

UNITED STATES DISTRICT COURT
DISTRICT OF NEVADA

Nevada Power Company, etc. v. Monsanto Company, etc., et al.
Case No. CV-S-89-555-LDG (LRL)

ABSTRACT OF DEPOSITION OF: JAMES MIEURE
@DEPSUMM

TAKEN BY PLAINTIFF NEVADA POWER COMPANY

DEPOSITION TAKEN: March 29, 1993

VOLUME I OF I

DEPOSITION OF JAMES MIEURE

Date Taken: March 29, 1993

Volume I of I

<u>Page</u>	<u>Line(s)</u>	<u>Testimony</u>
6	12-25	He has been deposed previously in the Sturgeon litigation in the mid-1980s regarding a chlorophenyl spill. He thinks he has also been deposed on one or two PCB issues but it has been so long, he doesn't recall what the issues were.
7	19-23	He also testified in the Sturgeon litigation at the time of trial.
8	4-25	His residential address is 1242 Chavaniac Drive, Baldwin, MO 63011. He obtained his Bachelor's degree in chemistry from Kenyon College in Ohio. Thereafter, he went to Purdue University and got his Masters in chemistry. He obtained his Ph.D. in chemistry from Texas A&M University in 1968.
9	1-13	He then went to work for Monsanto as an analytical chemist. The field of analytical chemistry is the science of determining what materials are present and how much of those materials are in a given

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		sample. This would be true whether you were sampling organic or inorganic matter although the methodologies are vastly different.
	14-20	At Monsanto he focused on organics.
	24-25	His first job with Monsanto was as senior research chemist.
10	1-4	He worked in the general field of organic analysis, utilizing gas chromatography mass spectrometry as the analytical tools.
	10-18	He did work with PCBs in 1968 and certainly no later than 1969.
	19-21	He was developing some analytical methods for determining PCBs.
11	14-24	In this method of analyzing for PCBs, gas chromatography was the piece of equipment at the front end that was performing the separation that allowed them to measure the PCBs. It was linked up to the mass spectrometer.
12	1-3	The purpose of the mass spectrometer was to get a very sensitive read out of the PCB ions and molecules that might be present in the samples.

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12	16-19	The purpose of developing this method was to be able to look for PCBs in the environmental matrices.
	20-25	Management requested that he do this. His boss at the time was Dr. Martin Deitrich and his boss was Dr. Robert Keller.
13	16-22	He became a research specialist in the early 1970s. He did a lot of the same kind of work but was given a little bit more independent responsibility. He was still working with PCBs as a research specialist.
14	8-24	He was a research specialist for three years, plus or minus a year. His next job title was as a group leader. He supervised a number of chemists and technicians working on a variety of projects mostly related to organic analytical chemistry. He believes he became a group leader in 1974, '75 or '76.
15	5-19	He was supervising chemists and technicians regarding biodegradation studies. They were studying a wide variety of the organic chemicals that Monsanto made. They were studying MCS-1016

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		and Aroclor 1016. He is not sure there is a distinction between these two.
16	18-21	He has a vague recollection of the chemical properties of the different Aroclors produced by Monsanto, but he can't say he is familiar with them.
18	12-24	He states that the last two digits of 1016 do not reflect its chlorine content because the customers and their employees were familiar with the MCS-1016 designation and Monsanto was asked to keep the name the same. Customers approached either the marketing people or the marketing technical services department and asked them to keep the designation the same.
19	2-12	The marketing technical services person is usually technically trained and has a higher degree of technical training than a marketing person. The marketing technical services person would be a go-between between the customer and the marketing function. When he was promoted to group leader, there was a business group within Monsanto that worked with PCBs.

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20	1-9	At various times he was involved in meetings with customers. He recalls several different meetings with GE, Westinghouse, Outboard Marine.
21	5-22	The meeting he recalls took place in the early 1970s at St. Louis Monsanto headquarters.
22	8-15	The purpose of the meeting was to talk about a PCB problem that GE was having at Hudson River. He was present because he was the group leader at that time of the group that was functioning in the environmental property of PCBs.
23	1-12	The representatives from GE exchanged information with the people from Monsanto and visa-versa. He doesn't recall the specific information but he does recall that they gave them a lot of health and safety information about Monsanto's products.
	19-23	He doesn't specifically recall what they told them about the environmental properties of the products but they told them the facts that were the results of years of studies.
24	12-24	The work that his group had done that was shared with the GE representatives was biodegradation

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		experiment studies, soil mobility studies, and analytical measurements on environmental samples to support toxicological studies.
25	17-21	This data showed that you could biodegrade a lot of PCBs but some of it wouldn't biodegrade very fast.
26	10-12	Some components of all PCBs biodegrade.
27	1-2	Aroclor 1016 was more biodegradable than 1242. He believes it came close to biodegrading in its entirety.
	9-15	He believes that they gave the GE people studies that they had done on feeding samples.
28	1-4	He states that he probably reviewed the files in his possession at the time that he thought were relevant to the meeting.
29	7-17	He doesn't recall searching out literature other than that was contained in his files prior to the meeting.
	18-25	He doesn't believe there was a system whereby information regarding the environmental properties of PCBs that were studied by other researchers

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		would have been passed on to him. However, he would monitor the literature by going to the library. They had a publication called Contents Review.
30	1-4	Contents Review gave them a listing of the table of contents of each journal that came into the library so they could very quickly screen through those journals and see what was relevant.
31	12-14	He would go to the environmental library at Monsanto. He states that the official name is the Monsanto Information Center.
	21-25	Monsanto had a library called the Toxicology Library.
32	1-2	It also had another library called the Engineering Library.
33	1-12	He visited the GE Hudson Falls facility to help them with the problem and to give them technical consultation on PCBs on the Hudson River. This technical consultation would have been primarily related to removal of PCBs from the Hudson River.

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34	1-16	He gave them information with respect to the properties of the materials. He does not know what amounts of PCBs GE was discharging into the Hudson River. Nor does he know the range of PCBs that they were discharging.
35	4-13	He does recall a meeting with Westinghouse between 1974 and 1976.
	17-25	The meeting was held at the St. Louis corporate headquarters of Monsanto. Tom Gossage from Monsanto also attended. He believes Gossage was a business director but he does not recall the exact title.
36	1-14	Ralph Munch was a senior scientist and also attended the meeting from Monsanto. He doesn't recall anyone from Westinghouse who was in attendance. The subject of the meeting was Monsanto looking for PCB replacements.
	17-22	His recollection is that no conclusion was reached at that point in time at that particular meeting. However, he was involved in developing replacement fluids for PCBs.

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37	14-19	His analysis on residue from feeding study means that the residue is the amount of material that is fed to the animal that might still be in the feed, the animal, its feces or urine.
	20-23	They measured the amount of PCBs that were present in connection with samples from feeding studies.
38	11-15	He cannot recall if the samples he was working with came from IBT or not.
39	3-8	His next job title at Monsanto was research group leader II. He essentially had the same duties as before but a slightly broader range of people working for him.
	9-24	It was during this time frame that they developed a method for looking at impurities in a more quantitative fashion. They were doing this so that they would know the composition of the product. Work had been reported in Europe regarding these organic impurities.
40	1-3	A group had reported finding low levels of chlorinated dibenzo furans.
	9-14	The report of chlorinated dibenzo furans was done by Vos.

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41	17-24	In order to find the organic impurities in PCBs, they used a column chromatography separation technique to isolate the PCBs from any dibenzo furans that might be present. They followed this up with some type of gas chromatography, either chromatography with electron capture detector or mass spectrometry detector.
42	13-20	There was no reason to suspect dibenzo furans might be present prior to the Vos report. This is why they didn't perform studies to determine them.
43	9-17	What they found was basically the same as what Vos had reported in the samples of German and French products. They didn't find any dibenzo furan in the Monsanto material.
	18-24	However they did, in the mid-'70s, find the chlorinated dibenzo furan as an organic impurity in the PCBs manufactured by Monsanto.
44	1-3	This was due to improvements in their analytic methods.
	8-12	The only Aroclor that he can recall positively finding chlorinated dibenzo furans in was Aroclor 1254.

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45	5-15	He became manager of environmental sciences in 1978. He was responsible for the section that did aquatic biology experiments, environmental fade experiments and provided analytical support for the activities.
	16-24	His work with aquatic biology experiments did not relate to products manufactured by Monsanto that contained PCBs. Nor does he think that the environment fade experiments related to PCBs.
46	1-10	In the 1980 time frame, he became product acceptability manager and worked with the plasticizers. These plasticizers did not contain PCBs.
	15-20	In 1985, he became product safety manager. He did not have any responsibility for products manufactured by Monsanto that contained PCBs.
	22-25	His next job title was product safety director. All of the products made by Monsanto Chemical Group were within his responsibility.
47	4-7	He then became product safety director in 1991 and still has that job title.

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47	16-25	The advice he gave GE with respect to the Hudson River problem had to do with solubility of the product and volatility of the product.
48	4-12	When he discussed the water solubility and volatility of the product, GE already had a pretty good understanding of this.
	13-23	He also discussed with them biodegradation of the product and analytical methods.
49	14-22	At that time, GE had their own analytical lab set up at the Hudson Falls facility. It was run by Bob Stenger.
50	5-14	Mieure is asked to review Exhibit 1428. He authored this letter on October 29, 1975 to Papageorge.
51	1-9	He doesn't recall the November hearings that he was speaking of in this memo. Nor does he recall ever being able to detect chloro dibenzo furans in Aroclor 1016.
	13-22	He is asked to review Exhibit 1491 which is a

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		letter from Dr. Mieure to Dr. Stenger dated 10/24/75. This is the type of document that he would have maintained.
52	2-21	He is asked to review Exhibit 895 which is a May 12, 1975 letter that he wrote to Dr. Leonard Guarria with the U.S. EPA. He would write letters discussing scientific issues with scientists and organizations outside of Monsanto.
53	1-4	He does not recall having seen Plaintiff's Exhibit 1249.
	5-25	He is asked to review Exhibit 1513 which is a memo written by him to Papageorge dated December 3, 1974. He verifies his signature at the bottom. He doesn't recall having written this after he talked with John Roach of the FDA regarding a paper he presented at the National Meeting of the Association. However, this is what the first sentence of the memo says.
54	8-19	He is asked to review Exhibit 1511. It is a copy of a letter written by him to C.F. Jelinek dated December 23, 1974 which attaches a copy of a

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		presentation made at the October, 1974 AOAC meeting. He does recall having seen this document before.
55	13-23	He is asked to review Exhibit 1516 which are minutes of a meeting for December 1, 1972. He is listed as being present.
56	6-8	It was not part of his regular practice to keep copies of minutes of meetings.
57	6-9	R.A. Ligett in December of 1972 headed up a section in the European labs of Monsanto.
58	3-12	He is asked to review Exhibit 419 which is a letter of interoffice memo to J.R. Savage from Papageorge dated October 26, 1970. Savage, at that time, was a Monsanto employee.
59	7-13	He states that this letter was found to be incorrect with respect to the presence of dibenzo furans in Santowax R used in the manufacture of Aroclor.
61	1-9	Exhibit 419 discusses Santowax R. The chief

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		chemical is terphenyl and not biphenyl. For a very brief period of time, Santowax R was used in the manufacture of Aroclors.
	17-25	The reference to dibenzo furans in Santowax R was later found to be wrong because something else with the same molecular weight was interfering with the analysis when they thought they were finding the dibenzo furans.
62	7-11	This interfering substance was methylbiphenyl.
63	3-22	He is asked to review Exhibit A. He is listed as a co-author. There is reference to Orville Hicks, Dr. Kaley, and Vic Saeger. These are people who worked for him at a point in time when they were doing a lot of work on PCBs.
64	1-4	It was a few months until they determined that it was not dibenzo furans in Santowax R.
	15-18	He agrees with the statement "biodegradation represents a mechanism for removing PCBs from the environment."
65	1-5	At the time of the meeting with GE and

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		Westinghouse, he believes he had the opinion that PCBs get removed from the environment through biodegradation.

END OF DEPOSITION

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JAMES MIEURE, of lawful age, being first duly sworn to tell the truth, the whole truth, and nothing but the truth, deposes and says on behalf of the Plaintiff, as follows:

DIRECT EXAMINATION

QUESTIONS BY MR. BRADLEY:

Q. Dr. Mieure, my name is Ralph Bradley. We introduced ourselves to one another just a few moments ago; is that correct?

A. That's correct.

Q. You know that I'm an attorney and that I represent Nevada Power Company in the lawsuit that they've brought against Monsanto, Westinghouse and General Electric Company; is that true?

A. Yes.

Q. Have you had your deposition taken on any other occasions?

A. I've been deposed before.

Q. All right. And do you know the purposes of a deposition?

A. I think so.

Q. All right. Well, let me go over some of the purposes that I have in taking your deposition. One, I want to know the information you have regarding the questions that I ask. Second, if I ask you those same

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questions at the time of trial in this matter, I'll expect you to give the same answers, and if you don't I'll ask you to explain yourself. Do you understand that?

A. Yes.

Q. If during the course of this deposition I ask any questions that you don't understand, will you tell me?

A. Yes.

Q. And if at any time during the course of this deposition you want to take a break, just let us know and we'll accommodate you. All right?

A. Thank you.

Q. In what other cases have you had your deposition taken?

A. I was deposed in the Sturgeon litigation case about a chlorophenyl spill.

Q. When was that?

A. When was the deposition?

Q. Yes.

A. I don't --

Q. Roughly.

A. I don't recall. Mid 1980's. Early to mid 1980's.

Q. All right. Any other times?

A. I think I've been deposed on one or two PCB issues, but it's been so long ago that I don't recall what

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the issues were.

Q. All right. How long ago was this that you had your deposition taken in cases involving PCB issues?

A. I don't know.

Q. In the last five years?

A. No. More than ten.

Q. All right. Did you have your deposition taken in a case referred to as One Market Plaza? Do you know?

A. I don't know.

Q. Have you had your deposition taken in California?

A. No.

Q. Where was your deposition taken?

A. In St. Louis, I believe.

Q. Do you know what the issues were regarding the PCBs that were the subject of the lawsuit in which you gave testimony?

A. No, I don't.

Q. Have you testified in trial before?

A. Yes.

Q. Which trials have you testified in?

A. The Sturgeon litigation, chlorophenyl spill.

Q. Any other case?

A. No.

Q. All right. Tell me about your educational

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background.

A. After high school?

Q. Yes.

A. After high school I went to Kenyon College in Ohio, got a bachelor's degree there. Then I went to Purdue University, got a master's degree in chemistry and then went to Texas A & M University and got a Ph.D in analytical chemistry.

Q. Your master's degree was in chemistry from Purdue?

A. Yes.

Q. Any particular type of chemistry?

A. No. Just generally.

Q. And what did you get your bachelor's degree in?

A. It was in chemistry also.

Q. And was that an MS from Purdue?

A. Yes. Yes, an MS.

Q. All right. When did you get your Ph.D.?

A. 1968.

Q. How old are you now?

A. Fifty-one.

Q. What's your residential address?

A. 1242 Chavaniac, C-h-a-v-a-n-i-a-c, Drive, Ballwin,
B-a-l-l-w-i-n, Missouri, 63011.

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Q. What did you do for work following completion of your doctorate?

A. I came to work for Monsanto and began work as an analytical chemist.

Q. What is the field of analytical chemistry?

A. The field of analytical chemistry is the science of determining what materials are present and how much of those materials are in a given material, given sample.

Q. Would that be true whether the sample was organic or inorganic?

A. The statement is true. The methodologies would be vastly different.

Q. In your work as an analytical chemist did you work with both organics and inorganics?

A. Probably.

Q. Did you focus on one or the other?

A. Yes.

Q. Which?

A. Organics.

Q. Did you receive your Ph.D. with an emphasis in organics?

A. No.

Q. What was your first job title with Monsanto?

A. Senior research chemist.

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Q. What did you do as a senior research chemist?

A. I worked in the general field of organic analysis, utilizing gas chromatography and mass spectrometry as the analytical tools.

Q. What chemicals were you searching for, if any, when you were working with gas chromatography?

A. Wide variety of different -- I worked on a wide variety of different projects, worked with many different materials, almost everything that Monsanto made.

Q. Was there a period of time when you did some work relating to polychlorinated biphenyls?

A. I did some, yes.

Q. When did you first begin work -- I'm going to refer to them as PCBs. Is that how you know them as well?

A. Fine.

Q. When did you first do some work with PCBs?

A. I probably did some work with PCBs in 1968, certainly no later than 1969.

Q. What work did you do with PCBs in 1968?

A. I was developing some analytical methods for determining PCBs.

Q. Were there analytical methods for determining PCBs prior to your beginning your work in 1968?

A. Yes, there were. Q. Were you looking for different analytical

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techniques or methods?

A. Yes. Primarily for ways of confirming.

Q. All right. And did you -- Were you successful?

A. Yes.
Q. Okay. And what analytical method were you able to -- Well, did you develop an analytical method to test the presence of PCBs?
A. Yes.
Q. And what analytical method was that?
A. An analytical method for testing for the presence of PCBs. I don't recall that it had a particular title.
Q. All right. How did it differ, if at all, from gas chromatography?
A. It utilized gas chromatography.
Q. All right. How did it utilize it?
A. The gas chromatography was the piece of equipment at the front end that was performing the separation that allowed us to measure the PCBs.
Q. What did you do next as part of your analytical method for determining presence of PCBs?
A. Well, we linked up the gas chromatograph to a mass spectrometer.
Q. For what purpose?

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A. For getting a very sensitive readout, if you will, of the PCB ions, the PCB molecules that might be present in the samples.
Q. Did your method end after the sample was run through mass spectrometry?
A. Did the method end after the samples were run through mass spectrometry. Well, we had to do calculations when you're done. I'm not sure I understand the context of the question.
Q. You didn't do any further tests on the material after it was run through the mass spectrometry?
A. I don't recall doing anything else, but it would be hard to say unequivocally that I didn't do something else. I could have weighed a sample, for example.
Q. What was the purpose in your developing this method?
A. To be able to look for PCBs in environmental matrices.
Q. Who requested or directed that you do that?
A. I don't recall exactly. My management requested I do that, but I don't recall who in particular in my management.
Q. Who was your management?
A. Well, my boss at the time was Dr. Martin

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Dietrich, D-i-e-t-r-i-c-h. His boss was Dr. Robert Keller.
Q. Did those two individuals comprise your management team?
A. They were the primary ones that I interfaced with, yes.
Q. And prior to beginning your work with Monsanto had you done any work with PCBs?
A. No. Nothing related to chemistry, no.

Q. Did you do any other work relative to PCBs as a senior research chemist at Monsanto?

A. Did I do any other work related to PCBs?

Q. As a senior research chemist.

A. As a senior research chemist. I don't recall.

Q. What was your next job title?

A. Research specialist.

Q. What work -- Well, first of all, when did you become a research specialist?

A. In the early 1970's. I don't recall the year.

Q. What work did you do as a research specialist?

A. I did a lot of the same kind of work, just was given a little bit more independent responsibility, still doing GC-mass spec work.

Q. Were you still working with PCBs as a research specialist?

A. Yes.

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Q. Did you do any work with PCBs as a research specialist other than working with gas chromatography and mass spectrometry?

A. Well, as I said earlier, there were incidental things that one had to do in order to do that, such as measuring -- such as weighing materials. So, yes, I did a number of incidental things of that type.

Q. Were the incidental things that you did with PCBs all related to your work with the gas chromatography and mass spectrometry?

A. As best as I can recall at this time.

Q. And how long were you a research specialist?

A. Three years maybe, plus or minus a year.

Q. What was your next job title?

A. I think I was promoted to group leader at that time.

Q. What work did you do as a group leader?

A. Supervised a number of chemists and technicians working on a variety of projects, mostly related to organic analytical chemistry.

Q. When did you become a group leader?

A. I don't recall.

Q. Would it have been around 1974?

A. '74, '75, '76, somewhere in there.

Q. What work did you do as a group leader other

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than work related to organic analytical chemistry?

A. We did do some bio -- At that time I was also in charge of some environmental experiments, biodegradation, that type of thing.

Q. Were you supervising chemists and technicians regarding biodegradation studies?

A. Yes.

Q. And what chemicals were you studying as part of the

biodegradation studies?

A. Well, again, a wide variety. Most of the products that Monsanto organic division made at that time.

Q. Were you studying either MCS-10 -- Well, let me ask it this way. Were you studying the biodegradation of MCS-1016?

A. Yes.

Q. Were you studying the biodegradation of Aroclor 1016?

A. I'm not sure of the distinction between those two.

Q. I'm not either, and I'm now going to ask you if there is one. Have you ever heard of Aroclor 1016?

A. Yes.

Q. Have you heard of MCS-1016?

A. Yes.

Q. And they're the same chemical?

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A. As far as I know.

Q. As I understand it, the MCS-1016 preceded the label Aroclor 1016. Is that correct?

A. I'm sorry. Say it one more time. I want to make sure I have the answer correct.

Q. Aroclor 1016 was first named MCS-1016?

A. That's correct.

Q. Why did that particular chemical begin with the name MCS-1016?

A. Originally?

Q. Yes.

A. Well, the particular research unit that developed that material named all of their materials MCS followed by some serial number, and so it was named that way because the product before it was named MCS-1015 and the product after it was named MCS-1017. Just a sequential number that was chosen and entered into a logbook.

Q. Were you familiar with the chemical properties of the different Aroclors produced by Monsanto?

A. I have vague recollection of them. I can't say I'm familiar with them, no.

Q. You've heard of Aroclor 1242?

A. Yes.

Q. Aroclor 1254?

A. Yes.

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Q. Aroclor 1260?

A. Yes.

Q. Do you know what the twelve refers to in that numbering system?

A. Twelve refers to biphenyl.

Q. Twelve biphenyl rings?

A. Well, no. Twelve atoms in the biphenyl molecule.

Q. And what do the last two digits refer to?

A. The degree of chlorination.

Q. Does -- Excuse me. Did Aroclor 1016 also contain twelve atoms in the biphenyl?

A. Yes.

Q. Do you know why it did not have a number that began with the number twelve?

A. Well, when we took it to our customers they said they'd rather have the name stay the same because their people were used to working with the MCS-1016 designation and so they asked us to keep the name the same.

Q. Which customers asked you to do that?

A. I don't know.

Q. Did any customers ask you to do that?

A. No.

Q. Who told you that the customers were asking that the product be named 1016?

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A. I don't recall who told me that. Fairly common knowledge around that time.

Q. And Aroclor 1016 has what percent chlorine?

A. I don't recall. Arochlor 1016? Is that what you said?

Q. Yes.

A. I don't recall.

Q. Do you know whether it has between forty-one and forty-two percent chlorine?

A. I know it's within the range of forty or forty-five. I don't know beyond that.

Q. And do you know why the last two digits of 1016 did not reflect its chlorine content?

A. Yes. I think I answered that earlier.

Q. And what --

A. The customers basically said they were -- their employees were familiar with that designation and they asked us to keep the name the same.

Q. If you were to determine who in Monsanto had those discussions with customers, who would you expect that person to be?

A. Our marketing people. But I don't know -- I don't have a name for it. Someone in our marketing department. Could also be marketing technical services.

Q. What is the difference between marketing and

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marketing technical services?

A. The marketing technical services person is usually technically trained and has a higher degree of technical training than a marketing person and then they sort of are the go-between between the customer -- the marketing function, the customer and the technology function. They'll provide guidance to people in terms of how to use products.

Q. In 1974, '75, '76 when you were promoted to group leader was there a business group within Monsanto that worked

with PCBs?

A. Yes, there was.

Q. Was the marketing part of the business group?

A. The marketing done by the business group, if I could paraphrase?

Q. Yes.

A. Yes.

Q. And within the business group was there a person from marketing, Monsanto's marketing department?

A. There were probably several.

Q. All right. And within the business group was there someone from the marketing technical area within Monsanto?

A. Again, probably several.

Q. Did you have any discussions with Monsanto

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customers regarding PCB products manufactured by Monsanto during the 1970's?

A. At various times I was involved in meetings with customers.

Q. And which customers did you have any contact with during the 1970's regarding PCBs manufactured by Monsanto?

A. I can recall several different meetings with GE, Westinghouse, Outboard Marine.

Q. Where were these meetings? Well, let me ask it this way. When was the first meeting you recall that you attended where someone from General Electric was present and the subject was in whole or in part PCBs?

A. I'll have to guess. I guess early '70's. I don't recall exactly when.

Q. Do you recall what the nature of the meeting was?

A. No, I don't.

Q. Do you recall any topic at all that was discussed at that meeting?

A. Not the first meeting, no.

Q. Okay. And when was the second meeting?

A. I don't know. I remember one meeting basically.

Q. Okay. Tell me about the meeting you remember.

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A. Okay. There was a meeting --

MR. FEATHERSTONE: Well, wait a minute. Is that the question? Object to the form of the question then.

Q. (By Mr. Bradley) Tell me who you remember being at the meeting where you were present and General Electric was present and the topic was in whole or in part related to PCBs.

A. I don't know the names of the people that were there.

Q. Okay. Tell me when it occurred.

A. Early '70's is my best -- Early to mid '70's is my best recollection.

Q. Where did it take place?

A. It took place in St. Louis at Monsanto's headquarters.

Q. At the corporate headquarters?
 A. Yes.
 Q. On campus?
 A. Yes.
 Q. In which building?
 A. I don't recall which building.
 Q. Do you recall whether Monsanto's attendees included someone from its medical department?
 A. No, I don't recall.

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Q. Do you recall whether Monsanto had anyone in attendance from industrial hygiene?
 A. I don't recall.
 Q. Who, if anyone, do you recall attending that meeting from Monsanto?
 A. I can't at this point. Let me think about that for a minute. It would be speculation on my part.
 Q. And what do you remember being discussed at the meeting relative to PCBs?
 A. Well, we talked about a PCB problem that General Electric was having at Hudson River.
 Q. Why did you attend that meeting?
 A. Well, because I was the group leader at that time of the group that was functioning in the environmental property of PCBs.
 Q. What was the result, if any, of that meeting?
 MR. FEATHERSTONE: Object to the form.
 Q. (By Mr. Bradley) Go ahead and answer.
 MR. FEATHERSTONE: You can answer, if you understand it.
 A. Could I hear the question again, please.
 Q. (By Mr. Bradley) What was the result, if any, of that meeting?
 A. We exchanged information.
 Q. And who did you exchange information with?

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A. The representatives from General Electric exchanged information with the folks from Monsanto and vice versa.
 Q. Do you recall any one particular individual from GE attending that meeting?
 A. I recall one individual just because he happened to sort of stand out as a very dynamic person, but I don't recall his name.
 Q. Do you recall the information that Monsanto gave to GE at the meeting?
 A. Specifically, no. We gave them a lot of health and safety information about our products.
 Q. Tell me about the health and safety information you gave GE about your products at the meeting we've been discussing.
 A. I don't know what else there is to say. We told them

about what we knew about our products in terms of their environmental properties, their behavior.

Q. What did you tell them were the environmental properties of your products?

A. I don't recall at this time. We told them what they were, I mean, the facts that were the result of years of study.

Q. Who presented that information?

A. I probably presented some and I -- and whoever

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else was there from Monsanto presented some. I just can't recall who the individuals were.

Q. Did you distribute written materials to GE as part of that meeting?

A. I don't recall.

Q. Where did you get your information regarding the health and safety of Monsanto's products containing PCBs?

A. Partly from the work that the group that I was part of had done and then partly from our files, partly from the literature.

Q. What work had your group done that you shared with GE representatives at this meeting regarding health and safety of Monsanto products containing PCBs?

A. We had done biodegradation experiments, as we discussed, as I mentioned earlier.

Q. Anything else?

A. Soil mobility studies.

Q. Anything else?

A. A lot of analytical measurements on environmental samples, analytical work to support toxicological studies.

Q. Anything else?

A. That's all that comes to mind at the moment.

Q. All right. And what analytical measurements

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on environmental samples did you report to GE that your group had done during this -- when you were making your presentation at this meeting?

A. I don't recall the details at this time.

Q. What do you recall generally about that?

MR. FEATHERSTONE: Well, before you answer that, Doctor, may I hear the second to last question, the question that Mr. Bradley is referencing in his last question.

(Thereupon, the reporter propounded the second to last question.)

Q. (By Mr. Bradley) What do you recall generally about the analytical measurements on environmental samples that you reported to GE at this meeting?

A. Well, we had a lot of data and we presented the data to them.

Q. And what did the data state or support?

A. I don't know -- Are you asking what the data supported?

I don't know what the data supported. The data basically showed that you could biodegrade a lot of PCBs.

Some of it wouldn't biodegrade very fast.

Q. Did any of your analytical measurements on environmental samples that you discussed with GE at this meeting relate to anything other than the biodegradation of certain of the Aroclors?

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A. I don't recall at this time.

Q. And which of the Aroclors, if any, did you believe biodegraded when you made your presentation to GE at this meeting?

A. Would you ask the question again, please.

Q. Let me ask it this way. At this meeting did you report to GE that certain of the Aroclors biodegraded?

A. As I mentioned earlier, all -- as far as I know, some components of all the PCBs biodegraded.

Q. And as far as you know, do all of the components of some of the PCBs biodegrade?

A. Yes. Some components of all PCBs biodegrade.

Q. And which are those?

A. I couldn't tell you at this time. There's seventy-five isomers or something like that.

Q. Well, let me approach it this way. When you had the meeting with GE, did your data show that Aroclor 1242 biodegraded?

A. Under some conditions, I believe Aroclor 1242 biodegraded.

Q. The entirety of it, not just some of the isomers?

A. I don't recall. I know a lot of the isomers did.

Q. And what did your data show regarding Aroclor

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1016. Did it biodegrade?

A. Yes. It was more biodegradable than 1242.

Q. And did it biodegrade in its entirety?

A. I believe it came close to it, if not all the way.

Q. Do you know whether some of the isomers of Aroclor 1016 have been shown to not biodegrade?

A. I don't recall any.

Q. What information regarding analytical work to support toxicological studies did you give at this meeting?

A. I don't recall specifically.

Q. Tell me generally what you recall about that.

A. Well, I suspect we told them about studies that we had done and what we found in the feeding samples, feeding study samples.

Q. And which feeding samples were those?

A. Whatever we had done up to that time.

Q. Were those the ones that Monsanto had submitted to Industrial Biotest Laboratories?

A. I don't know. Could have been.

Q. Which files did you review prior to making your presentation at this meeting regarding the health and safety of PCBs?

A. What meeting? I'm not sure what meeting.

Q. Talking about the same meeting.

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A. What files did I review. I don't recall specifically what files I reviewed. Probably the files in my possession at the time that I thought were relevant to the meeting.

Q. And did you review files from any other department or division within Monsanto?

A. I don't recall doing so.

Q. How did you develop a file regarding health and safety of PCBs prior to this meeting?

A. I don't recall that I had a file.

Q. I thought you indicated that you reviewed your file.

A. I reviewed my file, but you just qualified the file further and said it was a health and safety file.

Q. All right. So, prior to this meeting you didn't have a file on the health and safety of PCBs?

A. I guess that depends on what you mean by health and safety.

Q. Well, I'm going to ask you then what you meant by health and safety when you indicated that you gave GE health and safety information regarding your products at this meeting. What did you mean when you --

A. If in fact I said health and safety at that meeting then that was an improper statement and it's in fact probably due more to my job responsibilities today

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than it was then. By health and safety, I believe what I meant was the environmental properties. Health and safety is an acronym that has sort of grown up over time.

MR. FEATHERSTONE: Let's go off the record.

(Thereupon, a brief colloquy was had between counsel, off the record.)

Q. (By Mr. Bradley) What literature did you review prior to giving a presentation at this meeting with General Electric that we've been referring to?

A. I don't know.

Q. Would it have been literature that was contained in your file?

A. Probably.

Q. Did you search out additional literature?

A. Additional to what was in my file?

Q. Yes.

A. Not that -- I don't recall.

Q. Was there a system for providing you information regarding the environmental properties of PCBs that were studied

by other researchers?

A. I don't believe we had a system, but we had regular communication, monitored the literature closely.

Q. How did you monitor the literature?

A. By going to the library. Well, actually we had a publication out of our library called Contents Review

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which each month gave us a listing of the table of contents of each journal that came into the library so we could very quickly screen through those journals and see what was relevant and what wasn't.

Q. Did you know what journals the library subscribed to that had its contents reviewed in this monthly content review publication?

A. I didn't personally, but it was published information.

Q. Well, for example --

A. I mean, it was in the front of each monthly edition. It listed the journals, here are the journals that are contained in this month's edition.

Q. And was there ever a period of time when you asked the library to order additional journals?

A. Probably.

Q. And how would that work?

A. If I asked them to order one and I gave them a charge number, they would order it.

Q. And how would it happen that -- Well, let me ask it this way. I assume that there were occasions when you knew the library didn't have a particular journal that you thought it ought to have?

A. I don't recall ever feeling that way.

Q. Well, do you recall ever asking the library to

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order a journal?

A. To order a journal?

Q. Yes.

A. If you're talking -- If you mean order one specific journal --

Q. Let me rephrase that question. I could tell that you're being more specific than me, which is good.

A. Okay.

Q. Did you ever ask the library to subscribe to a journal?

A. I don't think so.

Q. Which library did you go to, if any, to review information regarding the environmental properties of PCBs?

A. The environmental library at Monsanto.

Q. And what is the environmental library?

MR. FEATHERSTONE: What was it then?

MR. BRADLEY: Yes.

A. Well, I'm talking about the Monsanto information center. I think that's the official name of the library.

Q. (By Mr. Bradley) Did you ever research the properties of PCBs in any library other than the library known as the Monsanto information center?

A. There was a Monsanto -- There was a library called the toxicology library. I believe I probably looked

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at some things there. There was another library called the engineering library. I probably did some research there.

Q. Did you ever review any documents from the medical library?

A. I don't recall whether I ever reviewed the documents per se or not.

Q. The medical library was in the medical department of Monsanto on campus back in -- when you were the group leader. Is that your understanding?

A. That's probably accurate.

Q. And where was the engineering library when you were group leader?

A. Probably in F building on Monsanto's campus.

Q. And when you became group leader where was the toxicology library?

A. Probably the same place as the medical library.

Q. Was it different than the medical library?

A. I don't know. You brought up the medical library. I brought up the toxicological laboratory.

Q. Was the toxicology library within the floors used by the medical department of Monsanto?

A. Probably. I'm not sure.

Q. What other meetings, if any, have you attended where GE was present and the subject matter was in whole or

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in part relating to PCBs?

A. What other meetings where the subject -- Well, I went to visit the GE Hudson Falls facility to help them with that problem that we mentioned earlier.

Q. What was the purpose of your visit?

A. To give them technical consultation on PCBs on the Hudson River.

Q. Was the technical consultation relating to removing PCBs from the Hudson River?

A. Primarily, yes.

Q. And did you give them technical assistance in reducing PCBs to the Hudson River?

A. I don't know that.

MR. FEATHERSTONE: Let me get the question again, please.

(Thereupon, the reporter propounded the previous question.)

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

Q. (By Mr. Bradley) Did you understand that question?

A. Well, I was ready with an answer. I don't know whether

I understood the question or not, but I was going to try to answer the question.

Q. Okay. Go ahead.

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A. I was going to say that I don't know that my presence there really helped them clean up the river, but I did provide them with suggestions and particularly with respect to the properties of the materials.

Q. All right. Prior to your giving them technical consultation, do you know what amounts of PCBs, if any, they were -- GE was discharging into the Hudson River?

A. No, I don't.

Q. Do you know generally the range of PCBs that GE was discharging into the Hudson River?

A. No, I don't.

Q. Do you know the range of PCBs GE discharged into the river following your giving GE technical consultation?

A. No.

Q. Did you write a report to GE regarding your technical consultation on the issue of their release of PCBs into the Hudson River?

A. I don't remember.

MR. FEATHERSTONE: Object to the form.

A. I don't recall doing so.

Q. (By Mr. Bradley) Have you attended any meetings with Westinghouse -- Well, let me back off for a moment. What other meetings, if any, have you attended

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with GE where the subject matter was in whole or in part relating to PCBs?

A. I don't recall any others with GE.

Q. Have you attended any meetings with Westinghouse personnel where the subject matter was in whole or in part relating to PCBs?

A. I can recall one meeting with Westinghouse.

Q. And when did that meeting occur?

A. In the same general time frame that we've been talking about, plus or minus a year or so.

Q. '74 to '76 roughly?

A. Roughly. But I'm not sure that it's within that two year time frame.

Q. Was that meeting also at the St. Louis corporate headquarters?

A. Yes.

Q. On the campus at Monsanto?

A. Yes.

Q. Who do you recall, if anyone, attending besides yourself for Monsanto?

A. Tom Gossage, G-o-s-s-a-g-e.

Q. What was his title at the time this meeting took place?

A. I don't know. He was something akin to a business director, but I don't recall the exact title.

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Q. Who else, if anyone, do you -- Who else, if anyone, do you remember attending the meeting from Monsanto?

A. **Ralph Munch** was there. Ralph was a senior scientist.

Q. Anyone else from Monsanto?

A. Those are the only ones that I'm sure were there.

Q. Do you recall anyone from Westinghouse who attended that meeting?

A. No, I don't.

Q. What was the subject matter of the meeting?

A. We were looking for **PCB replacements**, discussing PCB replacements.

Q. At that time was Aroclor 1016 on the market?

A. I don't know.

Q. Were there any conclusions reached about PCB replacement products as a result of this meeting with Westinghouse?

MR. FEATHERSTONE: Object to the form.

A. My recollection is that no conclusions were reached at that point in time, that particular meeting.

Q. (By Mr. Bradley) Were you ever involved in developing replacement fluids for PCBs?

A. Yes.

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Q. Other than working on biodegradation studies as a group leader, did you do any other work, either directly or as a supervisor, relating to organic analytical chemistry of PCBs?

A. Well, I mentioned earlier that we had done soil mobilization studies.

Q. Anything else?

A. Well, I also mentioned earlier that we looked at residues in samples from feeding studies.

MR. BRADLEY: Would you read that answer back, please.

(Thereupon, the reporter propounded the previous answer.)

Q. (By Mr. Bradley) What is a residue from a feeding study?

A. A residue is the amount of material that's fed to the animal that might still be in the feed or it might be in the animal or it might be in the biological samples from the animal, feces, urine.

Q. What work did you do regarding samples from feeding studies as part of your work as a group leader?

A. We measured the amount of PCBs that were present.

Q. In what -- In animals?

A. Well, in these -- the various matrices that I

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just mentioned.

Q. And did the matrices come from animal organs?

A. Yes.

Q. And where did you obtain the animal organs?

A. From the laboratory that did the work.

Q. And was it a Monsanto laboratory that did the work?

A. There were various laboratories.

Q. Did that include a Monsanto laboratory?

A. I don't know.

Q. Did it include IBT?

A. At that point in time I don't know. Obviously we did some studies at IBT, but I don't know -- I can't recall if the samples that I was working on came from IBT or not.

Q. Have you ever visited -- Excuse me. Did you visit the IBT labs in the 1970's?

A. No.

Q. Do you know from Monsanto who did visit the IBT labs in the 1970's?

A. Not looking at PCB issues.

Q. And do you know of anyone from Monsanto who visited IBT who might have -- who went into what was called the swamp room?

A. The swamp room. No, I don't.

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Q. Have you ever heard of the swamp room?

A. No.

Q. What was your next job title at Monsanto?

A. Research group leader two.

Q. What work did you do as a research group leader two?

A. Essentially the same duties as before. Just had a slightly broader range of people working for me.

Q. Did you have responsibility for any additional work relating to PCBs other than what you've already told us about?

A. It was probably during this time frame that we developed a method for looking at impurities in a more quantitative fashion.

Q. Which impurities were you looking for?

A. Well, basically we were looking for any organic impurities that might be present.

Q. Why were you looking for organic impurities?

A. So we'd know what the composition was of the product.

Q. What led you to conduct the studies though? Had somebody reported certain organic impurities and you were following up on it or --

A. Work had been reported in Europe.

Q. And what work was reported in Europe regarding

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organic impurities and PCBs?

A. A group reported finding low levels of chlorinated dibenzofurans.

Q. Is there a difference between a chlorinated

dibenzofuran and a polychlorinated dibenzofuran?

A. Well, only the degree of chlorination. A chlorinated dibenzo -- No. For the purposes I think of what we're trying to accomplish here, they're synonymous.

Q. When was it that the work was reported in Europe regarding their finding chlorinated dibenzofurans?

A. Early '70's. I don't recall exactly when.

Q. Do you recall who it was that reported the chlorinated dibenzofurans from Europe?

A. Vos is the name of the principal, V-o-s.

Q. Do you know whether Vos is a doctor, Ph.D. doctor?

A. No, I don't know.

Q. Do you know whether it is Dr. Vos or Mr. Vos?

A. I don't know.

Q. Do you know whether Vos used different analytical techniques for determining impurities than you were using to determine -- in your work with gas chromatography and mass spectrometry?

MR. FEATHERSTONE: Let me just -- I'll object to this line of questioning on grounds of relevance and for

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the other reasons set forth in the documents exchanged between the parties regarding furans and dioxins. Having said that, do you agree that if you examine this witness on these subjects that it's not a waiver of my position regarding the proper scope of discovery evidence in this case, in other words, we do it with all reservation of rights, your side and my side?

MR. BRADLEY: On the subject matter of furans?

MR. FEATHERSTONE: Yes.

MR. BRADLEY: Fine.

A. I'm sorry. I've forgotten the question now.

(Thereupon, the reporter propounded the previous question.)

A. I'd have to think for a little bit to remember just what techniques he was using. I don't know if he was using the same techniques or not at that time.

Q. (By Mr. Bradley) What techniques did you use when you began looking for organic impurities in the PCBs manufactured by Monsanto?

A. We used a column chromatography separation technique to isolate the PCBs from any dibenzofurans that might be present and then we followed that up with some type of gas chromatography, either chromatography with electron capture detector or mass spectrometry detector.

Q. How did that differ, if at all, from the work

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-- the technique you were using to determine the presence and quantities of PCBs?

A. Well, for the presence of the PCBs you just measure -- you can measure very trace amounts without having to get rid of any large chlorinated matrix. When you're looking for an

isolated impurity in the PCB itself, it's a much more difficult challenge. It's like looking for a needle in a haystack, for example.

Q. Why is it a more difficult challenge?

A. Because you've got all the chlorinated PCBs present that's interfering with looking for the minor impurity.

Q. Is there a reason that Monsanto didn't perform studies to determine organic impurities in PCB products prior to this report out of Europe by Vos?

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

A. I'm not aware that we had any reason to suspect dibenzofuran might be present, chlorinated dibenzofuran.

Q. (By Mr. Bradley) Do you know whether Vos suspected it before he did this study that you referred to?

A. That would be speculative on my part. I don't know.

Q. And did you find impurities in -- Excuse me.

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Did you find organic impurities present in the different PCBs manufactured by Monsanto?

MR. FEATHERSTONE: Do we have a time period on this?

MR. BRADLEY: As research group leader two.

THE WITNESS: Shall I answer that?

MR. FEATHERSTONE: Yes. If you can put a time period to this. We still haven't established one.

A. I was trying to put some time periods on it. The work -- When we found out about the report from Vos, we set up some experiments to see if we could duplicate that work and we were able to reproduce that method. This is in the early '70's time frame somewhere. What we found was basically the same as what he had reported, that samples of the German product and the French product contained dibenzofuran, but we didn't find any in the Monsanto material.

Q. (By Mr. Bradley) Was there ever a time during your work as research group leader two that you were able to find the chlorinated dibenzofuran as an organic impurity in any of the PCBs manufactured by Monsanto?

A. Yes.

Q. And when was that?

A. Mid '70's is my best recollection. Q. Why was it that you were able to find it in

44 the mid '70's but you did not find it in the early '70's?

A. We made improvements in our analytical methods.

Q. What improvements did you make?

A. Well, we learned how to run those absorption -- We learned how to use different materials in the absorption column to get more selectivity.

Q. Which PCB products manufactured by Monsanto were you able to determine during your work as research group leader two contained chlorinated dibenzofurans?

A. Arochlor 1254 is the only one that I can recall for sure.

Q. Were you able to determine during your work as research group leader two whether some of the Aroclors manufactured by Monsanto did not contain chlorinated dibenzofurans? A. Well, throughout the time period we were

getting negative -- we were analyzing and not finding it in a number of the products. Q. And have you continued your work -- Well, let

me ask are you still a Monsanto employee? A. I am. Q.

Following your work as research group leader

two, did you have any further work where you determined the presence or absence of chlorinated dibenzofurans in PCBs

45 manufactured by Monsanto?

A. No. In my next job I had broader supervisory responsibilities and wasn't directly directing research of this type.

Q. What was your next job?

A. Manager of environmental sciences.

Q. When did you become manager of environmental sciences?

A. Maybe 1978, plus or minus a year.

Q. What did you do as manager of environmental sciences?

A. I was responsible for the section that did aquatic biology experiments, that did environmental fade experiments, provided the analytical support for those activities.

Q. And did the aquatic biology experiments relate to products manufactured by Monsanto that contained PCBs?

A. Not that I recall.

Q. And did the environmental fade experiment that you were working with as manager of environmental sciences relate to products manufactured by Monsanto that contained PCBs?

A. I don't believe we were doing any work of that type at that time.

Q. What job did you have next?

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A. Let's see. Product acceptability manager.

Q. When did you become product acceptability manager?

A. About the 1980 time frame.

Q. What products, if any, were you responsible for as the product acceptability manager?

A. Plasticizers.

Q. When you became product acceptability manager did the plasticizers under your direction contain PCBs?

A. No.

Q. Did you do any work with products containing PCBs as product acceptability manager?

A. No.

Q. What was your next job title?

A. Product safety manager.

Q. When did you become product safety manager?
 A. Approximately 1985.
 Q. In your work as product safety manager did you have any responsibility for products manufactured by Monsanto that contained PCBs?
 A. No.
 Q. What's your next job title?
 A. Product safety director.
 Q. For what types of products?
 A. All products made by Monsanto chemical group.

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Q. Pardon?
 A. All products made by the Monsanto chemical group.
 Q. When did you become product safety director?
 A. 1980 -- I'm sorry. 1991.
 Q. What job title did you have next?
 A. That's it.
 Q. Going back for a moment to GE and Hudson Falls, do you recall what recommendations you gave to GE?
 MR. FEATHERSTONE: It was Hudson River.
 Q. (By Mr. Bradley) Hudson River. What is it, Hudson River or Hudson Falls?
 A. Hudson River is the name of the river. Hudson Falls is the name of the town. I'm sorry. Could we have the question repeated.
 Q. I'm going to ask the question right now. Do you recall what advice you gave, if any, to General Electric at their Hudson Falls plant regarding containment of PCBs from entering the Hudson River?
 A. Well, my purpose for being there wasn't really to tell them do this, don't do this, that sort of thing. My purpose for being there was to be a resource person for them to talk about water solubility of the products, make sure they were aware of what the water solubility was, make sure that they were aware of the volatility, and so I

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didn't give them any particular direction in terms of if you do this you'll clean it up, if you don't you won't. I just helped them understand what the problems were.
 Q. And when you discussed with them water solubility, did they know about PCBs relative to water solubility?
 A. Yes. They already had a pretty good understanding of that.
 Q. How about volatility. When you had your discussion with GE at the Hudson Falls plant, did the GE personnel know about PCBs relative to volatility?
 A. Yes, they did.
 Q. Were there any other areas that you -- regarding the properties of PCBs that you had discussions with at GE's Hudson Falls plant?

A. Well, we talked about biodegradation. I mentioned that earlier.

Q. Anything else?

A. We talked about analytical methods. They were having difficulty with some measurements in their plant facility.

Q. Anything else?

A. That's all I recall.

Q. What were they measuring in their plant facility?

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A. Well, they probably measured a lot of things, but what they were asking me about were the PCB measurements.

Q. Were they taking PCB measurements of products manufactured by GE?

A. I don't know.

Q. Were they taking measurements of soil around the GE plant?

A. I don't know that either.

Q. Were they taking measurements of PCBs in the Hudson River?

A. They were taking measurements in the Hudson River, yes.

Q. And they had their own analytical lab set up to do that there in the GE Hudson Falls facility?

A. Yes, they did.

Q. Do you know who ran the GE Hudson Falls laboratory facility that was testing for PCBs in the Hudson River?

A. Yes.

Q. Who was that?

A. Bob Stenger.

Q. I'm going to show you Plaintiff's Exhibit 1428 and ask you to review that for me. Have you reviewed it?

A. I'm about half way through.

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Q. Okay. Let me know when you're done.

A. Okay.

Q. Is this a letter authored by you?

A. It appears to be, yes.

Q. And does that look like your signature?

A. Yes, it does.

Q. This is an October 29, 1975 -- would you call it a letter?

A. I'd call it a memo.

Q. -- memo to W.B. Papageorge?

A. Yes.

Q. And I take it you wrote this letter on or about October 29, 1975?

A. Yes.

Q. And is this -- Do you know whether you kept a copy of this memorandum in your business files at Monsanto?

A. No, I don't know.

Q. Is this the sort of memorandum that you would keep in

your business files at Monsanto?

A. It's the general type that one would keep, yes.

Q. All right. And in the first sentence it says, "GE is aware of the chlorodibenzofuran issue and might bring it up in their defense at the November hearings." What is -- Excuse me. What was the chlorodibenzofuran

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issue that you were referring to?

A. I don't recall at this time what I was referring to then.

Q. What were the November hearings that you were referring to in the first sentence of Exhibit 1428?

A. I don't recall that either.

Q. Were you in your work ever able to detect chlorodibenzofurans in Aroclor 1016?

A. Not that I recall.

Q. I'm going to show you Plaintiff's Exhibit 1491 and ask you to review that for me, please.

A. Okay.

Q. Is this a document that you maintain in your files at Monsanto?

A. It's the type of document that would have been maintained.

MR. FEATHERSTONE: Let me just state it on the record and he can correct me. Plaintiff's Exhibit 1491 we stipulate is a letter from Dr. Mieure to Dr. Stenger dated October 24, 1975. We stipulate it's signed by Dr. Mieure and it was sent to Dr. Stenger.

A. Yes.

Q. (By Mr. Bradley) Dr. Mieure, I've shown you Plaintiff's Exhibit 895. Have you had a chance to review that?

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A. I'm about half way through.

Q. All right. Is that a May 12, 1975, letter that you wrote to Dr. Leonard Guarrrria?

A. Yes.

Q. And he's with the U.S. Environmental Protection Agency?

A. That's correct.

Q. And do you recall whether you wrote this -- I know the letter is dated May 12th, 1975. Did you write it on or about that date?

A. I would assume on or about. I don't recall writing it, no, but I would assume on or about.

Q. And is this the sort of document that you would maintain in your files at Monsanto?

A. Yes.

Q. Was it the regular -- your regular practice to write letters like this as part of the work you did at Monsanto?

A. I would write letters discussing scientific issues with scientists in organizations outside of Monsanto.

Q. What was the March 13 version of the PCB criteria document for the toxic pollutant effluent standards referenced in the first sentence of this exhibit?

A. I don't know.

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Q. I'm now going to show you Plaintiff's Exhibit 1249 and ask you to review that for me. Apparently that doesn't -- Have you seen that document before?

A. I don't recall having seen it.

Q. I'm now going to show you Plaintiff's Exhibit 1513 and ask you to review that for me. Have you had a chance to review that?

A. Yes. I've skimmed through that.

Q. Is this a letter - excuse me - interdepartmental memo written by you to W.B. Papageorge dated December 3, 1974?

A. Yes.

Q. Is that your signature at the bottom?

A. Yes.

Q. Does this appear to be a true and accurate copy of the interdepartmental memo you wrote to Mr. Papageorge on December 3rd, 1974?

A. It appears to be.

Q. I'll ask you -- Let me try one more time. Do you recall whether you wrote this shortly after talking by telephone with John Roach of the FDA regarding a paper he presented at the national meeting of the Association of Official Analytical Chemists?

A. I don't recall that, no, but that's what the first sentence basically says.

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Q. And is this the sort of document that you would maintain in your files at Monsanto?

A. It's consistent, yes.

Q. And is it also consistent with the regular job responsibilities you had at Monsanto to prepare documents of this sort?

A. Yes.

Q. I'm now going to show you Plaintiff's Exhibit 1511 and ask you to review that. Have you had a chance to review this document?

A. Very quickly skimmed it.

Q. Is this a copy of a letter written to you by C.F. Jelinek, Ph.D. December 23rd, 1974, which attaches a copy of a presentation made at the October 1974 AOAC meeting?

A. It appears to be, yes.

Q. And do you recall whether this is a document that you've seen before?

A. Yes. Absolutely.

Q. And is this a true and accurate copy of the letter received by you from Dr. Jelinek and the presentation made at the

October '74 AOAC meeting?

A. It appears to be.

Q. And was it part of your work at Monsanto to maintain copies of these kinds of letters in your work at

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Monsanto?

A. Yes.

Q. And did you in fact maintain this in your filing system within Monsanto?

A. I don't recall.

Q. Is this the sort of document that you would imagine maintaining in your filing system at Monsanto?

MR. FEATHERSTONE: Object to the form.

Q. (By Mr. Bradley) Is this the sort of document that you would have kept --

MR. FEATHERSTONE: Does this help. We agree it was in our files.

Q. (By Mr. Bradley) I'm now going to show you Plaintiff's Exhibit 1560 and I don't have a copy of it so we'll have to have a copy made but if you'd review that for me, please. Have you had a chance to review this exhibit?

A. Briefly.

Q. And what is it?

A. It appears to be minutes of a meeting.

Q. And what's the date of the meeting?

A. December 1st, 1972.

Q. And were you an attendee at the meeting?

A. I'm listed as being present, yes.

Q. And was it the regular practice of Monsanto to record minutes of meetings?

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A. Some meetings did, some didn't.

Q. And does this appear to be an accurate representation of what was discussed at that meeting that happened December 1, 1972?

A. I really can't comment on that.

Q. Was it part of your regular practice at Monsanto to keep copies of minutes of meetings?

A. No.

Q. Do you know whether it was the practice at Monsanto to keep a record in the -- of the meetings, minutes of meetings as part of the ordinary course of Monsanto's business activity?

A. The author of the report would probably keep it, perhaps someone to whom it was addressed, not all the attendees.

Q. Do you know -- Are you listed as someone who received that?

A. I'm listed as someone who was present.

Q. May I see that. The first sentence of this exhibit indicates that discussions were opened by Dr. R.E. Keller who asked R.A. Ligett to review MCL plans for present and future PCB

work. R.A. Ligett presently commented that they presently planned for further PCB biodegradation studies and that emphasis would be placed upon analytical support for the Pond and EVOP plant process

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studies. Do you recall whether in December of 1972 Monsanto had no further plans to conduct PCB biodegradation standards?

A. Well, we did biodegradation studies for quite a period of time after that.

Q. Who was R.A. Ligett in December of '72?

A. I'm not sure what his job was. He was -- He headed up a section in the European laboratories of Monsanto.

Q. In the corporate structure he was not someone who reported to you; is that correct?

A. That's correct.

Q. And in the corporate structure he was not someone that you reported to?

A. That's also correct.

Q. The last sentence of this exhibit says the remainder of the meeting was spent -- Excuse me. The last two sentences says the remainder of the meeting was spent reviewing current and future MICC PCB defense work and an outline of the subjects reviewed follows. Do you know what the PCB -- Excuse me. Do you know what the future MICC PCB defense work was in December of 1972?

A. No, I don't.

Q. I'm now going to show you Plaintiff's Exhibit 419 and ask you to review that for me. Have you seen this

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exhibit before today?

A. I don't know.

Q. This is a letter or interoffice memo to J.R. Savage from W.B. Papageorge dated October 26, 1970; is that correct?

A. That's correct.

Q. In October of 1970 what position did J.R. Savage have?

A. I really don't know.

Q. Was he a Monsanto employee?

A. Yes. Well, he was a Monsanto employee at some point in time. I assume he was in this time period.

Q. And on or about October 26 of 1970 had you conducted work which indicated the presence of naphthalene in biphenyl and anthracene or phenanthrene and dibenzofuran in Santowax R used in the manufacture of Aroclors?

A. Well, certainly the first part of that, the naphthalene and the anthracene and phenanthrene.

Q. You had not -- Well, how about the second part of it? This exhibit indicates that you had located dibenzofuran in Santowax R used in the manufacture of Aroclors. Did your work on or before October 26, 1970, indicate of the presence of dibenzofurans in Santowax R used in the manufacture of Aroclors?

MR. FEATHERSTONE: Object to the form of the

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question.

MR. BRADLEY: What's wrong with the form?

MR. FEATHERSTONE: Well, the first part of your question talks about presence, uses some words other than indicates. I think you may have said found. I can't remember.

Q. (By Mr. Bradley) Well, let me rephrase it then. On or before October 26, 1975 -- Excuse me. On or before October 26, 1970, did your work determine the presence of dibenzofuran in Santowax R used in the manufacture of Aroclors?

A. No. Not in this context. This was later found to be incorrect.

Q. Did you do any work prior to October 26, 1970, to determine the presence of dibenzofuran in Santowax R used in the manufacture of Aroclors?

A. Prior to this time was your question. I don't know.

Q. Do you recall speaking with W.B. Papageorge on or before October 26, 1970, regarding your work involving the presence of dibenzofuran in Santowax R used in the manufacture of Aroclors?

A. I don't recall speaking with him, no.

Q. Do you recall writing to any -- any reports on or before October 26, 1970, regarding the presence of

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dibenzofuran in Santowax R used in the manufacture of Aroclors?

A. I don't recall writing any reports, no.

Q. Do you recall anything at all about work you may have done on or before October 26, 1970, regarding the presence of dibenzofuran in Santowax R used in the manufacture of Aroclors?

A. Well, I'm sure that I communicated with these folks, but you're asking me to remember how I communicated and I don't remember that.

Q. Do you recall whether you did communicate to folks, however you communicated with them, on or about October 26, 1970, regarding work you had done to determine the presence of dibenzofuran in Santowax R used in the manufacture of Aroclors?

A. It's obvious communication took place but, no, I don't remember the specific communications.

Q. I don't recall if I asked you this before. Had you seen this exhibit prior to today?

A. I don't recall seeing it.

MR. BRADLEY: That's all the questions that I have.

CROSS EXAMINATION

QUESTIONS BY MR. FEATHERSTONE:

Q. I have a couple. With regard to Plaintiff's

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Exhibit 419, in October of 1970 or thereabouts what was the chief chemical constituent of Santowax R?

A. Terphenyl.

Q. Was Santowax R a biphenyl?

A. Was it, no.

Q. And where this document, Plaintiff's Exhibit 419, says Santowax R used in the manufacture of Aroclors, was there an Aroclor line made up of terphenyls?

A. For a very brief period of time, yes.

Q. Now, in response to Mr. Bradley's questions and again with respect to Plaintiff's Exhibit 419, I believe you stated that the reference to dibenzofuran in Santowax R was later found to be wrong?

A. That's correct.

Q. All right. What did you mean when you said that?

A. Well, it was a preliminary finding at the time that I reported it and we believed to the best of our knowledge that it was correct but later we learned that something else was interfering.

Q. All right. Something else was interfering with what?

A. With the analysis. Something else that had the same molecular weight was interfering with the analysis when we thought we were finding the dibenzofuran.

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Q. So, something else was interfering with the analysis for dibenzofuran?

MR. BRADLEY: Object to the form. Go ahead and answer.

A. Yes. Something else was interfering with the determination, the supposed identification of dibenzofuran.

Q. (By Mr. Featherstone) And did you later determine what the interfering substance was?

A. Yes.

Q. What was it?

A. Methylbiphenyl.

Q. And what does that mean then with regard to how this statement in Plaintiff's Exhibit 419 was incorrect?

MR. BRADLEY: Objection to the form.

A. Well, we later learned that what's indicated in here after the words anthracene or phenanthrene, we later learned that that was not dibenzofuran that was present in the Santowax R. It was methylbiphenyl.

Q. (By Mr. Featherstone) Is methylbiphenyl something different than dibenzofuran?

A. Yes.

Q. Is it different in its chemical structure?

A. Yes.

Q. Is it different in its physical and chemical

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properties?

A. Somewhat different, yes.

Q. Let me show you what's been marked as Exhibit A to your deposition and ask you to look at that document and tell us

whether this is a document that you helped write.

A. I'm listed as coauthor, yes.

Q. Okay. And there is a reference to Orville Hicks; is that correct?

A. Yes. That's correct. Orville Hicks.

Q. Dr. Kaley?

A. Correct.

Q. And Vic Saeger?

A. Dr. Saeger, yes.

Q. And did these gentlemen work with you at the time of the drafting of Exhibit A, the writing of Exhibit A?

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

A. I assume they did. I'm looking for a date. They certainly worked for me at a point in time when we were doing a lot of work on PCBs.

MR. FEATHERSTONE: No further questions.

REDIRECT EXAMINATION

QUESTIONS BY MR. BRADLEY:

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Q. How much later was it that you determined that it was not dibenzofuran in Santowax R?

A. Probably just a few months. I don't recall just how long.

Q. And what did you do differently to determine it was not dibenzofuran in the Santowax R?

A. We just refined the analytical methods further.

Q. Do you know whether anyone has ever found dibenzofuran in Santowax R?

A. I don't know.

Q. You indicated that you were an author of Exhibit A?

A. I appear to be, yes.

Q. On page five it says biodegradation represents a mechanism for removing PCBs from the environment. Is that a statement that you agree with?

A. Yes.

Q. Is that the sort of information you gave to General Electric and Westinghouse during the meetings that you described earlier in your deposition?

A. I suspect we gave them much more specific information than that. That would just be a generality.

Q. Do you recall whether you informed GE and Westinghouse during those meetings that PCBs get removed

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from the environment through biodegradation?

A. Do I recall specifically, no, I don't.

Q. Do you recall whether you held that belief before you had the meetings with GE and Westinghouse?

A. I believe I did.

MR. BRADLEY: I have nothing further. I do want a copy of Exhibit A. That's it.

MR. FEATHERSTONE: Reserve signature.

James Mieure

Subscribed and sworn to before me this _____ day of _____, A.D., 1993.

MY COMMISSION EXPIRES _____

Notary Public within and
for the State of Missouri

66

STATE OF MISSOURI

)

) SS

COUNTY OF ST. LOUIS

)

I, Sharon M. Watson, a Notary Public within and for the State of Missouri, duly commissioned, qualified and authorized to administer oaths and to take and certify to depositions, do hereby certify that pursuant to Notice in the civil cause now pending and undetermined in the District Court of the United States, within and for the District of Nevada entitled NEVADA POWER COMPANY, Plaintiff, -vs- MONSANTO COMPANY, et. al., Defendant, to be used in the trial of said cause in said Court, I was attended at the law offices of Messrs. Husch & Eppenberger, 100 North Broadway, in the City of St. Louis, State of Missouri, by Ralph A. Bradley, attorney for the Plaintiff; by Bruce Featherstone, attorney for Defendant Monsanto; by Laurie Basch, attorney for Defendant GE; and by JAMES MIEURE, the witness, in said office on March 29, 1993. The said witness, JAMES MIEURE, being of sound mind and being by me first carefully examined and duly cautioned and sworn to testify the truth, the whole truth and nothing but the truth in the case aforesaid, thereupon testified as is shown in the foregoing transcript, said testimony being by me reported in shorthand and caused to be transcribed into typewriting, and that the foregoing pages correctly set out the testimony of the aforementioned witness, JAMES

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MIEURE, together with the questions propounded by counsel and the remarks and objections of counsel thereto, and is in all respects a full, true and complete transcript of the questions propounded to and the answers given by said witness; and that said testimony, so transcribed, was subscribed to by the witness on the _____ day of _____, A. D., 1993.

I FURTHER CERTIFY that I am not of counsel nor attorney for any of the parties to said suit, nor related, nor interested in any of the parties or their attorneys.

WITNESS MY HAND and Notarial Seal, given this _____ day of _____, A. D., 1993, at St. Louis, Missouri.

MY COMMISSION EXPIRES MAY 2, 1996.

SHARON M. WATSON,
Notary Public, within and
for the State of Missouri

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IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NEVADA

NEVADA POWER COMPANY,)
a Nevada corporation,)
)
Plaintiffs,)
-vs-) # CV-5-89-555-LDG
)
)
MONSANTO COMPANY, et. al.,)
)
Defendants.)

* * *

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IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NEVADA

NEVADA POWER COMPANY, a)
Nevada corporation,)
Plaintiffs,)
)
-vs-) # CV-5-89-555-LDG
)
)
MONSANTO COMPANY, et. al.,)
Defendants.)

DISCOVERY DEPOSITION OF WITNESS, to be used in an action pending in the District Court of the United States, for the District of Nevada, wherein NEVADA POWER COMPANY is Plaintiff, and MONSANTO COMPANY, et. al. is Defendant, pursuant to Notice, under the provisions of Rule 26 of the Rules of Civil Procedure, taken on March 29, 1993, at the law offices of Messrs. Husch & Eppenberger, 100 North Broadway, St. Louis, Missouri, before Sharon M. Watson, a Notary Public within and for the State of Missouri.

A P P E A R A N C E S

The Plaintiff was respresented by Mr. Ralph A. Bradley of the law firm of Bradley & Merrell, 300 South Fourth Street, Suite 700, Las Vegas, Nevada 89101.

Defendant Monsanto was represented by Mr. Bruce Featherstone of the law firm of Kirkland & Ellis.

Defendant Westinghouse was represented by Ms. Laurie Basch of the law firm of Weil, Gotshal & Manges, 787 Fifth Avenue, New York, New York 10153.

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