to pick them out here. Solvesso 100, R-16-A Neville, China clay and Paradene No. 2 flake do not appear in the bulletin but do appear in the Cumar formulation.
Q. Mr. Papageorge, by the way, I don't think we established -- those example formulations which are set forth in the bottom of Page 8 are under what heading there? What kind of finishes are we talking about?
A. The whole group is under the heading formulations for chemical resistant paints.
Q. Now, does Aroclor 1254 appear in, let's see, four of

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those five formulations?

A. It does.

Q. And what what percentage?

A. Two of the four are at eight percent. The remaining two are at 4.8 percent.

Q. And is that percentage different than the percentage of Aroclor 1254 that is listed in this recipe for the silo coating?

A. It is.

Q. Exhibit 86 and 88, please.

Mr. Papageorge, I've handed you exhibits -- first off, let's talk about 88. That was a product brochure that you were questioned about yesterday by Mr. Woodworth.

My question to you, sir, is what does that bulletin deal with?

A. This deals with plasticizers in synthetic resin adhesives.

Q. Is that then a coating brochure?

A. No, sir.

Q. Would you look at Exhibit No. 86. Is that another product brochure that you were asked about yesterday?

A. It is.

Q. What does that brochure deal with, Mr. Papageorge?

A. It deals with Aroclor compounds in formulating high styrene copolymer surface coatings.

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Q. Does that have anything to do with this case at all?
A. No, because no styrene is involved in this case.
Q. Mr. Papageorge, we've taken a few moments this morning to go through these formulations in Exhibit No. 156.

Have you reviewed the other product brochures that you were questioned about yesterday?

A. Yes, I have.
Q. Is there any example formulations in any of those brochures that approximates the recipe for that Cumar silo coating?
A. I could not find any.
Q. In any of these brochures was there any formulation or use suggested for coating silos?
A. No.

MR. JUNGERHELD: Could I have a second, Your Honor?

Thanks, Your Honor. That is all for this witness.

THE COURT: Recross?

MR. WOODWORTH: Yes, Your Honor. Thank you.

RECROSS-EXAMINATION

BY MR. WOODWORTH:

Q. Mr. Papageorge, in reviewing these bulletins, just to make it clear, Monsanto did in fact know back in the early 1960's or '50's, maybe even the late '40's, that Concrete Silo was using Aroclor 1254 in silo sealants,

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though, did they not?

A. I'm not aware of Monsanto knowing this. I learned much later that an individual knew this.

Q. An individual who was a paid employee of Monsanto, correct?

A. That is correct.

Q. He was a salesman and a field representative for Monsanto?

A. Yes.

Q. And that he called upon Concrete Silo from the years of 1947 to 1962?

A. That I don't know.

Q. Did you review his deposition?

A. Which individual we talking about?

Q. Rogers Malone, is that who we're talking about?

A. Yes, sir.

Q. And did you review his deposition or a summary thereof?

A. Let me think. I believe I read a summary.

Q. Now, in these bulletins that you have referred to, all of those -- maybe we better take them one at a time.

Do you still have those before you?

A. I have some here.

Q. The ones that you testified to on -- No. 156, what date is that?

A. May, 1957.

Q. That is sometime after the formula or the product silo

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sealant Cumar was formulated, wasn't it?

A. That is my understanding.

Q. And your understanding that the formulation of Cumar, as a silo coating, was done approximately when?

A. In the '40's.

Q. Now, it is further your understanding, as I just said, that -- or can you tell me what years Rogers Malone called upon Concrete Silo?

A. No, I can't.

Q. You are aware, though, that Rogers Malone did, in fact, state that he reported back to Monsanto how they were using that Aroclor in Concrete Silo?

A. Would you explain the word "how"?

Q. That they were using it as an ingredient in a silo coating or a silo sealant.

A. Internally or externally?

Q. As an ingredient in a silo coating or a silo sealant.

A. He was informed that they were making a coating for silos.

Q. And if you are making a coating for silos, we look at these bulletins and it's represented within bulletins that Aroclor 1254 makes a good plasticizer in combination with other ingredients, makes a good plasticizer, is that correct?

A. That is correct.

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Q. And it is resistant to acids?
A. Yes.
Q. And resistant to alkalines?
A. Yes.
Q. And resistant to mold?
A. Yes.
Q. And resistant to moisture?
A. Correct.
Q. Now, for one to look at a silo, a product being used as a silo sealant, we have two alternatives, don't we? It might be used on the outside of a silo or it might be used on the inside of a silo and maybe even a third alternative could be used for both.
A. That's correct.
Q. In consideration of the advertisements and representations of Monsanto, that it is good as being acid resistant in certain formulations, as being alkaline resistant, as being moisture resistant, and being mold resistant, wouldn't it be logical to assume that it's being used inside the silo?
A. Not necessarily. I could use the paint to coat my steel members that are affixed to the concrete silo.
Q. Rogers Malone, in fact, reported back to Monsanto the formulation of Cumar, did he not?
A. That is what I understand.

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Q. So Rogers Malone quit visiting Michigan Silo -- or Concrete Silo, Concrete Silo, in 1962. Prior to 1962 Monsanto had this formula for Cumar, is that correct?

A. I don't know if they had that formula. I don't know where that came from.

Q. Rogers Malone testified, did he not, that he saw a copy of the formula in his regular practice as a salesman in the field? When they see a new use or use of a product, they report back to Monsanto in what is called a "call memorandum," is that right?

A. That is what he said, yes.

Q. And in reporting back to Monsanto in a call memorandum through the Sales Department, the purpose is to let the company know of uses in the field so that they may develop sales and promotions for those uses, is that correct?

A. That is a purpose, yes.

Q. May we assume then when Rogers Malone reported the formulation, assuming he did report this specific formulation of Cumar back to Monsanto, that the purpose was to advise the Sales Department, the Plasticizers Sales Department that in fact here is a use that this material can be advertised or promoted for, Aroclor 1254?

A. One can assume that, yes.

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Q. And that, in fact, there is a company using this material formulated into this Cumar as a silo sealer or a silo sealant?

A. Is that a question?

Q. Yes, that is a question.

A. Would you repeat it? I didn't hear it.

Q. That, in fact, when he reported back to Monsanto, that would be a use that it could be used in a silo sealer, silo sealant, when he's referring to the use by a silo company?

A. I don't know that. I don't know the exact words Mr. Malone used, whether he used the word sealant, coating or paint. I cannot speak to that.

Q. It was well known, was it not, within Monsanto and within the chemical industry, that Aroclor 1254 was used and recommended as an ingredient in concrete coatings and sealants. I'm talking 1950's and 1960's.

A. I have no measure of how well known it was. It was certainly well known to Monsanto and to its customers.

Q. And it was known within Monsanto that Aroclor 1254 -- it was known to Monsanto at least in 19 -- late 1940's, 1950's, and up to and into the 1960's, that Aroclor 1254 was being used in a silo coating?

A. I think we've covered that previously, yes, to this one individual.

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Q. And is it your understanding, I'm not sure if I have this correct, I may be repetitive, Mr. Papageorge, is it your understanding that Rogers Malone sent a copy of the formula that he acquired at Concrete Silo back to Monsanto?

MR. JUNGERHELD: Your Honor, this has been asked and answered now about three times so far this morning.

MR. WOODWORTH: I'm not sure if I got the exact answer. I think he qualified his answer, Your Honor.

THE COURT: I'll allow the question.

A. I have no way of knowing exactly what Mr. Malone did with his information. He may have put it in his own files. When brochures are revised he might have considered it for a new text. It might have ended up in the waste basket. I don't know. I just don't know.

Q. Reading Mr. Malone's deposition or seeing his deposition or summary of it, didn't he say that he took the formula that he got at Concrete Silo, that was there, and sent it back to the Sales Department at Monsanto?

A. Well, he was the Sales Department.

Q. He reported to a Baxter Osbourne. Do you know Mr. Osbourne?

A. No, I don't.

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Q. I believe that is who we are talking about. Let me check.

Baxter Pearson.

A. I don't know him, either.

Q. He was a district manager for Monsanto.

MR. JUNGERHELD: Excuse me --

MR. WOODWORTH: I believe.

MR. JUNGERHELD: Is Counsel testifying, Your Honor? The witness said he doesn't know the man.

MR. WOODWORTH: I agree.

Q. Did Monsanto have district offices for salespeople?

A. Yes.

Q. And was one of the district offices in the latter 1940's, 1950's, 1960's, for the area covering Indiana, in fact, in St. Louis?

A. Yes.

Q. And it was at the same campus -- well, strike that.

It was at the same place where Monsanto's other offices were, was it?

A. I don't know exactly what office building they occupy, whether it was at the same general location or in scattered locations in that period of time.

Q. At this particular time you are all at one location, one campus?

A. Not necessarily.

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Q. It's administrative offices are in St. Louis?
A. I don't know what you mean by "administrative." In the early '50's, Monsanto was scattered throughout the City of St. Louis.
Q. The purpose of your company's salesmen, I would assume, would be to make and generate sales.
A. Yes.
Q. That would be the duties and obligations of a salesman, to generate and makes sale of Monsanto's products.
A. That is one of their duties, yes.
Q. And another one of their duties would be to talk with their customers and see what uses are being made of the product so they may report back to the company to the Sales Division as to uses.
A. That is another duty, yes.
Q. Mr. Papageorge, you referred to a converation with Mr. Egan. And are you talking about the same Mr. Egan that came to this case and testified, came into this Courtroom and testified?
A. I have not seen a Mr. Egan that testified, but I have to assume he is the same man. I never saw Mr. Egan. I talked to him on the telephone.
Q. Mr. Egan said the only communication he had with Monsanto Company was with one telephone call with Dr. Kelly which was referred to within a letter. So if

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Mr. Egan said that, and you are saying that you talked with him, he would be mistaken, is that correct?

MR. JUNGERHELD: Your Honor, I'm going to object. I think that mischaracterizes Mr. Egan's testimony. Mr. Egan did not remember any conversations until he was reminded from the letter that he talked to Dr. Hill. Now, I don't think he said that the way Mr. Woodworth has characterized it. Or Dr. Kelly, I'm sorry. Dr. Kelly.

MR. WOODWORTH: I believe Mr. Egan said the only communications he had were, number one, with Dr. Kelly, a phone call with Dr. Kelly; and number two, Jacob Hess, Monsanto's attorney during some litigation. That's all. And now we have testimony from this witness, Your Honor, that was all that he had or that is all that he recalled. I believe that he stated that is all there was.

MR. JUNGERHELD: No, I don't believe so, Your Honor. He did not. His testimony was he didn't recall anything. But when I showed him the letter where he had written to Mr. Autry at the Bloomfield Silo Company, referring specifically to a conversation with Dr. Kelly, then he remembered that conversation. He did not remember any other conversations. He did not say there were not any.

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THE COURT: I will assume that that was the testimony that he didn't remember anything further. I specifically don't recall.

Q. Did you not ask Mr. Egan for a list of silo company customers of those who had -- they had built silos or used the Cumar coating in any silo? Is that correct?

A. I asked him for the numbers of silos he thought might have had this coating, and I asked him if he is going to inform or get in touch with them. He assured me he was going to do all these things and I did not personally ask him for a typewritten list.

Q. You are saying he assured you on the telephone that he was going to be getting ahold of all these people who had Cumar-coated silos?

A. I was left with the impression that he was going to work at it.

Q. Now we're changing a little bit, it seems to me, Mr. Papageorge, from what your impression was to what in fact he said to you.

Now, which was it?

A. I don't recall that I said anything different, sir.

Q. Are you saying that he -- okay. Did he tell you that he was going to be getting ahold of these silo companies or was that your impression?

A. That is the impression I got, that he was going to do

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something constructive.

Q. Was there any doubt in your mind at that particular time it was Aroclor 1254 in those silos that you were discussing with Mr. Egan or Dr. Kelly at Monsanto, Dr. Tucker at Monsanto, or Dr. Hill at the Ohio Department of Agriculture?

A. There was some doubt until Dr. Tucker's analysis reports -- reporting to me.

Q. In April of 1970?

A. That is correct.

Q. So after that you had no doubt that it was Aroclor 1254, is that right?

A. In those cases, yes.

Q. In those cases?

A. Yes.

Q. Did you ever have any doubt whatsoever that it was Aroclor 1254 in the Haley silos?

A. A slight doubt. As to the exact commercial mixture, yes.

Q. Mr. Papageorge, I asked you on direct, and now you go back to this question, we asked you in your deposition, or John Mc Graw did, do you have any idea how the PCB's got in the Haley silos. And I read you that question and the answer, and you said no.

Now, it seems to me that is a little different from

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what you testified to in your deposition, is it not?

A. Not necessarily. You asked me if I had any idea of how it got into the silos and in my mind there are many other sources of PCB: Lubricating oils, dirty machinery, all kinds of possible sources.

Q. Your deposition, in fact, was regarding silo sealants and Cumar and there were reports that it had been furnished to Monsanto and we weren't working in an exact vacuum at the time of your deposition.

MR. JUNGERHELD: I have a couple of objections. I think Counsel is arguing with the witness, but more importantly this goes beyond the scope of redirect examination and I don't think we need to plow the same grounds we plowed at length yesterday and the day before.

MR. WOODWORTH: I will withdraw the question, Your Honor.

THE COURT: All right.

Q. I introduced yesterday a letter from Mr. Jenkins -- Dr. Jenkins of the Ohio Department of Agriculture which was not introduced by your attorneys, after your testimony that you had cooperated --

MR. JUNGERHELD: I wonder if we can eliminate editorial comments so that we don't get into serious name calling here. I don't think editorial comments are

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necessary in the question.

MR. WOODWORTH: I will rephrase the question, Your Honor.

THE COURT: All right.

Q. The letter that I introduced or showed to you from Dr. Jenkins of the Ohio Department of Agriculture that you testified to now on redirect, you said that you responded to him, is that correct?

A. That is correct.

Q. And do you have a copy of your response or did you respond by telephone?

A. Telephone.

Q. So we wouldn't have any record or you wouldn't have any record of that?

A. No, I do not.

Q. You are working from memory at this point?

A. That's correct.

Q. Now, you said the Tennessee situation cleared up by recoating some of the silo, sandblasting and recoating through Mr. Boswell?

A. Yes.

Q. But then, again, you don't know if you are aware of all the Tennessee problems, is that correct?

A. You mean the total number of silos cleaned?

Q. Yes.

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A. No, I never did hear that.
Q. Or the total number of complaints out of Tennessee?
A. That's correct.
Q. The total number of claims out of Tennessee?
A. That's correct. But I am aware that there were no health claims which is the area that I would have been informed of.
Q. You are?
A. I'm not aware of any health claims.
Q. Well, that is different, it seems to me. You are not aware of any health claims versus were there any health claims.

Now, were there any health claims to Monsanto whatsoever out of the State of Tennessee?

A. No.
Q. There were not?
A. There were not.
Q. And you are speaking for the knowledge -- your own knowledge or the knowledge and communications to the Legal Department?
A. Eventually my final knowledge because if the Legal Department heard of a health problem they would tell me. That was part of the system we had.
Q. Is that the same for Ohio?
A. Yes.

Q. How about Dillmans? Did you hear -- any health problems in Dillmans?

A. No.

MR. JUNGERHELD: Once again, this goes beyond the scope of cross-examination. This is replowing the same ground that was plowed in cross and I would object to it. It's unnecessary.

THE COURT: I'll allow it.

Q. Did you hear about any problems from Dillmans?

A. I don't remember the name Dillman, no.

Q. Did you hear any health problems about Baxters?

A. No.

Q. Did you hear health problems about Schwarzwalder?

A. No.

Q. Did you hear any health problems from Humphreys?

A. No. In fact, I asked the last two people directly and they did not tell me anything of any health problems.

Q. I'm talking subsequent or thereafter, did you ever hear any?

A. No.

Q. Are you saying that there were none?

A. As far as I know.

Q. Would it surprise you if in fact there were --

MR. JUNGERHELD: Your Honor, I will object to the form of the question. Counsel is testifying.

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THE COURT: He's answered the question, Mr. Woodworth.

Q How about Kentucky? Who built the silos in Kentucky?

MR. JUNGERHELD: Your Honor, the same question -- this goes well beyond the scope of redirect examination. Counsel had an opportunity to cross-examine this witness. There was an ample opportunity. And we're just going over the same stuff again.

MR. WOODWORTH: We're getting back, Your Honor -- I think we established yesterday that he didn't know about all the claims. Now today he is saying on recross that if there were any health problems he certainly would have been informed from the Legal Department. I believe yesterday during my cross-examination that was not the testimony.

MR. JUNGERHELD: I disagree with that, Your Honor.

MR. WOODWORTH: I defer to the Court.

MR. JUNGERHELD: I disagree with that. Mr. Papageorge yesterday said that he, in essence, the standard practice was if there were claims asserted, health consequences, that he would be informed of those as opposed to those that might not assert such health consequences.

In any event, it's well beyond the scope of direct

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and I don't know why we got to go over it all again.

MR. WOODWORTH: If I may just clarify the question and maybe it will solve itself.

THE COURT: Go ahead.

Q. When I talk about health consequences, I am saying if someone filed a claim and maybe this is -- if someone filed a claim with Monsanto alleging health problems and saying that they wanted money as a result of health problems, are you saying that you necessarily would have been informed of that from Legal?

A. That is correct.

Q. You would have?

A. Yes.

Q. Then were you informed of any health problems or consequences or claims from Innis Flynn of Kentucky?

A. Never heard --

MR. JUNGERHELD: Same objection. This is beyond the scope of direct examination. He went into all these over the last couple of days. I don't see any reason to go into all of this again.

MR. WOODWORTH: I contend, and I defer to the Court's judgment, I absolutely believe that yesterday he said that he, if there was a claim for health problems in asking for damages, monetary damages, that he would not necessarily be informed of that from Legal

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and now he is saying he would have and thereby implying that he -- that he knows of no claims, that there were none.

MR. JUNGERHELD: I would point out, Your Honor, that that was -- that whole area was exhaustively gone into by Mr. Woodworth for what seemed like hours yesterday. I kept the redirect short and did not get into any extraneous matters like that. And consequently it did not come up on redirect.

This is recross. Do we need to plow the whole field again?

THE COURT: The problem is that you did in your redirect examination discuss and question concerning the Monteagle, Tennessee silos and something about -- and that is how this whole line of inquiry started.

And he's started in a proper area, I think, of recross-examination, and you've got an answer now that's led him into other areas which are, I agree, perhaps, beyond the scope, and I believe the answer is different, so I will allow it in.

I believe the answer is different from what it was yesterday, in that respect, that was my interpretation of it.

Q. I asked about Innis Flynn. Were you aware of any health allegations or claims for monetary damages as a result of

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animal or human health?

A. No.

Q. Clifford Ard of Kentucky?

A. Never heard of him.

Q. You said that in Exhibit 87, which you referred to, said that the paint formulation on that particular case for food processing plants would be to prevent rusting and chipping off of material, is that correct? I'm not sure what you meant by your answer.

A. Well --

Q. Paint surfaces so material wouldn't fall off into food?

A. That is correct.

Q. Just like paint on silo walls, so concrete wouldn't fall into the silage, same type of thing?

A. I never heard of painting silos so concrete wouldn't fall into the silage.

Q. Do you paint a silo wall to make it acid resistant?

A. That is my understanding.

Q. Such as the bulletins of Monsanto advertise or promote acid resistant formulations with Aroclor 1254?

A. That is a characteristic of these coatings, yes.

Q. You were asked yesterday by Mr. Jungerheld on redirect and I believe your answer was something along the lines, Mr. Papageorge, if Cumar had been properly formulated, it wouldn't -- the PCB's wouldn't have come out of it.

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Is that correct?

A. That is correct.

Q. Did Monsanto ever respond back to Concrete Silo, do you know, after they received the formulation for Cumar, recommending any changes?

A. I do not know what was done with that information.

Q. Monsanto, in fact, at one time had what is called a plasticizer council advise customers of uses of its products and formulations for coatings?

A. Yes.

Q. And that was to promote sales and assist customers in the uses so that you would generate more sales of the product?

A. That was one of the --

Q. And do you know if your plasticizer council at Monsanto ever replied to Concrete Silo or Michigan Silo Company that Cumar formulation wasn't good because the Aroclors would probably come out of it?

MR. JUNGERHELD: Just a moment, Your Honor. That assumes sort of an inquiry from Michigan Silo Company and I don't believe there has been any testimony of any such inquiry from Michigan Silo or from Concrete, for that matter.

MR. WOODWORTH: I'm not necessarily asking for an inquiry, your Honor.

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THE COURT: I think he's already answered that. He didn't know of any such action taken.

Q Going back to these claims, just for a moment, Mr. Papageorge, the names I mentioned, are you aware of any of those people that I mentioned, other than Humphreys and Schwarzwalders, that did not in fact make any kind of economic claim from Monsanto?

MR. JUNGERHELD: Your Honor, I will object. Now, this has been asked and answered about a half dozen times this morning, let alone yesterday.

MR. WOODWORTH: I'm switching from the health thing over to -- I want to know about the other names from health to economic.

THE COURT: Isn't that beyond the scope, though, of the redirect examination?

MR. WOODWORTH: I don't think so, Your Honor. We're getting into notification and I believe the testimony is subtly different from yesterday as to what he knew and didn't know. And it's my impression, and I may be mistaken, it's my impression that yesterday he said knowledge that would go to legal if they retained it there, he would not be made aware of it.

THE COURT: That isn't the objection. The objection isn't whether it's different, the objection is whether it's beyond the scope of the redirect

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examination.

MR. WOODWORTH: I would contend that it is not, in consideration of his testimony now on recross.

MR. JUNGERHELD: Well, Your Honor, I consider that it is. I did not ask anything about any monetary claims, if there were any against Monsanto. This is clearly well beyond the scope of any redirect examination.

MR. WOODWORTH: I think the issue, if there were any, is moot at this point. I would defer to the Court's judgment.

THE COURT: I think it's beyond the scope of the redirect.

Q. Mr. Papageorge, how would you have formulated -- specifically how would you have formulated a silo coating? What would you have changed in this Cumar so that PCB's wouldn't have come out?

A. Well, Mr. Woodworth, I'm not a coatings expert.

Q. But yet you are testifying that had it been properly formulated, the PCB's would not have come out, is that correct?

A. That is a statement that most people can make when something is properly made, it will work well. If it isn't properly made, it won't work well. It doesn't take expertise to say that.

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Q. You can't tell me what changes should be made in that?
A. I'm not qualified. It has to be done in a laboratory. It has to be tested. Many things must happen before a judgment of that type must be made.
Q. Do you know if Monsanto ever did examine that in order to advise their customers as to the suitability or the functionability of that particular coating?
A. Of which coating?
Q. Cumar coating. That exhibit right there.
A. I'm not aware of any work done by Monsanto with that coating.
Q. When did you see this Rex Autry letter from Mr. Egan for the first time?
A. I don't remember.
Q. Yet you remember back to 1972 of conversations with Mr. Egan, is that correct?
A. Yes, very vividly.
Q. You were shown a press release given in your testimony regarding a press release from a vice president of Monsanto yesterday, something that was put into evidence by us in our case and also put into evidence, the same exhibit, yesterday in the afternoon.

Who is the person that wrote that at Monsanto?

A. I believe Mr. Bishop.
Q. Mr. Bishop wrote a number of press releases over the

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course of a few years, did he not?

A. Yes.

Q. And that, in fact, was his job, to write press releases?

A. That is correct.

Q. And what, he takes some paper or dictates a press release and then turns it over to the press, is that correct?

A. Well, it's a little more complicated than that.

Q. But what he is to do is to keep information going to the press to make sure that Monsanto keeps a good public image, is it not, part of the purpose of those press releases?

A. That is one of his assignments.

Q. So might we assume when Mr. Bishop writes a press release, he isn't going to say anything bad about Monsanto in it or derogatory?

A. That is a safe assumption, yes.

Q. In your deposition, Mr. Papageorge, how long did you say it ran?

A. I said three days and maybe a little more. It seemed like a long time.

Q. Did it seem like a long time because you were up here a few days before it started to prepare for it?

A. Could be, yes.

Q. Now, I'm going to show you a transcript of the deposition and this part of the deposition back here is all exhibits.

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If you want to take a look at that and verify that, that were put before you by Mr. Mc Graw, so the testimony part of the deposition went up to here, is that right. Would that be fair to assume?

MR. JUNGERHELD: Where is "here" Your Honor? Could we have a page number?

MR. WOODWORTH: I'll ask him then to go to the page, Your Honor.

THE COURT: Fine.

A. It appears to be the last page.

Q. And what is the last page number as to the testimony itself?

A. Where the words "deposition concluded" --

Q. Yes.

A. That is Page 372.

Q. Now, the first day that we started the deposition, what time did we begin in the morning, do you recall?

A. I don't remember. 10:00 o'clock.

Q. And what time did we quit?

A. I don't recall.

Q. Around 5:00 o'clock?

MR. JUNGERHELD: Your Honor, he just said he doesn't recall.

A. I just don't remember.

MR. WOODWORTH: Well, I'm asking him around,

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Your Honor, not a specific moment.

THE COURT: I will allow it.

Q. And during the time we all went out for lunch, didn't we?

MR. JUNGERHELD: Well, Your Honor --

MR. WOODWORTH: I mean we took a lunch break.

MR. JUNGERHELD: All right. I'm going to object. The inference was that we all went out to lunch together. We certainly did not.

MR. WOODWORTH: No.

THE COURT: He didn't say together.

MR. WOODWORTH: We all went --

Q. We took a break around noon, is that right?

A. Yes, that was done.

Q. And we also took a break in the morning and we took a break in the afternoon that first day?

A. That is normal, yes.

Q. And we went a second day, didn't we?

A. Yes.

Q. And what time did we start the second day, do you recall?

A. No, I don't.

Q. Approximately?

A. Sometime in the morning.

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Q. And what time did we finish?
A. I don't remember.
Q. Approximately?
A. Late afternoon.
Q. Take a look at the front page of this deposition. Tell me what days it was taken on and how long it ran.
A. It says on this front page it started at 10:00 o'clock on Wednesday, January the 19th.
Q. And what day did it conclude?
A. And concluded on Thursday, January 20.
Q. So that is a two-day deposition, isn't it, rather than three or into a fourth day?
A. That is what it days, yes.
Q. Okay. Mr. Fritzler signed this on the back page. Would you assume that it's accurate, it being the person who transcribed the deposition?
A. His signature appears there and it says he did it.
Q. So does this refresh your memory at all as to how long this deposition ran?
A. Yes, it does.
Q. And how long did it go, Mr. Papageorge?
A. Looks like two days.
Q. Rather than three full days and into a fourth day, right?
A. That's correct.
Q. And that was taken January, '83?

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A. Yes.
Q. Your deposition in other cases was, I would assume, the Bethlehem Mink case, that ran for a number of days?
A. It seemed long. I don't remember.
Q. Maybe four days, even?
A. Gosh, could have been.
Q. Pierce Packing case ran for a few days?
A. Yes, yes.
Q. And there were, without going into them one by one, you gave other depositions and some of those depositions ran multiple days?
A. No.
Q. This particular deposition going two days. Weren't there a number of repeated objections or objections within that deposition by Mr. Jungerheld that took some time to hash out?

MR. JUNGERHELD: Your Honor, what is the relevance of this line of inquiry?

THE COURT: I'll allow it. You brought up the length of time on direct examination.

MR. JUNGERHELD: Yes, but just -- well, perhaps the Court could explain to the Jury that it is proper that an attorney has a duty to make certain objections just as Mr. Woodworth made comments throughout the deposition.

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THE COURT: The Jury will be instructed as to that.

MR. WOODWORTH: If it could also be instructed that we had agreed to waive any objections --

THE COURT: Let's not go beyond it. Are you finished with that area?

MR. WOODWORTH: Yes, Your Honor.

THE COURT: All right.

MR. WOODWORTH: That concluded my examination. Thank you, Mr. Papageorge.

THE COURT: Redirect?

MR. JUNGERHELD: Yes. Just very briefly, Your Honor. May I question from here?

THE COURT: Sure.

REDIRECT EXAMINATION

BY MR. JUNGERHELD:

Q. Mr. Papageorge, did Monsanto have any experts on silos or the interiors of silos on its staff back in the 1970's, 1960's?

A. Not to my knowledge, no, sir.

Q. Would you, Mr. Papageorge, be inclined to rely on a silo company to have more expertise on the interior of a silo and the environment of a silo than you have?

A. Certainly, yes.

MR. JUNGERHELD: That is all, Your Honor.

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THE COURT: Perhaps I ought to let you in here, Mr. Davidson.

MR. DAVIDSON: I think it's enough, Your Honor. Thank you.

THE COURT: Mr. Woodworth.

RECROSS-EXAMINATION

BY MR. WOODWORTH:

Q. Nevertheless, Monsanto did have experts in the area of plasticizers at that time?

A. That is correct.

Q. And had experts in the area of plasticizers insofar as acid resistance, alkaline resistance, moisture resistance, and mold resistance were concerned, is that correct?

A. That is correct.

Q. And would you expect Monsanto to have more expertise in the area of acid resistant, alkaline resistant, moisture resistant, and mold resistant coatings than a silo company?

A. Your question is difficult to answer. In each of those categories you discussed there is a certain amount of knowledge that Monsanto possessed.

Q. In fact, they might even have a number of scientists Ph.D.'s on their staff --

MR. JUNGERHELD: Excuse me. I don't believe

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he was done with his answer.

THE COURT: Let him finish. Are you finished with the answer?

A. I find the answer difficult because it implies that Monsanto's experts in mold resistance, alkali resistance, and the like, are well aware of all the chemistry that takes place in silage, in concrete silos of given composition concrete, and anaerobic bacteria and all kinds of other things going on. This is not the kind knowledge that chemists would have in a chemical company.

Q. Let's get back to the one point. We put in bulletins from the 1940's, '50's, and '60's, and throughout that time Aroclor 1254 was advertised or promoted or listed and recommended as an ingredient with resins to be a plasticizer, correct?

A. That's right.

Q. And throughout that time it was recommended as a plasticizer to coat concrete, correct?

A. Plasticizers do not coat conrete, sir. Plasticizers make brittle plastic into flexible plastic.

Q. But to be applied to concrete, then?

A. Certain combinations of ingredients to eventually be applied to concrete, yes.

Q. Certain combinations of ingredients in Aroclor 1254?

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A. As one of the ingredients, correct.
Q. And that the advertisement then, besides being an ingredient in plasticizer, being suitable to coat concrete, and then on top of that we have the recommendations that, one, I believe that it was -- that it would be acid resistant, is that correct?
A. That is a property of this properly composed formulation.
Q. And it would be alkaline resistant?
A. That is another property.
Q. It would retard the growth of mold on it?
A. Again, if properly formulated.
Q. And it would create a certain moisture barrier to protect the concrete from water from both sides?
A. Again, if properly formulated.

MR. WOODWORTH: Thank you. That is all I have, Your Honor.

MR. JUNGERHELD: Nothing further, Your Honor.

MR. DAVIDSON: Nothing further.

THE COURT: You may step down. We'll take a 10 minute recess. Reconvene at twenty after ten.

(Whereupon a recess was taken.)

THE COURT: Mr. Jungerheld?

MR. JUNGERHELD: Your Honor, we will rest.

THE COURT: The defense rests?

MR. JUNGERHELD: That is correct.

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