IN THE CIRCUIT COURT OF MILWAUKEE COUNTY

STATE OF WISCONSIN

STROH DIE CASTING,

Plaintiff,

vs Case No. 639-887

MONSANTO COMPANY,

Defendant.

Examination of JOHN H. CRADDOCK, otherwise than as a witness upon the trial, taken at the instance of the Plaintiff, under the and pursuant to Section 804.05 of the Wisconsin Statutes, pursuant to notice, before SUSAN M. VERES, a Notary Public in and for the State of Wisconsin, at the Stouffer Concourse Hotel, 9801 Natural Bridge Road, St. Louis, Missouri, on the 19th day of April, 1988, commencing at 3:35 p.m. and concluding at 5:15 p.m.

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A P P E A R A N C E S

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appeared on behalf of the Defendant.

A L S O P R E S E N T

Ms. Christine M. Jahncke

I N D E X

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Mr. Ahrens	3-87

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TRANSCRIPT OF PROCEEDINGS

JOHN H. CRADDOCK, called as a witness herein, having been first duly sworn on oath, was examined and testified as follows:

EXAMINATION

BY MR. AHRENS:

Q What is your name, sir?

A John Craddock.

Q And your address?

A 6 Ferrand Woods, St. Louis, Missouri.

Q Who is your current employer?

A Monsanto Company.

Q How long have you worked for Monsanto?

A Since 1965.

Q Have you worked for them continuously since that time?

A Yes.

Q Have you been deposed before?

A Yes.

Q So you understand basically that I'm going to be asking you some questions. If I ask you a question you don't understand, please tell me. I'll try to rephrase it as best I can so you can understand it, okay?

A Okay.

Q Just briefly your educational background.

A I have a B.S. in chemistry and a Ph.D. in chemistry.

Q From where?
A B.S. is from Memphis State University, and the Ph.D. is from Vanderbilt University.
Q Didn't go through a master's program or anything like that?
A No.
Q When did you receive your Ph.D.?
A 1961.
Q And you said you worked for Monsanto since '65?
A '65.
Q When did you receive your B.S.?
A 1958.
Q What did you do between the time you got your bachelor's degree and the time you went back to school for your Ph.D.?
A Well, I went straight through. From '58 I went into graduate school and I graduated in '61.
(Discussion off the record.)
BY MR. AHRENS:
Q What did you do from '61 to '65?
A I worked for an engineering company in New York.
Q What was the name of it?
A M.W. Kellogg, division of Pullman, Incorporated.
Q And did they have an area of specialization?
A Yes. I was in the catalyst research department.

Q Just briefly what does that mean in lay terms, so to speak?
A Catalysts are agents which when added to a chemical reaction speed up or retard the chemical reaction without being consumed so they're merely additives to aid a reaction.
Q Did any of your work from '61 to '65 relate in any way to PCBs?
A No.
Q When you came on with Monsanto in '65, what was your job title?
A I was a group leader in corporate research and catalyst research.
Q What is corporate research?
A Corporate research is the central research department of the company which works on general products, products that aren't necessarily in the market at the time. Basic research.
Q Comparable to impure research?
A Comparable as pure research. It means it doesn't have a business home yet.
Q How many people were in your group at that time?
A Probably three or four, including myself.
Q Who were the other people involved? Well, let me ask you this. Did any of that work have anything to do with PCBs?

A No.

MR. SCHINK: I think you can cover pretty quickly until 1980. If you want to go through the whole history, you can, but you should be able to get right up to 1980.

MR. AHRENS: Well, I do want to cover the entire period, but did you do any work in the area of PCBs until 1980?

THE WITNESS: Nothing until 1980.

BY MR. AHRENS:

Q How long were you the group leader of corporate research and catalyst research?

A Probably until '71, '72.

Q And then you moved to where?

A Moved into commercial development and hydrocarbons and polymers division.

Q How long did you do that?

A Probably two to three years.

Q Then what did you do?

A Moved into commercial development in Monsanto Industrial Chemicals Company, food and food ingredients area.

Q How long were you there?

A Until '74 to about '78. These are approximate times.

Q Sure. At which time you went where?

A I was still in the industrial chemicals company, and I

became involved in the environmental operations roughly in '76. Environmental operations became a larger staff department and operating company departments.

Q So in '76 the environmental -- what did you call it?

A Operations.

Q Operations became active, but you didn't get into it until '78.

A Well, it became more active in '76. TSCA was passed.

Q And you got involved in that in '78.

A Roughly in '78.

Q Now, is that -- environmental operations, is that in any way related to the department of medicine and environmental health?

A In a way. In the operating company you had what was called the environmental operations department. Primarily it had to do with -- it could have to do with existing products that were being sold, existing products that were being manufactured and workers who were operating equipment and machinery at the plants for manufacturing. The -- what was the title you used?

Q In a prior deposition the term department of medicine and environmental health was brought up.

A Okay. This is the current name for a corporate department which has corporate oversight over the operating company. It's to bring in a broad expertise so that each operating

company doesn't have to hire specific people. This department, for instance, that you mentioned, the medicine and environmental operations, has toxicologists, epidemiologists, industrial health people, which are then you might say subcontracted to the operating companies. It gives us a center of expertise and each operating unit does not have to go and have a separate group of experts.

Q I see. So in a sense there's a sharing of expertise.

A Right.

Q '78 until '80, was that spent entirely with environmental operations?

A It was in environmental operations, but it was not PCB functions.

Q All right. How did your function change in 1980?

A In 1980 due to series of retirements, people change, also due to an increase of activity because of challenges to the PCB section of the TSCA law, they decided to appoint a new person to -- in this department in the product safety and environmental area, and one of the functions would be to manage PCB questions and provide information, this kind of thing.

Q When you speak of challenges, are you referring to like the EPA hearings, that kind of thing?

A Two environmental groups challenged the TSCA law that regulated PCBs, which became effective in 1979, and the

chemical industry of course joined the lawsuit as an amicus friend of the court or some kind of stuff like this, and that brought about a lot of activity on the part of the industry as a whole because we have transformers, we've got equipment that uses PCBs. Depending on how the interpretation of the law would be, it would impact anybody that was in business, and so it required a lot of time in a regulatory sense, and I was designated to represent Monsanto, the chemical manufacturers, keep track of this activity.

Q Were you designated to be the spokesperson, or were you the overseer to identify people who would be the spokespersons?

A Well, in -- at this time it was thought we only needed one person to be a focal point and that this would be a more or less -- it was identified as a focal point and it was sort of a part-time or it was, you know, part of the other function, and so I was designated to keep up with what was happening with PCBs, regulatory matters, and also to answer questions that people had -- would have with PCBs, whether it was in our plants, what the regulations were, what we did, calls from customers, what have you.

Q What were the two environmental groups that brought the challenge?

A Environmental Defense Fund and NRDC.

Q National Resource Defense Council?
A Defense Council, right.
Q Since 1980 then has your job title changed?
A No. I think it's essentially been the same.
Q Have your responsibilities changed in any way?
A They include PCBs, but they broaden, include some other things. As regulations change, you know, somebody else's -- new regulations, you're in charge of that new activity.
Q All right. Maybe you'd be the person to ask about the -- you mentioned the different operational companies of Monsanto.
A Right.
Q What company, if you know, manufactured Aroclors?
A I don't know the name of the company that manufactured Aroclors at the time. It may have been Monsanto Industrial Chemicals Company.
Q If it was that company, is that a wholly-owned subsidiary, or is it a division or --

MR. SCHINK: Today or then?

MR. AHRENS: Back then.

MR. SCHINK: If you know.

THE WITNESS: I don't know what the corporate structure was or how that --

BY MR. AHRENS:

Q Okay. Do you know what it is today?
A Well, that company doesn't exist today. Today we have Monsanto Company and then we have Monsanto Chemical Company and Monsanto Agricultural Chemical Company, and these are -- I guess they're -- I guess I don't know what the legal entity is. These are Monsanto companies, and then we have other entities that the corporation owns.
Q You don't know if one of the companies owns the others or any of those relationships?
A Well, Monsanto Company owns all of these other things.
Q Okay.
A I essentially work for Monsanto Company.
Q Do you know in the '60s which company sold Pydraul? Would you know that?
A I don't know what the exact corporate title would have been at the time.
Q Do you know which company held any patents on Pydraul, if there were any patents?
A No. It would have been the same.
Q Was there -- again, back in the '60s, was there a company separate and apart from the company that manufactured Pydraul that sold and distributed it?
A I don't know for Pydraul.
Q How about for Aroclors?
A Aroclors -- I don't -- I don't know for sure. Some

products were sold through distributors. I don't know whether these products were or not.

Q Who would be the person most knowledgeable at the company as far as you know that would be able to answer some of those questions?

A Today?

Q Yes.

A Boy, I don't really know. There's not many people left from that business, that -- you know, it's --

Q Yes.

A It's been gone for a decade or more.

Q If you wanted to find out who, for example, sold Pydraul back in the '60s, would there be anyone that you would go to to find out?

A Well, you'd look in the central records, old central records.

Q Where are those kept?

A Probably -- we have what we call a records center, okay? It's a building that these things are sent to, and you could probably get access. I can order these things. I can call central records and ask for invoices or things. That's where I would get these things, or ask the law department, you know, what central records they maintain.

Q Is the record center a separate building or a room or --

A It's a separate building. It's just a warehouse where you

send file boxes of paper. It's just -- you know, identify whatever it is, retirements or whatever, and there's a records retention policy. I don't even know whether that would exist, for example. Normal retention of sales records when I was in development -- and this changes, but, you know, used to be one year plus current, so some things we kept longer, some not.

Q Is there a written records retention policy?

A Yes.

Q Is that what it's called, records retention policy?

A Used to be. I don't know what the title would be on the document today.

Q I assume there are different periods of time for different classifications of documents?

A Different periods of time for different classifications, and then there are always exceptions.

Q All right. Is the records center located at the Lindbergh Road address? I mean, is it in that facility?

A No. It's off campus somewhere. It's a -- well, I don't know where it is today. Used to be a leased building and I --

MR. SCHINK: Well, if you don't know where it is today, then you can't really say where it is.

MR. AHRENS: You don't know?

THE WITNESS: No.

BY MR. AHRENS:

Q Are there -- is the research library different than the records center?

A Yes.

Q Would documents that go to the research library also go to the records center?

A No.

Q Would there be -- well, strike that. Would records that go, for example, to the medical library also go to the records center?

A I don't know about that.

Q Where is the medical library?

A Today it's in A Building.

Q Pardon? I'm sorry.

A A Building, A as in apple.

Q Is that at the Lindbergh Road --

A That's at Lindbergh Road.

Q Was there ever an effort to collect all of the documents relative to the production, distribution, testing and so on of PCBs and centralize those documents?

A I guess I don't know how this was done. Records were collected. I don't know the scheme or how it was done, you know. This was before my time. But there were records that were collected and they're in the central files. I don't know whether those were sent there or how

they got there.

Q Central files meaning the records center again, or is that different?

A Well, that's -- that's where they would be today because this is a dead product, so, you know, it's -- there is no existing entity that has responsibility for maintaining those.

Q But they would or would not be in the records center?

A Today they would be in the records center.

Q How did you manage to come up to speed on the history of PCB production and sales at Monsanto when you acquired that responsibility in 1980? Were there documents you looked at or how did that work?

A Yeah. The easiest thing to do was there's a document that was published just about this time that we call the White Paper. I don't know the exact title. It's a white document with black lettering, which was a history of Monsanto sales and activities and actions for this period of time, and it was a compilation of the records that were available by whoever wrote the document. I didn't write the document. It was completed. It was an attempt to provide a history.

Q Is that pretty much what you relied on?

A To come up to speed, yes.

Q How big a document are we talking about, approximately?

A Quarter of an inch, something like that.
Q Do you know what the title of it is?
MR. SCHINK: I believe it's appended to your most recent motion.
MR. AHRENS: Okay. The most recent production of documents?
MR. SCHINK: No, the motion you filed with the Court seeking leave to amend.
MR. AHRENS: Got you.
MR. SCHINK: Appended to two or three documents, one of which is the White Paper. You can show it to him and have him identify that to establish it more definitively.
BY MR. AHRENS:
Q Do you know the rate of production or the amount of production of Aroclors for any given year in the 1960's?
A No. Not offhand, no.
Q Would that be somewhere in the records?
A It's in this White Paper document.
Q How about for Pydraul? Would you know the rate of production for that for any given year?
A No.
Q Again, that would be in the White Paper?
A It may be in there. It may not be listed as Pydraul.
Q How would it be listed?

A I think some end uses are listed. It may say hydraulic fluids and it would be included in that number.

Q Do you know generally what the percentage of Monsanto's business sales of Pydraul were in any given year in the 1960's?

MR. SCHINK: You mean in its overall corporate business?

MR. AHRENS: Yes.

THE WITNESS: Very small.

BY MR. AHRENS:

Q How about for the industrial chemical company?

A Very small. Small number.

Q Does the -- or did the Monsanto Industrial Chemical Company -- was that the only company that produced chemicals, or did some of the other companies also produce chemicals?

A Depends on your point in time, but some of the other companies produced chemicals. The agricultural chemicals company which we discussed produced agricultural chemicals.

Q Okay. All right. Would your answer be the same if I said in the 1950's?

MR. SCHINK: He wasn't there at that time.

THE WITNESS: I wasn't there. There were different names because that was a growth period.

BY MR. AHRENS:

Q Would the percentage of business in terms of income in dollars that sales of Pydraul meant to Monsanto, would that be available in the records?

A No. I don't think that exists as such.

Q Would there be any way you could put your hands on that?

A No.

Q Do you know anything about the purchase of Swann Chemical Company by Monsanto?

A The only thing is what's essentially the historical -- like the White Paper. It was purchased in 1935. That's, you know, roughly.

Q Do you know whether there was any information in any of the records which suggests whether PCBs are naturally-occurring products?

A In Monsanto records?

Q Yes. Have you ever seen that before?

A How do you define naturally-occurring products?

Q Something that occurs in the environment and is not man-made.

A There are literature references in the environment that PCBs are inadvertantly produced in the environment, yes.

Q What records would those be in?

A Well, in one of the latest EPA rules they talk about inadvertant manufacture of PCBs, and they had to correct

the rulemaking because you have PCBs that are inadvertantly manufactured in sewage treatment processes, things like this, inadvertantly manufactured in the cracking of aromatic petroleum distillate with certain types of catalyst systems, so there is a recognition that PCBs are unintentionally, inadvertantly made by other processes.

Q When you say in the EPA regulations, are you talking about the Code of Federal Regulations or --

A In the EPA regulations, Code of Federal Regulations, 40 CFR 7061, in one of those subdivisions there is a section that deals with inadvertant manufacture of PCBs.

Q How about existence of PCBs in the environment separate and apart from any type of man-oriented production of anything?

MR. SCHINK: Well, sewage treatment isn't production?

THE WITNESS: Just everything runs together and it's there.

MR. AHRENS: Okay.

THE WITNESS: You know.

MR. SCHINK: We've had sewage since we've had man, if not before.

(Discussion off the record.)

BY MR. AHRENS:

Q Do you know if the records of Swann Chemical Company still exist anywhere?
A I don't know.
Q How would you find out?
A I guess first you'd have -- when you say records of Swann Chemical, you'd have to define what you were looking for, and I'd probably start with -- if you're talking -- with the law department, legal records, records of sale, you know, purchase of the company, this kind of thing.
Q Would I be talking about records relating to their development of PCBs and formulation and the research they did --

MR. SCHINK: Well, I think that assumes that they did that. I don't think it's been established they did.

THE WITNESS: I don't know about that. I would doubt that any -- you know, you're talking 50 years ago. I doubt if they exist.

BY MR. AHRENS:

Q How would you find out if those records would exist? Same way?
A Same way.
Q Do you know in your position -- well, strike that. When you worked -- I guess you're still with environmental operations, right?

A Well, I'm now part of this new department of medicine and environmental safety, which is the corporate staff department.
Q Okay. What was your job title when you were with environmental operations? Did you have a --
A Yeah. I had a title, but I don't recall what it was.
Q Would it --
A It may have been --
Q Was it manager of PCB surveillance?
A No. I think it was probably manager of product environmental safety for Monsanto Industrial Chemicals Company.
Q Did you ever have that title, manager of PCB surveillance?
A A lot of people call me lots of things. Whether I've been called that or not, I don't think that's ever been a formal title that's on a business card or something like that, okay?
Q Okay. Fair enough.
A I've been introduced, you know, all kinds of ways.
Q As part of your responsibilities since 1980 have you come to learn anything about the decision by Monsanto to phase out the use of PCBs?
A Yes.
Q Okay. Do you know first of all when that decision was made? And just so we're clear, we're talking about use in

hydraulic fluids, okay?

A Roughly in the early 1970's, probably 1970 itself.

Q Can you tell me who would have been responsible for making that decision?

A By name, no.

Q Can you tell me by department or group or --

A It would have been the -- probably the business director, whatever the title of that group was. Today the title would be specialty chemicals.

Q Would it have been the corporate development committee? Would they have had that power?

A The corporate development committee was essentially the inside board of directors and they would have had that power.

Q Do you know whether that --

A That would have been a very high level decision.

Q Was it that committee that made that decision?

A I don't know exactly who made the decision. If they did, it was probably on the recommendation of the business director. I mean, they -- these groups usually don't just come in and make decisions about the business. Usually the business group studies the problem and makes a recommendation and it's acted upon.

Q What was the basis for their decision to phase out these PCBs in use in hydraulic fluids?

A Well, it was the same basis as the decision to phase out most PCB sales in general. PCBs were discovered in the late 1960s to be present in the environment. This had not been known before. It was a surprise all over the world, including to Monsanto. There were no known effects, health effects of PCBs, but there was a concern because they were present in the environment --

MR. SCHINK: Are you talking about health effects from their presence in the environment?

THE WITNESS: That's correct. But there was this concern because there was the presence of PCBs in the environment and it was found to accumulate in the fatty tissue of fish and species.

BY MR. AHRENS:

Q Were there any other reasons other than the persistence in the environment?

A No.

MR. SCHINK: He said presence. You said persistence. I don't know if they mean the same thing.

MR. AHRENS: I apologize.

BY MR. AHRENS:

Q Were there any other reasons other than the presence of PCBs in the environment?

A Well, as I was saying, the reason -- my understanding is that they were known to accumulate in the tissue, and that

was persistence, to split a hair with you, okay?

Q Okay. Were there any discussions, communications with the EPA prior to the phaseout of PCBs in hydraulic fluid?

A There was no EPA when the decision was made to phase out PCBs in the early 1970's.

Q EPA was formed in 1970?

A Well, the EPA as such was formed -- that has a history onto itself. There were discussions between industry, including Monsanto, and a whole group of government agencies and other industrial users of PCBs as to what this meant, the discovery of PCBs in the environment by Jensen in Sweden, and there was a concern among the industrial users, Monsanto as a manufacturer and the government regulatory agency that existed at the time.

And there was a study that Monsanto participated in, and it was published in May of 1972. I think it was by the Inner Agency Task Force on PCBs, May of 1972, which very clearly articulates the history, the manufacturing history of PCBs. The information that's in the White Paper, for instance, came from this thing.

All of these health studies that were reviewed, pseudo health effects, anything that was known about PCBs, Monsanto made available the information they had in their possession, and this reads like a Who's Who of government agencies in existence at the time, if you've seen the

thing. It's just a listing of everything from the Department of Commerce to the Food And Drug Administration to the predecessor of the EPA, which I think was something like the Congress of Environmental Quality or something. CEQ were the initials. All sorts of groups were involved in that decision, and Monsanto had a -- you know, had a very detailed dialogue with the government agencies which happened to be the predecessor of what we now know as EPA at this time.

Q Are there any industrial users that you had discussions with on the subject that are not listed in that task force report?

MR. SCHINK: Discussions about what, about withdrawal?

MR. AHRENS: About PCBs -- any discussion relative to PCBs.

THE WITNESS: I'd have to look and see who's listed on that report.

MR. AHRENS: Any come to mind immediately?

THE WITNESS: If you're talking about specific companies, there may have been some that weren't listed on that report, but certainly Monsanto had discussions with customers, so forth, this kind of thing.

BY MR. AHRENS:

Q Was there any kind of pressure put on Monsanto by the

government to phase out the use of PCBs in hydraulic fluids?

A No. As a matter of fact, when Monsanto decided to phase out PCBs, the initial thought was to totally stop manufacture of PCBs, and this group, which consisted of government representatives, asked Monsanto not to totally stop manufacturing PCBs because they were afraid of disruption to power transmission, all sorts of industrial disruptions because there was not a suitable, safe replacement for this material at the time.

Q When you say this group, the same group that you referred to on the task force?

A Right. And this is summarized in this Inner Agency Task Force report. As a matter of fact, Monsanto put the first restrictions on PCB use even before FDA did in 1973. Monsanto's actions were the first that were taken, and there was concern from the government agencies that they may go too far too fast.

Q And by that you mean the decision to phase them out and withdraw them from the market?

A The decision to phase PCBs out, in effect, correct. There's a statement in the report that Monsanto took --

MR. SCHINK: You just have to answer his questions. You don't have to give a speech.

THE WITNESS: Okay.

BY MR. AHRENS:

Q When PCBs were withdrawn from use in hydraulic fluids, there was still a certain amount of the hydraulic fluid that was either with distributors or with customers that had not been used, right?

MR. SCHINK: Well, that assumes it was sold through distributors, and I think he said he didn't know if it was sold through distributors, and I don't know that you've laid foundation that there was any product with customers other than that which would meet their machines.

MR. AHRENS: You can answer the question.

THE WITNESS: When Monsanto essentially had a date when they stopped sales of this product and this was announced, what was out there, I don't know.

BY MR. AHRENS:

Q What was the date of stop sale?

A 1971.

Q Is there a more particular date?

A I can't quote you a day and month.

Q Was there any attempt to identify where unused portions of PCB-containing hydraulic fluid were located and bring them back into the company for destruction?

A I don't know.

Q Have you ever heard anything about that?

A There was a program -- there was -- there was -- there was

a program where -- to -- where we would take PCBs from customers that were delivered to us and we would dispose of these, incinerate them in a high temperature incinerator that we had essentially at the cost. How the program worked, what particular PCB products were involved I can't tell you except that products were returned by customers, various customers, and they were incinerated at the plant. I don't know the details of how the program worked.

Q Okay. Is there anyone with the company today who would know the details of how that program worked?

A If there is, I don't know who it would be.

Q Has there been anybody who has since left the company who would know the details?

A When you say left, I'm sure there are people who have left, who have retired, deceased, gone on to other jobs. I don't know who managed that program, if that's what you're asking.

Q Would Mr. Papageorge have any knowledge of that program? Was he involved in any way with that?

A He may.

Q Do you know where he's living today?

A Somewhere in the City of St. Louis. I understand he still lives here in town.

Q Do you know anything -- well, okay. I understand you

don't know the details of the incineration program. What I would like to know, however, is if you know why that option was offered to certain customers and not to others.

MR. SCHINK: Well, I object to the form of that question. It assumes facts this witness didn't testify to, that there was any limit on the availability of that program.

MR. AHRENS: Okay. Let's clear that up.

BY MR. AHRENS:

Q Was this option offered to all customers?

A I don't know if it was offered to all customers. I don't know if there was any restriction on who it was offered to.

Q You just don't know one way or the other?

A I don't know.

Q Assuming that it was only offered to certain customers, can you think of a reason why that would have been the case?

A No.

Q Did you have any role in any of the animal or human testing done by Monsanto relative to PCBs?

MR. SCHINK: Well, --

MR. AHRENS: Well, I just want to establish --

MR. SCHINK: I object to the suggestion that Monsanto has ever engaged in human testing of PCBs.

MR. AHRENS: Well, I'd like to know that.

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

MR. AHRENS: Okay.

THE WITNESS: No. I didn't have any role in that, but make the point that I don't know of any human testing in PCBs in my tenure at Monsanto. As a matter of fact, I'm not sure I know of any human testing of chemicals at all in my tenure.

BY MR. AHRENS:

Q Monsanto has never done any cohort studies?

A Well, this is -- this is not human testing. A cohort study -- I assume you're referring to a retrospective epidemiological study, and that is a statistical study of illness and/or death records, and so that's not testing of people. In my mind that has a different connotation.

Q Did you have any relationship to any of those studies or surveys?

A No.

MR. AHRENS: Will that be the gentleman that's coming tomorrow?

MR. SCHINK: Yeah. Well, I mean, it will be to the extent that you've asked for somebody knowledgeable about testing in the '60s, or maybe it's '50s and '60s. It was, as I recall, epidemiological studies and

toxicological studies, right, in the '60s. Same person.

MR. AHRENS: Okay.

(Discussion off the record.)

BY MR. AHRENS:

Q The documents that are in the records center today, which company owns those documents?

A That's a tough -- Monsanto Company owns the documents.

Q How about the documents in the research library?

A Monsanto Company owns those documents.

Q How about in the medical library?

A Monsanto Company owns those documents.

Q Would you have any knowledge as to what publications the medical library ever received, or would that be more appropriately asked of --

MR. SCHINK: Tomorrow's witness.

MR. AHRENS: -- Mr. Kelly?

MR. SCHINK: Dr. Kelly.

MR. AHRENS: Dr. Kelly. I'm sorry.

BY MR. AHRENS:

Q Is there a file or a compilation of documents relative to the EPA hearings held on PCBs and the regulations associated with those hearings in the custody of Monsanto?

A I don't know of a central file that would collect documents in that format. For instance, I subscribe to something called Chemical Regulation Reporter and other

people do and this is a continuously updated thing. I'm sure you've seen legal things like that, laws and regulations, that stuff.

Q Well, I guess what I'm getting at is I assume when all this was going on in the '70s, the hearings and that kind of thing, that Monsanto submitted certain documents for the hearings to the EPA and in return other documents were sent back. Would that be a fair statement?

A I don't -- that was before my time, okay? I don't know that for a fact.

Q Have you ever heard of that, that there were documents generated relative to the hearings?

A I've heard -- EPA would ask questions and there would be responses. Whether these were hearings or not, I don't know, and whoever was responsible at the time I'm sure answered these questions.

Q Do you know who was responsible at that time in the company?

A At one time Mr. Papageorge was. This was a period from, you know, early '70s.

Q Anyone else responsible that you're aware of?

A I can't name anybody who directly, you know, would respond to those questions. That's --

MR. SCHINK: Say you don't recall if you don't recall.

group. I don't know who that would have been.
Q The business group was made up of what people?
A There's a functions -- generalized functions, there's a research component, there's a marketing component, there's a sales component, there's an engineering component. These people are generally responsible for taking a product and moving it to salable item, and there were business people who had the responsibility for what, catalogs, labels, whatever it is, you know. I don't know how they get those things done, but that would have been in their responsibility.
Q In any event, you don't know how they did it in 1969 or '70, if in fact it was done.
A There were label changes that were done at this period of time. That's part of the written record. I don't -- I can't tell you specifically what changes were on what label, like for Pydraul, for Aroclors, for PCBs, for what not, but this is discussed in that White Paper.
Q Do you know enough about the structure of the company at that point to know if there was one person who ultimately made the decision as to whether a certain warning would go on the label?
A I'm sure that one person ultimately made the decision, but I don't know who that would be or where that would go. That would be advice, you know, from a whole group of

people who were involved with the product development, marketing and what not.

(Discussion off the record.)

(Short recess in proceedings.)

BY MR. AHRENS:

Q As part of your responsibilities beginning in 1980 were you charged with talking to customers who were calling in about problems with PCBs?

A Yes.

Q And I assume you got some of those calls.

A Yes.

Q Do you remember specifically talking with anyone at Stroh Die Casting in Milwaukee, Wisconsin?

A I remember a call from Mike Stroh.

Q Okay.

A I don't remember when.

Q Okay. Do you remember what was said in the conversation?

A No. Specifically, I don't.

Q Do you remember the substance or the subject of the discussion?

A He had a PCB problem. It had to do with the regulations and disposal of PCB material and basically it was about that.

Q Did he ask you if Monsanto would be willing to help with the clean-up costs?

A I don't recall.
Q Did he at any point after that ask if Monsanto would be willing to assist with the clean-up costs, to you?
A There was some correspondence, but I don't recall the specifics of what was in there or not. He may have. He may not.
Q I assume that Monsanto was unwilling to help with the clean-up costs, assuming he asked.
A That's correct.
Q Can you tell me why Monsanto was unwilling to help with the clean-up costs?
A Well, we manufactured a product that we sold to do a good industrial chemical job. Once the customer was through with that product, it was his responsibility to handle it and to dispose of it, as he would any industrial chemical, and there was no reason to do anything different for this product than for any other industrial chemical and we sell billions of pounds of industrial chemicals.
Q Well, maybe I misunderstood. Were you under the impression that the PCB contamination around the Stroh plant was due to disposal attempts by the Stroh people?
A I don't know that the question related to PCB contamination around his plant. The best recollection I have is he called about disposing of some material, and I don't remember the details. My best recollection is he

had material in quantity that he wanted to get rid of and how to do it, incinerate it or what and where and that kind of thing.

Q Were you ever made aware that he had been ordered by the EPA and the Wisconsin DNR to clean up the soil on the premises of the Stroh Die Casting Company?

A As a result of this litigation I am, yes.

Q You didn't know that before?

A I don't think so, unless it's in some of the correspondence which led up to this.

Q Now, Monsanto -- well, in any die casting facility leakage of fluid from the machines is a normal and expected process. Would you agree with that?

A I don't know that in any and all cases that happens. Sometimes it happens. I'm not a die casting expert, okay?

Q Well, would you disagree that Monsanto as a corporate entity held that belief?

MR. SCHINK: That Monsanto as a corporate entity held that belief.

THE WITNESS: I don't --

BY MR. AHRENS:

Q Well, in fact there are documents that --

A I don't know this for a fact. You know, there were research people that were involved with this in the application. They may know. I really -- I have never

been in a die casting plant. I don't know that.

MR. AHRENS: Okay.

(Exhibit No. 3 was marked for identification.)

BY MR. AHRENS:

Q I'm going to show you what's been marked as Exhibit 3 and represent to you that this is a document produced by your counsel on behalf of Monsanto. Just take an opportunity to look at that for however long you need.

MR. SCHINK: Is there some -- it's a long document. We don't want to spend the whole day with this.

MR. AHRENS: Sure.

MR. SCHINK: Is there something in particular -- in fact, he may never have seen this document before, because his name does not appear on the face of it.

MR. AHRENS: I'm particularly going to be asking about --

MR. SCHINK: Well, let's just establish first of all whether he's ever seen the document before.

THE WITNESS: I don't recall ever having seen this before today.

MR. SCHINK: All right.

MR. AHRENS: Why don't you look at I believe it's page 15. The numbers are at the top.

MR. SCHINK: Okay. 15. "Hydraulic Fluids." All right. Is there a question?

MR. AHRENS: Are you ready for a question, Mr. Craddock?

THE WITNESS: Sure.

BY MR. AHRENS:

Q Under No. 1, which reads -- and correct me if I'm wrong -- "Recognize that control of spillage and pump leakage makes the use of non-biodegradable chlorinated biphenyls undesirable." Would you disagree that that suggests that Monsanto knew that hydraulic systems leaked?

MR. SCHINK: Well, wait a minute. You're showing him a document he's never seen before and you're asking him what Monsanto thought at that time regarding nonbiodegradable chlorinated biphenyls. It's an improper question. I object to the form of the question. It's argumentative.

MR. AHRENS: Can you answer the question?

MR. SCHINK: Do you have the question in mind?

THE WITNESS: I don't know what this document -- you know, what whoever wrote this document is trying to do with it. I don't know. Reading that thing I don't know whether he says that he recognizes the control of this or he's asking someone else to recognize it. I don't really know what he's trying to do, whether he's stating a fact or expressing a thought.

MR. AHRENS: Well, do you think that --

THE WITNESS: And I don't know who -- I guess I don't know who wrote it, so I don't know if that's corporate Monsanto. I don't know.

BY MR. AHRENS:

Q Are you saying that Monsanto believed that if there was leakage and/or spillage under normal operations, that that was due to any failure on the part of the die casting operator to take proper precautions?

MR. SCHINK: I object to the form of the question unless you clarify what you mean by leakage and spillage. Do you mean leakage and spillage into the environment, such as the type that occurred at your plant when you consciously opened the valve and dumped material into the environment or --

MR. AHRENS: Well, I move to strike that comment.

MR. SCHINK: Well, fine. Or leakage and spillage that occurred, for example, when a hydraulic line ruptures and some materials, for example, capture and collect on the floor. Which are you talking about?

MR. AHRENS: Okay. Let's talk about the second.

MR. SCHINK: So where a machine leaks -- we're not talking about a release into the environment, but simply a leakage from a, for example, broken hydraulic line.

MR. AHRENS: Sure. Let's talk about about that first.

MR. SCHINK: And what is your question now?

BY MR. AHRENS:

Q The question is are you saying that Monsanto believed that if there was leakage and spillage such as your counsel has described, that that would necessarily be due to improper precautions on the part of the die casting operator?

MR. SCHINK: You're not asking him with reference to this document.

MR. AHRENS: No.

MR. SCHINK: Just generally in 1970.

MR. AHRENS: Right.

MR. SCHINK: Was it Monsanto's belief that if a hydraulic line leaked in a plant, that that was due to some malfeasance on the part of the machine operator?

THE WITNESS: If a hydraulic line leaked, it was due to malfeasance? I don't think so.

MR. AHRENS: Okay.

BY MR. AHRENS:

Q Would it be fair to say then that while you might not expect that to happen, it was certainly not unheard of in die casting houses.

A It was probably not unheard of in any operation that used pumps and hoses, including chemical plants. Good

manufacturing practice tells you how to place your equipment to take care of these things. Usually there are trays that will catch leaks, normal pump leaks and things like this, drip pans they call them, things like this.

Q Okay. When -- well, strike that. Do you remember whether there was more than one telephone conversation with Mike Stroh?

A I don't remember if there was more than one, no.

Q In any event, there was some subsequent correspondence.

A That's correct.

Q What was Monsanto's course of action relative to Mr. Stroh's request for some sort of help in terms of monetary assistance for the clean-up?

A I guess I don't recall what the first correspondence was or when or if he asked for monetary assistance. I think he asked for us to review the situation and review some records. I think that was the first thing that I got involved with with him in the correspondence thing.

Q But ultimately --

A We did -- you know, we did try to look through old records and see if we sold him material, when, what kind of information we had.

Q And you had sold him Pydraul, correct?

A Yes.

Q And ultimately he did request some sort of monetary

assistance in helping with the clean-up; is that correct?
A I believe that's correct.
Q And what was -- when that request came in, was that something that you dealt with, or did that go somewhere else? In other words, who made the decision as to how to respond to Mr. Stroh?
A Well, I think that the -- if I recall, the letter that came from Mr. Stroh was a very complicated letter and it asked lots of questions. If it was a question about monetary compensation, what we'd do, I would have answered that directly, as with any other question, you know. We assume it's the customer's responsibility to handle and dispose of used chemicals when he's through with them, any used industrial chemicals, and that's what this was.
Q At that point, however, -- well, strike that. Approximately what date was that, around 1980, '79? What are we talking?
A We're talking -- I didn't get this job until mid, later part of probably '82 or something, somewhere in there.
Q Okay. By that time, of course, Monsanto had phased out all use of PCBs in its hydraulic fluids, correct?
A All hydraulic sales had been stopped in 1971.
Q All hydraulic fluids containing PCBs.
A All hydraulic fluids containing PCBs. Sales of those had stopped in 1971, that's correct.

Q All right. The only reason that Mr. Stroh was being required to clean up his facility was because of the existence of PCBs in the hydraulic fluid. Is that your understanding of the situation?

A I don't know that. I don't -- I don't know that he was having to clean up his facilities. My first recollection was that he was -- he was having to dispose of some PCB material. This was required by the regulations.

Q So is it fair to say you have no knowledge about what or whether or whether or not Mr. Stroh was required to clean up his facility?

A Well, I don't -- well, when you say clean up his facility, I don't know the extent or --

MR. SCHINK: What are you referring to? You have two elements here. You have one something to do with your machines and something to do with the environment. Can you clarify what your question refers to?

MR. AHRENS: I want to know if he had any information from Mr. Stroh about any of that. I'm just trying to find out what he learned.

MR. SCHINK: Well, you have copies of the letters and so forth.

MR. AHRENS: Sure. I know that. I don't have copies of any transcripts of telephone conversations.

THE WITNESS: I don't have transcripts of any

telephone conversations.

MR. AHRENS: I know that.

THE WITNESS: And it's been ten years ago, and I don't remember, you know, specifically what we talked about. I do remember that he called. I vaguely remember he asked about disposal and incineration. I don't know whether he asked if we still had an incinerator or what. I don't remember the details of the call.

BY MR. AHRENS:

Q Okay. At that time was Monsanto still operating any type of incinerator which could have incinerated --

A No.

Q Why don't you let me finish the question.

A Okay.

Q You don't want me to throw something crazy in at the end. At that time, 1981, '82, whenever it was that you were in contact with Mr. Stroh, was Monsanto operating an incineration facility in which it was incinerating PCB-containing materials for its customers?

A No.

Q Were they operating such a furnace in any manner for anyone?

A No.

Q When had that been ended?

A Let me clarify. When you say furnish for anyone, you mean

for PCBs.

Q Yes. I'm sorry.

A The answer to that is no.

Q Is the only reason that you decided to not assist Mr. Stroh with any kind of monetary assistance, whenever that request came, the fact that you felt that it was his responsibility and his -- with his use of the Pydraul while it was at his plant?

A Yes. It was his responsibility as the customer and user of the material to properly handle and dispose of it after its use.

Q Okay. Do you believe that he did that improperly?

A I don't know.

Q Do you know anything about what he did or didn't do at his facility relative to the Pydraul fluid in terms of disposal?

A I vaguely recall some of the correspondence. He tried to contact with somebody to dispose of it and he didn't contract with a prime disposer and it sort of took a journey and wound up somewhere where it wasn't supposed to be or where it wasn't disposed of at an EPA facility. There was some of that from some of the correspondence.

Q Okay. Let's go back before that. Do you have any information about whether or not the soil at the Stroh facility was contaminated with PCBs?

A In connection with this lawsuit, I have seen some information that there is some contamination at the site.
Q Prior to the lawsuit.
A I don't recall that, no.
Q So at least as we sit here today, you don't remember getting any information that he had any contaminated soil on his plant prior to the commencement of this lawsuit.
A As I recall, the conversation was about disposal of some used PCB material from his machinery.

(Exhibit Nos. 4 through 6 were marked for identification.)

(Discussion off the record.)

MR. AHRENS: Mr. Craddock, I'm going to show you copies of some letters which were produced by your counsel in this case and ask you to look at those briefly.

(Discussion off the record.)

THE WITNESS: Okay.

BY MR. AHRENS:

Q First of all, just for the record, Exhibit 4 is a two-page document; is that correct?
A Correct.
Q We've paper clipped it together. We can staple it later. Exhibit 5 and 6 are both single-page documents, correct?
A That's correct.
Q Are those letters written by you?

A Yes.
Q Are those -- strike that. Were those letters originals or were they form letters? In other words, were these same letters directed to other people other than Mike Stroh at Stroh Die Casting?
A They're originals. The one, No. 6, is a type of form letter because this thing came in Dear Monsanto, and this was sort of an acknowledgement that we received this letter and that somebody is going to take a look at it, and so it gives him a name and a contact, but the other two are original letters based on inquiries or questions or something of substance, whatever he wrote.
Q Okay. Exhibits 5 and 4, were those drafted by you?
A 5 was drafted by me personally and 4 was drafted by me after consultation with our legal department.
Q Okay. A lawyer didn't draft Exhibit 4. You drafted it, but after talking with someone.
A After talking with him. To the best of my recollection, that's correct.
Q And that was part of your responsibility in 1983, is to respond to these kinds of --
A To respond to inquiries from customers relating to PCBs, correct.
Q All right. Thank you. I assume -- and correct me if I'm wrong, but I bet you are familiar with the Outboard Marine

case.

A Yes, to some degree.

Q Were you deposed in that matter?

A No.

Q Did you play any role in gathering documents for that matter?

A No.

Q Do you know generally what the facts of that lawsuit were?

A I know vaguely what the facts are. This all came about before my tenure in this position.

Q I understand that. What is your understanding of what the facts were?

A Outboard Marine was cited by the Region 5 of the EPA for improper disposal of PCBs from their facility in the Waukegan harbor, and the basic issue was the degree of contamination and the risk associated with it and what would be required to remediate that.

Q Has that matter now been settled or is it ongoing?

MR. SCHINK: Are you talking about vis-a-vis Outboard Marine or the government or Monsanto?

MR. AHRENS: No. As far as Monsanto is concerned.

MR. SCHINK: Monsanto is dismissed with prejudice.

BY MR. AHRENS:

Q Do you know when that happened?
A I don't know the exact date. I'd say roughly '84 or sometime around that time.
Q Are you aware of the facts in a lawsuit entitled Tanaka Brothers Farms versus Monsanto?
A Just vaguely.
Q In general, what were the facts there?
A Tanaka Brothers Farms involved a farm where feed was contaminated from a coating that was used in a silo, I believe.
Q Were you deposed in that matter?
A No.
Q Is that an ongoing case or has that matter been disposed of?
A As far as I know, that's --
MR. SCHINK: Jury verdict for Monsanto.
BY MR. AHRENS:
Q Did you gather any documents for use in that litigation?
A No.
Q Do you know what experts Monsanto used in that case?
A No.
MR. SCHINK: Jury verdict for Monsanto at close of the plaintiff's case.
BY MR. AHRENS:
Q Do you know when that matter terminated?

A No. I don't know.
Q Okay. How about United States and Land Resources versus the Singer Company versus Monsanto? Are you familiar with the facts of that case?
A No.
Q Have you ever heard of it?
A United States Land Resources, that's -- that doesn't ring a bell at all.
Q How about Prospect Industries versus Singer versus Monsanto?
A Prospect Industries, no.
Q As far as you know, you weren't deposed in either of those matters.
A No.
Q You indicated you had been deposed before. Can you tell me were any -- well, was it more than one deposition?
A To my best recollection, two.
Q Did either of those have anything to do with PCBs?
A Yes.
Q Both or one?
A Both cases had to do with PCBs.
Q What were the names of the cases in which you were deposed?
A I don't know the exact names of the cases.
Q Was Monsanto a defendant?

A One case Monsanto was a defendant and one case Monsanto was just a knowledgeable party.
Q Can you tell me the name of the plaintiff in the case in which Monsanto was a defendant?
A It's a transformer company in Texas. I think it was Esco Manufacturing.
Q E-s-c-o?
A E-s-c-o.
Q Is that matter in ongoing litigation?
A Yes.
Q Does it relate to PCBs?
A Yes.
Q What are briefly the facts of that case?
A Esco Manufacturing Company is a company that manufactures electrical power distribution equipment and they use PCBs as a dielectric fluid in their equipment, and this has to do with an improper disposal at the factory site and clean-up of the site.
Q Do you know where in Texas the plant was or is?
A It's out of Dallas. Greenville may be the town, suburb of Dallas.
Q All right. Do you know the name of the plaintiff in the other lawsuit?
A I'm not sure who was the plaintiff and who was the defendant. It had to do with the sale of property,

property or equipment between two aluminum manufacturing companies.

Q Do you know the names of the parties, whether or not they were plaintiffs or defendants?

A I think it was Reynolds and Alcoa, but I'm not sure exactly.

Q Where is that case venued, if you know?

A I don't recall.

Q Do you know generally the facts of that case?

A It had to do with a heat transfer fluid and something to do with the degree of clean-up at the site, whether one company returned some fluid or whether they disposed of it on the site or what not. It was a matter of production of records.

Q Do you know where the disposal site in question was?

A It was on one of these plant sites, but I don't --

Q Do you know what state --

A Well, let me rephrase that or correct that, okay? I don't know what the disposal site was supposed to be. It involved -- Monsanto's participation involved whether we received material back from this facility for incineration, and it was a production of records to indicate what had taken place and that.

Q I see. But the allegation was that between these two parties, Alcoa and Reynolds, that one of them had disposed

of the waste improperly.

A It was a question -- I guess the question was whether one had taken the proper steps to dispose of the waste, according to the regulations at the time, or whether it had been disposed of improperly at the facility, so it was a question of what happened to the material.

Q When were you disposed in that, approximately?

A Year ago, year and a half ago.

Q Were you deposed here in St. Louis?

A Yes.

Q Do you know the name of either attorneys involved?

A No, I don't.

Q Do you know whether or not there was a decision made at Monsanto -- well, strike that. When the decision was made at Monsanto to phase out the use of PCBs in hydraulic fluids, a series of letters was sent out to Monsanto's customers, right?

A That's correct.

Q Are you familiar with the letters that were sent out?

A I have seen those letters in the past, yes. I don't recall the details of the letters, but I have seen the letters, yes.

Q Who were those drafted by? Were they -- well, --

A I don't know who drafted the letters. They were signed or the typed signature that I saw -- I don't remember whether

I saw signed letters or what, but representatives of the marketing department that sold the material.

Q What was the purpose of those letters?

A The purpose of the letters was to remind our customers that they were dealing with industrial chemicals, that these industrial chemicals were coming under close scrutiny, that there were reports in the literature that -- and from Europe particularly that they were being found in the environment and -- well, there was a whole series of letters, okay, but the first letters were after these reports became known and that they should continue to be careful in their handling and disposal.

Other letters talked about we were trying to develop replacements for these products which would have the same fire safety and flame resistance and perform the same function as the original PCB materials and gradually they -- as they got to different stages, they announced new products, when they were going to be available and so forth. There was sort of a whole family of letters that went out, and they went out to all -- essentially all PCB customers at the time.

Q Now, in fact, all of the letters did not go out to all the customers, did they?

A There were letters that were written for Pydraul customers. There were letters that were written by

dielectric fluid customers. There were letters that were written for Therminol customers, but they essentially talked about the PCBs particularly and then they were tailored for the products and told which products in this use category contained PCBs and so forth.

Q Are you saying that all Pydraul customers received the same letters?

A Yes. All Pydraul customers should have received the same letters related to use of Pydraul products.

Q At least that was the intent of the company.

A That was the intent.

Q There was not a situation where certain Pydraul customers were sent one form of the letter and other customers were sent another form.

A No.

Q Were the -- well, strike that. Other than the fact that the uses of the various fluids, dielectric, hydraulic, so on and so forth, that the uses of those fluids by the consumer was different, was there any other difference in the letters, or was there intended to be any other difference in the letters?

A No. They were of course basically informational letters to tell the customers that -- of a perceived environmental persistence problem, to remind them that they're industrial chemicals and to continue to handle these

things very carefully. There was some letters which talked about that it had been particularly found in aquatic environments in fish and things and to be careful not to dispose of the materials anywhere where they could get into a waterway, runoff or anything of this type. From my information there was essentially the same information conveyed in all the customer letters.

Q Were any of the customers of fluids other than hydraulic fluids offered an, if you will, option to return the fluids for incineration or other disposal?

A Did you say any customers other than --

MR. SCHINK: I object to the form of the question. It assumes that that offer was not made to Pydraul customers.

THE WITNESS: To my knowledge, PCB customers were offered incineration services. I don't know how these were done, you know, but I guess I've never looked to see, -- you know, to categorize them the way you've asked it, but to my knowledge, customers who bought the material directly from Monsanto that we had records of were offered the incineration service if they had the materials returned.

BY MR. AHRENS:

Q Would there be any way to tell if you saw one of the letters what kind of customer that particular letter was

sent to?

A It depends on the letter. If it mentioned the trade name, yes, or the use or something.

(Exhibit Nos. 7 and 8 were marked for identification.)

BY MR. AHRENS:

Q Showing you what's been marked as Exhibits 7 and 8, ask you to look at those briefly.

A You want me to read of these or certain pages or --

Q Oh, no. Just the first two pages of each --

A Okay.

Q -- is all I'm really interested in.

A Okay.

Q Are those letters which were sent out to customers relative to the phaseout of PCBs that we've been discussing?

A Yes.

Q Can you tell by looking at those what types of customers those were sent to?

A Looking at the first two pages of Exhibit 7, this was one that I would say is probably sent to Pydraul customers and addresses Pydraul products, okay?

Q Okay. Now, how about Exhibit 8?

A Exhibit 8. Exhibit 8 is a generic letter that was sent to customers who purchased Aroclor products that would

primarily have been uses other than heat transfer and hydraulic systems.

MR. SCHINK: And of course that letter is signed by the director of plasticizer sales as opposed to functional fluids, which is the signature on Exhibit No. 7.

BY MR. AHRENS:

Q If the document -- and by that I mean the first two pages which makes up the letter that we've been discussing -- of Exhibit 8 was sent to a Pydraul user, whereas the letter in Exhibit 7 was not --

MR. SCHINK: Well, he's already testified 7 was sent to Pydraul users.

MR. AHRENS: Okay. What I'm asking is if 8 was sent but 7 was not, would that have been an error?

THE WITNESS: I guess I'm not sure what you mean by an error.

MR. AHRENS: Well, --

THE WITNESS: The reason I say it is customers may have gotten more than one letter from Monsanto. For instance, the product management for a particular product area sent a letter to their customers. Pydraul -- the Pydraul marketing people sent one to Pydraul customers. The Therminol people would have sent a similar letter to this instead it would have said as a Therminol customer.

These were trademark products.

If a customer bought Aroclor products per se labeled as Aroclor, whether it's plasticizers or what not, he would have gotten a letter that said Aroclor. However, the same salesman may sell all of these products, so in addition to getting a letter from the marketing management for that particular product line or the product management group, the customer may have also gotten letters from the salesman they called on and it could have been anyone and this has -- you know, heard of it happening, that the customers got more than one letter, from the salesman, the product manager and so forth.

MR. AHRENS: But the intent, anyway, --

THE WITNESS: The intent was to send a letter to the customer based on the product that he purchased from the sales run.

BY MR. AHRENS:

Q So the intent would have been that a Pydraul customer would have received the letter in Exhibit 7 and he may have also received the letter in Exhibit 8.

A That's right.

Q If a Pydraul customer who did not purchase Aroclors under that name, but only purchased Pydraul, received the letter in Exhibit 8, but not the letter in Exhibit 7, would that have been an error in terms of what the intent on the part

of Monsanto to send out these letters was?

A Yes. If that's the way, that would have been an error, because the intent was to send the letter to the customer based upon the product sales list of what he purchased so he would be familiar with it.

MR. SCHINK: You mean intent. The letters -- in terms of saying presence has been reported, keep the stuff out of the environment, be careful with your handling, the operative paragraphs of both letters are the same.

THE WITNESS: The purpose of the letter was to identify the product that the customer was purchasing so he would be aware that this product was environmentally --

MR. AHRENS: So when he would see the name of that product, his attention would be called to it and --

THE WITNESS: Right.

MR. AHRENS: All right.

(Discussion off the record.)

BY MR. AHRENS:

Q Do you have any knowledge about proposals made to Monsanto customers in 1971 relative to only selling them PCB products if they would enter into an indemnification agreement with Monsanto?

A Yes. This was -- dielectric fluid customers were offered this type of arrangement when -- as I mentioned earlier,

Monsanto was going to totally cease PCB production and sales, and at the request of the electrical power distribution industry segment and these government agencies that we talked about in the Inner Agency Task Force report, Monsanto agreed to continue production and sales restricted to uses as dielectric fluids at their request and this kind of agreement was brought about to happen.

Q Was that only for dielectric fluids?

A Yes. That was the only sales that was continued.

Q So there was no effort to enter into any indemnification or hold harmless agreements with hydraulic fluid customers.

A No.

Q When we talk about dielectric fluids, are we talking about fluids that are generally used in what's called an enclosed manner?

A Since that time they've come to be defined as enclosed manner because they are put in a container -- they're closed and they stay there unless there's some kind of catastrophic event to cause it to open.

Q This would be like a transformer --

A Transformer, capacitor, essentially sealed units.

(Exhibit No. 9 was marked for identification.)

BY MR. AHRENS:

Q Show you what's been marked as Exhibit 9 and first of all, before you even review it, down in the corner do you see the little stamp down there that says STR and then there's a number after that?
A Yes.
Q Any idea what that is?
A No. It's some kind of identification, but I don't know what file this came out of, so -- everybody has different filing systems.
Q All right. If you'd take just a moment to just review the first two pages of Exhibit 9.
A First two pages?
Q Yes.
A Okay.
Q First of all, do you know who N.T. Johnson is?
A No.
Q Have you ever heard that name before?
A Not to my -- I may have seen it, but I don't -- you know, I don't even know what his function is. I don't know him.
Q Okay. Is there any way to tell from looking at this memo what department he was in or what group or what division?
A No. There is no identification.
Q Do you have any idea --
A I'd say he has something to do with sales, but -- you know.

Q Now, directing your attention to the second paragraph on the first page, --

A Okay.

Q -- you see where it says, the first sentence, "We want to avoid any situation where a customer wants to return fluid."?

A Right.

Q And then drop down to the last three sentences beginning with "He will then top off with the new fluid and eventually all Aroclor 1254 and Aroclor 1260 will be out of the system. We don't want to take the fluid back. Sell him the replacement."

A Okay.

Q Do you know anything about that decision to take that position?

MR. SCHINK: With respect to those particular Pydrauls, none of which are at issue in this litigation; that is, 625 AC Winter Grade and 540; is that right? The question is with respect to those particular Pydrauls, do you know anything about such a decision?

THE WITNESS: Okay. State your question again now?

BY MR. AHRENS:

Q Do you know who was responsible for taking that position?

A No, I don't.

Q Do you know what the thought behind taking that position was?
A No.
Q The basis for the decision?
A No, and I don't know if that's this individual's position or what. That does not reflect the corporate position as I know it.
Q Are you saying that the corporate position was different than the position set forth in this memo?
A Well, the corporate position as I know it and as published in the White Paper is that we took material back, shipped to our plant, provided instructions how to do it at our plant in Sauget, Illinois, and we incinerated millions of pounds of PCB-containing products. I don't know what the names of the products were, but if it contained PCBs, we took it back and we incinerated it.
Q When was that policy formulated?
A I don't know the exact date, but it's my understanding in the early 1970's. This letter is dated in 1970. Whether it was 1970 or '71, I can't give you the exact date. I don't know.
Q Could the corporate policy referred to have been developed after the date of this memo?
A That would be speculation on my part, just who did what when.

Q Referring to the last three sentences of that same paragraph, was the intent that topping off the fluid in the various machines would eventually rid the system of PCBs?

MR. SCHINK: You're now talking about the fluids here in question, correct?

MR. AHRENS: Correct.

MR. SCHINK: You're asking Mr. Johnson's intent.

MR. AHRENS: No. I'm asking the intent of --

THE WITNESS: I don't know -- I don't know what this guy's intent was, you know. I really wasn't involved, and what he's saying here is contrary to my understanding of our practice.

MR. AHRENS: Okay.

THE WITNESS: But that was a decade before I got involved.

BY MR. AHRENS:

Q Did Monsanto give any advice to its customers as to how to get PCBs out of their die casting machines?

MR. SCHINK: When?

MR. AHRENS: Following the phaseout of PCB-containing hydraulic fluids.

MR. SCHINK: So at any time after 1971.

MR. AHRENS: Correct.

MR. SCHINK: To the present.

THE WITNESS: The information that I have read and seen talked about drain and flush of the system. There were no standards as to how to do it by EPA or what levels would be required. As a matter of fact, EPA changed the levels in their regulations in '79 from what they proposed in '78. There was information talked about. I don't know whether Monsanto gave it out as such or whether it's just conversations, you know, among other people or what not.

MR. SCHINK: His question goes all the way up to the present, so to the extent that you might have given out any information, that would be included as well.

THE WITNESS: Since I've had this function in 1980, we've given out information as to what the regulations required, and the federal regulations require a drain and a flush. That is their recommended method of cleaning or removing PCBs from a piece of equipment, and we routinely give that information out today if somebody calls.

BY MR. AHRENS:

Q That is not intended to rid the system of all PCBs, is it?

A Well, when you say intended to, I -- again, that's speculation. I think originally it was thought that that would rid the equipment of PCBs to a level, but --

Q In fact it hasn't.

A As regulations evolve, things change, and when you put a numerical value, then you get something else, and so it's hard to say what the intent was, but the regulation today says to drain and flush and sample after a period and annually -- or required this up to 1984 -- the regulations are silent on this since 1984, but they add that you must analyze, and if it's above a certain numerical value, then you had to repeat the process annually until it was done, and so I don't know what the intent was. EPA's intent was not clear and I don't think anybody knew what would be technically required to get a "drain and flush."

Q Well, did Monsanto give any thought to how its customers were to get PCBs out of their machines once the Pydraul had been used in them?

A The information that I have heard or have knowledge of is drain and flush.

Q Was any research done as to how successful that would be, for example?

A Not to my knowledge.

Q Have you received any information from Monsanto's customers as to how successful the drain and flush technique is?

A We've had some inquiries from customers who did a drain and flush as prescribed in the regulations under TSCA that were having difficulty, and as a matter of fact I've heard

that EPA had commissioned some contractor studies to determine how effective it was. I've never seen the results, but I think the results were mixed.

Q Have you had --

A I don't know why.

Q Oh, I'm sorry. Have you had any customers report to you that by using drain and flush they have rid their system of all PCBs?

MR. SCHINK: You mean to below the 50 part per million level?

MR. AHRENS: To below the one part per million level.

THE WITNESS: I haven't had any customers report to get below the one part per million. The 50 part per million is part of a regulatory standard, and there are customers that have thought that was effective for that. There isn't a one part million standard that I'm aware of.

BY MR. AHRENS:

Q You're not familiar with any disposal standards relative to the one part per million level?

A Federal disposal standards have a regulatory cut-off of 50 parts per million. I don't know of any that require anything tighter than that for disposal.

Q Okay. You used the term functional fluids a while back. What does that mean in terms of the company?

A That was the name of a marketing unit at one time in the history of the company that sold industrial chemicals which were fluids that provided a function to the customer. Hydraulic fluids were functional fluids.
Q What else would be included?
A Therminol was a functional fluid. It was for heat transfer. Its function was to transfer energy effectively. Hydraulic fluid was to transfer not high energy, but work.
Q Anything else come to mind immediately?
A Not offhand. Those were probably the biggest products. They may have had others.
Q Okay. Have you had any other current or former customers of Monsanto who had purchased PCB-containing Pydraul when it was being sold by Monsanto requesting that you help them dispose of waste materials? Other than Stroh now.
A When you say help, do you mean information or --
Q No. I mean monetary assistance.
A I don't know of any.
Q Have any of your former customers or current customers asked for help in cleaning up sites where there's been PCB contamination? And again I mean in terms of monetary assistance.
A How would you answer that? Like TSCA or something. I mean --

MR. SCHINK: You've got to answer the question as best you can. If you know of a specific situation where that specific request has been made, you're aware of it, you should testify to it. If you're not sure what it was, you don't have to guess or speculate, but if you know, as you've testified you knew in the Stroh situation, similar to that, you should identify it.

THE WITNESS: I guess I don't know of anybody that specifically requested money to clean up a site.

BY MR. AHRENS:

Q Has anyone requested physical assistance, where they want you, meaning Monsanto, to come out to the site and do the work in lieu of money?

A No.

(Discussion off the record.)

BY MR. AHRENS:

Q Do you know -- I asked the witness earlier this question. He wasn't really sure. Do you know what products Aroclors were used for that were manufactured by Monsanto in which the Aroclor was an ingredient?

A You know, I know some.

Q Which ones are you aware of?

A Well, we have of course Aroclor itself, which was an industrial chemical. Therminol products -- certain Therminol products, the FR series.

MR. SCHINK: You understand what he's asking is did Monsanto take any of those products and use any of those products as an ingredient in another product that it in turn sold. You know, for example, did you use it -- you made AstroTurf. Did you use PCB products --

THE WITNESS: Aroclor is the only product I know of that we used in another product that we sold. Aroclor was an ingredient in Pydraul, okay?

MR. AHRENS: All right.

BY MR. AHRENS:

Q Were PCBs used ever in the manufacture -- by Monsanto now -- of, for example, clear plastic wrap?

A No.

Q Any other products, consumer products like that that you're aware of --

A No.

Q -- where an Aroclor was used?

A No.

(Discussion off the record.)

BY MR. AHRENS:

Q As I understand it, Aroclors were produced primarily at Sauget plant and the Anniston plant.

A That's correct.

Q Were they produced anywhere else?

A The only two locations that I know of are those two.

MR. SCHINK: In the U.S.

MR. AHRENS: Yes. I'm sorry.

THE WITNESS: In the U.S.

MR. AHRENS: That's true.

BY MR. AHRENS:

Q Now, at some point Monsanto did some studies relative to release, inadvertant or otherwise, of PCBs into the environment at the Anniston plant, correct?

A I'm not familiar with any Anniston studies. The Anniston plant stopped PCB manufacturing roughly '71, '72.

Q You haven't seen any documents on that?

A I don't recall any.

Q Has the Anniston plant subsequent to that time ever been ordered to clean up anything by the EPA?

A You're talking about PCBs?

Q Yes.

A Since I've been involved, they have not had any PCB clean-up orders to my knowledge.

Q How about Sauget?

A I don't know if Sauget has had any or not since I've been involved. I don't think the plant has had any per se, to my knowledge.

Q Has Monsanto Company itself been ordered to clean up any PCB contamination sites since 1970?

A You mean our plant facilities and stuff like this?

Q Anything, where it's been ordered by the EPA to clean up a site, whether it was at one of their facilities or somewhere else.

MR. SCHINK: PCBs.

MR. AHRENS: PCBs.

THE WITNESS: We've been involved in some Super Fund sites.

MR. SCHINK: No. At your plant, at your facilities.

THE WITNESS: I thought he said our plant or other places. You mean our plants?

MR. AHRENS: Yes.

THE WITNESS: To my knowledge, I don't know of any EPA order to clean up PCBs.

BY MR. AHRENS:

Q Have there been any EPA orders directed to Monsanto to clean up PCBs now at sites other than your facilities?

A The only thing I would know of other than our facilities would be when we were involved in Super Fund sites, which would be past disposal sites which would be --

MR. SCHINK: But have any of those involved PCBs as opposed to other chemicals?

THE WITNESS: Well, these are sites where they found a whole host of chemicals. In most of those sites they found PCBs.

MR. SCHINK: But was it their claim they were your PCBs; that is, you were the generator?

THE WITNESS: No.

BY MR. AHRENS:

Q What were those sites, those Super Fund sites?

A I don't --

Q Do you know any of the names?

A They have such crazy names, you know. I really don't because I don't get involved in those things.

Q All right. Who is responsible for the Super Fund area of Monsanto, if there is such a person?

A We have an environmental law department staff that would come under there.

Q Would there be anyone who's not an attorney who would have responsibility for that?

A That gets involved with the clean-up of a site? I don't -- I don't think so. I think most of the stuff would be done by attorneys. They may contact staff department for advice and what have you, but I think this is usually resolved by an attorney.

Q You indicated earlier that -- it sounded to me to be a considerable amount of PCBs that had been incinerated after the phaseout in 1970, '71. Is that fair?

A That's my understanding.

Q Did you say millions of pounds had been incinerated or did

I misunderstand you?

A Millions of pounds.

Q Were there any Aroclor or PCB products that were in the possession of Monsanto subsequent to the phaseout that were not incinerated?

A When you say the phaseout, you mean -- you're talking about the 1970, '71 period, or are you talking about at the end of manufacture in 1977?

Q That's probably a better date, following the completion of manufacture in 1977.

A PCB products in the possession of Monsanto? Analytical standards. Those are the only things I know of that we have. And there are PCB products in electrical equipment.

MR. SCHINK: His question as I understood it was at the time you ceased all manufacture of PCBs in 1977, did you have any PCBs sitting around that you incinerated. Is that the question?

MR. AHRENS: Well, I wanted to know any PCBs that were sitting around that weren't incinerated, is actually what I want to know about.

THE WITNESS: The only thing we have are small quantities for analytical standards and what's in use in electrical equipment which is authorized under the TSCA Act.

BY MR. AHRENS:

Q The incineration was done at Sauget, did you say, when it was done?
A Correct.
Q Is any of that still being done?
A No. The incinerator was part of the PCB unit, and when PCB manufacture stopped and all excess material and unused material was disposed of, it was disposed of in that incinerator when the plant was dismantled, the incinerator was dismantled.
Q During the times that Monsanto was incinerating the PCB products, was there any testing done of the effluent?
A To my knowledge, effluent was tested and numbers were reported, destruction efficiencies of nines, fives and eights, something like that.

MR. SCHINK:: Excuse me. Of what?

THE WITNESS: Fives, nine -- 99.998, I think is what they reported, destruction efficiency.

BY MR. AHRENS:
Q Was there testing done for the existence of dioxins in the effluent?
A I couldn't answer that.
Q How about the existence of furans?
A I couldn't answer that, either.
Q Who did the testing?
A I would imagine it was done at the analytical laboratory,

at the plant analytical laboratory at Sauget.
Q Would there be documents relative to that?
A I don't know.
Q If there were, where would they be, in the record center?
A If there were, they would be in the record center.
Q Do you know if any testing was done on either Aroclors or Pydraul for the existence of dioxins when it was being produced and marketed?
A I don't know. I doubt it. Analytical technology at the time, in the early '70s, wasn't available. It was just barely available to detect PCBs, much less these other things.
Q Well, be careful now.
A To my knowledge.
Q As far as you know, it wasn't done.
A As far as I know.
Q Was it ever done, as far as you know?
A No. As far as I know, no.
Q As part of Monsanto Company's responses to plaintiff's second set of interrogatories -- and I guess we don't have to mark it, but I wonder if you would read the response to Interrogatory No. 10 and then I'll ask a few questions on it.
A Okay.
Q There's a reference in there to technical bulletins. Do

you see that?
A Yes.
Q Do you know what that refers to?
A There were technical bulletins for our product bulletins which talked about a particular product and its uses. Generally it would include information about its chemical physical properties, warnings, handling practices, so forth.
Q I've seen something that seems to fall under that rubric. It's called a Pydraul Selector.
A That would be a technical bulletin, yes.
Q Were there others?
A I can't specifically name -- but there -- there are lots of product bulletins for the various products. I don't know what particular ones they had for old Pydrauls and things. I've seen some of the new ones that have been around since I've been here for the new Pydrauls which talk about the uses, the temperature ranges, and they're for other products. You're talking about specifically Pydrauls.
Q Were these sent to customers?
A I don't know how they were distributed to customers. Probably salesman or something.
Q There was no formalized program to ensure that each customer got one of the technical bulletins; is that

correct?
A I don't know.
Q If it had been done, you think it would have been done through the salespeople?
A It would have been done through the sales and marketing department, yes.
Q Would that have been through the salespeople that had the specific contact with the customer, or would it have been mailed out from the company from the sales department or --
A I don't know the details. It would be speculation, but probably through the salesman had contact with the customer.
Q It also refers to -- I ask you to look at the third sentence.
A Same question?
Q Yes. Same answer?
A Yes.
Q It refers to the instructions on the labels. Do you know what instructions they're talking about?
A Usually the labels for industrial chemicals would have some warnings saying industrial chemicals or something to the effect for manufacturing use, or if it was a chlorinated organic such as these, keep off the skin, the general warnings that industrial chemicals would have

pertaining to that particular product.

Q Okay. At any time did any of the instructions on any of the labels for either Pydraul 312 or Pydraul F-9 indicate anything about environmental problems?

A I'd have to look at the labels to say, you know. I don't have any recollection of specific labels or what they said.

MR. SCHINK: Again, the witness tomorrow is responsible for the labels, for safe handling, usage, everything with respect to the labels.

MR. AHRENS: Okay.

MR. SCHINK: He's really in the best position. He was there at the time. He knew what was known and will tell you why the label says what it says.

MR. AHRENS: That's fine. Who is that?

MR. SCHINK: Dr. Emmett Kelly. He was head of the medical department for many years through and including 1974.

MR. AHRENS: He will be able to comment on instructions as well?

MR. SCHINK: Absolutely. Absolutely.

MR. AHRENS: All right.

MR. SCHINK: The buck stopped with him on that aspect of the labels and the technical bulletins and the like.

BY MR. AHRENS:

Q So is it fair to say you're not really sure what that refers to, at least as you sit here today.

A Yeah. You know, those Pydraul labels as such were out of existence when I took this function. I have no knowledge of what was on the labels at that time.

Q The answer also refers to, continuing with the same sentence, abiding by correspondence from Monsanto. Would that refer to the letters that we've already discussed that were sent out by Monsanto?

A Yeah. This is speculation. It would include that correspondence and any others that they might receive. I don't know what they might have been.

Q Are you aware of any correspondence that Stroh Die Casting or Mike Stroh would have received from Monsanto other than the series of letters we've talked about?

A No. Only that and what correspondence we had.

Q Referring to the last sentence then of that same answer, it begins "Stroh also could have avoided the cost through proper maintenance of its machinery." Do you have any information as to how Stroh Die Casting improperly maintained its machines?

A No. I have no knowledge of that.

Q Have you heard anything about that?

A No.

Q Other than through your attorneys, of course.
A No.
Q Do you have any information or knowledge about how, if at all, Stroh Die Casting improperly disposed of its PCBs?
A I don't know how they ultimately disposed of them.
Q How about the handling? Again, I'm asking you for your knowledge.
A I don't -- you know, I don't have any knowledge of how they handled it.
Q Flushing? Do you have any knowledge about that?
A No.
Q And then the rest of it is "proper settlement, drainage, containment and reclamation of its hydraulic fluids." Do you have any knowledge about that?
A No. I don't have any knowledge about that.

MR. AHRENS: Okay. Thanks.

(Discussion off the record.)

(Short recess in proceedings.)

BY MR. AHRENS:

Q I just want to clear up one area. The production of Aroclors ceased in 1977.
A Correct.
Q Is that or was that in the United States or worldwide?
A Worldwide.
Q All right. As far as you know, there is -- as to

Monsanto, there is no more production of PCBs going on anywhere.

A That's correct, except for inadvertant PCBs.

Q Right. There is no production for the purpose of marketing.

A That's correct.

Q What products are being used in the dielectric uses now?

A I don't have firsthand knowledge of that because Monsanto is no longer in the dielectric business.

Q Did they ever utilize any substitute formulations that didn't contain PCBs subsequent to 1977?

A Monsanto?

Q Yes.

A Monsanto of Europe was one of the pioneers in silicone fluids for transformer fluids that's now being sold by General Electric and they're also big silicone producers in this country. That's the only transformer fluid that I knew of that we produced. That was before there was a PCB problem or anything. It was just a new fluid that was purported to have the right chemical characteristics.

Q Was it marketed?

A I don't think we ever marketed it as a transformer fluid. There were -- it was not as good as PCBs. It was more expensive and there were some technical problems with it. Since there was an alternative at a lower cost that was

more effective, it was --

Q Do you know just in general what's used thesedays for dielectric fluid?

A New transformers are using silicone fluids for the flame-resistant stuff. Hydrocarbon fluids, mineral oil is still being used. Mineral oil has always been 95 percent of the market, still is. There have been other fluids that people have touted, but they've never gained any kind of acceptance, broad acceptance.

Q Can you tell me, in the late 1960's of the market that Monsanto had in terms of sales of products containing PCBs, what percentage of it was hydraulic fluids?

A I don't know that offhand. It would be in that White Paper report. You can look at the relative distributions. The numbers are there.

MR. SCHINK: It's a very low percentage, extremely low, but it's in there. They have a graph that shows total PCB, dielectric, heat transfer.

THE WITNESS: Heat transfer, plasticizer and all other.

MR. AHRENS: What was the majority of the sales in terms of PCB-containing products?

THE WITNESS: Dielectrics.

MR. SCHINK: Dielectric was almost 95 percent of it by weight.

THE WITNESS: I'm not sure it was 95, but it was very high, yes.

MR. SCHINK: It's in that report.

BY MR. AHRENS:

Q When PCBs were still being manufactured by Monsanto in the '70s subsequent to the phaseout of hydraulic fluids but before all production was ceased, were there any other manufacturers in the world that were producing PCBs or PCB products?

A Yes. There were probably eight or ten in Japan, Europe, Soviet bloc countries, and today, to my knowledge, it's still manufactured in the Soviet bloc countries, and I think France may still be manufacturing it and maybe Spain.

Q So there are companies manufacturing PCBs to this day?

A To my knowledge, there are, yes.

Q Do you know what companies are doing that?

A If the French are still in business, -- these companies have been tapering off. If the French are still doing it, it would be -- I think ProdecLac was the name of the company. I think it's P-r-o-d-e-c capital L-a-c, whatever that means, and I don't know the name of the Spanish company, and I don't know the name of the Soviet blocs, either.

Q Do you know the primary purpose for which these foreign

manufacturers are producing PCBs?

A Primarily for dielectric fluids.

Q Any of them using them in hydraulic fluids, do you know?

A I don't know the specific uses. At one time in Europe they were required in hydraulic fluids for mining and in electrical equipment for mining and it still is required in some places for safety usage.

Q In Europe?

A Yes.

Q So at least as far as you know, some of that material is going into hydraulic fluids, to the best of your knowledge.

A Well, it may be, in Europe.

Q Is it -- obviously, you can't manufacture PCBs in the United States anymore. Can you import it?

A You can't import it, you can't export it, you can't transport it in commerce.

MR. AHRENS: Well, that's all I have right now. Again, as I indicated with Mr. Stark, if any of the documents that have yet to come to us have any necessity of being explained, we would reserve the right to ask Mr. Craddock to explain them to us, but other than that, thank you, sir. Appreciate your patience.

THE WITNESS: You're welcome.

MR. SCHINK: I have no questions of the witness.

(The deposition was concluded at 5:15 p.m.)

STATE OF WISCONSIN)
) SS
COUNTY OF MILWAUKEE)

I, Susan M. Veres, a Notary Public in and for the State of Wisconsin, do hereby certify that the preceding deposition was recorded by me and reduced to writing under my personal direction.

I further certify that said deposition was taken at the Stouffer Concourse Hotel, 9801 Natural Bridge Road, St. Louis, Missouri, on the 19th day of April, 1988, commencing at 3:35 p.m. and concluding at 5:15 p.m.

I further certify that Mr. Michael H. Ahrens appeared on behalf of the Plaintiff and Mr. James H. Schink appeared on behalf of the Defendant. Also present was Ms. Christine M. Jahncke.

I further certify that I am not a relative or employee or attorney or counsel of any of the parties, or a relative or employee of such attorney or counsel, or financially interested directly or indirectly in this action.

In witness whereof I have hereunto set my hand and affixed my seal of office at Milwaukee, Wisconsin, this 6th day of May, 1988.

Susan M. Veres

SUSAN M. VERES - Notary Public
In and for the State of Wisconsin

My commission expires 4-12-92.

STATE OF MISSOURI)
) SS
CITY OF CREVE COEUR)

I, JOHN H. CRADDOCK, do hereby certify that I have read the foregoing transcript of proceedings, taken the 19th day of April, 1988, at the Stouffer Concourse Hotel, 9801 Natural Bridge Road, St. Louis, Missouri, and that the same is true and correct except for the list of corrections, if any, noted on the annexed errata sheet.

_____

John H. Craddock

Dated at Creve Coeur, Missouri
this ____ day of _____, 1988.