STATE OF WISCONSIN : CIRCUIT COURT : SHEBOYGAN COUNTY

- -

TECUMSEH PRODUCTS COMPANY, a Milwaukee Corporation,

Plaintiff,

vs. Case No. 90-CV-0415

Volume II

THE TRAVELERS INDEMNITY COMPANY, MARYLAND CASUALTY COMPANY, CONTINENTAL CASUALTY COMPANY, AMERICAN EMPLOYERS INSURANCE COMPANY, HARTFORD ACCIDENT & INDEMNITY COMPANY, INSURANCE COMPANY OF NORTH AMERICA, FIRST STATE INSURANCE COMPANY, THE HOME INSURANCE COMPANY, MICHIGAN MUTUAL INSURANCE COMPANY, STONEWALL INSURANCE COMPANY, AFFILIATED FM INSURANCE COMPANY, ALLSTATE INSURANCE COMPANY OF NEW YORK, JEFFERSON INSURANCE COMPANY OF NEW YORK, UNITED STATES FIRE INSURANCE COMPANY and PURITAN INSURANCE COMPANY,

Defendants.

- -

DEPOSITION of WILLIAM B. PAPAGEORGE, was taken at the instance of the Defendants, under and

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pursuant to the provisions of Section 804.05 of the Wisconsin Statutes, and the acts amendatory thereof and supplementary thereto, and pursuant to Notice, before me, KATHY A. HALMA, Registered Professional Reporter and Notary Public in and for the State of Wisconsin, at the law offices of Sonnenschein, Nath & Rosenthal, One Metropolitan Square, Suite 3000, St. Louis, Missouri, on the 16th day of August, 1993, commencing at 9:00 o'clock in the forenoon.

A P P E A R A N C E S

FOLEY & LARDNER, 777 East Wisconsin Avenue, Milwaukee, Wisconsin, 53202, by MR. THOMAS C. EWING, appeared on behalf of the Plaintiff.

SONNENSCHEIN, NATH & ROSENTHAL, One Metropolitan Square, Suite 3000, St. Louis, Missouri, 63102, by MR. MARK D. RABE appeared on behalf of the Defendant, The Travelers Indemnity Company.

OTJEN, VAN ERT, STANGLE, LIEB & WEIR, S.C., 700 North Water Street, Suite 800, Milwaukee, Wisconsin, 53202-4206, by MR. PAUL J. PYTLIK, appeared on behalf of the Defendants, Hartford Accident & Indemnity Company and First State Insurance Company.

PIETTE & JACOBSON, S.C., 1233 North Mayfair Road, Suite 204, Milwaukee, Wisconsin, 53226-0577, by MR. RONALD L. PIETTE, appeared on behalf of the

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Defendant, The Home Insurance Company.

POPE & JOHN, LTD., 311 South Wacker Drive, Suite 4200, Chicago, Illinois, 60606, by MS. KRISTIN A. O'BRIEN, appeared on behalf of the Defendant, Affiliated First Mortgage Insurance Company.

SMITH, HELMS, MULLISS & MOORE, Suite 1400, 300 North Greene Street, P.O. Box 21927, Greensboro, North Carolina, 27420, by MR. TIMOTHY PECK, appeared on behalf of Monsanto Company.

I N D E X

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None.

(The orignial transcript was sent to Attorney Vobornik.)

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P R O C E E D I N G S

WILLIAM B. PAPAGEORGE, called as a witness herein by the Defendants, after having been first duly sworn, was examined and testified as follows:

EXAMINATION

BY MR. EWING:

Q Good morning, Mr. Papageorge. My name is Tom Ewing. I introduced myself this morning again. I represent Tecumseh Products in the matter that brings us all together. Since your first day of the deposition, have you had a chance to review the transcript?

A Yes, I have.

Q And did you see anything there, any answer that you wanted to change?

A Not of major significance. There were some changes. For example, I identified the wrong city associated with a Monsanto mailing code. I called it Chicago instead of Akron. There were some spelling changes, and I also made a comment regarding the presence of the word Arochlor throughout the transcript with a lower case A and I said it really should be an upper case because it's a trademark. That's about it, really.

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Q All right. Did you review any documents to get ready for today or did you just look at the ones you had looked at in preparation for the first time?
A I did not look at any documents since we last met.
Q I want to spend a little bit of time with you here this morning talking about some of the cases in which you have previously testified, okay?
A Sure.
Q You gave testimony in a case called Haley versus Monsanto. Do you remember that case?
A Haley. Haley, did you say?
Q Yes, I did. It involved silos.
A Yes, that was up in Missouri.
Q That's correct.
A Yes, I remember that.
Q Can you tell me briefly what the allegations were in the Haley case?
A As I recall, the allegations included health effects of the family that lived on this dairy farm, which the claim resulted from the ingestion of milk from the dairy herd, and this milk was alleged to have been contaminated with PCB's and the PCB's -- the source of the PCB's was identified as a coating applied to the interior surface of a

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concrete silo.

Q Approximately what year was that case?

A It was after 1976. I would suggest about 1978 or so.

Q All right. Do you recall giving testimony in any other what I'll call silo cases where the PCB's were alleged to have come from coatings in silos?

A Are you referring to just trials or to depositions?

Q Either.

A Either. Well, I recall some situations that occurred in Ohio in which the dairy herds were alleged to have been contaminated from PCB's in a silo coating.

Q Do you recall the name of that case?

A One of them started with an S. Schwartzwalder (phonetic) or some such name.

Q Was that in Canton, Ohio?

A The law offices that I visited there were located in Canton. I don't know what county or area the dairy farms themselves were located in.

Q And do you recall approximately what year you gave that testimony?

MR. PECK: I don't believe he said he did. Did you testify in that case, Bill?

A It was not a formal deposition or trial, no.

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Q All right. What about the other Ohio case you mentioned?
A I can't recall the name of the dairy farm, but it was very similar to the Schwartzwalder.
Q What year -- I'm sorry. I didn't mean to cut you off.
A Those were in the early 1970's, 1971 through '74, something like that.
Q Okay. Other than the ones you have mentioned, can you think of any other dairy cases that you gave testimony in or were involved in?
A There was a case in Indiana referred to as the Bottomly case.
Q Okay. When was that case?
A I recall the deposition in Indianapolis, oh, again in the early 1970's.
Q Would that have been Miller versus Monsanto?
A I don't recall the name Miller at all.
Q Any other dairy-related cases that you can recall?
A No, I don't.
Q Do you recall giving testimony in New Hampshire involving mink reproduction problems?
A Yes.
Q And that was referred to as the Bethleham mink case; is that correct?

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A That is correct.
Q And that was approximately in 1974?
A Yes.
Q And could you generally summarize what the allegations were in that complaint?
A The mink were fed duck entrails. The duck from Long Island were contaminated with PCB's from a poultry feed that they were fed which included stale bakery goods that were alleged to have been contaminated with PCB's.
Q You gave testimony in what was called the Haley Farms case in North Carolina?
A I did.
Q And do you recall when you gave that testimony?
A About 1972.
Q And do you recall what the allegations were in that case?
A Yes, there were allegations that the PCB's were present in poultry feed fed to flocks of chickens throughout the southeast. The source of the PCB's was fish meal that had been sterilized in a heat transfer system which used PCB's as the fluid that transferred the heat.
Q You also gave testimony in what I refer to as the New York chicken case in about 1970. Do you recall

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that?

A Yes, I do.

Q And what was the alleged source of PCB contamination in that case?

A Again, it was, as best I recall, stale bakery goods, recycled bakery goods, in poultry feed.

Q You also gave testimony in the Campbell soup case in New York, did you?

A Campbell's soup. That doesn't ring a bell at all.

Q In approximately 1975?

A I don't remember that. Oh, it had to do with the --

Q How about the Bond Bakery?

A Yes. The same background as the New York poultry case. It was stale bakery goods fed to poultry, and the Campbell people were involved because they had contaminated hens that were used in their chicken soup.

Q Do you recall giving testimony in St. Louis in the Parsons or Howell case? I believe it involved a dental lab technician?

A Yes.

Q Could you describe that case, please, briefly?

A I'm having a hard time remembering the details. I remember that PCB's were part of a mixture in a hot

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bath in the facility that made dental plates, partials and the like, and as I remember the employees were exposing their hands to the fluid and claimed some physical harm. I have forgotten the details or the symptoms that they were describing.

Q And do you recall approximately when that case was?

A About 1974 or so.

Q Do you recall giving testimony in Montana in a case called Pearce Packing Company involving a transformer leak in a packing house?

A I do.

Q Would you briefly describe that case, please?

A I recall the reference to a transformer leaking oil and that oil from the transformer contained PCB's and intermingled with the liquids, the blood and so on from the packing operation, that mixture of blood with the oil in it eventually ended up in some sort of animal feed and the allegation was that this was harmful to the animals that were fed. I have forgotten now whether they were poultry or cats and dogs. I have forgotten the details on that.

Q You gave testimony in the OMC case in approximately 1975, did you?

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A O&C?
Q OMC. Outboard Marine.
A Yes.
Q Would you briefly describe for me what the allegations were in that case?
A The allegations were that the outboard marine company and its predecessor, Johnson Motors, had systems which used hydraulic fluids that contained PCB's as an ingredient The liquid in these systems leaked and eventually found its way into Waukegan Harbor contaminating the harbor, and the issue was one of proper methods of clean-up and isolation of PCB's.
Q Did OMC assert a failure to warn claim against Monsanto in that case, as best you recall?
A I believe that was one of the assertions, yes.
Q Do you recall giving testimony in a case called Prospect Industries versus Singer versus Monsanto in New Jersey?
A Yes, I recall the companies you mentioned being involved. As best I recall, that had to do with PCB's on property and the question of proper cleanup of that property before transfer to new owners.
Q Singer had used Monsanto hydraulic fluids

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containing PCB's, had it not?
A Yes.
Q And was there an allegation in that case against Monsanto that Monsanto had failed to properly warn of the dangers of PCB's?
A As I recall, yes.
Q Do you recall giving testimony in a case called Bloomington versus Monsanto?
A Yes.
Q And what generally were the allegations in that case?
A As I recall, that had to do with the disposal of materials contaminated with PCB's, all of which originated at Westinghouse's capacitor plant located in Bloomington, and it was an issue of who should be responsible for the clean-up of that disposal site.
Q Approximately when did you give that testimony?
A About 1984, '85.
Q Do you recall giving testimony in the Stroh Die Casting case?
A Yes.
Q And could you briefly describe for me what the allegations were in that case?
A This was a situation where PCB's were found to be

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present in a natural drainage ditch. The PCB's were determined to have originated as Stroh's plant in which PCB's were used in the hydraulic fluids in their die casting operation and there was a question then of who pays for the cleanup.

Q Approximately when did you give that testimony?

A About two years ago.

Q And you testified both at trial and in deposition, did you not?

A I did.

Q Are you in any way presently involved in any other cases involving PCB's?

A Yes.

Q Approximately how many?

A I haven't kept count. I don't even know how many are still active.

Q What's your best estimate?

A A half dozen or so.

Q Can you think of the names of any of them?

A Nevada Power. I may not be calling these by the proper name, but this is my way of identifying them. Paoli, P-A-O-L-I, case. There's a case that the Ford Motor Company has out of Birmingham and I don't know what they call that. There's a case we refer to as the Scott No. 2 case. That's all that

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comes to mind at present.
Q Do any of these involve die cast operations?
A I understand that Ford case involves die casting.
Q Could you tell me briefly what your understanding of the allegations are in that case?
A I haven't met with any of the involved people yet. I understand that employees at the Ford plant in Alabama are claiming illnesses relating to their exposure to PCB hydraulic fluids.
Q Monsanto hydraulic fluids?
A Yes.
Q Do you have an understanding as to the years over which those employees were exposed?
A I do not.
Q And as of yet I take it you have not looked at documents?
A I have seen nothing.
MR. PECK: Monsanto is not a party to that case.
BY MR. EWING:
Q What is your understanding of the Nevada Power case?
A This involves a use of PCB-type dielectric fluids in electrical equipment, the change-out of this equipment by Nevada Power Company and they are, as

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I understand it, seeking reimbursement of the costs involved with that change-out.

Q From Monsanto?

A Yes.

Q Have you given testimony in that case?

A I have been involved in depositions, yes.

Q Could you tell me briefly what the Paoli case involves?

A It's been awhile since I reviewed that. As I understand that, that involved the electrical transformers with PCB-type fluids, workers who repaired and maintained these units and their allegations that they were harmed by that exposure.

Q Do you have an understanding as to when that case was filed?

A Oh, gosh. About eight years ago or so.

Q And do you have an understanding as to when the alleged exposure took place?

A I don't remember it.

Q Okay. Could you tell me briefly your understanding of the allegations in the Ford Motor case? Strike that.

We did that one already. Scott 2. The Scott 2 case?

A I'm not certain of the entire make-up of the group,

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but this involves workers who in the past have worked with PCB's in some fashion, and I don't recall at present what type of activity all of these individuals were involved with, but they claim that as a result of this involvement with PCB fluids, that they have suffered health effects.

Q Do you have an understanding as to when the exposure took place?

A Not specifically, no. It's over decades.

Q Other than -- Strike that.

Did the OMC case that we talked about, did that involve a die cast operation, to your knowledge?

A That's my understanding, yes.

Q And the Stroh case involved a die cast operation; correct?

A Yes.

Q And the Tecumseh case, it's your understanding, involves a die cast operation?

A Yes.

Q Any others that involve die cast operations that you are aware of where you have given testimony?

A I don't know of any others.

Q Were there any General Motors cases involving their die cast operations?

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A No.
Q Any Ford?
A Just the one I described.
Q To your knowledge, has Monsanto ever been named as a potentially responsible party by the EPA in the cleanup of any area where PCB's had been deposited?
A Well, I know that Monsanto has been named as a PRP for some sites, but the reason for designating Monsanto as a potential responsible party was not related specifically to PCB's, but some sites did have PCB's in them along with other materials.
Q All right. Approximately how many sites has Monsanto been named as a PRP where there were PCB's involved?
A I have no idea.
Q Was it more or less than ten?
A I'd be totally guessing. I don't know.
Q Have you been involved by way of giving testimony in connection with any EPA cleanup sites where PCB's were involved?
A Only the OMC site.
Q That's the only one that comes to mind?
A Yes.
Q Approximately how many cases, to your knowledge, have been filed against Monsanto alleging failure

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to warn in connection with the sale of its PCB products?

A I have no idea.

Q Were you in any way involved in the suit filed by Monsanto against Travelers and other insurers seeking coverage for clean-up claims?

A I participated in depositions, yes.

Q All right. Tell me what's your understanding of that case?

A As I understand it, there is a disagreement between Monsanto and its underwriters regarding the funding of these clean-up activities.

Q And some of those clean-up activities involve the clean up of PCB's, do they?

A I don't know that. It's never been brought to my attention as a PCB issue.

Q When did you give testimony in that case?

A It started in February of this year and I think we completed them, as best I recall, by June.

Q And is it your understanding that that case is still pending?

A That's my understanding, yes.

Q Did you have any involvement in the case known as Electric Power Board of Chattanooga versus Monsanto?

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A Yes.
Q And did you give testimony in that case?
A Yes.
Q Is that case still pending?
A I understand it was resolved somehow.
Q Was it resolved through trial or by other means or do you know?
A I don't believe a trial was ever held.
MR. PECK: It was dismissed. There's a Fifth Circuit opinion on the it -- Sixth Circuit opinion.
MR. PIETTE: I'm sorry. I missed what you said.
MR. PECK: It was dismissed. There's a Court of Appeals opinion. It's the Fifth Circuit, I believe.
MR. PIETTE: Thanks.
BY MR. EWING:
Q There was an allegation in that case of fraudulent concealment of the knowledge of hazards of PCB's? Is that your understanding?
A That was alleged.
Q In other words, Monsanto was accused of fraudulently concealing the knowledge it had of the hazards of PCB's?

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A That was one of the allegations.
Q Now as I understand it, Mr. Papageorge, you worked at the Anniston plant from approximately 1965 until 1969?
A That's correct.
Q And the Anniston plant was a PCB manufacturing plant, was it?
A Yes.
Q And how many other locations up until 1969 were PCB manufacturing locations?
A For Monsanto U.S.A. or worldwide?
Q Let's start with Monsanto U.S.A.
A There was an additional site in Sauget, Illinois.
Q Also called the Krummrich plant?
A Yes, W. G. Krummrich.
Q And were PCB's also manufactured at the J. A. Queeny plant?
A No.
Q Never?
A They were not manufactured. They were used and blended there.
Q Were there any other locations where Monsanto blended PCB's?
A Through what period of time?
Q Up until 1971.

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A Well, the Anniston plant and the Sauget plant both blended materials and it was finally consolidated at the J. A. Queeny plant in about 1962 or so.

Q Internationally I understand that Monsanto had a plant somewhere in the United Kingdom?

A Yes.

Q And specifically where was that?

A In Newport, Walls.

Q And did Monsanto manufacture and/or blend PCB materials at that plant?

A Yes.

Q Let's take the Anniston plant. For example, could you describe the manufacturing process at the Anniston plant for me, please?

A For which materials?

Q For the PCB's.

A PCB's?

Q Yes.

A I think I'll start with the two basic chemicals, benzene and chlorine. Benzene is a chemical that's I think familiar to most of us, but it's a ingredient, for example, in gasoline. Benzene is exposed to high pressure and high temperature and under those conditions for a period of time, I have forgotten the exact timing, the benzene becomes

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biphenyl. Now biphenyl at room temperatures looks like white candle wax, but at the manufacturing high temperatures it's a mobile, colorless liquid like baby oil, about that consistency. This biphenyl is introduced into a large tank and in the presence of some iron filings or the presence of the iron surface of the tank, which acts as a catalyst, in other words, a material that accelerates chemical reaction. Chlorine, which is a material that's commonly used to disinfect swimming pools, as an example, or to sanitize or sterilize drinking water, that same type of material is pumped through this molton biphenyl. The chlorine randomly attaches itself to this biphenyl molecule displacing the hydrogen which reacts with other chlorine and makes hydrogen chloride gas.

I don't know how detailed I should get here. But, nevertheless, there's two products made at the time. There is this mixture of polychlorinated biphenyls containing anywhere from one chlorine up to ten chlorines, if possible, and then there's this hydrogen chloride gas. The hydrogen chloride gas is absorbed in water and it makes hydrochloric acid, commonly known as muriatic

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acid. You can buy that in a hardware store to clean off your brick work and so on.

The mixture of polychlorinated biphenyls is subjected to a vacuum with some heat and it's vaporized and the vapors are then condensed and form the commercial product, the PCB that we talk about. There is a residue left in the distillation vessel, which is a black, tarry material. It looks very much like road asphalt. On occasion there was a market for some of it, but most of it was disposed in the landfill. That describes it very basically.

Q Now as I understand it, the Anniston plant was an outdoor operation?

A Yes.

Q And as I also understand it, over the years PCB's were lost or discharged or emanated from the Anniston plant, is that true?

A At various times, yes, sir, um-hum.

Q There was a creek called Snow Creek near the Anniston plant, was there not?

A Yes.

Q And Snow Creek was contaminated by PCB's that had emanated from the Anniston plant, isn't that also true?

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MR. PIETTE: Object to the form of the question, vague and indefinite, ambiguous.

A There were occasions when PCB's found their way to this dry ditch, really, which was a storm water creek and the PCB's would be carried by the storm water into this ditch, yes.

Q Okay. And they were carried from the Anniston plant; correct?

A Yes.

MR. PIETTE: Object to the form of the question, vague and indefinite as to time.

BY MR. EWING:

Q Well, during the period 1965 through 1969, PCB's were somehow carried from the Anniston plant to Snow Creek, true?

MR. PIETTE: Vague and indefinite.

A Yes, on occasion. Not every day.

Q Do you have an estimate as to the pounds on a daily basis that might have emanated from the Anniston plant?

A I do not.

MR. PIETTE: Object to the form of the question, vague and indefinite.

BY MR. EWING:

Q If I suggested that approximately 50 pounds a day

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on average emanated from that plant to the environment, would that sound too high?

A I'd have to read the text you're reading from, because I want to make sure we don't confuse the wastewater from the plant with the storm water that goes to Snow Creek.

Q Okay. Let's break that down then. Were there PCB's that were discharged in the wastewater from the Anniston plant at any time?

A Yes.

Q And do you have an estimate of the quantity of PCB's that were discharged in the wastewater from that plant during the same time period?

MR. PECK: Which is?

MR. EWING: '65 to '69. Actually, anytime prior to '69.

A It would have to be a rough estimate. 50 pounds is about right, yes.

Q And now focusing then -- What was the other term you used? Not the wastewater but the --

A Storm runoff.

Q Storm runoff water. All right. Do you have an estimate as to how much PCB got into the storm runoff water?

A I just have no idea at all on that. It depends on

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the velocity of the water involved and the -- how recent a spill occurred and so on.

Q But there was storm runoff water that carried PCB from the Anniston plant into the creek, true?

A If the PCB's were in the crushed rock that surrounded the site, street water would wash through that and then pick some up. Again, it depended how recently was the PCB introduced into that area.

Q Okay. In 1970 it's my understanding that there was testing done of that creek and that PCB's were found?

A Yes.

Q My understanding is that the PCB's that were found included the Arochlor 1242, is that true?

A Yes.

MR. PIETTE: When you say "found," you mean found in Snow Creek?

MR. EWING: Yes.

MR. PIETTE: Okay. Thanks.

MR. PIETTE: And I believe that was 1970; correct?

THE WITNESS: Yes.

MR. PIETTE: Thanks.

BY MR. EWING:

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Q Now during the time that this contamination of Snow Creek was occurring, and by that I mean prior to 1969, Monsanto did not believe that it was damaging the environment by handling PCB's in the way that it was handling them at the Anniston plant, is that fair?

A That is true.

Q And that's because you didn't believe there was a risk to the environment caused by PCB's during that time period. Also true?

A Yes. That's also based on the amount of PCB's as well as the characteristics of the PCB's themselves.

Q Now from time to time at the Anniston plant you had spills that necessitated the use of sawdust or sand or something to absorb the spills; isn't that correct?

A That's correct.

Q Sometimes rags?

A Yes.

Q And after those rags were used, they were put in the Monsanto landfill, were they?

A Yes.

Q Now there was also some contamination at the Krummrich plant, was there not, PCB contamination?

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A Yes.
Q Was the Krummrich plant also an outdoor manufacturing operation?
A Yes.
Q And "outdoor" meaning what?
A The facilities used in the manufacture of the chemical are placed on structural steel beams and the like over concrete pavement and generally there is a roof for most of the structure but not all of it. The sides are open. In other words, there is no building, as such. The only closed area is the air conditioned instrument room, we called it, where the control instruments were located and where the operators generally spend their time. It's a room about the size of this conference room. Everything else is exposed to the elements outdoors.
Q Okay. Now as I understand it, there were discharges of PCB from the Krummrich plant up until 1969, is that true?
MR. PIETTE: When was that? Up to?
MR. EWING: Up to 1969.
A Yes.
Q And would I be incorrect that as of April of 1969, there were discharges of as much as 700 pounds per

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day?

A Well, I don't know how to describe or define the word "discharge." This was the presence of PCB's in the wastewater that went to the municipal treatment plant where it was separated and so on. So that's to distinguish between free entry into the neighboring fields and so on.

MR. PECK: And that was also the case at Anniston, as well, wasn't it, Bill?

THE WITNESS: Yes, that five pound bit or so, yes.

BY MR. EWING:

Q So that plant discharged 700 pounds per day up until sometime in 1969 on average through the sewers, is that what you're telling me?

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

MR. PIETTE: Yes, I join in that objection.

A I don't know how to extend that 700 pound number to the past, since the analytical procedure wasn't available in the past. That 700 pound number is based on analyses taken in 1970, which is really sort of a snapshot of the situation that existed. There is no way to predict the values in the past

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and whether they were higher or lower.

Q I understand. So at least based upon the time when that snapshot was taken, it was determined there were 700 pounds a day discharged into the municipal sewers?

MR. PECK: Objection to the form.

MR. PIETTE: Join in the objection.

A Correct.

Q At the Krummrich plant were PCB's discharged into the environment in any way?

MR. PIETTE: Object to the form of the question, vague and indefinite, the time of when you're talking about.

MR. EWING: At any time.

A I have not received any report that informs me that PCB's were found in the environment as a result of the Monsanto activities.

Q At Sauget?

A At the Sauget site, yes.

Q Do you know whether or not there were discharges into the environment of PCB's at the J. A. Queeny plant at any time?

A Not to my knowledge.

Q Okay. What about the plant in Newport, Wales? Are you aware as to whether or not there were any

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discharges of PCB's into the environment at that operation?

A I'm not aware of any into the environment.

Q Were there discharges into municipal sewers at the Newport, Wales plant, to your knowledge?

A That is my understanding, yes.

Q Up until what period of time?

A Until they ceased production in the '70's.

Q All right. When did they cease production in the '70's?

A I forget. '77 or thereabouts.

Q So up until 1977 then am I correct that the Newport, Wales plant continued to discharge PCB into municipal sewers?

A Yes, at much reduced quantities.

Q Am I correct in my understanding that Monsanto maintained a facility in Pensacola, Florida?

A Yes.

Q And am I also correct in my understanding that the government did a study of a estuary in the area and found shrimp to have been adversely effected by PCB's?

MR. PIETTE: Object to the form of the question, vague and indefinite.

A There was an estuary. Shrimp were tested at the

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Gulf Breeze Laboratory as a separate laboratory-designed test. There were no naturally occurring shrimp in this estuary. I think there's a little mixture of two pieces of information in your question. The shrimp study conducted by the Commercial Fisheries Laboratory in Gulf Breeze, Florida did show that the young, newly hatched shrimp were extremely sensitive to PCB's.

Q Was it determined that the source of those PCB's to which those shrimp were exposed was the Monsanto plant in Pensacola?

A No, that PCB was sent, for Monsanto's Research Department, in sample bottles to the lab to use in their studies.

Q There was a leak from an air compressor in the Pensacola, Florida plant, was there not?

A Yes.

Q And that air compressor contained a lubricant fluid containing a mixture which contained Arochlor 1242 or Arochlor 1248?

A Yes, sir.

Q And did that find its way into the estuary that we have been talking about?

A Yes.

Q And do you recall approximately what year that was?

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A '68 or '69.
Q Do you recall a report done by the Monsanto research laboratory that was dated approximately February 1971 that summarized various samples taken at various places, including some Monsanto operations?
A I recall such a report. I don't know if it's the same one you have in mind. There were reports of that type.
Q All right. And that report found, for example, that there were PCB's of the 1242 variety found at the Anniston plant?
A Yes, sir.
Q And it also found that there was 1242 found at the Krummrich plant, did it not?
A Yes, in their wastewater.
Q And there was 1242 found at the Appleton Coated Paper Company?
A Yes.
Q And at General Motors there was 1242 found in the water at the Central Foundry Division in Bedford, Indiana?
A I remember those. I don't recall the specifics of where the samples were all taken.
Q All right. And there was 1242 found in some old

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sand at Ford?

A I remember that.

MR. PIETTE: All of these are vague and indefinite as to time. Will you clear that up?

THE WITNESS: Time?

MR. EWING: They are all with reference to the report.

MR. PIETTE: Thanks. So they would all be prior to the February '71 report?

THE WITNESS: Yes.

MR. PIETTE: Thanks.

BY MR. EWING:

Q And at Johnson Motors in Waukegan there was 1242 found in the water?

A Yes.

Q And at Wisconsin Steel they found 1242 in the water?

A Yes.

Q And at the Wheeling Pittsburgh plant there was 1242 found in the water?

A Yes.

Q And at Lester Coating there was 1242 found in a storm sewer?

A I don't remember Lester Coating, but --

Q All right. At Central Die Casting they found 1242

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in the water?
A Yes.
Q Timken Bearing, T-I-M-K-E-N, they found 1242 in the water?
A Yes.
Q U. S. Steel they found 1242 in the water?
A Yes.
Q Jard Company, Inc., J-A-R-D, found 1242 in the water?
A Yes.
Q Do you know whether any 1242 was found at the GE plants?
A I recall 1242 being found. I don't recall the date of the analyses or the quantities. 1242 was found.
Q Okay. I believe in your prior testimony you indicated that when you took over as the Monsanto liaison, if you will, for PCB's in January of 1970, that you tried as best you could at that point in time to share whatever information you had on PCB's with your customers and government bodies and things of that nature. Did I fairly characterize that?
A Yes.
Q Now prior to that time there was information and there were studies out that indicated that PCB's

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had a potential deleterious effect on the environment, isn't that true?

A There were, yes, some studies in the late-'60's.

Q There was at least one study in the mid-'60's, too, was there not?

MR. PECK: Do you have a specific study in mind?

MR. EWING: It was a Swedish study in the mid-'60's.

A The Swedish study in 1966 was reported, and as I understood it, when it was initially reported there was some question that still existed regarding the true identity of the chemical that was reported, PCB's, so -- and at the time there was no knowledge regarding health effects on living creatures of any kind. It was just a presence. So there was a question about what chemical was involved and no evidence of any harm in '66.

Q No evidence of harm, but yet evidence that there were PCB's in the environment?

A Not initially. In late-'66 the investigators were not sure themselves of the identity of the chemical.

Q What is the earliest report or study of which you are aware that indicated the presence of PCB in the

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environment?

A It would have to be the published report of the findings of the Swedish laboratory. As I remember, that came out in '67.

Q And what did that report conclude?

A It concluded that the material that they had initially identified as a PCB was, in truth, the PCB's of the higher chlorinated type.

Q And did that report draw any conclusions as to the effect on the environment of those PCB's?

A No.

Q When was the next published report or information dealing with PCB in the environment, to your knowledge?

A There was a report out of Berkeley, California regarding the pelicans off Southern California published by Dr. Risebrough, R-I-S-E-B-R-O-U-G-H. I believe that's the way he spells his name.

Q And when was that study?

A Late 1968, as I remember.

Q When was the next published study, to your knowledge?

A I recall a report coming out of Cornell University relating to PCB's in the peregrine falcon. I believe that was 1970.

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Q When was the next report that you are aware of?
A About 1971 there was a summary type report by Dr. Gustafson, G-U-S-T-A-F-S-O-N, who was with the EPA. I just can't remember all the reports that started coming out after that.
Q What did the Cornell report conclude?
A That PCB's were like DDT in effecting the reproduction of the falcon.
Q And what did the pelican -- I hate to call it brief. What did the pelican report conclude?
A As I recall, it was rather unclear as to which of the two chemicals, DDT or PCB's, was responsible for the soft eggshells or lack of eggshells found in pelican nests or the inability of whatever egg was there to hatch. So both of the chemicals were suspect.
Q Okay. Did Monsanto advise its customers of the 1967 report of the Swedish lab?
MR. PIETTE: At any time?
MR. EWING: Yes.
A Eventually, yes.
Q When was the first time customers were advised of that report?
A There was a letter sent to customers in March of 1969. That was the first letter.

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Q I think you gave testimony about that letter in your prior deposition. Do you recall who authored the letter?
A Yes, a Mr. Elmer Wheeler was the author.
Q And Mr. Wheeler you testified was deceased or is deceased?
A Yes.
Q And Monsanto has not produced a copy of that letter in response to Home's subpoena. Do you know who it went to for sure?
A No, I don't know for sure.
Q And you don't know -- Strike that.

Certainly the customer list which you used to make your mailings was not the one -- Strike that.

You don't know whether he used the customer list you used to send out his letter in March of 1969, is that true?
A That is true.

MR. PIETTE: The customer list that he used in 1970 you're talking about? How can he use in 1969 a customer list that was used in 1970?

MR. EWING: Well, my point was he couldn't have used the same list that Mr. Papageorge used in 1970 to send to his -- to send

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to however he was sending it to in 1969.

MR. PIETTE: It might be a good point to inquire about that letter. Can we get a copy of that letter, please?

MR. PECK: Yes.

MR. PIETTE: I'd appreciate that, because I think Tom is correct. A think a copy of that March '69 letter was not produced. I don't recall seeing it in the material produced by Mr. Bistline. Maybe we can get a copy of that letter.

MR. PECK: Okay.

MR. PIETTE: Thanks.

MR. EWING: Off the record.

(Discussion off the record.)

BY MR. EWING:

Q I guess then it would be fair to say then, Mr. Papageorge, that you don't know for a fact that any Tecumseh facility received the letter of March of '69? Is that a fair statment?

A That is true.

Q In fact, as you sit here today, you could not tell us specifically who received the letter. Isn't that also true?

A That is correct.

Q Have you seen that letter?

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A Yes.
Q And do you know specifically that it makes reference to the report of the Swedish lab?
A It refers to the fact that Monsanto was aware of reports indicating the presence of PCB's in the environment. It does not mention Dr. Yensen (phonetic) and Dr. Widmar from Sweden specifically, no.
Q And when the pelican study came out in late 1968, was that sent to Monsanto customers, to your knowledge?
A No.
Q And was the Cornell report dealing with the peregrine falcons, was that sent to Monsanto customers, to your knowledge?
A No.
Q In your last deposition you gave testimony concerning disposal practices prior to 1969 and I think you said generally that knowledge goes back to the '60's that you just don't dump industrial chemicals down sewers. Do you recall generally that testimony?
A I do.
Q Is it your testimony that in the Pydraul literature, for example, up until 1970 that there

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were any disposal recommendations made in the labeling or in the literature?

A I don't at the moment recall any wording addressing disposal practices. I just don't recall.

Q All right. Either in the labels or in the literature relating to Pydraul?

A That's correct.

MR. PIETTE: You mean that as opposed to reclamation?

MR. EWING: If you want to ask him questions, I would appreciate it if you would wait until I'm done and then you will have all the time you want to ask him clarification questions, if you think they are appropriate, but I would appreciate it if you didn't interrupt my examination.

MR. PIETTE: I object to the form of your question as to it being vague and indefinite, not clear as to whether or not the term disposal as you used it included reclamation, which you know very well, Tom, came up in the last deposition, that very term and definition.

MR. EWING: We can argue about whether disposal and reclamation is the same thing. My question had to do with disposal.

MR. PIETTE: I understand, but my point

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is that same thing came up just a couple of weeks ago in his deposition. I think it's fair for you to define whether or not disposal includes reclamation. If you don't choose to do so, it is, as you say, your examination.

MR. EWING: Thank you.

MR. PIETTE: You're welcome.

BY MR. EWING:

Q It's also true that during the '60's Monsanto had no knowledge of the deleterious effects of PCB's to the environment, isn't that true?

A That's true.

Q And you did not expect your customers to have information that Monsanto itself did not have in that regard, isn't that true?

A That's true.

Q And, in fact, you would believe it reasonable for the customer to rely upon Monsanto to provide it with information if, in fact, the product that it's using is a potential hazard to the environment? Wouldn't you agree with that?

A Yes, but keep in mind Monsanto was in no position to know how these materials would be intermingling with other materials and how they had been changed in form or what have you, so they can only speak

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for the material in the drum.

Q All right. You have no personal knowledge, for example, that Tecumseh was dumping chemicals down sewers, do you?

A No, I don't.

Q In fact, you have no knowledge of the disposal practices of Tecumseh at any of its facilities, isn't that true?

A That is true.

Q When were the first regulations passed governing the proper disposal of PCB's?

A Hum. Since I wasn't involved intimately at the time, the date is somewhat hazy in my memory. As best I recall, it was in the 1980's.

Q Okay. So clearly in the '60's and early-'70's there were no regulations governing the disposal of PCB's, isn't that true?

MR. PIETTE: Object to the form of the question, vague and indefinite.

A That is true.

Q Are you aware of any regulation during that time period governing the proper disposal of the PCB's?

MR. PIETTE: Same objection as to form, vague and indefinite.

A I'm only aware of the general recommendations that

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related to industrial chemicals of which PCB's are a part.

Q By the general recommendations, you mean Monsanto's general recommendations?

A No, I'm thinking primarily of the straight regulations as adopted by the Federal EPA when it was formed in 1970, but in the '60's it was all state.

Q Now I believe in your prior testimony you stated that Monsanto's recommendation for disposal, proper disposal, up until perhaps 1970 was that it should be -- industrial chemicals should be disposed in an authorized landfill basically?

A Yes, but it existed beyond 1970.

Q All right. What I'm trying to get at is the period up until 1970.

A Yes.

Q And I think we have established that at least today you don't recall that any of the Pydraul or Pydraul literature or Pydraul labels included that Monsanto recommendation in it, is that fair?

A I hesitate, because it seems to me that I recall some reference in some pamphlet or brochure, but I have difficulty placing that specific document and the timing and even the product line that it

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describes, so I just don't recall at the moment any reference that addressed disposal in an authorized landfill.

Q All right. Now at some point in time Monsanto, in connection with its sales of PCB-containing materials, did, in fact, suggest that the materials be disposed of in authorized landfills; correct?

A Later, yes.

Q But none of those labels or literature stated specifically that it ought to be stored in drums and disposed of in authorized landfills, did it?

A No, the landfill operators, based on their local statutes and regulations, would, in essence, dictate the conditions under which they would receive these materials.

Q And do you know, say, for example in the period 1970 through 1972 whether authorized landfills in the State of Wisconsin would accept spent hydraulic oil in a noncontainerized fashion?

A No, it's my vivid recollection they would not.

Q And what do you base that on?

A My many contacts with representatives of the DNR.

Q Did you have any contacts with persons who were running authorized landfills from 1970 through 1972 as to whether or not they would, indeed, accept

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spent hydraulic oils that were not containerized?

A I had no contacts.

Q And do you know for a fact that no authorized landfill never accepted spent hydraulic oils -- I'm going to withdraw that. I can tell that's awful already.

Do you know whether any authorized landfill during the period 1970 through 1972 ever accepted spent hydraulic oils without being containerized?

A I do not.

Q And would you agree with me that a manufacturer or one disposing of spent hydraulic oil during that time period from 1970 through 1972 could conceivably have disposed -- properly disposed of such material in an authorized landfill and later be subjected to liability pursuant to Superfund for having improperly disposed of that material?

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

A Yes, I don't know that I'm in any unique position to comment. I just don't know what the regulatory representatives look at and what they would deem inappropriate.

Q Do you know whether or not previously authorized

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landfill operations were subsequently the subject of Superfund actions?

A Yes, I do.

Q So that one who properly disposed of spent hydraulic oils in the period 1970 through '72 subsequently could be named as a potentially responsible party for the clean-up of that landfill, notwithstanding that it had been previously properly disposed of?

A Yes.

MR. EWING: Let's take a break.

(A recess was taken.)

BY MR. EWING:

Q Mr. Papageorge, in your last deposition you gave some testimony concerning training of salespeople and, in particular, training concerning how to coach them as to how to handle certain kind of disposal questions. Do you generally remember that?

A When you say "last deposition," you're talking about the session we held with this group a week or so ago?

Q Yes.

MR. PIETTE: So the record is clear, it's the deposition of Mr. William Papageorge taken

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on July 28, 1993.

THE WITNESS: Thank you.

BY MR. EWING:

Q Could you describe for me in a little bit more detail when you started giving training to your salespeople about how to handle disposal questions or problems and how you went about doing that training?

A When you use the word "you," are you speaking Monsanto as a team or just me personally?

A I'll take either. Tell me which you're referring to.

Q All right.

A The question of proper disposal always came up in the sessions held discussing the knowledge that Monsanto individuals had regarding the PCB presence in the environment. Opportunity was taken at the more or less annual sessions that marketing people have at which they all meet somewhere as a group and are brought up-to-date regarding the latest developments as it affects their particular responsibilities. This includes environmental issues as well as marketing and all the other matters that a field representative might have to address. The sessions were conducted by the

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managers of the marketing function, whether it be the district sales manager or the marketing manager located at the home office in St. Louis.

The information would flow from the group that I met with, this group that I call my "PCB Committee," although it did not have an official title. Seated in that group were the managers of marketing. They would be brought up-to-date on the current thinking and, in turn, they would convey this information to the proper people in the field. They did not necessarily wait for this annual sales meeting. They would convey this information any way that was convenient to them, really, in terms of telephone conversations with individuals, personal visits, accompanying the salespeople on a call to a customer. They would take advantage of all these opportunities to convey this message of what is the proper way to handle the material.

In every case they could not, of course, play the role of I'm going to call it a consulting engineer to give details, because in order to play that role, one has to have a lot of information that isn't available in terms of amounts and quantities and what other chemicals are

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involved and what is the manufacturing process followed at the customer's plant and on and on. All they could do, really, was share with them what they knew of how Monsanto does things. It may or may not apply to a customer's site. All we can say is, "Here's how we do it. You might want to start with that and tune it or tailor make it to fit your particular activities." I don't know how else to explain it.

Q Let me try and pin that down a little bit more. Now I recognize that you had annual meetings when you conveyed this information regarding disposal, but when did you first start attempting to put out the message to Monsanto people, whether they be your PCB committee or the marketing managers or field people as to what proper disposal procedures are? When in time did you first start doing that?

A Oh, the emphasis really became -- It started evolving really in 1969, and by "evolving" I'm talking about an understanding of the importance of it and the extent to which this message would be conveyed, because keep in mind at the time all the information regarding PCB's in the environment was zeroing in only on the higher chlorinated types, not all of them. So the few people that heard

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about it in '69 were the customers of Arochlor 1254 and Arochlor 1260 type of chemical.

Q And specifically what were those people told with respect to disposal?

A It was reemphasized that -- Well, I'm going to repeat myself. Don't just dump it down the local sewer, don't dump it in your backyard, use the proper landfill and follow its practices. Keep it away from water, because that makes the control more difficult. That's the knowledge in 1969.

Q All right. Now did you have one of these annual sessions for your marketing people in 1969?

A I wasn't directly involved at the time. I know they have those meetings, but I do not know the topics covered at that particular annual meeting.

Q When was the first annual meeting that you are aware of where the disposal message that you have referenced was delivered to the marketing people?

A I don't remember the exact date, because each of the groups had their own sessions. The electrical people met and the hydraulic fluids people met separately and the heat transfer people met. Sometimes there would be the same person involved with both activities, depending on his territory and the product line he was asked to cover.

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Q Okay. Let's focus on the hydraulic fluid folks. Do you recall when you first conveyed this message to the hydraulic fluids people?

A Oh, gosh. The closest I can come is the first half of 1970.

Q All right. And specifically -- Strike that.

I take it then that during the first half of 1970 your committee had a meeting with the marketing folks selling hydraulic fluids?

A We had a meeting and in that meeting was a representative of that group.

Q All right.

A Usually it was Mr. Norman Johnson, who was the manager of that whole activity, and it was his responsibility to convey that to his team, whether it be in St. Louis or scattered throughout the country.

Q And "his team" consisted of whom?

A He had a couple of staff people working close with him in St. Louis. They were technical backup and commercial-type backup people. Then out in the field he had sales personnel that -- Gee, at least one in each of the offices. About a dozen or so minimum. It could be as high as double that.

Q All right. Are you familiar with specifically what

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Mr. Johnson did to train his salespeople in order to deliver this message?

A Not specifically, no.

Q Do you have an understanding of what Mr. Johnson did in order to train his salespeople to deliver this message?

A I do.

Q And what is your understanding?

A My understanding was to emphasize and underscore, if necessary to pound the table. Just to treat it with a lot of respect. It could be causing some problems. We're going to start an incineration operation. There will be opportunity to send liquids to us or there are some commercial companies out there incinerating the solid material. We don't have the technology to handle it. All we can suggest is find a proper landfill and put it there.

Q Let's take the first part of 1970, which you testified you believed you had had a meeting with the hydraulic fluid people?

A Um-hum.

Q Okay. Do you have an understanding as to whether or not the salesmen were instructed to specifically discuss disposal practices with customers?

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A Yes.
Q And is it your understanding that they were instructed to specifically look for improper -- obvious improper disposal practices?
A Where they were permitted to, but many times they are not allowed in the plants, so they couldn't see that.
Q And is it your belief that if a salesman observed an improper disposal practice, such as in your view dumping out the back door, was he instructed by Monsanto to call that to the attention of the customer?
A Yes, definitely.
Q Okay. Now do you know whether or not any salesman made a call on the Tecumseh Sheboygan Falls facility and specifically advised them of the proper disposal practice for PCB hydraulic oil?
A Do I personally? No, I don't personally know.
Q Okay. Do you have personal knowledge that the Sheboygan Falls facility, by whatever means, was, in fact, advised about proper disposal procedures for PCB's at any time?
A Personal knowledge, no.
Q In your prior deposition, and by that I mean on July 28, 1993, you gave testimony about a Duluth

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meeting that you attended and the Great Lakes Governor Conference in Madison and a number of different activities in which you personally were involved in connection with the PCB problem. Do you generally remember that testimony?

A I do.

Q And do you have any personal knowledge that the Sheboygan Falls facility of Tecumseh was in any way aware of any of those activities?

A I do not.

Q And do you have any personal knowledge that anyone at Tecumseh was aware of any of those activities?

A I do not.

Q Mr. Piette showed you and went through with you a number of the standard mailings that you testified were sent to customers to advise them and update them as to the status of PCB knowledge as you learned it. Do you generally recall that testimony?

A I do.

Q And I believe that you gave testimony to the effect that at times you personally observed the stuffing of envelopes?

A I did.

Q All right. Can you state that you specifically

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observed the stuffing of any envelopes that were intended for any Tecumseh facility?

A I cannot.

Q And do you have any personal knowledge that, in fact, any Tecumseh facility received any of those mailings?

A No, I have no personal knowledge.

Q Now documents that you were shown with respect to the Die Cast Division of Tecumseh showed as an addressee Die Cast Corporation. Do you recall that?

A I do.

MR. PIETTE: Do you want him to look at those now, Tom? There are several.

MR. EWING: Eventually.

MR. PIETTE: Which one are you referring to? There were several.

MR. EWING: None in particular yet.

MR. PIETTE: Okay.

BY MR. EWING:

Q You understand that the Die Cast Corporation was different from the Die Cast Division of Tecumseh Products?

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

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A Oh, I don't have any clear understanding.
Q So do you have an understanding as to what Die Cast Corporation is versus Die Cast Division of Tecumseh Products?
A I do not.
Q Do you know when Die Cast Corporation owned the plant in Sheboygan Falls?
A I do not.
Q Do you know when Tecumseh acquired the Die Cast Division in Sheboygan Falls?
A I do not.
Q At the time that the mailings were being made, allegedly made, to Sheboygan Falls, do you know who owned the plant, whether it was Die Cast Corporation or Tecumseh?
A I do not.
Q During the course of the many mailings that were made out, did you ever become aware of situations where customers complained that they did not receive notice?
A No.
Q To your knowledge, did Stroh Die Cast take the position that they never received the mailings?
A I believe they did for at least some of the mailings.

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MR. PECK: Are you talking about before or after they filed suit?

MR. EWING: Actually, I hadn't gotten to that level, but let me try and pin that down a little bit.

BY MR. EWING:

Q In connection with the lawsuit in which you were involved with Stroh Die Casting, in the context of that lawsuit, are you aware as to whether or not Stroh Die Cast took the position that it did not receive any or all of the mailings sent by Monsanto?

A They made that contention, yes.

Q And do you know whether or not OMC made a similar contention?

A It seems to me they did, yes.

Q Do you know whether or not Singer made that contention in the Prospect Industries case?

A As best I recall, yes.

Q Do you know whether or not General Motors made that contention?

MR. PIETTE: Object to the form of the question and each of the questions, vague and indifinite.

A No, I don't remember General Motors making that

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contention.

Q All right. Did Ford contend that it did not receive the mailings?

MR. PIETTE: Tom, can I have a standing objection?

MR. EWING: No, I guess I prefer you state them each time.

MR. PIETTE: Object to the form of the question, vague and indefinite.

A Not to my knowledge.

Q There was also some testimony about the label that was attached to Pydraul barrels sometime in May of 1970. Do you generally recall that testimony?

A I recall it as it related to an environmental paragraph.

Q Correct. That's the one I'm referring to. Can you tell me specifically what day in May you started affixing those labels?

A Not the day itself, no, sir.

Q So it could have been the beginning of the month, it could have been the end of the month, as far as you know?

A It's more likely the middle of the month.

Q All right. How many facilities in May of 1970 were shipping Pydraul F-9?

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A In May of 1970?
Q Yes.
A One.
Q And what facility was that?
A The John F. Queeny in St. Louis.
Q And so to the extent that a purchaser in Wisconsin, for example, was purchasing Pydraul F-9 in May of 1970, it would have come from the Queeny plant?
A Yes.
Q There wasn't inventory stored someplace else, for example, that would have filled orders?
A Well, the material still came from the Queeny plant and might have been stored at some warehouse away from the Queeny plant and then transshipped to the customer. That is a possibility.
Q All right. You call those warehouses?
A Call what warehouses?
Q I don't want to refer to Queeny, but you said there might be some other place where the material was stored and then shipped to the customer?
A Yes, I refer to those as warehouses.
Q Distribution warehouses?
A Yes.
Q And how many distribution warehouses did Monsanto have in May of 1970?

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A Oh, gosh. I just don't know.
Q Do you know whether or not in May of 1970 product shipped to Sheboygan Falls would have come directly from the Queeny plant or from some warehouse?
A I wouldn't know specifically, no. I can only -- I'd be guessing.
Q All right. Do you have -- I apologize if I asked you this question, but do you have any idea how many warehouses there were at that time?
A I don't recall how many.
MR. PECK: For what?
MR. EWING: For the distribution of Pydraul, storage and distribution of Pydraul.
BY MR. EWING:
Q You don't recall?
A I do not.
Q Did you personally observe the affixing of the environmental warning stickers on the barrels at the Queeny plant?
A All of them?
Q Any of them.
A Or just a spot checking?
Q Any of them.
A Spot check, yes.
Q And did you conduct spot checks at any of these

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distribution warehouses for the presence of those labels?

A I did not.

Q Did you assign anyone that task?

A I personally didn't assign anyone. I assume the managers of that activity would do that as part of their responsibilities.

Q Do you know for a fact that all of the drums containing Pydraul F-9 as of May 1970 that was stored in these distribution warehouses had the environmental warning labels affixed to them before they were shipped out?

A That was my understanding, yes.

Q Okay. Do you have any information that anyone at the Sheboygan Falls plant, Tecumseh Sheboygan Falls plant, ever saw a drum of Pydraul F-9 with the environmental warning sticker?

A I do not.

Q And now you also gave some testimony that at some time in the latter part of 1970 you commenced the practice of stamping the customer invoices with this environmental warning label. Did I characterize that fairly?

A Yes, it was a slightly modified message, but the same intent.

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Q And I believe your testimony was that you couldn't recall specifically when towards the end of 1970. Like November or December? Can you be that specific?

A That's about as close as I can get to it.

Q All right. Do you have any information that would tell you that such an environmental warning sticker was ever affixed to any invoice sent to the Sheboygan -- Tecumseh Sheboygan Falls plant?

A Specific information?

Q Yes, sir.

A No.

Q In fact, do you have any specific information that anyone at Tecumseh corporate received an invoice with the environmental warning label affixed to it?

A I do not.

Q I want to focus a little bit now, Mr. Papageorge, on the chronology. Sometime in 1970 Monsanto started advising its Pydraul customers of the potential harmful effects of PCB's; correct?

A Correct.

Q And am I also correct that Monsanto continued production of the Pydraul F-9 up until 1972?

A It seems to me that the designation Pydraul F-9 was used up through '72, but it was a different

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formulation and they changed the terminology to affix an A after the F-9, Pydraul F-9A. As best I recall, this happened in 1971.

Q So sometime in 1971 Monsanto stopped production of PCB-containing Pydraul F-9?

A To the best of my recollection, yes, sir.

Q That was the beginning or the end of '71?

A Near the latter part of '71, as best I recall.

Q Okay. Am I correct in my assumption that Monsanto basically sold off its existing inventory of Pydraul F-9?

A Yes.

Q Okay. So you didn't incinerate it, you sold it?

A Yes.

Q Am I also correct in my assumption that Monsanto did not stop producing PCB-containing fluids until 1977? I'm not just referring to the Pydraul now, I'm just referring to any PCB fluids.

A Correct.

Q So Monsanto continued to manufacture and sell some PCB-containing fluids up until 1977?

MR. PIETTE: Object to the form of the question, vague and indefinite as to which PCB fluid you're talking about.

BY MR. EWING:

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Q There were, as I understand it, multiple mechanisms for the PCB's to come into the environment, and by that I mean you had such things as paints, sealers, caulking, carbonless copy paper and things of that nature that were a source of PCB contamination, isn't that true?

A That is true.

Q Okay. And as I understand it, PCB contamination was not only in soil and water, but there was evidence of PCB contamination in the air, as well?

A Yes.

Q Is it fair to suggest that Monsanto had a protocol of sorts in terms of its focus on getting PCB's out of the environment? Let me try and explain that, because I know it was real cumbersome. I understood your prior testimony to be that you immediately got out of the printing inks, paints, caulking, sealants, carbonless copy paper business because you had no control over how they would be disposed of. Is that fair?

A That's true.

Q And so would it be fair to say that that was a number one priority in terms of trying to get a handle on the PCB problem?

A Well, I don't know that I ever personally ranked

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them number one or number two. It was a key consideration, yes.

Q Okay. What I'm going to suggest to you is that that was your first area of focus and then your second area of focus was things like, you know, hydraulic fluids and such and then your third focus was on the dielectric fluids. Fair or not fair?

A Well, I don't know about the -- By "fair" you mean true or equitable?

Q True as best you can recall.

A Well, I would suggest that the emphasis applied to each of those areas was of equal importance, it's just a different kind of emphasis. The termination of sales was one type, the control in electrical equipment was of a different type but just as important, and then the area of interest here, the hydraulic fluid systems, still required a different kind of control, a different kind of emphasis, but it was Monsanto's way and my way in particular. It was all important. If any of one of those failed, the problem would be quite serious.

Q Would you agree that there was a greater risk to living things from the Therminol-type applications versus the dielectric fluid applications?

A It depends on the degree of care that was taken.

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They can both be abused and create hazards to living creatures.

Q Monsanto was concerned about the heat transfer fluids because of their applications in the food processing areas, right?

A Yes, because of the close proximity. For example, when you're frying potato chips and the only thing that separates the food from the PCB is a piece of pipe, that does call for attention.

Q Would you say that you focused on that -- on the control of that fluid before you attempted to get a real hard control on the hydraulic fluids?

A I'd say they were both ongoing simultaneously.

Q Okay. Are you aware that in some communities spent hydraulic oils were used as a spray or a method of dust control?

A I had not heard that practice as it applied to hydraulic fluids, no.

Q But you had heard of the practice?

A I had heard of the practice as it applied to dielectric fluids.

Q And could you describe briefly for me the practice as you understood it?

A As I understood it, electrical fluid is drained from equipment because the fluid no longer was

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performing properly. In many instances it appears to have been mixed with all other kinds of oils, including motor oils and the like, and that mixture would then be used in some localities to spray dirt roads or to blend with the weed killers to spray under power lines to prevent weeds from getting in the way of the service crews. That's the kinds of things I had heard of.

Q Okay. And do you have an understanding as to what period of years that took place?

A I would suggest that the period of time that I understand is the decades before 1970.

Q Meaning?

A '50's, '60's.

Q Okay. When did you become aware of that practice?

A In early 1970 I became aware of a specific instance that took place in Georgia.

Q How was it that you became aware of it?

A As I recall, the agency in the State of Georgia that's concerned with dairy production found PCB's in some milk. They traced this to cattle that were grazing under power lines and eventually traced the source of the PCB's to the use of these waste oils of all kinds as a dilutent for weed killer application.

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Q Do you have an understanding as to what person or company was using the oils in that fashion? Was it a municipality or was it a private outfit?

A It's the Georgia utility company, and I don't know whether it's private or -- I don't even remember its name.

Q Did Monsanto take any measures specifically designed to advise persons or companies who were using the fluids in this fashion to advise against that practice?

A By that time the message had already gone out, "Don't get it in the environment."

Q What specifically had Monsanto done to focus on those type of uses?

A We didn't do anything unique to that application, no.

Q At some point in time did you become aware that in some die cast operations there were occasions for water to mix with hydraulic fluids?

A I did, yes.

Q And at any time did you specifically advise your die cast customers to test their effluent for PCB?

A Not directly in those words, no. The advice given was to not mix the two.

Q But you never advised them to test their effluent,

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is that true?
A No, that is true.
Q With respect to the technology for incinerating PCB's, my understanding of your testimony is that that was not available until sometime in 1971, is that right?
A No, the unit itself that was owned and operated by Monsanto was available in '71. The technology was demonstrated in, oh, about March of 1970.
Q Was there any facility in March of 1970 where someone could send hydraulic oils for incineration prior to Monsanto's facility at Sauget?
A No.
Q And when was the Sauget facility operational?
A Oh, about June of 1971. The summer of '71.
Q Would you agree that based upon Monsanto's understanding of the die cast industry in 1971, that there was some understanding that on occasion, in spite of the good intentions of the user, that material could end up in a situation where eventually it would end up in the environment?
A Yes.
Q Would you also agree with me that proper disposal of PCB's has shifted in meaning over the years?
A Certainly.

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Q I believe you have testified, Mr. Papageorge, that originally, and by originally I mean when the PCB problem first came to light, it was Monsanto's belief that the lower chlorinated PCB's were, in fact, degrading in the environment?

A That was the belief, yes, sir.

Q All right. And, in fact, at that time, not withstanding the fact that the higher chlorinated PCB's were found in the environment, it was believed at that time that the lower chlorinated PCB's did not pose a threat to the environment?

A Correct.

Q And Pydraul F-9 was one of those lower chlorinated PCB containing fluids that was originally thought not to pose a threat to the environment, is that true?

MR. PIETTE: Object to the form of the question, vague and indefinite as to time.

BY MR. EWING:

Q Is that true?

A At that time, yes, sir.

Q Am I correct that there was at one time at Monsanto a policy on returned fluids that discouraged customers from returning their fluids, such as Pydraul F-9?

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A Well, the only discouragement I'm aware of is the return of material that was still useful.
Q Okay. Can you explain what you mean by that?
A Well, material that is considered useful meets all of the specifications of the -- I want to call it the virgin material that came right out of the drum. The intent was to avoid creating situations where spillage and lack of control could be created by many customers in attempting to drain their systems and sending back useful material that in itself is not causing any problems when properly used in properly maintained equipment, and the intent was to discourage a situation that could create more problems than it solved. The discouragement never applied to fluid that was inappropriate for further use. It was contaminated. It just wouldn't function properly.
Q Was one of the considerations in discouraging the return of fluids a cost factor?
MR. PECK: Objection to the form. I don't think he said it was discouraged.
MR. EWING: Let me rephrase it then.
BY MR. EWING:
Q Was one of the factors in discouraging the return of the virgin fluids, as you used the term, a cost

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factor?

A Well, that certainly is an incentive for the customer to keep what we perceive to be a good fluid in his system. Don't mess with it if it doesn't need any correction.

Q All right. And that would also have saved Monsanto money in not having to refund the cost of the returned fluid, would it not?

A I don't know of any refund program at all here. Monsanto would be able to sell fresh, new fluid under those conditions.

Q Would it be correct to say that Monsanto would at that time, 1971, have preferred not to ship the new, non-PCB containing formulations to any customer until the old formulations had been sold from the Queeny plant or warehouses?

A Yes.

Q I think we touched on this briefly a little bit earlier, but I am correct, am I not, that there was not any literature that told your customers that if they had a Pydraul F-9 leak in their facility, that they should clean it up and place the cleaned material in steel drums and bury it in the landfill, was there?

A I don't recall any.

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Q With respect to Aroclors that were escaping to the environment prior to 1969, would this be a fair characterization, that they were perceived by Monsanto to be like pebbles on the beach, they are there but nothing happens?

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

A Well, Monsanto perceived them to be inert and inactive. The expression "pebbles on the beach" is mine and an attempt to characterize the impression that we had at the time.

Q Thank you. Mr. Papageorge, do you have any recollection as to when it -- when the first standard or regulation was passed that governed the maximum amount of PCB's that can be contained in die cast machines?

A I wasn't personally involved at the time and I don't know if it would be related to the die cast machines. I know there's a limit. This is in the 1980's. I'm not certain anymore personally.

Q You say you were personally involved because this occurred after you were no longer responsible for the PCB problem?

A That is correct.

Q And your best recollection is that was sometime in

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'80 or '81?

A Yes, sir.

Q Let me ask you a couple more questions, Mr. Papageorge, about the Krummrich plant. Is it correct to state that some of the PCB's that were being discharged from that plant found their way to the Mississippi River?

MR. PIETTE: Object to the form of the question, vague and indifinite as to time.

A I don't personally have any information that would help me associate presence of PCB's in the Mississippi Rier water and tie it back to the Krummrich plant. I just don't know.

Q If I suggested that on October 6th, 1970 that Monsanto had identified a loss to the river from the Krummrich plant ranging from 12 to 742 parts per billion with an average loss of 311 parts per billion for 11 samples and that it found its way to the Mississippi River, that doesn't refresh your recollection?

A No, I can't place the incidents and I'm having a hard time, knowing that plant, what the source would have been. I just don't recall,

MR. EWING: Okay. What I'd like to do now, Mr. Papageorge, is go back through the

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documents that Mr. Piette had showed you the last time we were here. Off the record.

(Discussion off the record.)

BY MR. EWING:

Q First, Mr. Papageorge, let me direct your attention to the letter marked or dated February 9, 1970 with a notation of TPC 1 through 8.01. Do you have that in front of you?

A I do.

Q Now would you turn to Page 8.01 of that letter, please.

A I have it.

Q And does it indicate an addressee?

A It does.

Q And what is the addressee?

A Director of Purchases, Tecumseh Products, 333 Joseph Street, Marion, Ohio, 53302.

Q To whom or what type of purchaser was it intended this letter to be sent to, this letter being the one dated February 9, 1970?

A I have problems with "type of purchaser."

Q All right. Type of user, I guess. Was this intended to go to dielectric customers, was it intended to go to the Therminol customers, was it intended to go to the Pydraul customers, was it

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intended to go to all customers?
A This particular document was intended to go to the hydraulic fluids customer.
Q Do you know whether or not the Marion plant purchased any hydraulic fluids?
A I don't remember. I just can't recall seeing those documents.
Q All right. Now the hydraulic fluids would be the purchasers of, for example, Pydraul products?
A Yes.
Q Is Therminol considered a hydraulic fluid?
A No.
Q It's considered a heat transfer fluid?
A That is true, but this letter is also intended for Therminol purchasers and Turbinol.
Q Is it intended for Pydraul purchasers?
A Yes.
Q Can you look through the documents that Monsanto has produced and tell me whether or not there is a copy of this letter with an indication that it was shipped to the -- sent to the Sheboygan Falls plant?
A I don't know where to start looking through all these documents.
MR. EWING: Off the record.

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(Discussion off the record.)

THE WITNESS: I don't see any copy of the letter sent to Sheboygan Falls.

BY MR. EWING:

Q And the letter that we are referring to shows an indication of mailing only to the Marion facility, is that true?

A Yes.

Q So you have no information that would tell you that this letter, and by "this letter" I mean TPC 1 through 8.01, was ever sent to the Sheboygan Falls facility, isn't that true?

A That is true.

Q Do you know for a fact that it was even sent to the Marion facility?

MR. PIETTE: You mean -- I'm going to object to the form of the question when you say "do you know in fact." I think you have to clarify that. If you want me to explain, I will be happy to do so, but based on the question as it's now posed, the words "in fact" are vague and indefinite.

BY MR. EWING:

Q Do you understand my question?

A I think I do. Do I personally know that this

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letter arrived in Marion, Ohio and was opened and read by somebody? I don't know that.

Q All right. Do you or does Monsanto have any proof that this letter was received at the Marion facility?

A No.

Q Am I correct that -- Strike that.

You had testified previously that at one point in time Monsanto was of the view that the lower chlorinated PCB's were not -- did not pose a threat to the environment, is that true?

A Yes.

Q And as this letter indicates, as of February 9, 1970, Monsanto did not believe that the lower chlorinated PCB's posed a threat to the environment. Is that true?

A That is true.

Q So as of February 9, 1970, Monsanto was telling its Pydraul F-9 customers that Pydraul F-9 did not appear to present a potential problem to the environment. Isn't that also true?

A That's right.

Q There is an attachment to this letter which appears to be an article from Chemical Week, is that right?

A That is correct.

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Q Does the attached article refer in any way to PCB's or the PCB problem?

A It does not.

Q And as of February 9, 1970, to your knowledge there were no regulations governing PCB's, were there?

A That is correct.

Q And as of this point in time, there was no authorized landfill authorized to handle PCB's, was there?

MR. PIETTE: Object to the form of the question, vague and indifinite what you mean by "that handled PCB's."

A By your question you're saying that the reference was specific to PCB's. No, the term PCB wasn't even known then.

Q Correct. At this point in time there was no incineration options being communicated to the reader, was there?

A That is correct.

Q If you would now, if you can get to -- Yes, that one. Next is the letter with the handwritten notation 2/27/70, which is the document numbered TPC 9 through 16.01. Do you have that in front of you?

A I do.

WATER_PCB-SD0000064633

Q Do you need to take a moment to refresh your memory as to the contents of that letter?
A I have reviewed it quickly.
Q On Page 16.01 could you read to whom this letter was allegedly directed?
A Director of Purchases, Tecumseh Products, 333 Joseph Street, Marion, Ohio, 53302.
Q All right. And to whom was this letter intended to be sent?
A This particular letter was intended to be sent to purchasers of Monsanto's Arochlor products.
Q Okay. Would that include Pydraul?
A No.
Q All right. So purchasers of Pydraul were not intended to receive the letter dated 2/27/70 numbered TPC 9 through 16.01, true?
A That is true.
Q This letter was sent by W. E. Schalk and the prior letter was sent by Mr. Donald A. Olson. Is there a reason that this letter was sent by -- Strike that.

Is there a reason that there are two different persons involved in the sending of these letters?
A Yes.
Q And could you explain the reason for me, please?

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A In the first letter dated February 9th, the recipient of the letter was a customer of Monsanto's functional fluids business group of which Mr. Olson was the director of sales. The letter with the handwritten note of 2/27/70 was intended for purchasers of Monsanto's Arochlor products, which were marketed by Monsanto's plasticizers business group, of which Mr. Schalk was the director of sales.

Q Does Therminol fall within the plasticizer group?

A It does not.

Q Do you know whether or not the Marion facility ever purchased any Arochlor falling within the plasticizer group?

A I do not know.

Q Do you know what was done by Tecumseh at the Maarion facility at this time? By "this time," I mean February of '70.

A No, I don't.

Q Again, do you know personally that this letter dated 2/27/70 was received by the Marion facility?

A Personally, no.

Q Do you have any knowledge that, in fact, it was sent out by or at the direction of Mr. Schalk on the handwritten date indicated as 2/27/70?

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A I know it was sent out in February '70. I just cannot recall the exact day of the month.
Q All right. But your recollection -- You have a recollection that this typed letter was, in fact, sent in February of '70?
A Yes.
Q All right. If you would now get before you TPC 17 and 17.01. Do you have that in front of you?
A I have that.
Q Do you need a moment to refresh your recollection as to what it says?
A I have reviewed it.
Q And could you indicate for the record, please, the addressee that is indicated on the second page of the exhibit?
A Director of Purchases, Tecumseh Products, 333 Joseph Street, Marion, Ohio, 53302.
Q Now this letter dated August 27, 1970 was intended to be sent to whom?
A Purchasers of Monsanto's Pydraul F-9.
Q All right. Is there any indication on the exhibit that this letter was sent to the Tecumseh facility at Sheboygan Falls, Wisconsin?
A No.
Q Do you have any knowledge that Pydraul F-9 was used

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by the Marion facility owned by Tecumseh at this time?

A I don't have any personal knowledge, no.

Q Is it your belief then that this letter was not sent to the Sheboygan Falls facility, Tecumseh Sheboygan Falls facility?

A I don't have any basis for that.

Q One way or the other?

A One way or the other, correct.

Q All right. And so you don't know whether or not it was sent or received by the Marion facility, either, is that fair?

MR. PIETTE: Object to the form. It's multiple.

BY MR. EWING:

Q I'll break it down. Do you have any personal knowledge as to whether or not this letter dated August 27, 1970 marked TPC 17 to 17.01 was sent to the Marion facility?

A Personal knowledge, no.

Q Do you have any personal knowledge that it was received by the Marion facility?

A I do not.

Q Am I correct that this particular letter did not attach any newspaper articles or magazine articles

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or regulations or anything of that nature?
A That is correct.
Q It also does not make any reference to disposal recommendations, does it?
A It does not.
Q I direct your attention, Mr. Papageorge, to the second to the last paragraph which reads as follows, "During the next 90 days, as inventory is depleted in warehouses around the country, the new formulations will be shipped to fill your orders." Did I read that correctly?
A You did.
Q And am I correct in my assumption then that it was the intention of Monsanto to sell its existing Pydraul inventory before selling the new formulations?
A Yes.
Q All right. Would you get before you the letter handwritten date of August 17, 1971 bearing the numbers TPC 019 through 20.01? Do you have that in front of you?
A I have it.
Q Would you indicate for the record to whom the document indicates this was allegedly sent?
A Tecumseh Products, Marion, Ohio.

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Q It doesn't have any address?
A No.
Q And it doesn't have any --
MR. PIETTE: You mean other than Marion, Ohio?
MR. EWING: Yes.
MR. PIETTE: Thanks.
BY MR. EWING:
Q And it doesn't have any reference to any particular person or title?
A It doesn't.
Q Okay. And to whom was this letter intended to be sent?
A The recipient was intended to be Monsanto's customers who purchased Therminol heat transfer fluids.
Q Okay. This was not intended to be sent to Pydraul users unless they also used Therminol, is that true?
A That is true.
Q And, again, you have no personal knowledge that this was sent to or received by the Marion facility, is that true?
A That's true.
Q Next, if you would get before you the letter dated

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January 31, 1972, TPC 21 and 21.01. Do you have that in front of you?

A I do.

Q Would you read for the record to whom this was allegedly sent?

A Director of Purchases, Die Cast Corporation, 415 Cleveland Avenue, Sheboygan Falls, Wisconsin.

Q Okay. And, again, you have no personal knowledge that this, in fact, was sent to the addressee indicated on the exhibit?

A Personally, no.

Q You have no personal knowledge that it was, in fact, received by the addressee indicated?

A I do not.

Q And to whom was this letter intended to be sent?

A Customers of Monsanto who purchased Pydraul fluids.

Q All right. You will agree with me that this particular letter does not contain as attachments any newspaper articles, magazine articles, regulations, anything of that nature; correct?

A That is correct.

Q And this document does not give the reader any recommendations on disposal, does it?

A It does not.

Q And, in fact, it does not have any environmental

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warning in it whatever, does it?
A That is correct.
Q And it does not even indicate why Monsanto has decided to stop using polychlorinated biphenyls, does it?
A It does not.
Q In fact, it has no environmental comment contained it in anywhere, does it?
A That is true.
Q Now do you know whether or not Tecumseh was using any Monsanto product as of January 31, 1972?
A I do not.
Q And more particularly do you know whether or not the Sheboygan Falls facility of Tecumseh was using any Monsanto product as of January 31, 1972?
A I do not.
Q All right. Next would you please get in front of you the letter dated March 15, 1972 which has the number TPC 22 through I presume 23.01, does it?
A Yes, 23.01.
Q Okay. Do you have that in front of you?
A I do.
Q Would you like to take a moment to review and refresh your recollection?
A I reviewed it.

WATER_PCB-SD0000064641

Q Does it indicate an addressee to whom the document was allegedly sent?
A It does.
Q And who is the addressee?
A Office of the President, Die Cast Corporation, 415 Cleveland Avenue, Sheboygan Falls, Wisconsin.
Q And, again, you have no personal knowledge that, in fact, this document was sent to or received by the addressee, isn't that true?
A That is true.
Q Now the last document that we looked at which was a letter dated January 31, 1972 was directed to the Director of Purchases, was it not?
A It was.
Q Do you have an understanding as to why the first letter is addressed to the Director of Purchases and the second one is addressed to the President?
A I do not.
Q And do you know at this time, January 31, 1972, whether Die Cast Corporation owned a facility at Sheboygan Falls?
A No, I know nothing about that relationship.
Q All right. And with respect to the letter dated March 15, 1972, do you know whether or not Die Cast Corporation owned the facility at Sheboygan Falls?

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A I know nothing about that.
Q To your knowledge, if I were to ask you or to ask Monsanto to produce a list of every person to whom the letter of January 3, 1972 was sent, could it be done?
A I suspect so, yes.
Q All right. But would it have to be reconstructed or is there an existing list that specifically identifies the January 31, '72 letter and then lists everyone that received a copy of that letter?
A It's my understanding that it will be specific to this mailing.
Q All right.

MR. PIETTE: By "this mailing," you're talking about the given letter that it references?

THE WITNESS: The January 31, 1972 letter by Mr. Bergen.

BY MR. EWING:
Q So then is it fair to say then that the January 31, 1972 letter did not go to the Office of the President, Die Cast Corporation, but rather went to the Director of Purchases of Die Cast Corporation?
A That's what the mailing label indicates, yes.
Q And similarly, the March 15, 1972 letter would have gone to the Office of the President and not to the

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Director of Purchases?
A That's the way I would interpret it.
Q Both letters sent by Mr. Bergen?
A Yes.
Q Do you have an explanation as to why both letters were not sent to the same people?
A I do not.
Q Is it possible that the explanation is that the list of recipients of these letters had to be reconstructed by someone rather than taken from an existing list?
A The existing list always served as a starting point and any additions or changes that were appropriate would be made and the person putting that list together makes decisions as to which individuals in the company they wish to address this to, either by title or by name.
Q If you were to go today to the Monsanto record custodian and say, "I want to know everyone that was sent a copy of the letter dated January 31, 1972," would you find a copy of the letter and stabled to it a mailing list or is the mailing list in a separate place?
A Oh, I don't know where the custodian keeps these and how he identifies the two.

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Q All right. Did you ever have an opportunity to observe how the mailing lists were maintained?
A Maintained, no.
Q All right. Did you ever -- For example, did you ever see a copy of this January 31, 1972 letter with a mailing list somehow affixed to it?
A I don't recall the specific mailing, but the typical situation would be there would be a folder, similar to the folders we have on the table, with a copy of the document that was mailed, and attached to it would be copies of the address labels that were typed up with the adhesive backing. They would copy that before they peeled off the labels and put them on the envelope. That was the mailing record. They were all the put together in one folder. That's what I saw when the documents were originated. I don't know what happened to the -- during the maintenance of these over the 20-year period.
Q Do you have in front of you now the March 15, 1972 letter?
A I do.
Q I apologize if I'm repetitive here. I take it that as with the other letter, you do not have personal knowledge that this letter was sent to the address

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indicated on the last page?
A That is correct.
Q And you also do not know whether or not it was received?
A That is correct.
Q And to your knowledge Monsanto has no proof that it was received?
A To my knowledge, that is correct.
Q Again, the letter dated March 15, 1972 contains no environmental warning?
A It does not.
Q And there is no disposal recommendations?
A No.
Q There is no offer of free incineration?
A That is correct.
Q Do you know whether or not the Sheboygan Falls facility was using any Monsanto product as of March 15, 1972?
A I do not.
Q Do you know if the Sheboygan Falls facility ever purchased any reformulated Pydraul?
A I do not.
Q All right. Would you now direct your attention to a letter of April 1972 which was authored by you and is marked TPC 24 through 25.01, and take a

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moment to review it, if you need to.

A I have reviewed the document.

Q And this is a letter which you drafted in part or approved?

A I drafted it.

Q All right. To whom was this letter intended to be sent?

A This was to, again, all customers on record of having purchased any PCB product from Monsanto for a period that was a minimum of three and longer -- three years or longer.

Q Okay. And that would include purchasers of Pydraul?

A Yes.

Q Would you take a look at the page marked 25.01 and read into the record to whom this was allegedly mailed?

A This was mailed to Plant Manager, Tecumseh Products, 333 Joseph Street, Marion, Ohio, 53302.

Q And is there any indication that this document was mailed to Tecumseh at the Sheboygan Falls facility?

A Not with this exhibit, no.

Q Do you have any evidence -- Strike that.

Do you have any personal knowledge that this letter dated April 1972 was sent to or

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received by the Marion facility?
A Personal, no.
Q And do you have any personal knowledge that this letter was sent to or received by the Sheboygan Falls facility?
A I do not.
Q Or by any Tecumseh facility, including corporate?
A I do not.
Q Now this document indicates the addressee as the plant manager of the Marion facility, does it not?
A Yes.
Q And previously we had one that was just sent to Tecumseh Products, Marion, Ohio, did we not?
A Yes.
Q And I think we even had one that was directed to the President, Tecumseh Products, Marion Ohio, did we not?
A We did.
Q How did you select to send this to the plant manager versus the president versus the plant in general?
A Well, I recall asking the three managers of the PCB types of business, the fluids business, for their latest list of customers, and this reflects the list I got from those managers. At this point I

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frankly have forgotten how the list I got from the Therminol person compared with the list I got from the Pydraul person, but I do recall going over a multipage list of customers, thousands of them. I don't remember the specifics of why plant manager was selected.

Q But in any event, the letter, at least per this exhibit, was only sent to the Marion facility and not to Sheboygan Falls, not to corporate, not to any other facilities as far as you know, right?

MR. PIETTE: Based on this exhibit you're asking him?

MR. EWING: Yes.

A This exhibit only refers to the Marion, Ohio facility.

Q Okay. Let's take a look at the letter dated May 25, 1972, which bears the number TPC 26 and 26.01. Do you have that in front of you?

A I do.

Q Would you take a minute and just briefly run through it to refresh your recollection?

A I have reviewed the document.

Q Okay. And to whom was this document intended to be sent?

A This document was intended to be sent to customers

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of Monsanto's Therminol FR heat transfer fluids.
Q It was not intended to be sent to Pydraul customers?
A That is correct.
Q And the document indicates at 26.01 that it was sent to Mr. Glen Watkins and to plant manager, both Marion, Ohio; correct?
A That is correct.
Q Two different zip codes, also; correct?
A I see that. Yes.
Q Would you agree with me that as far as the communications with Marion, Ohio, it was not a uniform list?
A Uniform in what way, sir?
Q In terms of to whom the communications were directed?

MR. PIETTE: To whom in the sense of the -- I think you have to clarify that.

MR. EWING: I will. In fact, I will do it specifically.

BY MR. EWING:
Q You will recall there was one mailing that went to Tecumseh Products, Marion, Ohio; correct?
A Yes.
Q And one mailing that went to Director of Purchases,

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Tecumseh Products, 333 Joseph Street, Marion, Ohio?
A I do.
Q This one directed to Mr. Glen Watkins and to plant manager?
A I see that.
Q In fact, I think the prior one, which you sent, was directed to plant manager?
A That is correct.
Q Would you agree that this is not a uniform mailing list?
A It is not uniform.
Q And that the addresses are not consistent addresses?
A True.
Q And you do not know -- you have no personal knowledge that, in fact, this letter, the one dated May 25, 1972, was sent to or received by Mr. Watkins or the plant manager at Tecumseh, isn't that true?
A I do not have personal knowledge.
Q Next if you would take out the letter dated August 3, 1973. This letter is -- Strike that.

This document is numbered TPC 29 through 43. Is there a 43.01?

MR. PIETTE: Yes.

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BY MR. EWING:

Q Why don't you take a minute and just page through that, if you would.

A I have paged through the document.

Q And to whom -- Strike that.

This letter was written by Cumming Paton, was it not?

A Yes.

Q And to whom was it intended to be sent?

A Customers of Monsanto's Pydraul fluids.

Q All right. And would you read Page 43.01, who the intended recipient was?

A Director of Purchases (hydraulic fluids), Die Cast Corporation, 415 Cleveland Avenue, Sheboygan Falls, Wisconsin.

Q All right. Do you have personal knowledge as to whether this was mailed to the address indicated?

A I do not.

Q Do you have personal knowledge that, in fact, it was received?

A I do not.

Q With reference to the attachment -- Strike that.

Do you know whether or not the Sheboygan Falls facility was using any Monsanto products as of August 3, 1973?

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A I do not.
Q Do you know whether or not the Monsanto facility -- Strike that.
Do you know whether or not the Sheboygan Falls facility of Tecumseh was using any PCB-containing material as of this date?
A I do not.
Q One of the attachments is from the Federal Register and it's entitled, "Food and Drug Administration, Polychlorinated Biphenyls," correct?
A It is.
Q It would appear to me that this is directed primarily to users of PCB's who are somehow involved in the food industry or food stuffs industry. Do you read it like that?
A That was the intent, yes, sir.
Q Do you know whether or not Tecumseh's Sheboygan Falls facility was engaged in anything having to do with the food or food stuffs industry at any time?
A I do not know.
Q Would you agree with me, sir, that if the evidence shows that the Tecumseh Sheboygan Falls facility was engaged in a die cast operation in which they die cast parts for lawn mowers and snowblowers, that this regulation attached to this letter would

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not apply to them?

A I would agree, yes.

Q If you would next go to the document, the Material Safety Data Sheet which is marked as TPC 44 and 45.

A I have it.

Q By its date -- Strike that.

What is the intent or what was the intended purpose for the Material Safety Data Sheet?

A It was to convey to the -- any individual involved with this material data required for its safe handling.

Q Now this deals with Therminol; correct?

A A specific Therminol, Therminol FR-0.

Q And the date in the upper, right-hand corner is May 1971. Do you know what the significance of that date is?

A That's the date OSHA adopted this form.

Q All right. And can you tell from looking at this form when the information was inserted in the form and thereby available to persons requesting it?

A The second page, TPC 45, lower, right-hand corner, is the date when this was assembled, typed and ready for distribution.

Q All right.

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MR. PIETTE: Why don't we read that date into the record.

BY MR. EWING:

Q January 24, 1972 is the date, is that right?

A That is correct.

MR. PIETTE: Thanks.

BY MR. EWING:

Q To your knowledge, was this Material Safety Data Sheet ever supplied to the Sheboygan Falls plant of Tecumseh?

A To my personal knowledge, no.

Q And was it ever supplied to the Marion facility owned by Tecumseh at that time?

A I do not know.

MR. PIETTE: In your last answer you were saying you didn't know, you weren't saying you had personal knowledge, no, it wasn't; correct? You better read that, because I don't think the record is clear on that.

MR. EWING: I'll ask him again.

BY MR. EWING:

Q Do you know whether or not this exhibit, TPC 44 and 45 was, in fact, supplied to the Marion facility?

A I don't know.

Q You don't know one way or the other whether it was

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supplied?

A That is correct.

MR. PIETTE: Thanks.

BY MR. EWING:

Q Did Monsanto as of January 24, 1972 have a procedure by which this data sheet was disseminated or would the customer have to request the data sheet?

A The customer would not have to request it. The intent and the program at the time was to supply each of the field representative many copies of this and he was to distribute it to his customers who purchased the particular material covered.

Q All right. And so it was left up to the individual rep to give it to the customer?

A Yes.

Q And was there any means by which that salesman's boss could monitor whether, in fact, this data sheet had been given to the customer?

A I don't know what the various supervisors did to monitor this activity and any others, either.

Q And do you know whether or not the customer was required to keep some kind of a log or other record that would indicate when such a sheet had been given to his customers?

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A I don't know.
Q On Page 2 of the Exhibit TPC 45, Section 7, there are procedures delineated as spill or leak procedures. Do you see that?
A I do.
Q Do you have any reason to believe that the Marion facility in any way violated or failed to comply with the procedure specified therein?
A I have no reason to do so.
MR. EWING: This is probably as good as any point to break for lunch, if you want to break for lunch.
(A luncheon recess was taken.)
BY MR. EWING:
Q Mr. Papageorge, if you would take a look at TPC 46 through 55, there's the title, "pydraul Selector." Do you have that in front of you?
A Yes, I do.
Q Generally could you describe what this document is?
A This is a Monsanto product brochure or pamphlet which addresses Pydraul fluids and their recommended applications, handling, storage and so on.
Q All right. Do you know when this was effective? In other words, when it was in use?

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A Let me see. As best I can determine, it carries a date of April '66 in the lower, right-hand corner of the page marked TPC 54.

Q All right. And so is it your belief that this became available in April of 1966 for distribution to customers?

A Yes.

Q And do you know how long it was effective before it was replaced by a different one?

A That I don't know.

Q Was it effective in 1970 when you took over the PCB problem?

A I believe so, yes.

Q All right. Is there anything in this literature or in this document TPC 46 through 55 that gives recommendations as to landfilling or proper disposal?

A There is not.

Q Is there anything in here that you would call an environmental warning?

A No.

Q Any reference to PCB's in here?

A No.

Q Do you have an understanding as to how this document was distributed?

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A I do, yes.
Q And could you explain to me how it was distributed?
A For those customers who are purchasers and users of Pydrauls, this was given to them by Monsanto field sales representatives. Any customers that expressed an interest in these products were given copies of this brochure to help them make their decision on whether or not they wished to purchase any.
Q All right. Would you next take a look at the document marked TPC 56 through TPC 71 and take a minute to look through that, if you would.
A I have reviewed or glanced through the document.
Q All right. And could you describe briefly what this document is?
A This is a Monsanto product bulletin describing Pydraul fire resistant hydraulic fluids and it carries the same designation as the previous document, which would indicate that this is a replacement document.
Q Is this a later version of TPC 46 through TPC 55?
A It is.
Q And if we look to Page TPC 71, it appears on the lower, right-hand corner there to say 08/68. Is

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that August 68?

A It is.

Q TPC 46 through 55 was effective from April of '66 through August of '68?

A Yes.

Q Let me ask you this question again. Do you believe that TPC 56 through 71 was in effect at the time you took over the PCB problem?

A Yes.

Q Is there any environmental warning in TPC 56 through 71?

A No.

Q Any recommendations for disposal in landfills in this document?

A Disposal in landfills, no. The emphasis is on reclaiming, not disposal.

Q Nothing as to disposal then in this document?

A That is correct.

Q Could you generally describe for me the advantages of Pydraul fluids?

A Advantages over what, sir?

Q Over a competing brand, a non-PCB containing competing brand.

A Well, it depends really on what we're comparing. It has some advantages in terms of lubricity and

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effect on metal surfaces as compared to water-base fluids. They are both fire resistant, but the PCB's does offer this lubricity, corrosion resistance, no effect on metal surfaces that are in the machinery. Really those are the key features.

Q All right. Fire resistance then was a key feature of the PCB-containing Pydraul fluids?

A Certainly.

Q Let's turn next to TPC 72 through 78, if you would, please.

A I have it.

Q Do you need a moment to review it?

A Yes. I have reviewed the exhibit.

Q On its face it states that it is Pydraul fluids pricing and shipping information, is that right?

A That's on the top sheet, yes, sir.

Q So this is the pricing and shipping guide, if you will?

A It is except that as I look through it, I think I see two separate versions of it. At page TPC 75 is the beginning of the second set.

Q I see. Let's take the first set then, 72 through 74. Do you know when that was effective?

A Yes. You will note on 74, lower, right-hand corner the date 04/66. That's April '66.

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Q All right. And the guide that bears the numbers TPC 75 through 78, do you know when that was effective?

A I am having difficulty reading the date in the lower, right-hand corner of 78.

Q All right. Do you know between the two of them which is an earlier or later version?

A I believe the second set is the later version.

Q All right. And how were these pricing guides distributed to the customer?

A Through the field sales representative.

Q All right. Is there any environmental warning contained in either of these pricing guides?

A No.

Q Any disposal recommendations contained in either of these pricing guides?

A No.

Q Next in order is TPC 79 through 92. Do you have that?

A I do.

Q Could you take a minute and look at it. While you're doing it, one of the questions I have is it looks to me that it's an identical copy of TPC 56 through 71.

A Yes, sir, that's what I was looking at here. They

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are copies of the same document.

Q Well, I see one difference, though. TPC 79, et seq, only goes through Page 10 on numbered pages and the other one has numbers as high as 12.

MR. PIETTE: Maybe it would be of some help to you, Mr. Papageorge, if you look at the front of TPC 56. Across the top there seems to be some writing there that says, "Revised-New Copy 9/68," with some other information there.

THE WITNESS: Yes, sir, I see that.

MR. PIETTE: Maybe that's of some help to you between the two of them. I'm not sure.

THE WITNESS: I'm trying to determine the reason for the difference in number of pages.

BY MR. EWING:

Q It looks like 56 adds the reclaiming section and the handling section that isn't in TPC 79 through 92.

A That's the difference I have noted.

Q And as Mr. Piette pointed out, on the cover of TPC 56 there's a reference to a September '68 date. Do you have any recollection of the document marked TPC 79 through 92 which you said previously -- Well, you gave testimony before that there was one that was effective August '68. Do you have a

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recollection in September of '68 of those two sections having been added?

A Well, I believe what we're looking at is copies of the same product bulletin except that the two pages you mentioned, the reclaiming and the safe handling, are for some reason missing from this last copy.

Q I see. So your belief is that they both should have the handling and reclaim section?

A Certainly, to be a complete document.

Q All right. Next let's turn to TPC 93 through 103, if you would, please. Can you tell us what this is?

A It looks like another version of the product bulletin for Pydrauls. This one carries the date of March '68.

Q All right. Now what is the difference -- You will see on the top of the document marked TPC 93 through 103 it bears the term, "Technical Bulletin?"

A Yes, sir.

Q But the two previous ones we looked at don't bear that description. They are called selectors. Is there a difference between a technical bulletin and TPC 56 and TPC 79 or are they basically the same?

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A They are basically the same.
Q And is it your belief, then, that TPC 56 replaced 93?
A Yes. I'm trying to determine -- I thought I saw a date. Yes, on the bottom of TPC 101 there is the date of 3/68, March '68, so TPC 93 and following replaced the previous one that was dated 1966, April '66, and it, in turn, was replaced by TPC 72.
Q All right. Just referring your attention, if I might, for a moment to TPC 101 again where you found the date, TPC 101 --
A Yes, I have it.
Q There is, after the 03/68, do you see that, there's the number "dash 6?"
A Yes.
Q Do you have an understanding as to what that refers to?
A No, that I don't. That's part of the cataloging in the Publications Department of Monsanto.
Q Okay. Do you have an understanding as to what the digits represent that precede the 0368 dash 6?
A Only that it identifies the particular type of products that are disposed.
Q Then TPC 93 through 103, there is no environmental warning in this document, is there?

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A Environmental, no, sir.
Q And no disposal recommendations, are there?
A That is correct.
Q All right. Next is TPC 104 through 107. If you would just take a moment to familiarize yourself with that.
A I have reviewed the document.
Q Can you identify it, please?
A This is a pricing and shipping information pamphlet dated April '68 for Pydraul fluids.
Q Is this a copy of the one we looked at earlier?

MR. EWING: Off the record.

(Discussion off the record.)

MR. EWING: Back on the record.

BY MR. EWING:
Q Then with respect to TPC 104 through 107, are you able to identify when that was in effect?
A For 107? That's 1968.
Q And this is a pricing guide, if you will?
A Pricing and shipping information, yes.
Q And distributed by the field representative?
A Yes.
Q And does this document contain any environmental warnings or any recommendations concerning disposal?

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A It does not.
Q All right. Next if you would turn to TPC 108 through 123. Can you identify what this document is, please?
A This is a Monsanto product brochure relating to Monsanto's Pydraul fire resistant hydraulic fluids covering some of the Pydraul products which were not covered in the previous exhibit.
Q Can you tell us for the record what the -- generically what the difference is between the Pydraul Selector 1 and the Pydraul Selector 2?
A I'd have to refresh my memory of these. I, of course, don't claim to recall all of the technical differences, but the feature that I do recall is that the Selector 2 represented the Pydrauls that were the lower cost series of Pydrauls as compared to those listed in Selector 1 as the previous bulletin was designated.
Q Okay. Thank you. Next if you would turn to TPC 124 through 135.
A I have paged through the document.
Q Can you identify what the document is, please?
A It's a Monsanto product bulletin entitled, "The Fire Resistance Test Methods for Industrial Hydraulic Fluids."

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Q Do you know what is its effective date?
A Yes, it is shown in the lower, right-hand corner of TPC 135 as October '68.
Q And am I correct that this document has no environmental warning or disposal recommendations?
A No.
Q It does not?
A It does not.
Q Next if you would turn to TPC 141 through 168.
A I have it.
Q Could you identify for the record what this document is, please?
A It's a Monsanto product bulletin entitled, "Therminol Fluid Heat Systems."
Q And what was its effective date?
A January '73.
Q Does this document contain any reference to PCB's?
A No.
Q And for how long was this document in effect, if you recall?
A When I was no longer involved with the PCB's, which was February '76, this was still in effect. I do not know if it's been revised since then.
Q Okay. And you said you were no longer involved in what year?

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A February '76 is when I was relieved of my PCB assignment.
Q And you told us I think October of -- I apologize. I lost the effective date. When did you say this became effective?
A January '73 is the date of publication. It's available shortly after that.
Q All right. And you believe that it was still in effect as of February of '76 when you were no longer involved in the project?
A Yes, sir.
Q Does this apply to the Therminol FR-0?
A No, it does not.
Q Let me direct your attention to TPC 233, 234, 235, 236. If you'd get those out and take a moment just to look at them, please.
A Just through 236?
Q Yes, sir.
A I have reviewed the four documents.
Q These generally relate to toxicity and safe handling information for Pydraul F-9, do they not?
A They do.
Q And can you tell me whether the document marked TPC 236 dated May 3, 1968 was still in effect at the time that you took over the PCB problem?

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A It appears to be, yes, sir.
Q And this has no environmental warning, does it?
A That is correct.
Q And no recommendations as to disposal?
A That is correct.
Q How was this distributed to customers? By "this," I mean TPC 236.
A For customers that were still active in purchasing the material, through the field sales representative.
Q If you could get TPC 239 through 244.
A What were the numbers again, sir?
Q 239 through 244.
A I have them.
Q These represent labels that were attached to the Pydraul F-9 barrels over the years; is that correct?
A That is correct.
Q And none of these labels contain an environmental warning, do they?
A They do not.
Q And none of them contain any recommendations as to proper disposal?
A That is correct.
Q I direct your attention, please, to 239, TPC 239,

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which is the top one there.
A Yes.
Q And there's a handwritten notation which I understand was put on by someone in the Monsanto staff that says, "Last printed August 5, 1970." Do you see that?
A I do.
Q Was there a subsequent printing of a Pydraul F-9 label after August 5, 1970?
A No, the product was reformulated and it became F-9A, so that the printing would reflect that change.
Q Okay. So the last label that was affixed to the Pydraul F-9, a part from the environmental warning which we talked about before, but the last Pydraul F-9 label which was affixed to product is the one indicated as TPC 239?
A To products that contained PCB's?
Q Yes.
A Yes.
Q All right. Lastly, I'm not sure where these are, but I'd like to, if you could find TPC 413 through 415.
A What were the numbers again?
Q 413 through 415.

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A I have them.
Q Would you take a minute to briefly review them, please.
A I have reviewed them.
Q Mr. Piette had asked you some questions about these invoices and had directed your attention to the "sold to" and "shipped to" boxes on these invoices. Do you generally recall those questions?
A I do.
Q He pointed out to you in at least a couple of them in the "sold to" line it was Tecumseh Products Company, Tecumseh, Michigan and the "ship to" line was Marion, Ohio. Do you recall that testimony?
A I do.
Q Do you have personal knowledge as to whether any of these invoices was, in fact, sent to Tecumseh Products Company in Tecumseh, Michigan?
A Do I have personal knowledge?
Q Yes, sir.
A Not directly, no, sir.
Q All right. And do you have personal knowledge that any environmental label was attached to the original invoices which were sent out, wherever they were sent out?
A Well, I have knowledge that that was the practice.

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I had seen it done. When you said "wherever it was done," yes, but not specific to Tecumseh.

Q So you don't know that whatever invoice was sent to Tecumseh, you do not have personal knowledge that, in fact, the environmental warning was on those invoices, is that not true?

A That's right.

MR. EWING: That's all I have, sir. Thank you very much.

MR. PIETTE: Off the record.

(Discussion off the record.)

EXAMINATION

BY MR. PIETTE:

Q Mr. Papageorge, I have some questions for clarification with respect to your examination here today, but before I get to those follow-up questions, I'd like you to look at some documents that were sent to me and Mr. Ewing with a letter dated August 12, 1993.

MR. PIETTE: Are you showing him a copy of that now?

MR. PECK: Yes.

MR. PIETTE: Thanks. I appreciate that.

BY MR. PIETTE:

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Q Mr. Davidson in his letter of August 12th says he is furnishing a new copy of TPC 418 at our request because the one that had been previously furnished by Mr. Bustline had the very right-hand corner -- had not photocopied the date, and if you will look at TPC 418, you will see that the date now shows on a copy of this document and the date is 11/21/74, is it not, sir?

A It is.

Q And would you, just for the record, just describe what this document is again, please, Mr. Papageorge?

A It's a document with the heading, "Marion Division, Manufacturer of Compressor and Condensing Units for Commercial Refrigeration, Marion, Ohio, 44302." It carries a Purchase Order No. NOM6980. It's addressed to Monsanto Company, 800 North Lindberg Boulevard, St. Louis, Missouri, 63166, and shows five drums FR-0 Monsanto Therminol polychlorinated biphenyl transfer fluid for incineration.

Q All right. Sir, let me invite your attention to the name that's entered on the top of that purchase order from Marion Division, Marion, Ohio, TPC 418. Do you see the name Watkins?

A I do.

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Q That name appeared a little bit earlier today, did it not?
A It did.
Q On one of the documents shown to you by Mr. Ewing in connection with a letter that had been sent to a Mr. Watkins?
MR. EWING: I object to the form and foundation.
BY MR. PIETTE:
Q You see that name, sir?
A I see that, yes.
Q I believe the name that was shown on the document to you before was a Glen Watkins, was it not? I'll show you.
A Glen or Gene. G something.
MR. EWING: It was Glen.
MR. PIETTE: Why don't we get that document out and see what it says.
BY MR. PIETTE:
Q Let me invite your attention to Document No. 26.01. It's a mailing label, is it not, sir?
A It is.
Q And it's a redacted mailing label, is it not?
A Correct.
Q The names of the other customers have been redacted

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from that sheet for confidential purposes; is that correct?

MR. EWING: Object, foundation.

MR. PIETTE: You may answer.

A Yes.

Q The two names on here -- And this is a mailing label that's attached to the May 25, 1972 letter from Dr. Cumming Paton; correct?

A Yes.

Q And this mailing label was referred to before by Mr. Ewing and, in fact, it's got two mailing labels on it, Mr. Glen Watkins of Tecumseh Products, 333 Joseph Street, Marion, Ohio; correct?

A Correct.

Q And Plant Manager, Tecumseh Products, 333 Joseph Street, Marion, Ohio with the two zip codes being different; correct?

A That is correct.

Q As a matter of fact, Mr. Glen Watkins' full name appears in other documents that were furnished by Mr. Bistline. Do you recall that, sir? Do you recall a letter from Mr. Watkins?

A Yes, I do.

MR. EWING: I'm going to object to the form of the question. If your question is does he

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recall seeing one that you presented to him last time, fine. Otherwise, my objection is no foundation.

MR. PIETTE: Your objection is there's no foundation that there is a letter from Mr. Watkins that was produced by Mr. Bistline?

MR. EWING: My objection is there is no foundation that he has any knowledge about any letter or any involvement with Mr. Watkins other than having been presented with the document the last time he was deposed here.

BY MR. PIETTE:

Q Do you recall seeing a letter from Mr. Watkins, Mr. Papageorge?

A I do.

Q Can you pull that out, please, so that we can identify that for the record. I'll try to pull out my copy of it to save some time. Take a look, if you will, please, at TPC 261, a letter dated October 19th.

A I have it here.

Q All right. Sir, it's a letter dated October 19th, 1972, is it not?

A Yes.

Q And it's addressed to Monsanto Company, attention

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Dr. Cumming Paton, Product Manager?

A It is.

Q And it purports to be signed, does it not, by a Glen Watkins, Plant Engineer, Tecumseh Products Company, Marion Division?

A It does.

Q And I don't know if we have identified it, but it's Document No. TPC 261; correct?

A That is correct.

Q Let me also call your attention, if I may, Mr. Papageorge, to another enclosure that Mr. Davidson was good enough to furnish us with with his letter of August 12, 1993. If you would, please, take a look at TPC 45.01 through TPC 45.09. I'll ask you do you have a copy of that, sir?

A I do. I have it.

Q I'll ask you if you will identify those documents, please.

A It consists of a two-page letter, Monsanto letterhead, authored by Howard Bergen addressed to "dear sir," and attached to that letter is a copy of an article that appeared in Environmental Science and Technology. The subject of the article is PCB's - Prevalent and Persistent, authored by Karl Gustafson and it includes on the page

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designated as TPC 45.09 that this letter was addressed to Director of Purchases, Tecumseh Products, 333 Joseph Street, Marion, Ohio, 53302.

Q This letter of December 15, 1971, who were the intended recipients of this letter?

A These are customers of Monsanto's Therminol FR-type heat transfer fluids.

Q And does this letter of December 15th, 1971 have any reference to PCB's?

A Yes.

Q And does this letter have a reference to the article PCB's - Prevalent and Persistent by Karl Gustafson, Federal Water Quality Administration of Athens, Georgia?

A It does.

Q Mr. Bergen at that time was with the Specialty Products Group, Monsanto Industrial Chemicals Company, was he?

A He was director of that group.

Q And as the director of that group, was he a part of your team?

A He was my supervisor.

Q I see. And he then was the one who signed this letter that is dated December 15, 1971?

A He was.

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Q I know that in your prior deposition of a couple of weeks ago you testified that you were a part of having drafted a number of these letters. Do you recognize this letter as being one that you participated in drafting?

A I did.

Q So you have personal familiarity with this letter, do you?

A I do.

Q This article by Mr. Gustafson, are you personally familiar with it?

A Yes, sir.

Q I mean, you know him personally, don't you?

A I do.

Q And this article is dated, I think you were able to help out on this at your earlier deposition, it is dated October of what year?

A 197 -- Let me think. '71.

Q It's hard to read, but it seems to say October of '70.

A You're right. You're right. October of '70.

Q All right. Specifically this article refers to PCB's, does it not?

A Yes.

Q And the caption of "PCB's - Prevalent and

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Persistent," what does that mean?
A Well, I can share with you my interpretation of those words.
Q Okay. If you would, please.
A The fact that many capable laboratories were detecting PCB's in various kind of samples supported the use of the word prevalent and the fact that PCB's were not very reactive chemicals, which meant that they would not combine with anything and eventually disappear, so that the adjective persistent did apply based on the information known at the time.
Q You were asked a series of questions by Mr. Ewing with respect to when there was studies that were first being done in connection with the PCB environmental problem. Do you recall that?
A I do.
Q And the first study that you mentioned was a Swedish study, I think you said?
A Yes.
Q When was it that Monsanto appointed you as the director of or the manager, I believe it was, for environmental control?
A January 1970 was the starting date.
Q I think you said 1/1/70 in your prior deposition,

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didn't you, sir?

A Yes.

Q And why did Monsanto appoint you at that time as the manager of environmental control?

A I can't --

MR. EWING: I'll object as to foundation, but I'll also object as asked and answered the last time.

THE WITNESS: Of course, I cannot speak for the two business directors who interviewed me for the assignment, but I had an understanding that because within Monsanto there were two business groups responsible for these products and, of course, within the business group there were teams of researchers, engineers, manufacturing people, sales people, there was quite a few people and thousands of customers. The point where in a way the left hand many times didn't know what the right was doing. So I understood that one of my key roles would be to make certain that the left hand knew what the right was doing, not only within Monsanto but outside of Monsanto.

Q Okay. And you at that point I think you described yourself as becoming the focal point for all of these communications?

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A Yes, I think that accurately describes it.
Q And so in that position as the manager of environmental control, and I understand you had this function on a full-time basis as of 1/1/70?
A That is correct.
Q And did you, as a result of that, acquire personal knowledge with respect to the concerns that Monsanto was preaching in connection with PCB's and environmental issues?
MR. EWING: Object to the form of the question. It's vague.
A Yes, I believe I did.
Q And you were personally a member of the team that was addressing these issues for Monsanto?
A Yes.
Q And in that capacity you personally drafted some of the letters that went out communicating these concerns to customers?
A Yes.
Q And do you have personal knowledge with respect to the measures that were taken by Monsanto in 1970 and 1971 and 1972 with respect to assuring themselves that these letters were, in fact, being sent to Monsanto customers?
MR. EWING: Object to the question.

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It's vague as to form.

A As best I could, yes.

Q Okay. And you were asked a number of questions, Mr. Papageorge, with respect to whether or not you had personal knowledge as to whether or not a given letter was sent and/or received by a customer. Do you recall being asked those questions by Mr. Ewing?

A I do.

Q And you have no way of knowing, do you, Mr. Papageorge, whether or not Tecumseh actually received a given letter that had been mailed to them?

A No more than any other customer.

Q And when you said in your testimony that you did not have personal knowledge as to whether or not a given letter with respect to the concerns that Monsanto was addressing on environmental issues in connection with PCB's was received, what did you mean by you didn't have personal knowledge with respect to that?

A By "personal" I visualize a situation where I am present when the letter arrives and I can see someone opening up the envelope, picking a letter out of the envelope and reading it. That's what I

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meant by personal. I have no way of doing that.

Q Okay. As the manager of environmental control, did you become familiar personally with what measures were being taken by Monsanto to communicate with all of their PCB customers?

A Yes, in the activities and program. Yes.

Q All right. What measures were taken by Monsanto with respect to the mailing procedures that they utilized, and tell us what role you played in that, how you participated, what you personally observed.

A All right. Well --

MR. EWING: Object to the form. It's vague and it's multiple.

A As we discussed, the preparation of an up-to-date mailing list was the first step, and that preparation included contacts with anyone in Monsanto that had anything to do with a customer, whether it be the Billing Department, the Shipping Department or the Sales Department, on and on. Any records that could supply us with a name and an address, we used. I was involved with the drafting of the letters that were in a way designed to address the different types of customers, the Pydraul customer distinguished from the plasticizer customer or the electrical customer.

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Q Or the Therminol customer?
A Or the heat transfer type of customer. I was present when the typing of the customer addressee labels took place and I was the one that insisted that a record be kept, and we decided that the best record is one where the label itself was photographed and a copy preserved before the label was peeled off of the typing sheet and affixed to the envelope. I was -- I recall vividly at least two weekends when this activity took place, because remember there were thousands of letters being shipped out with a crew of secretaries and temporary help. I saw these letters typed, addressed, stamped and put in envelopes, envelopes sealed and placed in boxes. The boxes were taken to Monsanto's Mail Department. That's as far as I was able to follow them. I did not see them loaded on the post office truck or anything like that.
Q All right. All of this that you just described was a part of the Monsanto regular business activity in order to communicate these notices to its customers of record for PCB's?
MR. EWING: Object to the form of the question. It's multiple and vague.
A Yes, as regular as a special mailing can be.

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Q In the late_1960's, as a result of some of these studies that Mr. Ewing referred to, Monsanto started acquiring some knowledge with respect to PCB's and the environmental concerns relating to PCB's?

A Yes.

Q And as a result of that knowledge that was being gained, you were appointed, were you, as manager of environmental control?

A That was one of the reasons for my appointment, yes.

Q You had certain priorities at that point, did you not, with respect to your role as manager of environmental control?

A I believe I did, yes, sir.

Q Was communication with Monsanto's PCB customers one of your chief concerns with respect to the information that you were gaining with respect to PCB's and sharing that with those customers?

A That was it. That was number one, yes, sir.

Q That was the number one priority?

A For me, yes.

Q It was?

A Yes.

Q Yes?

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A Yes.

MR. EWING: Asked and answered.

BY MR. PIETTE:

Q You were asked a series of questions with respect to wastewater at I believe it was the Anniston plant.

A Yes, that was one of the plants mentioned.

Q And you were asked questions about wastewater going into the municipal sewers?

A Yes.

Q Could you explain that, please, what that system was with respect to how the wastewater was handled that was being discharged from the Monsanto plant at Anniston and the other plants that you mentioned?

A I hesitate, because at Aniston there were two systems.

Q All right. Please explain that.

A One of them addressed the wastewater coming from a pesticide operation, which required special treatment and it, in turn, was sent to the municipal treatment plant. The rest of the plant, which included the PCB's, was sent through a pond in the plant which contained crushed rock, and the purpose of that crushed rock was to neutralize the

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acid wastes coming out of the plant. Once those were neutralized, then that neutralized water would be sent to the municipal treatment plant, also. Two separate lines ending up at the municipal treatment plant.

At the municipal treatment plant they went through a typical bacteria/oxygen kind of treatment to treat the water. It ended up a clarified water that was released to the local river system and then the sludge was then filtered out and hauled to a landfill by the operators of the city waste treatment. Does that help with the Anniston plant?

Q Yes. Thank you.

Was Monsanto discharging any of their wastewater directly into a river?

A No.

Q The letter dated March of 1969 that was the initial letter that was sent to customers, and I understand that a copy of that is going to be produced, but until we have the letter, let me just ask you just in general do you recall that you have seen that letter before?

A Many times.

MR. EWING: There was a preamble to

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that question that I would object to on the grounds of form and mischaracterizing his testimony.

BY MR. PIETTE:

Q Can you tell us to the best of your recollection, Mr. Papageorge, just in general what was the content of that letter, just so I can ask you some questions about the letter now without having the benefit of the letter?

A Well, as best I recall, it notified the recipient of the kinds of things that the February letters did where it mentioned that there were investigators that found PCB's in some environmental samples, the types of PCB's that were identified appeared to be the higher chlorinated types. As I remember, it mentioned -- it had specific reference to an article that appeared in the San Francisco Chronicle which described the work that Dr. Risebrough was doing at Berkeley, University of California-Berkeley, with the pelicans, the brown pelicans, and it mentioned that the products that you as a customer receive by these names may contain PCB's, but some of them are not the kind that are being found. That's the general parts of the letter as I recall it.

Q Do you recall if it was a one or a two-page letter?

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A Two page.
Q Without any enclosures?
A That is correct.
Q And when you mention it was similar in content to the February letter, did you mean the February 1970 letter?
A I did.
Q Do you know whether or not there's a mailing list that exists in connection with that letter, as well?
A I have never personally seen the complete mailing list, so I don't know if it still exists or what parts of it exist.
Q You mentioned that -- how these mailing lists have been maintained since the event has not been a part of your bailiwick, but you personally were aware of how those mailing lists and the letters were maintained or developed at the time that it actually occurred in the early 1970's, right?
A Yes. I am familiar with that activity, yes.
Q And that activity that you're familiar with consisted of, as I understood your testimony, a folder with each one of the letters that we have identified that Mr. Bistline produced a couple months ago now, a separate folder for each letter

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along with a mailing list for each one of those letters?

A That is what I personally saw in 1970, and I recall asking the managers to make certain that those were kept permanently until further word.

Q And each one of the lists that we're seeing here that's been marked by Mr. Bistline as .01, all we're seeing is that portion of the mailing list consisting of the label that was used for the letter addressed to whoever is the particular addressee on the .01 sheet that we have here?

MR. EWING: Object on the grounds of foundation. The witness has testified he hasn't seen these lists for many years. He was not involved in establishing or attaching the mailing labels to the particular letters, so I think this witness is without foundation to answer that question.

BY MR. PIETTE:

Q I thought you said, Mr. Papageorge, that you actually saw the secretary typing these labels, photocopying the labels before they peeled the sticky label off and put it on the envelope?

A Yes.

Q Having seen that occur, what I'm asking you is

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the copy that Mr. Bistline has produced as .01 that portion of the mailing list consisting only of the label dealing with Tecumseh Products or Die Cast Corporation?

MR. EWING: I have the same foundation objections for the same reasons.

MR. PIETTE: You may answer, sir.

A That is correct.

Q As I understood it, for confidential reasons Mr. Bistline has not produced the remaining part of the mailing list consisting of labels going to other Monsanto customers.

MR. EWING: I'll object. There is no foundation that this witness was involved in that activity.

MR. PIETTE: You may answer.

A I can only share my understanding, which is the same as yours.

Q That is that Monsanto is trying to maintain a confidentiality with respect to the other customers and the labels on the mailing list dealing with other customers other than Tecumseh and Die Cast?

MR. EWING: Same objections.

A Yes.

Q Referring now back to the March 1969 letter again,

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what is your understanding of to whom that letter was sent?

A Purchasers of Monsanto's PCB products.

Q You mentioned I believe more than once in your testimony that the first time that there was any regulatory -- or I guess regulation was the term that was used that you were aware of in connection with the disposal of PCB's was 1980 or the early-'80's, I think you said?

A As best I remember, '80, '81, '82, somewhere in there.

Q What regulations did you have in mind?

A It was based on the Toxic Substances Control Act, which was passed in 1976, and after a period of time, as I understood it, some regulations came out specifically describing the amounts of PCB's that would be tolerated in soil and so on. I don't recall the details.

Q You were personally aware -- or I should say you are personally aware that there were water quality statutes that were enacted in the late-1960's; isn't that correct?

MR. EWING: Object, form, foundation.

A Water quality standards. Yes, the Federal Water Administration. It's before the days of EPA.

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Q Yes.
A They did have some water quality standards, yes, sir.
Q Mr. Ewing asked you whether or not the Chemical Week article -- And you're familiar with that now, I'm sure, that was sent with the early 1970 letters?
A I remember that.
Q Whether or not that Chemical Week article referred specifically to PCB's. I think you said you didn't think it did?
A It did not.
Q But it did have a list of the water quality statutes for all the states, did it not?
A It did.
Q And at least one of the intents of those letters that were sent in the early-1970's was to remind your Monsanto customers that there were water quality standards already enacted by the states in the late-1960's; correct?
A Correct.
Q And that you actually enclosed this Chemical Week article enumerating and listing all of the water quality statutes passed by the various states?
A Yes.

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Q Including Wisconsin and Missouri?
A Yes.
Q You also in your earlier testimony referred to regulations and guidelines that had been already passed by the FDA, I believe it was, in 1974, was it?
A Yes, '74.
Q And you had been a member of an ANSI committee from the early-1970's dealing with and studying the environmental issues in connection with PCB's and the proper disposal?
A Yes.
Q Will you remind us again of what that ANSI committee was that you testified to earlier? I think it was C-107, was it?
A That's the committee designation.
Q You were the chairman of that committee?
A Yes.
Q And wasn't Paul Benignus your alternate?
A Yes.

MR. EWING: These were all asked and answered the first time around.

BY MR. PIETTE:
Q You were asked a series of questions by Mr. Ewing in connection with the labels that were attached to

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the drums in connection with the sale of hydraulic fluid, Pydraul hydraulic fluid, to Monsanto customers. Do you recall that, sir?

A I do.

Q Would you tell the court and jury, please, when was the environmental warning sticker added as a matter of Monsanto's business practice to the Pydraul F-9 hydraulic fluids that were sold by Monsanto?

MR. EWING: Asked and answered.

A Beginning in May of 1970.

Q And I believe you testified that you personally spot checked on occasion whether or not these environmental warning stickers were, in fact, attached to the hydraulic Pydraul F-9 drums?

MR. EWING: Asked and answered.

A I did.

Q Mr. Ewing asked you whether or not -- Strike that.

Mr. Ewing asked you when eventually Monsanto stopped manufacturing PCB fluids altogether, and I think you said 1977?

A I did.

Q Okay. Which one or ones did Monsanto continue manufacturing until 1977?

A They made the PCB's used by the electrical equipment industry, which included Arochlor 1221,

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which was sold as Capacitor 21, Arochlor 1016, Arochlor 1242 and Arochlor 1254.

Q Why was it that Monsanto continued manufacturing some of their PCB fluids until 1977?

A Primarily because the electrical equipment industry had not found a suitable fire resistant fluid that was also a good dielectric fluid. In other words, it didn't conduct electricity. That's the real reason.

Q I believe you testified that Therminol was stopped being manufactured by Monsanto in 1970 or '71?

A About that '71 period, '72, in there.

Q And Pydraul F-9, that was stopped when?

A I believe it was either late-1970 or early-'71 when it was reformulated so it didn't contain PCB's any longer.

Q Mr. Ewing asked you whether or not the early 1970 letters communicated that Pydraul F-9 was not one of the concerns with respect to the environmental hazard.

MR. EWING: Object to the form, characterization of testimony.

BY MR. PIETTE:

Q Isn't that correct?

A That is correct.

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Q That's because I believe he phrased it that -- or, I'm sorry, that's because I believe you phrased it that at that time in the early-'70's Pydraul F-9 was not originally thought to be a concern by Monsanto. Is that true?

A That is true.

Q And at some point in 1970, though, you, Monsanto, became aware that it was an environmental concern, isn't that true?

A In the latter part of 1970 Monsanto became aware that some of the PCB's, the higher chlorinated types that were in the PCB mixture used in F-9, could be the source of the PCB's found by the analyst. Not all of the PCB mixture, but some of it.

Q And did you, when you became aware of that, communicate your concerns to your customers specifically in connection with the Pydraul F-9 fluid?

MR. EWING: Object to the form and foundation.

A Well, if you will remember, even the early-1970 letter, in spite of the understanding that the type of PCB in Pydraul F-9 was not found in the environment nor was it perceived to be a potential

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problem, that letter also included words of caution against any of these PCB mixtures entering the environment.

Q All right. That's the early 1970 letter?

A Yes, the last paragraph or so emphasized don't get any of these in the environment.

Q I'll ask you to look at -- Thank you, Mr. Papageorge, but let me invite you to look at the letter dated August 27, 1970, TPC 17, and I'll ask you if that letter specifically refers to Pydraul F-9 having been formulated with PCB's and that Monsanto was developing a new formulation designated Pydraul F-9A?

MR. EWING: Object, document speaks for itself.

BY MR. PIETTE:

Q The letter dated August 17, 1970.

A I have it here. I have forgotten your question, sir.

Q Yes. That letter from Mr. Johnson, Marketing Manager Industrial Fluids, dated August 27, 1970 specifically refers to Pydraul F-9 having been formulated with PCB's and that Monsanto was developing a new formulation designated Pydraul F-9A.

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MR. EWING: Object, document speaks for itself.

A That's correct.

MR. EWING: Did that go to Marion or Sheboygan Falls?

THE WITNESS: Marion.

BY MR. PIETTE:

Q That document -- Do you have attached to that document TPC 17.01?

A I do.

Q Forwarded to Director of Purchases, Tecumseh Products, 333 Joseph Street, Marion, Ohio, 53302.

MR. EWING: Object. The document speaks for itself.

A Correct.

Q Is it your understanding, Mr. Papageorge, that the letter dated August 27, 1970 was intended to be sent to all Monsanto Pydraul customers?

A Pydraul F-9.

Q Thank you. I'm sorry. Pydraul F-9 customers?

A Yes.

Q Same question only Pydraul F-9?

A Yes.

Q And one of the measures taken to make sure that the letter dated August 27, 1970 was sent to Pydraul

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F-9 customers was to actually utilize the invoices and customers of record from the Pydraul F-9 Hydraulic Fluids Department to make sure that that letter did go to all of the Pydraul customers?

A Yeah.

Q Tell us again, please, what measures were taken by Monsanto to assure that this letter, August 27, 1970, went to all its Pydraul customers?

MR. EWING: Asked and answered the first day of his deposition.

A They consulted all documents that related a customer with Pydraul F-9, which included bills of lading, the telephone orders that were logged in, the mail orders that were received via mail, the sales. The field sales offices were contacted as to what is your list of F-9 customers, those that you call on or you talk to over the phone or you write to. I think that just about covers it all. The Billing Department, the department that sends out the invoices. The Shipping Department, they have records as to what was shipped when and what wasn't, to whom. So they picked up both the bill to and ship to names from the documents and records.

MR. PIETTE: Off the record.

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(Discussion off the record.)

BY MR. PIETTE:

Q The mailing labels addressed to Die Cast Corporation, let me just ask you about that, please. How many years earlier did Monsanto go back in their records in order to determine who were their customers for Pydraul F-9 fluids?

MR. EWING: Object to the form of the question to the extent it makes reference to mailing labels to Die Cast Corporation.

MR. PIETTE: You may answer.

A The list was prepared by searching all records that showed deliveries, sales to customers for the years '69, '68, '67. That was the start. It also picked up any sales in January and February of 1970 to bring it up to '70. It was then supplemented by any additional information available that carried it beyond the year 1967 in terms of going backwards, rather, '66, '65 and any of the addresses and the customers that were found with that search were added to that minimal three-year list.

Q So that if Die Cast Corporation was operating this Tecumseh Sheboygan Falls plant in 1966, it's quite likely that Monsanto would have picked that up in

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their records as far as a mailing?

MR. EWING: Object to the form of the question, calls for speculation. Also mischaracterizes the testimony, because Die Cast Corporation never ran Tecumseh's facility.

MR. PIETTE: You know what I mean. You can go ahead and answer it.

A You're asking about the probability of picking up customers on record as of '66?

Q Yes.

A It was very good, yes.

MR. PIETTE: That's all I have. Thank you. I appreciate it.

MS. O'BRIEN: I have one question, Mr. Papageorge.

EXAMINATION

BY MS. O'BRIEN:

Q I'm Kristin O'Brien on behalf of Affiliated FM Insurance Company. Earlier today Mr. Ewing asked you a number of questions which elicited testimony regarding your experience in pieces of litigation related to Monsanto. Throughout that experience have you ever learned of a customer whose name appeared on a Monsanto mailing list for a particular piece of correspondence yet that

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customer claimed to have never received that particular piece of correspondence?

A Have I ever run across that? I don't recall anyone specifically pointedly stating so. There was always an implication or implied that I just don't remember receiving it or we can't find it. Those types of statements I do recall hearing, but nobody firmly stated, "We absolutely did not receive that letter."

Q For instance, in the Stroh Die Cast case, you testified that Stroh claimed that it did not receive certain mailings from Monsanto; is that correct?

A That's my recollection, that there were some mailings that they claim they didn't receive.

Q With respect to those particular mailings, did you have a mailing list at Monsanto such as the mailing lists that were produced today with a .01 indication wherein Stroh was listed as one of the intended recipients of the letter?

A I just don't remember if there were any like that. All I remember is there were some with the Stroh addressee listed and some we couldn't find any reference to Stroh. There was some of both. I don't remember which was which.

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MS. O'BRIEN: That's it. Thank you.

MR. PYTLIK: I have may a couple here.

EXAMINATION

BY MR. PYTLIK:

Q You have indicated in the prior questioning your role or involvement in overseeing the process of these letters, various letters being mailed out to Monsanto customers. In that role, were you ever advised of letters being returned unopened from Monsanto customers because the post office was unable to effectuate delivery?

A No.

Q Just so I understand your answer, are you indicating that you did not have such a role that would have led you to have that knowledge or are you indicating that that never occurred, to your knowledge?

A I thought your question said were you ever informed that letters were returned unopened because the post office could not deliver them. My answer was, no, I was never informed of any such unopened letter being received.

Q Mr. Ewing asked you a series of questions concerning a February 1971 lab report from Monsanto where at various sites PCB's were being reportedly

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found in water. Do you recall those questions?
A Yes.
Q Can you tell us what water is being referred to in those lab reports, what water source was reporting a finding of PCB's at those sites?
A I'd have to see the report to refresh my memory. As best I remember, they were generally a mixture of sediment and water taken at a public stream, and by "public" I mean other than the plant sewer that was supposed to reflect any losses from a nearby industrial site. This was part of the program to establish the fact that the lower chlorinated PCB's were found near the point of discharge as compared to the higher chlorinated found out there in the distance with the sample having been exposed to the elements and all that, the weather and degraded.
Q You also, in responding to Mr. Ewing's question about the Newport, Wales facility continuing to discharge PCB's into the municipal sewer system, indicated that they did that until 1977, but in a decreased volume. Do you recall that question?
A Yes. I meant to say the concentration of PCB's detected in that wastewater was dramatically reduced as it was even in the Monsanto plants in the U.S.. I don't know if that's clear.

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Q Can you give us an idea of the quantities of the concentration that was existing in 1977 as a discharge from the Newport, Wales plant?

A I just don't remember that number. I do recall the target of ten parts per billion in the water leaving the plant and headed for the municipal treatment facility. I do recall, also, that the plants all reported they had achieved that in roughly the 1975 time period. I don't recall any number that would relate it to the 1977 end of production period.

Q And the discharge that was ongoing in 1975, '76, '77 from the Newport, Wales plant to the municipal sewage system was targeted at a prescribed amount?

A Concentration. Ten parts per billion.

Q And that prescribed concentration standard was being met as of 1975?

A Yes, to my knowledge.

Q And what led to the prescribed concentration at that amount?

A This was the amount that the research analytical chemists were willing to support as being reproducible and reliable by a good plant laboratory as distinguished from a leading research analytical lab. There is a difference in the real

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world and the research world, and that was the level of concentration that Monsanto had proposed to the Federal EPA in this country as a reasonable level that's reliable, achievable and should result in no harm to the environment. So this is Monsanto's idea of what it should be.

Q And that discharges of PCB's at that concentration level would not pose any environmental hazard?

A That's the intent, yes.

Q I have one other area here. There was questioning concerning PCB's found in Snow Creek adjacent to the Anniston plant. Do you remember that series of questioning by Mr. Ewing?

A I do.

Q Do you have any information as to how the discharges of PCB material occurred? I guess the question referred to between 1965 and '69 that led to PCB's being found in Snow Creek.

A Well, there was several possibilities. There were, of course, leaks from pumps that failed and sprayed material on the pavement. That material would work its way off to the crushed rock that surrounded it. Along would come a driving rain, it would wash through that and pick up any PCB's either on the concrete pavement that hadn't been cleaned up

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properly or that had gotten into the crushed rock or into the soil next to the rock and eventually move that PCB closer and closer to the creek. Eventually a storm would come along and eventually that PCB would find its way in the creek on its way down to the interconnecting streams that were in the area. The sample as I remember it was taken -- was really a sample of the sandy bottom. I believe it was rather dry. It was not a flowing creek. It was a dry ditch, really. So this could reflect the PCB accumulation that might have occurred, gosh, ten years ago.

Q At the Anniston plant if there was such a rupture or a leak that resulted in the type of spills that you just described, were efforts made to clean it up?

A Yes. Yes, and those efforts, of course, changed through the years as we became aware of the environmental problem. The initial efforts were really one of when time was available, they would shovel up the crushed rock that was stained looking or if there was a visible pool of the material, they'd sprinkle some sand on it or some clay that was used in the process to treat or if it's small enough, just use some rags. That kind of approach

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would be taken. As time went on, curbing was built, a sump was built so that if anything spilled, it was collected in this underground tank, really. If a leak occurred, it would be repaired promptly. Shut down the system and repair it instead of let it go overnight and so on.

Q With respect to the Anniston plant, any PCB's that found their way to Snow Creek were not put there purposefully by Monsanto?

A Oh, no. There is no advantage to doing that, especially since we had our own ponds there that could have collected it.

MR. PYTLIK: That's all I have.

MR. EWING: I have a couple more questions. Hopefully no more than a couple of minutes.

FURTHER EXAMINATION

BY MR. EWING:

Q Is it your testimony, Mr. Papageorge, that there was never any unopened letter that was returned to Monsanto as nondeliverable by the post office or is it your testimony that you are not aware of any?

A I guess it's more accurate I'm not aware of any. No one ever told me about it, no one ever showed me one. I never became aware of it.

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Q All right. Mr. Piette had asked you some questions concerning the Chemical Weekly article that was included in I think one of the early 1970 mailings. Could you get that out again one more time, please. I believe he pointed out that there were a number of water quality standards that were listed or attached in that article, did he not?

A Yes.

Q Now would you remind us again what the Monsanto document indicates as to where that letter dated 2/27/70 was sent?

A This letter here?

Q Yes.

A This particular copy is shown as having been sent to Director of Purchases, Tecumseh Products, 333 Joseph Street, Marion, Ohio, 53302.

Q No indication, according to the Monsanto document produced by Monsanto, indicating that it was sent to Sheboygan Falls, isn't that true?

A Not this particular document, no.

Q You were shown the documents marked 45.01 through 45.09, which was a letter dated December 15, 1971, were you not?

A I have it.

Q Again, that one was sent to Marion and not to

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Sheboygan Falls; correct?

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

MR. EWING: I'll withdraw it.

BY MR. EWING:

Q Based upon the Monsanto exhibit, you have no indication that this document was sent to Sheboygan Falls, isn't that true?

A I don't see anything that supports that.

Q And as you sit here today, you have no information that can tell you that you have personal knowledge that, in fact, this was sent to Sheboygan Falls?

A That is correct.

Q Now with respect to this March of '69 letter, I thought I understood your testimony to be that you did not know to whom it was sent, but then in response to a question asked by Mr. Piette, you testified that your understanding was that it was sent to purchasers of Monsanto PCB products?

A Yes. When I said to whom, I meant specific companies. I do not know -- I have not seen any reference such as we have seen today to any addressee.

Q All right. And you have never seen the list that was used to send out that letter of March of '69,

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if, indeed, it was sent?

A That is correct.

MR. EWING: That's all I have. Thanks a lot.

MR. PIETTE: Kathy, will you attach a copy of this letter of December 15th, 1971 to this transcript then, 45.01 through 45.09, and the same thing with TPC 418, the new purchase order that has the date 11/21/74 shown now in the right-hand column.

(Whereupon, the deposition was concluded at 3:55 p.m.)

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STATE OF WISCONSIN)
MILWAUKEE COUNTY) SS:

I, KATHY A. HALMA, Registered Professional Reporter and Notary Public in and for the State of Wisconsin, do hereby certify that the deposition of WILLIAM B. PAPAGEORGE was taken before me at the law offices of Sonnenschein, Nath & Rosenthal, One Metropolitan Square, Suite 3000, St. Louis, Missouri, on the 16th day of August, 1993, commencing at 9:00 o'clock in the forenoon.

That it was taken at the instance of the Defendants upon verbal interrogatories.

That said statement was taken to be used in an action now pending in the State of Wisconsin, Circuit Court, Sheboygan County, in which TECUMSEH PRODUCTS COMPANY, a Milwaukee Corporation is the Plaintiff and THE TRAVELERS INDEMNITY COMPANY, MARYLAND CASUALTY COMPANY, CONTINENTAL CASUALTY COMPANY, AMERICAN EMPLOYERS INSURANCE COMPANY, HARTFORD ACCIDENT & INDEMNITY COMPANY, INSURANCE COMPANY OF NORTH AMERICA, FIRST STATE INSURANCE COMPANY, THE HOME INSURANCE COMPANY, MICHIGAN MUTUAL INSURANCE COMPANY, STONEWALL INSURANCE COMPANY, AFFILIATED FIRST MORTGAGE INSURANCE COMPANY, ALLSTATE INSURANCE COMPANY OF NEW YORK, JEFFERSON INSURANCE COMPANY OF NEW

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YORK, UNITED STATES FIRE INSURANCE COMPANY and PURITAN INSURANCE COMPANY are the Defendants.

A P P E A R A N C E S

FOLEY & LARDNER, 777 East Wisconsin Avenue, Milwaukee, Wisconsin, 53202, by MR. THOMAS C. EWING, appeared on behalf of the Plaintiff.

SONNENSCHEIN, NATH & ROSENTHAL, One Metropolitan Square, Suite 3000, St. Louis, Missouri, 63102, by MR. MARK D. RABE appeared on behalf of the Defendant, The Travelers Indemnity Company.

OTJEN, VAN ERT, STANGLE, LIEB & WEIR, S.C., 700 North Water Street, Suite 800, Milwaukee, Wisconsin, 53202-4206, by MR. PAUL J. PYTLIK, appeared on behalf of the Defendants, Hartford Accident & Indemnity Company and First State Insurance Company.

PIETTE & JACOBSON, S.C., 1233 North Mayfair Road, Suite 204, Milwaukee, Wisconsin, 53226-0577, by MR. RONALD L. PIETTE, appeared on behalf of the Defendant, The Home Insurance Company.

POPE & JOHN, LTD., 311 South Wacker Drive, Suite 4200, Chicago, Illinois, 60606, by MS. KRISTIN A. O'BRIEN, appeared on behalf of the Defendant, Affiliated First Mortgage Insurance Company.

SMITH, HELMS, MULLISS & MOORE, Suite 1400, 300 North Greene Street, P.O. Box 21927,

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Greensboro, North Carolina, 27420, by MR. TIMOTHY PECK, appeared on behalf of Monsanto Company.

That said deponent, before examination, was sworn to testify the truth, the whole truth, and nothing but the truth relative to said cause.

That the foregoing is a full, true and correct record of all the proceedings had in the matter of the taking of said deposition, as reflected by my original machine shorthand notes taken at said time and place.

Kathy A. Halma

Notary Public

In and for the State of Wisconsin

Dated this 4th day of September, 1993,

Milwaukee, Wisconsin.

My commission expires October 16, 1993.

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