IN THE CIRCUIT COURT OF THE CITY OF ST. LOUIS
STATE OF MISSOURI

JUDITH BECHTOLD, et al,)
)
Plaintiffs,)
)
vs.) Cause No. 922 00911
)
MONSANTO COMPANY, et al,)
)
Defendants.)

Deposition of R. EMMETT KELLY, M.D.
On behalf of Plaintiffs
May 31, 1994
WALLER REPORTING, INC.
515 Olive Street, Ste. 1506
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(314) 621 2571

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DEPOSITION OF R. EMMETT KELLY, M.D., produced, sworn and examined on behalf of the Plaintiffs, May 31, 1994, between the hours of eight o'clock in the forenoon and five o'clock in the afternoon of that day, at the offices of Wilburn, Suggs & Watkins, 1221 Locust St., Ste. 500, St. Louis, MO, before TOD MINNIGERODE, a Certified Shorthand Reporter and a Notary Public within and for the State of Missouri.

A P P E A R A N C E S

The Plaintiffs were represented by Mr. Joseph A. Race of the Murray Law Firm, 909 Poydras St., Ste. 2550, New Orleans, LA 70112.

The Defendant Monsanto was represented by Ms. Carol Rutter, of the law firm of Husch and Eppenberger, 100 N. Broadway, St. Louis, MO 63102.

The Defendant Westinghouse was represented by Mr. Theodore H. Lucas and Mr. Richard Wunderlich of the law firm of Lewis, Rice & Fingersh, 500 N. Broadway, Ste. 2000, St. Louis, MO 63102.

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IT IS HEREBY STIPULATED AND AGREED by and between Counsel for the Plaintiff and Counsel for the Defendant, that this deposition may be taken in shorthand by TOD MINNIGERODE, a Certified Shorthand Reporter and Notary Public, and afterwards transcribed into typewriting, and to be signed by the witness by agreement of counsel and consent of the witness.

o O o

ROBERT EMMET KELLY, M.D.,

of lawful age, being produced, sworn and examined on the part of the Plaintiffs, deposes and says:

EXAMINATION

QUESTIONS BY MR. RACE:

Q. Could you state your name for the record, please?

A. Robert Emmett Kelly, M.D.

Q. Okay. And Dr. Kelly, it's my understanding that you have been appointed as a designated corporate representative for this deposition for Monsanto, is that correct?

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A. That is correct.

Q. Now you started working for Monsanto in the thirties, is that correct?

A. Yes, January of 1936.

Q. Okay. And you are a medical doctor, correct?

A. That is correct.

Q. Your specialty is internal medicine and occupational medicine?

A. And occupational medicine.

Q. And you worked for Monsanto until your retirement in what year?

A. November of 1974.

Q. During your employment with Monsanto what was your last position held with Monsanto?

A. The last position was director of the central medical department.

Q. And how long had you held that position?

A. Since 1946, yes.

Q. Now what does the director of the medical department do?

A. He supervised, he had several duties. He had to supervise the medical installations in all our plants and laboratories. He had to select physicians, he had to see that the physicians were doing their job, carrying out preventive and therapeutic aspects of industrial medicine.

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He had to develop toxicological information. He had the responsibility of disseminating such toxicological information to customers, government agencies, any other physicians or individuals that asked about toxicity of our products. He had to write a formulate cautionary material both for labels and for our bulletins of various sorts, and he also had to develop an industrial hygiene section.

Q. Now you One of the functions was to gather toxicological information, correct?

A. That is correct.

Q. And then disseminate that information to government and customers, correct?

A. That is correct.

Q. Monsanto had appointed or hired its first toxicologist in 1950, is that correct?

A. That is correct.

Q. Actually it was a little bit past 1950, it was the early fifties, correct?

A. Yes.

Q. There was no toxicologist on staff prior to 1950, is that correct?

A. That's correct.

Q. Monsanto did not have a toxicological in house testing lab until 1974, is that correct?

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A. '75.

Q. '75?

A. We started our plans in 1970, late '73, '74; but it did not come to fruition until I believe '75 or the first part of '76 after I left.

Q. How many products did Monsanto manufacture when you were first employed by Monsanto in 1936?

MS. RUTTER: Objection, Counsel, I have allowed you some leeway inquiring about Dr. Kelly's personal background. This is a corporate deposition, you have noticed topics for the corporate deposition of Monsanto and you are now straying into areas that are not part of the topics noticed and I object to that.

MR. LUCAS: Westinghouse joins the objection.

MS. RUTTER: If you wish to take Dr. Kelly's deposition personally if time permits under the case management order that can be discussed at a later time. You chose to proceed in this fashion in a corporate deposition, you've got topics in the deposition notice, Dr. Kelly had been designated to speak on topics 1, 4, 6, 7 and 9.

MR. RACE: Okay, Counsel.

Q. (By Mr. Race) So prior to 1975 all testing, medical testing or animal testing was done through private labs, is that correct?

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A. Yes, sir, either academic or commercial laboratories.

Q. You used that information to disseminate to the government, correct?

A. Yes, sir.

Q. Okay. Why was an in house lab not instituted prior to 1975?

A. Because we did not have a through put of compounds that would justify a laboratory of our own with the specialists we would need.

Q. What do you mean a through put of compounds?

A. Well, we didn't have the volume of work to do that would support a laboratory with a pathologist, with biochemists, with a host of specialists that you need. You just don't have one worker in a laboratory.

Q. How big of a lab was actually created in 1975?

MS. RUTTER: Objection, that's beyond Dr. Kelly retired as he told you in 1974, that's beyond the scope of your designation and what he's here to testify to.

THE WITNESS: I can't hear you, Carol.

MS. RUTTER: I just made an objection for the record that he's asking you a question in 1975 after you retired from Monsanto.

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MR. LUCAS: I join in the objection.

MR. RACE: For the record every time she objects you join unless otherwise stated?

MR. LUCAS: That's fine.

Q. (By Mr. Race) How large a lab was planned when you were director?

A. I can't tell you the square footage of the laboratory; but we had planned about eight scientists and about the same number of auxiliary help.

Q. So it would be staffed by a total of sixteen personnel?

A. Give or take, yes, a few.

Q. What occurred in 1973 that made it necessary for you to plan for the development of a lab?

A. I think it was just the increase in volume that we had, that we had anticipated. We were rather heavy in agricultural chemicals that the and the demands by the government for more extensive testing to be done to each product.

Q. Was it a fact that Monsanto started to produce a greater variety of chemicals in the seventies which required the development or private building of a lab or was it a matter that the government required more testing?

MS. RUTTER: Counsel, for the record I'm

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going to object, you're straying far afield again from your corporate designations. Question No. 9 you ask about acute and chronic toxicity studies of PCB's, starting in 1938 to present; while I agree that you are asking questions about toxicology you are straying far afield from your designated topic and since you have chosen to choose by corporate deposition on designated topics I would ask you to confine your questions to those designated topics.

MR. RACE: Counsel, also in the spirit of openness I'll try to do this corporate deposition in a general way; the representations made to the government and what I am trying to ascertain is how he gathered that information. He said he conveyed information to the government and I am trying to establish the circumstances in which he gathered the information to disseminate to the government.

MS. RUTTER: My objection right now is your question does not pertain to PCB's, you're asking him broad, wide ranging questions.

MR. RACE: Are you instructing the witness not to answer?

MS. RUTTER: You have a question, one, Monsanto's statements to government agencies regarding the safety of the PCB's, you have a question, nine, acute and

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chronic toxicity study of PCB's starting in 1938 to present, including those studies directed to Monsanto.

MR. RACE: Now are you going to instruct the witness not to answer or are you going to just let me venture into this?

MS. RUTTER: What was your last question?

MR. RACE: I wanted to know what circumstances changed that they started to plan for a lab.

MS. RUTTER: If you're representing that you do not intend to dwell incessantly on products other than PCB's, but merely ask a few more preliminary questions and move on to the designated topics I'm going to listen and consider question by question; but I intend to hold you to these topics that you designated.

MR. RACE: Fine.

Q. (By Mr. Race) Could answer the question for me?

MS. RUTTER: Do you remember the question, Dr. Kelly, or do you want me to have it read back?

MR. RACE: Maybe I'll just rephrase.

Q. (By Mr. Race) What occurred in the seventies that necessitated developing an in house lab, was it a matter of Monsanto producing more chemicals or the government requiring more testing?

A. I think it First of all, it wasn't 1970,

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you mentioned 1970; it was 1973.

Q. Correct, okay.

A. No. 2, we went into the field where there were regulations of the government, we were going into agricultural chemicals, herbicides, pesticides, and those required more extensive testing than industrial chemicals were than we did on industrial chemicals. So I think it was we went into a field where the government wanted more testing.

Q. So Monsanto started to get into the field of herbicides and pesticides in the seventies, is that what you're telling me?

A. Yes, that is correct.

Q. In the in house lab were there any tests conducted on PCB's, any studies conducted on PCB's?

MS. RUTTER: Objection, I believe that's beyond the scope of this witness' time.

A. We did not have a lab. We did not have a laboratory until I left.

Q. (By Mr. Race) So you don't know?

A. No, I don't know.

Q. Was it anticipated that any animal studies would have been done in this laboratory?

A. Oh, yes.

Q. Did you anticipate doing studies on PCB's in

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these laboratories?

MS. RUTTER: Objection, calls for speculation and conjecture.

Q. (By Mr. Race) Subject to the objection can you answer?

A. No. I didn't think we needed any more toxicological information. We had run testing at Industrial Bio test, rather extensive testing.

Q. Okay. When did Monsanto first use IBT?

A. Sometime in the fifties.

Q. Had they used IBT exclusively for their testing of PCB's?

A. No, sir, we used We had acute studies carried on by the Younger laboratories of Scientific Associates Laboratories in St. Louis, we had inhalation studies carried on in 1954 at the University of Cincinnati, the Kettering laboratory.

Q. What year was that the inhalation studies?

A. 1954.

Q. Was that the Treon studies?

A. Yes.

Q. And acute studies were conducted by whom?

A. There were two groups, Scientific Associates, and Younger Laboratories, Y o u n g e r.

Q. And what years were those acute studies

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conducted by Scientific and Younger?

A. From '38 on, we also had some work done at Drinker's laboratory at Harvard School of Public Health in '37, I believe.

Q. So the scientific was in 1938 until when?

A. They started off with one group, Scientific Associates, Younger split off; so then there was Scientific Associates and Younger Labs, and we used that for intervals all the way for our acute package of toxicological testings, either one of them. But towards the latter part of the years we gravitated more toward Younger and that kept up until I left. We were still doing it in 1974.

Q. How many tests were conducted, acute toxicity tests on PCB's?

A. Gee, I'd say this is on rats, pretty much of a guess, around fifty.

Q. The first chronic toxicity studies were conducted on behalf of Monsanto by IBT, is that correct?

A. Well, no; I think it would the tests done by Treon at the Kettering laboratory were chronic inhalation work, that was 120 days, which at that time was considered a chronic study. First extensive oral feeding on two species of animals was done at IBT.

Q. The IBT tests were designed to go for two

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years, is that correct?

A. Yes, two years in rats, two years in two years of dogs also.

Q. Two years in rats and two years in dogs?

A. That's correct.

Q. And by today's standards two years is considered an acceptable length of time for a chronic study, is that correct?

A. Yes, and rats will If you ever studied chronic toxicity in dogs for various purposes, that's seven years.

Q. So with IBT the rat study was considered a chronic study and the dog study would not have been considered a chronic study?

A. Well, it was in 1968; that's what the government asked for for food additives. They considered it a chronic study.

Q. What is it the advantage of a chronic study over an acute study?

A. Well, the advantage is that in an acute study you are dealing with a one shot approach, whether that one shot is divide a dose over two or three days, but in a chronic you are trying to find out if a little bit of the material is absorbed every day it acts on the various systems of the body in repeated doses.

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Q. Okay. With an acute study the animals are sacrificed shortly after the exposure, is that the general rule?

A. Well, it all depends if you're developing an LD 50, which is a benchmark for acute toxicity oral studies. You feed them until you get a dose that will kill half the animals, and usually in an acute study, you do not run pathological testing on the organs, as you do in a chronic study.

Q. So on acute study once the animals die you just count the numbers and once half of them is dead you take and note what the doses had been at that level?

A. Well, you do a gross examination of the organs, they see if the liver is discolored, they see if the liver is changed in weight, if it were swollen; but there really isn't long enough period of time to develop pathological changes in the organs.

Q. So acute studies are not designed to be utilized with pathological investigation, correct?

MS. RUTTER: Objection, mischaracterizes prior testimony.

A. Well, it's an acute study is that where they find out what it takes to kill an animal in a short period of time, short period of testing, and you There are certain things you can find out by a gross

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pathological examination that you don't need to run microscopic sections on. There is as a rule you do not do microscopic pathology on acute testing.

Q. (By Mr. Race) Now with the Treon studies those animals were sacrificed after 120 days, is that correct?

A. That's correct.

Q. Doctor, changing just a little bit here, what are the known carcinogens?

A. What are the known carcinogens?

MS. RUTTER: Objection, what topic?

MR. RACE: Advertised health effects of the PCB's and related compounds.

MS. RUTTER: Prior to 1970 as you designated.

MR. RACE: Uh huh.

MS. RUTTER: Well, that's not what your question was. If you want to rephrase it to ask him about the adverse health effects of PCB's prior to 1970 that's one question.

MR. RACE: And related compounds.

Q. (By Mr. Race) Let me ask you this: Is dioxin a carcinogen?

MS. RUTTER: Objection, you're asking him about today; if you want to ask him if dioxin was a carcinogen during the time that he worked for Monsanto

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through the end of 1974.

MR. RACE: I assume if something's going to be a carcinogen before '70 or after '70 then that fact doesn't change. If it was carcinogen before 1970 it will be a carcinogen after 1970; that doesn't change.

MS. RUTTER: No, but Counsel, it might change I don't know what was known before 1974 and what wasn't. You may ask this witness what he knows.

MS. RUTTER: I have a strict liability claim, right, my strict liability claim says is anything defective or unreasonably dangerous; so therefore it's the condition of the products that exists, not the knowledge. I am asking him what the carcinogenic effect of dioxin or its carcinogenic properties of dioxin prior to 1970, so and that line of thinking I believe that I am following the parameters of the corporate deposition.

MS. RUTTER: You just rephrased your question substantially from the prior question that you had on the table.

MR. RACE: And I am trying to work with you, Counsel.

MS. RUTTER: Okay, go ahead. You're going to need to repeat it for him.

Q. (By Mr. Race) Is dioxin a carcinogen?

MS. RUTTER: Objection, you are asking him if

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dioxin is a carcinogen today. You may ask him if dioxin was known to be a carcinogen.

MR. RACE: Known to be is not relevant, Counsel. I have a strict products liability claim, knowledge is not an issue. What it is in fact is the issue.

MS. RUTTER: Counsel, what relevance

Q. (By Mr. Race) Doctor, was dioxin a carcinogen in 1970?

A. I don't know if it was a considered a carcinogen in 1970.

Q. Is it considered a carcinogen today?

MS. RUTTER: Objection, the witness is instructed not to answer.

Q. (By Mr. Race) In 1970 was there individuals that considered dioxin to be a carcinogen?

MS. RUTTER: You may answer that if you know.

A. Yes, there were.

Q. (By Mr. Race) And there were those that considered dioxin not to be a carcinogen, is that correct?

A. That's correct.

Q. So in the scientific community you do have different schools of thought on the carcinogenic properties of chemicals, is that correct?

A. That's correct.

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Q. In 1970 were you of the opinion that dioxin was a carcinogen?

A. I don't believe I had an opinion in 1970.

Q. Did you have an opinion before 1974?

A. No, I did not. Whether or not it was considered I considered it to be a carcinogen or a promoter, I just don't know what my opinion was in 1974.

Q. You say a promoter; what do you mean by a promoter?

A. That's a compound that will act on a condition of the body to enhance a carcinogenic effect of another compound.

Q. Okay. And this is opposed to an initiator?

A. Yes.

Q. And an initiator starts it and a promoter helps it go along?

A. That's right, an initiator doesn't need a promoter, it just keeps going.

Q. What was the time of development from the time of exposure to the development of clinically detectable cancer?

A. What was the time? It varies all over.

Q. Could you give me a ballpark?

MR. RACE: It's within the scope.

MS. RUTTER: It is not within the scope.

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MR. RACE: It's the testing, Counsel.

MS. RUTTER: What designated topic is this question within the scope of? My concern is that you're asking about now, that's one of my concerns. My other concern is that it's not a designated topic.

MR. RACE: Acute and chronic toxicity studies, these are the differences.

MS. RUTTER: Is there a question on the floor?

MR. RACE: Yes.

MS. RUTTER: What is the question?

MR. RACE: The length of period of time from exposure to a chemical to the development of cancer.

MS. RUTTER: To any chemical?

MR. RACE: To PCB's. Well, I don't think he's going to say PCB's; he's going to say Yes, any chemical, which would form the basis of PCB studies.

MS. RUTTER: I don't understand the question, Counsel.

MR. RACE: Let's have a break for a second.

(Whereupon, a discussion was held off the record.)

Q. (By Mr. Race) In 1974 you had an idea of the promoter initiator relationship in cancers?

A. That is correct.

Q. And in 1974 when you were medical director

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choosing these tests you had an idea that the length of time from the time an individual was exposed to a substance to the time that a cancer would be seen or develop, is that correct?

A. A little louder and little slower.

Q. What was your appreciation of the interval between exposure to a substance and clinically detectable cancer?

MS. RUTTER: Objection, overbroad and vague.

Q. (By Mr. Race) Okay. Subject to the objection, go ahead and answer if you can.

A. I don't think a person can tell. It varies all over the lot; it could vary from five years to thirty years.

Q. So you would agree with me that the time between the exposure to a substance and the development of cancer can be rather lengthy, is that correct?

A. Yes, it can.

Q. And for that reason when looking or completely Or strike that. And for that reason in developing tests, animal tests it is desirable to have chronic studies done as those that were done by IBT, is that correct?

A. That is correct.

Q. It is the chronic studies that will explore

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the possible carcinogenic properties of a substance rather than the acute studies?

A. Yes, sir.

Q. And in 1974 the accepted duration for a chronic study was twenty four months, correct?

A. Correct.

Q. And the first chronic studies sponsored by Monsanto were the IBT studies?

MS. RUTTER: Objection, mischaracterizes prior testimony.

Q. (By Mr. Race) Subject to the objection

A. We considered a chronic study of 120 days by Treon a chronic inhalation study. We were not looking for carcinogenic effects at that time; but the first one, the first two year study that we carried out on an industrial chemical was the IBT studies, we had done work on food additives and work on agricultural chemicals.

Q. Chronic animal studies are considerably more expensive than acute animal studies?

A. No question about it.

Q. And they are more expensive because the animal has to be kept alive for a longer period of time, correct?

A. Yes.

Q. And once the animal is sacrificed you have to

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employ pathologists to examine the organs, is that correct?

A. Yes, sir.

Q. And that's not true with acute studies; is that correct?

A. That is correct.

Q. How many animals were within the IBT chronic studies?

A. I can't give you the exact figures, they'd be approximations.

Q. Okay.

A. He had three doseage levels and one control level, these are rats now, for three different compounds, so that's twelve series of animals and probably fifty rats in each one, that would be six hundred rats.

Q. Okay. The Treon study, is it not correct, had seventy some rats?

A. No, he had a mixed bag, he had cats, rabbits, a dog, and rats, he had about four different species but not a great number of them and they only ran on two different PCB's.

Q. Which were the two PCB's he ran?

A. 1254 and either 1242 or 1248.

Q. And in the Treon study did they not note an increase in lung cancer?

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A. No, sir, they did not.

Q. Did they have any adverse effect on the Treon studies?

A. Did they have any

Q. Adverse effect noted on the Treon studies?

A. I didn't hear the last.

Q. Adverse effects.

MS. RUTTER: Did they have any adverse effects in the Treon studies?

A. Yes, they had the high doses had some liver involvement.

Q. (By Mr. Race) Okay. Would it then be systemic, would that be considered a systemic injury?

A. Oh, yes.

Q. What's your definition of systemic as appreciated before 1974?

A. Well, systemic means the body as a whole, it doesn't mean that the liver is involved, the kidney's involved, but one of the internal organs of the body is involved. Local action is the action of on the skin, but you could get a systemic involvement that will give skin problems. Chloracne is a systemic involvement that involves the skin; an acid burn is a local involvement that involves the skin.

Q. But an acid burn is not systemic because it's

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confined to localized area whereas the chloracne is systemic because it's an indication that other organs in the body are being affected?

A. May be affected, may be.

Q. Now with the Treon study the liver was affected, correct?

A. Yes, sir.

Q. What were the effects known to the liver?

MS. RUTTER: What were were the effects known to the liver?

Q. (By Mr. Race) Noted on the liver, excuse me?

A. There was swelling of the liver cells; there was probably some death of some liver cells. I don't recall the details of this, of the pathology right at the present time. It's forty years ago.

Q. Okay. Was 120 days a sufficient period of time for any tumors to develop in the animal studies?

A. No, sir.

Q. So you would not have found any tumors in the Treon studies because it was only 120 days, is that correct?

A. That's fair, yes.

Q. In the 1950's were there any chronic studies being conducted on any substances that would last for greater than twenty days which

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A. Where, in the whole world?

Q. That you know of.

A. There were some agricultural chemicals, I do not know if that was in the 1950's or later than that, I don't know, but they were being conducted.

Q. That would last for a two year period of time, for example?

A. That's correct.

Q. So there were two year chronic studies being conducted in the fifties?

MS. RUTTER: Objection, mischaracterizes his testimony. Listen to his question and then you may answer it.

Q. (By Mr. Race) There were in the fifties chronic studies lasting two years, is that correct?

A. To the best of my recollection, some agricultural compounds were subjected to two years' testing.

Q. Was it part of your responsibility to disseminate information to the government on the environmental aspects of PCB's?

MS. RUTTER: Was it part of his responsibilities?

MR. RACE: Yes.

MS. RUTTER: As medical director?

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A. It all depends on what what branch of the government you're talking about. If you're talking about the feds, federal, the government or the state government.

Q. (By Mr. Race) The federal government at this point.

A. Yes, we did send information to the Food and Drug Administration, to the Department of Agriculture and to Dr. Berger who was the chief scientific advisor to the president sometime in late '69 or 1970.

Q. And this When I'm questioning you now it is about the environmental impact, the PCB's found in fish and bird life?

A. Well, it was toxicological information which bore on the relationship of the environmental contamination.

Q. Now can I I don't want to misstate anything, so you would disseminate toxicological information to the government and the community at large

A. Well, disseminate is a bad word, I shouldn't have used that. We didn't broadcast information. We made information available to our customers, to the government, people that had something to do with either regulation or had interests in the compound. We sent information to doctors who asked for it; but we didn't take an ad in the

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Business Week and say here is what we found out toxicological wise on our products.

Q. And the toxicological information that you would provide to anybody that asked you would be both in the area of contamination in the environment as well as the effects on humans, is that correct?

A. Well, as well as the effects

Q. On human beings?

A. Well, in the first place we did not have any environmental knowledge of any environmental problem until the late sixties; so if we did send out information to people at that time, the We sent out the effects of the toxicological work on animals to people who asked for it. The information we sent out on humans was all negative information; we did not have any illnesses in our work, we had no reports of illnesses that workers of our major companies, major customers, so that's what we did.

Q. And you knew Monsanto had the same policy with respect to providing information about toxicity in the area of the environment as well as animal studies and human injury, is that correct?

MS. RUTTER: I object to the vague and confusing form of the question.

Q. (By Mr. Race) Do you understand the question, Doctor?

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A. Not particularly.

Q. Okay. Then let me rephrase it, please. Monsanto had an open policy to provide information on the environment and PCB's, correct?

A. That's correct.

Q. And it was the same time type of open policy that they had with respect to supplying information on animal tests and the human toxicity of PCB's, is that correct?

A. That's correct.

Q. So it was the same open policy for both areas, the environmental area and the occupational medicine area, is that correct?

MS. RUTTER: Well, objection, your previous question referred to animal toxicity, you were referring to three areas, not two.

Q. (By Mr. Race) Okay. Can you

MS. RUTTER: So I object to the confusing form of the question.

Q. (By Mr. Race) Now I'll have to repeat it for sure. You had a the same policy, Monsanto had one policy to be open, correct?

A. Yes.

Q. And that policy governed whether it was environmental information being put out, animal studies or

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human injury, that is correct?

A. Or lack of human injury.

Q. Or lack of human injuries, it was the same policy?

A. Yes, anything we knew we told anybody who asked and we're very up front with the government on it.

Q. Doctor, what's your address please?

A. 665 South Skinker, S k i n k e r.

Q. S k i n k e r?

A. St. Louis, 63105.

Q. St. Louis, 63105. Your phone number?

A. 314 862 1025.

Q. How long have you lived there?

A. 22 years.

Q. Do you believe it is Monsanto's responsibility to inform both the public and government of any adverse toxicological effects of PCB's?

A. I don't know what you mean by the public. What we do, we inform the regulatory the government bodies, we inform the customers and we inform any of the medical profession that write us about it.

Q. And you would agree with me that Monsanto has the responsibility to inform its customers of the toxicological characteristics of the chemicals manufactured by Monsanto?

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MS. RUTTER: Objection. Are you asking him about his opinion about what Monsanto's duties were during the time period he worked with Monsanto through 1974?

MR. RACE: Yes.

MS. RUTTER: Could you rephrase the question to indicate the time period, please?

MR. RACE: Read that back.

(Reporter read back from the record as directed:

"Q. And you would agree with me that Monsanto has the responsibility to inform its customers of the toxicological characteristics of the chemicals manufactured by Monsanto?")

A. Yes.

Q. (By Mr. Race) Now you said that

MS. RUTTER: And for the record, Counsel had previously clarified that question to mean that he was asking your opinion while you worked for Monsanto.

THE WITNESS: Yes, that's what I thought.

MS. RUTTER: All right, good.

MR. RACE: Me too, we're on the same page. Carol, you're not far behind; maybe you're just a little bit ahead, I don't know.

Q. (By Mr. Race) Now in disseminating information, oh, I'm using that word again. In providing the government with information, okay?

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A. Yes.

Q. About the environment, for example, you testified that you first became aware in 1967 or '68 of the environmental impact of PCB's?

A. That's correct.

Q. Did you know that PCB's were non biodegradeable prior to 1967?

A. We assumed that they were non biodegradeable.

Q. So you assumed that were they would be, remain in the environment?

A. That if they got into a body of water they would be like a piece of gravel at the bottom of the sediment of the water, it would not be absorbed.

Q. So you made this assumption that if PCB's got into a body of water it would act like a piece of gravel and fall to the bottom?

A. That's correct.

Q. Were you informed otherwise prior to your departure from Monsanto?

A. Yes.

Q. What were you informed of?

A. We were informed that people in Sweden had done work and found out that the material was picked up by shrimp, fish, some avian species, falcons, that somehow or other the material was metabolized by the plankton or the

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algae and when the shrimp would eat the algae they would develop an accumulation of PCB's; minnows would eat them, when a larger fish would eat the minnow they would accumulate PCB's in their fatty tissue. If along comes a bald eagle and eats the fish he also could pick up PCB's.

Q. And in what year were you informed that this was occurring?

A. '69 or '70.

Q. Did you immediately thereafter inform the United States government or insure that the government, the United States government was also aware of this information?

A. Oh, the U.S. government was certainly aware of it.

Q. Were any tests or strike that. Now you said that your assumption was that this would that the assumption was that PCB's were non biodegradeable, is that correct?

A. That's correct.

Q. And your assumption was that if it got into a water stream, a body of water it would lay at the bottom of the water like gravel?

A. Yes, we had a compound that was insoluble in water, we had a compound that was a non reactive and we considered it persistent in its present shape.

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Q. Did you conduct any tests to establish that that would be in fact the reaction of this compound if it reached a body of water?

A. I myself did not. I do not know if some of the other groups of the company had tested.

Q. Do you know of any tests as a representative of Monsanto which were conducted to insure that PCB's would not get into the food chain?

A. Before 1970, no.

Q. Okay. And when did you first become aware or speculate that PCB's was non biodegradeable?

A. Gosh, we

MS. RUTTER: Counsel, could you define the term non biodegradeable?

MR. RACE: No.

MS. RUTTER: Well, I object to the form of the question.

MR. RACE: I don't because it doesn't matter how I define it. I'll ask the witness to define it.

THE WITNESS: I couldn't hear all the interplay.

MR. RACE: She just said she thought I was a great attorney.

MS. RUTTER: I objected to the term use of the term non biodegradeable without a definition. I asked

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him to define non biodegradeable.

THE WITNESS: Did he?

MS. RUTTER: No, he did not.

Q. (By Mr. Race) I said you can do it for me.

A. Non biodegradeable means that the material is not broken down by the organisms or the action of sunlight or the action of other compounds.

Q. In other words, it's difficult to destroy it, correct?

A. That's correct.

Q. And it will last in the environment for a long time, is that correct?

A. Yes, sir.

Q. And when did you believe that that was the characteristics of PCB's?

A. I believed it all the time up till the late sixties.

Q. So from 1936 when you started until 1970 that was your belief that PCB's were non biodegradeable?

A. That's correct.

Q. And after 1970 when the Swedes found that PCB's were getting into the food chain did Monsanto then conduct any tests?

A. Yes, they did.

Q. And did those tests reveal not only was it in

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the food chain but it was adversely affecting both birds and fish?

A. Did Monsanto test? Monsanto did not run tests at that particular time on birds. There were plenty of people running those tests in the fish and wildlife. They were doing it in the United States, there were people doing it in Europe and we knew that the material was getting into the food chain; but we did not that was not our work. The thinning of egg shells was found by the people in California, the best of my knowledge.

Q. You say getting you know that it was getting into food chain but it was not your work?

A. We did not discover it.

Q. Oh, okay. Did you review the studies that were conducted by others?

A. Yes, sir.

Q. And did those studies in fact indicate that not only were PCB's getting into the food chain but that it was killing fish and killing birds?

A. It was not I do not know if the same studies were showing all those three different things. It was killing the birds by having an absence of egg shells, a thinning of egg shells, so when the nesting occurred the chick was was destroyed, because you can't sit on a nest without a shell.

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MS. RUTTER: Counsel, for the record, you are going very far astray from the corporate designations.

MR. RACE: I'll get off this.

MS. RUTTER: And I would like to add that the last line of testimony about environmental testing was beyond the scope of the designation and is objected to in its entirety. You did not include that topic on your corporate designation; we're supposed to be talking about acute and chronic toxicity studies.

Q. (By Mr. Race) You monitored the industrial hygiene program instituted at Monsanto's plants?

A. Well, they purported to be, yes.

Q. And it was your recommendation that there be periodic testing of Monsanto employees, correct, medical testing?

A. Well, yes, we did have a program of examining all people on the hourly, on the wage roll, the PCB employees were tested but they were given the same tests that were given to all our workers in our plants.

Q. Okay. Now do you believe that it was good occupational medicine to have workers exposed to PCB's periodically and examined?

A. It depends on the exposure.

Q. Okay. Can you indicate when, what exposure would warrant periodic medical examinations?

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MS. RUTTER: Objection, unless you restrict the question to what his opinions were

MR. RACE: Prior to 1974.

MS. RUTTER: Prior to 1974.

A. I'm sorry, I lost track of the you asked what conditions a worker would be exposed to that would warrant

Q. (By Mr. Race) Periodic medical examination.

A. Well, that's an assumption that I would have to make by how much exposure did the man have, is he breathing fumes at elevated temperatures for eight hours a day, is he getting the stuff on his hands, and his clothes soaked with it, that's one assumption. If he is doing work for he is only breathing the fumes at room temperature and he wears gloves, he's not going to come in skin contact with it, he wouldn't need it.

Q. Okay. So did Monsanto ever give any advices that it's the employees of its customers should have periodical, periodic medical examination?

A. No, sir, we did not. We told them how to avoid any ill effects from the material and if they followed those they did not need monitoring.

Q. Is your appreciation that all your customers followed advices that were given by Monsanto?

A. I wouldn't know.

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Q. Did you provide for any inspection of any of the Monsanto or any of the facilities of Monsanto's customers?

MS. RUTTER: Counsel, Mr. Papageorge has been designated to speak on that topic.

MR. RACE: Yeah, well I want to know if Mr. Papageorge has given any information to Dr. Kelly.

MS. RUTTER: Rephrase your question.

Q. (By Mr. Race) Did you receive any information concerning investigations of the facilities of Monsanto's customers?

A. No, sir, I did not.

Q. So you never received information as to whether Westinghouse the Bloomington facility of Westinghouse abided by the safety guidelines as outlined by yourself, is that correct?

A. That's correct.

Q. And if you were informed that an employee of Westinghouse would breathe in fumes and was having dermal contact with a substance, with PCB's, you would have recommended periodic medical examination, is that correct?

MS. RUTTER: Objection, mischaracterizes prior testimony.

MR. LUCAS: And assumes facts not in evidence.

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THE WITNESS: Beg your pardon?

MR. LUCAS: We both objected to the question. Subject to the objection you can answer the question.

MS. RUTTER: Do you need to have it repeated?

THE WITNESS: I sure do.

MR. RACE: Want me to read it back?

(Reporter read back from the record as directed:

"Q. And if you were informed that an employee of Westinghouse would breathe in fumes and was having dermal contact with a substance, with PCB's, you would have recommended periodic medical examination, is that correct?")

A. I would recommend that they follow the advice on our bulletins, not to breathe the fumes at elevated temperatures and not to and to avoid repeated or continuous dermal contact.

Q. (By Mr. Race) And if you found out that an employee had dermal contact and breathed fumes at elevated temperatures you would have recommended periodic medical examination?

MR. LUCAS: Same objection.

Q. (By Mr. Race) You can answer subject to the objection.

MS. RUTTER: Objection, mischaracterizes prior testimony and it's a hypothetical question that

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omits so many facts that it's not susceptible to being answered; it calls for speculation and conjecture.

Q. (By Mr. Race) Can you answer it?

A. No, I can't.

Q. Now the first chronic Well, IBT conducted chronic studies in 1969, was it?

A. I thought it was '68.

Q. '68. Did Monsanto have any epidemiological studies?

A. On what?

Q. On PCB's?

MS. RUTTER: During the time before he left?

Q. (By Mr. Race) Yes.

A. We did not have epidemiological studies. We had what we called our cancer index. Sometime in the early fifties or late forties we made a compilation of all the malignancies that occurred in our workers just to see if there were any clustering of cases at any one particular plant. That was not an epidemiological study.

Q. Okay. So it is not what you would consider a statistically significant or attempt to be statistically significant type of study, is that correct?

A. That's correct.

Q. It would be classified more as a casual observation than a scientific exploit, that is correct?

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A. Well, I don't think I'd call it casual, we were finding out whether we had a clustering of malignancies at any particular department.

Q. You didn't follow any of these employees after they left of the employment of Monsanto, did you?

MS. RUTTER: Dr. Kelly personally?

MR. RACE: Or his department.

MS. RUTTER: Well, objection, calls for speculation and conjecture.

MR. RACE: He's here as a corporate representative.

MS. RUTTER: He's here as corporate representative through 1974.

MR. RACE: I'm agreeing with the time, no problem.

MS. RUTTER: There's a problem because you continually attempt to evade the time period that we're on here, and I'm going to make sure the record is clear. You can make faces at me as you have been doing throughout the deposition, I don't care, either properly restrict your question to the time frame that we're dealing with or I will continue to make my objections to make sure that the record is clear and you obviously think this is very funny, that's fine, you can treat it as though it's an amusing matter. I'm going to make sure the record is

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clear.

MR. RACE: Off the record.

(Whereupon, a discussion was held off the record.)

Q. (By Mr. Race) When did you start doing the cancer index?

A. When did I start what?

Q. Start keeping your cancer index?

A. Late forties, I I think.

Q. And you continued the cancer index through 1974 when you retired?

A. That's correct.

Q. Now in that interim period of time did workers leave the employment of Monsanto?

A. Yes.

Q. Was the cancer index designed to follow those workers after they left Monsanto?

A. If the insurance was in force afterwards it would detect them; if it was not in force it would not.

Q. So you can't say that one hundred percent of the employees were followed after they left Monsanto?

A. No, I could not.

Q. And that's either employees that may have been terminated or quit or retired, correct?

A. That's correct, the retirees, however, would continue their insurance, I know they would, so they would

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be accounted for; but if they quit and dropped their insurance or became disabled, if they were disabled for a broken back or something, that would they would be included because our insurance kept on.

Q. Now with the cancer index that you kept is it not true that you saw a lot of lung cancer?

A. Oh, sure, lung cancer is probably one third of all cancers of the male.

Q. Did you make any attempt to determine whether the lung cancers were greater than the national average?

A. No, sir, I do not believe so, up until 1974.

Q. You made no attempt to determine whether this increased lung cancer should cause you concern?

A. To which?

Q. Cause you concern?

MS. RUTTER: Objection to the form of the question, it's vague and confusing.

A. Well, in the first place I do not know if there was an increase in lung cancer. What I was interested in was finding out whether or not there was an clustering of any cancers. Now let's take lung cancers in any particular department or particular plant. We did not find that; so this did not give me concern that our environment in the particular plant was giving them an increase in lung cancer.

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Q. (By Mr. Race) But it was the overall plant as opposed to specific in the plants?

A. No. We had the departments in which the employee worked.

Q. So when you were looking for clustering you were looking for adverse effects within the specific departments, correct?

A. That's correct.

Q. That's what you mean by clustering?

A. Yes.

Q. And what you did note that there was a high incidence of cancer but across the board in all departments, is that correct?

MS. RUTTER: Oh, objection, mischaracterizes prior testimony.

You may answer the question.

Q. (By Mr. Race) Can you answer the question?

A. Will you repeat it?

Q. You said you noticed a large a number of cancers, lung cancers, correct?

A. Well, large, yes, there were, as I said there lung cancers are one third of all the cancer death for males, so if you're going to bounce up males that are dead of cancer you get one third of them dead from cancer of the lung.

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Q. Okay. But these were, these lung cancers were of employees that worked in all departments, correct?

A. Yes, it was spread throughout various departments.

Q. And you made no attempt to determine whether the instances of Monsanto lung cancer were greater than the national averages, did you?

A. No, sir, I did not carry out a scientific epidemiological study along those lines.

Q. Would you agree with me, sir, that Monsanto has a duty to be knowledgeable about the effects of its chemicals?

A. Yes.

Q. And you would inform you being Monsanto prior to 1974, would inform customers and the government of any adverse effects to humans or wildlife noted that Monsanto knew of which was caused by chemicals manufactured by Monsanto, correct?

A. That's a pretty long one. Let's break that down into several questions.

Q. It's one question and it is a long one. It would be Monsanto's policy to inform the government and customers of adverse effects, toxicological effects of chemicals manufactured by Monsanto?

A. If the people didn't know as much about it as

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we did.

Q. And if

MS. RUTTER: Counsel, still once again you're straying into broad general areas about chemicals in general. Your designations that you asked us to bring a corporate representative here to talk about relate to PCB's. I would ask you to please get back to the corporate designations.

Q. (By Mr. Race) So if PCB's were known to cause any adverse effects Monsanto would inform its customers and the government, is that correct?

A. If Monsanto knew about it, and if it was at all relevant to what the customer was using the material for.

Q. And you would agree with me that if it was reasonably possible for a chemical such as PCB's to cause cancer you would notify customers, is that correct?

A. Yes, if I thought it was

Q. Reasonably possible?

A. Reasonably possible.

Q. Is it true that positive animal studies with respect to showing tumors, carcinogenic tumors would constitute a reasonable possibility that it would be carcinogenic in humans?

A. No, it would not.

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Q. What is the threshold of your reasonably possible?

A. If we had any instances of cancer of any statistical accuracy that showed an increase in cancer. Animal studies itself while they are helpful in pointing that's all we have, but the government has called sand a carcinogen and I wouldn't consider that to be a carcinogen. The government

MR. RACE: I'm going to object to the response insofar as we're talking about PCB's along the same things that you are objecting, but that's fine, okay.

Q. (By Mr. Race) So in order for you to feel obligated to inform a customer that a chemical such as PCB's is a reasonably possible cause of cancer you would want a scientifically accurate study involving humans, such as epidemiological studies, is that correct?

MS. RUTTER: Objection, mischaracterizes prior testimony in several respects.

Q. (By Mr. Race) Could you answer that?

A. Will you repeat it?

MS. RUTTER: Could you read the question back, please?

(Reporter read back from the record as directed:

"Q. (By Mr. Race) So in order for you to feel obligated to inform a customer that a chemical such

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as PCB's is a reasonably possible cause of cancer you would want a scientifically accurate study involving humans, such as epidemiological studies, is that correct?")

A. No, not necessarily, if we had a negative history of no cancers in our workers with PCB's, no case reports of cancer in our PCB, in our PCB customers, I would consider that information that would not cause me to pay too much reliance on animal testing.

Q. (By Mr. Race) Not sure if I understood that; so let me ask again.

A. What?

Q. Let me ask again, okay. Would you You would inform your customers if you thought it was reasonably possible that a chemical would cause cancer, correct, let's start there?

A. Reasonably likely that it would cause cancer in his workers, yes.

Q. Okay. And I'm talking about what's that reasonable likeliness, okay. If you had animal studies which showed carcinogenic tumors?

A. Well, it causes cancers, is that what you're saying?

Q. Yes.

MS. RUTTER: Objection, asked and answered,

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you have gone over animal studies.

Q. (By Mr. Race) Would you inform your customer?

A. Not necessarily.

Q. Okay. Well, that's not threshold yet?

A. What?

Q. Now if you had animal studies then what other elements would be necessary in order to make alert your customers of a possible connection between a chemical such as PCB and cancer?

A. I would have to know the relevancy of the doseage to the animals and the exposure of the workers to the product.

Q. Do you have any information as to what the Westinghouse employees' exposure was before 1970?

A. No, I do not.

Q. Not at all, no, you do not, okay.

A. Well, I'll have to qualify that some. Although I do not know the exposure but I do know that I have talked to medical personnel at Westinghouse, at GE, and they told I was told that they had no problems with PCB workers; there were no case reports of even chloracne in the literature in the Westinghouse or GE workers who are by far the largest users of PCB's.

Q. Chloracne is not the first sign of PCB

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exposure, is it?

A. Apart from the acute exposures chloracne is believed by many to be the hallmark of PCB exposure, overexposure.

Q. Is it not true that you can have chronic PCB exposure and not have chloracne and yet have systemic injury?

A. I believe that's been reported in humans.

Q. So it is your position or had been your position up to 1974 that before you had a systemic injury you would have noted chloracne?

A. That's correct, not only mine but an awful lot of workers in the field also.

Q. And chloracne is more often than not the result of an acute exposure?

A. No.

Q. Of a chronic exposure?

A. Yes.

Q. And just so we're on the same page here, chronic means over a period of time, acute means at one interval in time, is that correct?

A. That's correct.

Q. So the information that you had gotten on the Westinghouse employees as far as their utilization of the PCB's was not physically how they utilized PCB's but

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rather the information that you got from the medical personnel indicating an absence of chloracne, is that correct?

A. That's correct, absence of chloracne or any systemic illness.

MR. RACE: Why don't we take a little five minute break, is that okay?

(Whereupon, a short break was taken.)

Q. (By Mr. Race) Dr. Kelly, in a document which appears to be concerns information which will be related to customers and the government Okay, let me do it this way, Carol, so I can grab the document, okay. Do you recognize that handwriting at all or the author of that document?

A. No, I do not recognize the handwriting.

Q. Have you ever seen that document?

A. It was in a pile given to me this morning. I certainly didn't go through it very exhaustively, that's the only time I ever saw it.

Q. Okay. There are some names which appear to be written on the documents, Mitchell, do you know Mr. Mitchell?

MS. RUTTER: Counsel, just a moment, I want a moment to look at the document.

THE WITNESS: Is there a date on it?

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MR. RACE: No.

Q. (By Mr. Race) Okay, let me ask you a bit about some of the names that appear in this, on the first page, four, Cary or Cory. Do you know any Cory up at Westinghouse?

A. Beg pardon?

Q. Cory, is that name familiar to you at all?

A. Where is he supposed to have worked?

Q. I don't know, I mean, the only thing I know about this document is it was produced from 130,000 documents that Monsanto produced. It's a handwritten note and I have some names on it and I don't know anything more than that; if you could possibly help me by identifying any of the individuals on the document that's what I am asking, okay?

A. Yes.

Q. So you don't know Mr. Cory?

A. No.

Q. They have a name of H.E.W. Mitchell on about the fifth page in, I assume that's H.E W., government organization. Mitchell, does that ring a bell for you?

A. No, it does not.

Q. Okay. Two pages back from that, C.E.Q. Davis, EPA, do you recognize any of the names on that page, two pages back with the names on the top?

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A. I sure don't.

Q. Okay. Wallace, is that a name that you are familiar with during your employment at Monsanto?

A. No, sir.

Q. Ralph Straud, S t r a u d, you've glanced at this document since, you have been looking at this document for five minutes; do you recognize anything in that document?

A. I sure don't.

Q. Okay. Fine, let's move on. Okay, I'm going to hand you a document which appears to be a typewritten note without a cover letter. It says in the conversation with Larry Marion, Washington bureau of Business Week " Do you recognize anything, any names or recognize the author or to whom this document was directed at any point?

MS. RUTTER: Is there a date on this document, Counsel?

MR. RACE: No.

A. Well, I recognize Roush's name. He was my successor, Harbison was president, I don't know what he was, whenever this document was written, doesn't seem to be any date on it.

Q. Okay. Roush and Harbison. Okay, I'm going to attach that as Exhibit No. 1.

(Whereupon, Plaintiff's Deposition Exhibit No. 1

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was marked for identification.)

Q. Who is Roush?

A. He was a medical doctor who succeeded me as medical director.

Q. Okay. So he became medical director in 1974 upon your retirement?

A. That's right, retired about three years ago.

Q. On some of these documents we have confidentiality document, what's the meaning of confidentiality?

MS. RUTTER: Objection, beyond the scope, and you're asking it without reference to a particular document.

MR. RACE: Well, we'll find one. Okay, here you go.

Q. (By Mr. Race) Okay. In the context of this document, is this recognized as a Monsanto document?

A. I haven't seen it yet.

MS. RUTTER: We're reading it, Counsel. Take a minute to look at the document.

A. Yes, this is an internal document.

Q. (By Mr. Race) Why would such a document be marked confidential?

A. I don't know.

Q. What was Monsanto's policy with respect to

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marking documents confidential?

MS. RUTTER: Objection, beyond the scope of the designation.

Q. (By Mr. Race) Subject to the objection you can answer that. Can you answer that?

A. Do I answer?

MS. RUTTER: I think it calls for speculation and conjecture.

MR. RACE: Well, he's a corporate designee, prior to the Monsanto hierarchy, I would assume that he would be privy to such knowledge. If he is not he can tell me.

MS. RUTTER: Counsel, this area of inquiry is totally beyond the corporate designation.

MR. RACE: No, I'm handing him documents that reflect in some cases representations made to government bodies, they represent contamination of PCB products and the documents that so reflects that information is relevant to the inquiry is marked confidential; so I'm asking about the document that talks about information that will ultimately be disseminated to the government.

Q. (By Mr. Race) Just tell me why it's confidential, if you know.

MS. RUTTER: You may answer.

Q. (By Mr. Race) Why would such a document be

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marked

A. I don't know.

Q. You don't know the policies of Monsanto as far as delineating a document confidential?

A. No, I do not.

Q. You say this is an internal committee?

A. Correct.

Q. Internal memorandum, is these it, Bergen and Springate, are these Monsanto employees?

A. Yes, they are.

Q. In which capacity?

A. They are in the marketing aspect of functional fluids.

Q. Which would include PCB's?

A. That's correct.

Q. And Farrar, Hodges, John, Richard and Wheeler, Wheeler was in the

A. In the medical department.

Q. Medical department, what about Richard, Richard was also in the medical department?

A. No, he was in research department, he was a Ph.D., Farrar was in research.

Q. Now what was the ad hoc committee?

A. I think it was a group that they just got together to follow the problem with the PCB's because it

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had touched on public relations, it touched legal, it touched on the medical department, it touched on marketing, and so I think they got representatives from those four groups.

Q. Was there a representative from the legal department in this group?

A. I don't believe so on this. There's a PR fellow, John.

Q. How big was your legal department?

A. In '69?

MS. RUTTER: Objection, what's the What topic is this relevant to, Counsel?

MR. RACE: Insofar as he said that these documents that touched upon departments, these department got together, I want to know the size of the departments.

MS. RUTTER: Counsel, I started out objecting, this document appears to be very attenuated from any of the designations. The questions you are asking now are the types of questions that since they weren't on your corporate designation should be directed to a witness in a personal capacity. We've discussed at length off the record that it is inappropriate in a corporate deposition for you to jump back and forth between corporate and personal because it will confuse things incredibly.

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Dr. Kelly, I'm going to allow a few more questions along this line, but Counsel, unless you're

Q. (By Mr. Race) Just that last question, Doctor, and we can move on. How big was the corporate or legal department in '69?

A. In '69 probably twenty. That's a pretty rough guess.

Q. How big was your medical department in '69?

A. About eight.

Q. Now I'll mark this as Plaintiff's Exhibit No. 2.

(Whereupon, Plaintiff's Deposition Exhibit No. 2 was marked for identification.)

Q. As part of IBT's testing did you review the Kimbrough slides?

A. No, I I did not.

Q. Did you have the Kimbrough slides reviewed?

A. Yes.

Q. Now for the jury, for the sake of the jury, Kimbrough was a researcher who had done a chronic two year study with rats and found tumors in the liver, is that correct?

A. That is correct, which she called tumors of the liver.

Q. And did you cause those slides to be reviewed

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by anybody on behalf of Monsanto?

A. Either yes.

Q. Was that Dr. Richard, Dr. Gordon and Dr. Poor?

A. Yes.

Q. And Dr. Calandra as well?

A. I don't know if Calandra saw the slides. Gordon was his pathologist, Poor was the independent pathologist.

Q. And is it not true that Dr. Richter and Dr. Gardner were of the opinion that the Kimbrough slides does in fact show cancer tumors of the liver?

A. Did or did not?

Q. Did?

A. Which people.

Q. Gardener and Richter?

A. I don't know if I saw those reports, they came back by the time I left or not.

Q. But Dr. Poor did not, is that correct?

A. He did not find the number that she found. She found something like 175 out of 200, and he did not. He found We're getting into a very involved discussion about liver pathology because they changed the ground rules around that particular time.

Q. Whether there's metastasis.

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A. Beg your pardon? There were never any metastases; but whether or not they were having a regeneration of liver cells and some people called that a new growth or a tumor, they may have called it a cancer, whereas I don't know who Wittgen was, W i t t g e n, I believe, we sent them, we sent the government our slides and Kimbrough sent us her slides and I'm not sure. I have never seen the results from the government on our slides. Eventually I think they came but that was after I left. Poor found something like six cases of he may have called malignancy, but he hedged pretty much on it.

Q. Okay, so isn't it true that Richter and Gardner of

A. Did you say Richter?

Q. Richter, R i c h t e r, and Gardner, concurred with Dr. Kimbrough in her findings, is that a fair statement?

MS. RUTTER: Objection, asked and answered, Dr. Kelly testified that he believed that any statements made by Drs. Richter and are you saying Gardner.

MR. RACE: I think it's Gardner, Gordon.

MS. RUTTER: I don't recognize that name.

Q. (By Mr. Race) Who's the other pathologist?

A. There was Keplinger and Gordon.

Q. So it was Richter and Gordon concurred with

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Dr. Kimbrough's findings as to tumors found in the livers, is that not correct?

MS. RUTTER: Objection, asked and answered and I believe he's indicated that anything they said was after his time.

A. I never saw their reports.

Q. (By Mr. Race) Is it also not true, Doctor, that Dr. Poor disputed Kimbrough's findings?

A. Yes, he did.

Q. Is it also not true that the only report that Monsanto caused to be published was the report of Dr. Poor?

A. I don't know.

Q. Do you know whether Dr. Poor refused to have his report on the Kimbrough studies peer reviewed?

A. I don't know.

Q. Would you put any weight in articles that are not peer reviewed?

A. Well, it depends on the author, in other words, Poor is an expert, he's the head pathologist at this Eppley Institute at the University of Nebraska which is a well known cancer institution. So I don't think he had to have a peer review all that, this was really not an article, he just gave us an opinion on what the slides were.

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(Whereupon, a lunch break was taken.)

Q. For the sake of the jury should this ever about read to the jury, could you explain who is Dr. Calandra?

A. Dr. Calandra is a Ph.D./M.D. who was the president of Industrial Bio test Laboratory, he founded and he remained with it until it folded.

Q. Okay. And once again, IBT or Bio test

A. Industrial Bio test Laboratory.

Q. Were the laboratories that were used by Monsanto in conducting their initial chronic studies in '69, right?

A. Right.

Q. And who once again for the sake of the jury was Dr. Gordon

A. He was a pathologist in the laboratory. I don't know if he was a veterinary or an M.D., but he's a pathologist.

Q. And that's a pathologist at IBT, is that correct?

A. IBT.

Q. And then Dr. Richter?

A. I'm not sure. I recall the name but I don't know what he was doing.

Q. Now part of your responsibilities were to

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draft warnings for PCB, is that correct?

A. That's correct.

Q. I would like for you to review Well, actually, I'll tell you what I want to ask on these. The years of these particular publications if you know, they are not on there, I'm not going to ask you any detailed questions about those publications but if you can enlighten me as to the years?

A. Well, this one, the only way I could tell is by the name, they call it Monsanto Chemical Company and I really don't It's a pretty old one, but I don't know.

Q. How old?

A. Gosh, I don't know. They changed the name from Monsanto Chemical Company to Monsanto Company, so I

Q. So you don't have any distinct recollection of that which I have handed and which has been previously marked as Plaintiff's 196?

A. No, I do not.

MS. RUTTER: Objection, mischaracterizes his prior testimony. You are saying he doesn't have any recollection at all of the manual, you were asking him about the date.

Q. (By Mr. Race) The date, do you have any recollection of the manual itself?

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A. No, I don't. I mean, I've seen it at some time, but I have

Q. No independent recollection of this manual?

A. Beg your pardon?

Q. No independent recollection of what's contained in this manual?

A. No.

MR. RACE: Carol, can you give him the next one so I can keep them in order.

MS. RUTTER: Sure.

MR. WUNDERLICH: Off the record.

(Whereupon, a discussion was held off the record.)

Q. (By Mr. Race) Do you recall the dates, that's primarily what I am looking at, okay?

A. This was sometime after 1956, that's all I can tell you.

Q. Do you know that one that you are now holding which is entitled

A. Transformer Askarel Inspection and Maintenance Guide.

Q. Okay. They are all called Maintenance and Inspection and Maintenance Guides, it's bulletin ICF 38 written at the top; that's sometime after 1956?

A. '56.

Q. Up until 1974, is that correct?

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A. Could be any time after that; I don't know.

Q. Okay, next one?

MS. RUTTER: It's that one.

MR. RACE: Can we keep them in order, Carol.

MS. RUTTER: I'm attempting to, I don't think I'm going to disorder them.

MR. RACE: Because I do a bad enough job.

Q. (By Mr. Race) You're looking at Monsanto Askarel Inspection and Maintenance Guides previously marked as Plaintiff's Exhibit 174?

A. Yes.

Q. Do you know the date on that one?

A. Do I know what?

Q. Do you know the date or time frame on that?

A. Still it's anywhere after 1956.

Q. Anywhere from 1956 to present?

A. Yes.

Q. Plaintiff's it's the Monsanto once again Askarel Inspection and Maintenance Guide or Operations and Maintenance Guide previously identified as Plaintiff's Exhibit 173; do you know what the date of this publication is?

A. Not any closer than after 1956.

Q. Just after '56, so you say after '56, what makes you give that determination?

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A. Because they moved their headquarters from South Second Street out to

Q. 800 North Lindbergh?

A. Lindbergh, and they called themselves the Monsanto Company rather than the Monsanto Chemical Company.

Q. So before 1956 it was Monsanto Company?

A. Right.

Q. And after '56 it was Monsanto Chemical Company?

A. Yes, but also

MS. RUTTER: Objection, I think you just reversed.

Q. (By Mr. Race) Before Monsanto

A. It was Monsanto Chemical Company, then they changed it to Monsanto Company, and then they, when they broke it up into separate divisions I think they went back to Monsanto Chemical Company for one group of their compounds.

Q. So before 1956 it was Monsanto Chemical Company?

MS. RUTTER: Objection, I think he said that date was approximate.

Q. (By Mr. Race) After 1956 at some point it was Monsanto Company?

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A. Right.

Q. And then later on it went back to Monsanto Chemical Company, a portion of it?

A. No, they still kept it Monsanto Company, but they had Monsanto Chemical Company, Monsanto Plastics Company?

MS. RUTTER: And just for whatever it's worth on the record, Exhibit 173 refers to Monsanto Chemical Company at 800 North Lindbergh Boulevard.

MR. RACE: Right.

Q. (By Mr. Race) Monsanto Chemical Company, I'm getting confused, okay, that which has previously about marked as Plaintiff's Exhibit 151, Aroclors, can you give me approximate date?

A. Just the same as the last three.

Q. After 1956?

A. Right.

Q. Do you recognize any of these particular brochures?

A. Beg pardon?

Q. Do you recognize this brochure which is previously marked as Plaintiff's Exhibit 121?

A. I think I have seen it.

Q. Did you have any input into this brochure?

A. No, sir, with the exception of personal

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protection and toxicology.

Q. Insofar as these brochures contained any warnings it would be you that would have drafted the warnings, is that correct?

A. That's correct.

Q. Let's look at that which has been previously marked as Plaintiff's Exhibit No. 118, can you give me an indication of the period of time for this one?

A. That's before 1956.

Q. Okay. Because at that point it's marked Monsanto Chemical Company, it's a post office box, is that correct?

A. That's correct, a different address than the headquarters.

Q. Now the brochure which is now marked Plaintiff's Exhibit 111, the Aroclor Physical Properties and Suggested Applications, can you give me an indication of its date of origin?

A. Oh, that still shows the old terminology of the company and it shows the headquarters on South Second Street rather than out at Lindbergh.

Q. So this would be before 1956?

A. That's right.

Q. Okay. The Care and Grooming of Askarel Transformer Fluids, Plaintiff had previously had marked

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Plaintiff's Exhibit 197, can you give me an indication of when that was?

A. That's probably early also.

Q. Prior to 1956?

A. 1956, because they called themselves Monsanto Chemical Company.

Q. Okay. The next one is Askarel Inspection and Maintenance Guide previously identified as Plaintiff's Exhibit 180, that would be post '56?

A. That's after '56.

MS. RUTTER: For the record, I would like the record to reflect that Plaintiff's Exhibit 180 states on the face of it, revised August, 1976.

THE WITNESS: Revised.

MR. RACE: Just for the record I'd like to state that after 1956 includes 1976.

MS. RUTTER: For once, Counsel, I agree with you.

(Whereupon, a discussion was held off the record.)

Q. (By Mr. Race) Okay. I'm handing you a document entitled Toxicology and Safe Handling, Monsanto Aroclors, can you give me approximate date on the origin of this particular document?

A. I don't know when this was, because I'm not even sure that I saw that. It could be after '74 as far

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as I know.

Q. You have no independent recollection of drafting or editing any of the information contained in that document?

A. That's correct.

Q. Did you have occasion to inspect the Monsanto facilities?

A. Oh, yes.

Q. And did you note that the workers' shoes if unprotected would rot or otherwise be effected by PCB's?

A. It all depends on what the shoe material was. If it was neoprene it would not be, if it were leather or rubber it would.

Q. So from that you could ascertain that PCB's chemically reacted with leather or rubber; is that right?

A. That's right.

Q. And as a safety precaution booties were issued to the Monsanto workers ears by Monsanto, is that correct?

A. I can't be sure of that.

Q. Was there any protective garment issued to protect the workers' shoes that was issued by Monsanto?

A. I think they to the best of my recollection I thought they provided the shoes.

MS. RUTTER: Counsel, for the record, I don't

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see this area specified on your corporate designation list.

MR. RACE: Off the record.

(Whereupon, a discussion was held off the record.)

Q. (By Mr. Race) In warning for the use of PCB's you took particular concern as to whether or not the PCB's were heated, is that not correct?

A. That was one of the two main points; one would be that exposure through the skin, the other that breathing in at elevated temperatures.

Q. What was it about the elevated temperatures that would cause the material to be of greater concern?

A. Well, more of the fluid would turn into a vapor at elevated temperatures.

Q. Was it a matter of the chemical composition of PCB's being altered with elevated temperatures?

A. No, no, it's just like water doesn't give off steam unless you heat it, then it will give off steam.

Q. So your concern was for the elevation was vapor as opposed to the changes in chemical composition of PCB's?

A. That's correct.

Q. Now when you drafted warnings and talked about warning both Monsanto employees and Westinghouse employees did you give any concern as to possible

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contaminants in the PCB's?

A. When?

Q. Prior to 1974?

A. Well, we had a supervisor We had sometime around 1970 we understood that there was a possibility of chlorinated benzofurans in the PCB's, some work done in Sweden showed it was present, these contaminants were present in European PCB's, but they were not found to the best of my knowledge in our material until I retired, until after I retired.

Q. What's your appreciation of relative toxicity between PCB's and furans?

A. Furans are much, much more toxic.

Q. Do you know whether or not furans were considered to be carcinogenic?

A. I can't hear you.

Q. Whether they were ever considered to be carcinogenic?

A. I don't think so.

Q. What about dioxin?

MS. RUTTER: Objection, asked and answered.

MR. RACE: We've already gone over that.

MS. RUTTER: We've already done that.

Q. (By Mr. Race) Did you ever give any consideration in forming any opinions as to whether or not

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the PCB's had been contaminated with dioxin?

MS. RUTTER: I object to the form of the question. I think you misspoke and it was confusing, you said, "Did you ever give any consideration in formulating opinions?" Is that what you meant to say.

Q. (By Mr. Race) Did you ever give consideration when formulating opinions Let's strike the last question and I'll try it again, I'm not sure what I said now. Did you give any consideration when forming opinions, when forming warnings of possible dioxin contamination in PCB's?

A. Yes, I did, and it was my impression and in fact my belief that dioxins could not be formed from PCB's.

Q. Under any circumstances?

A. PCB's, under any circumstances.

Q. Is that belief premised on the absence of chlorinated benzenes in the PCB's?

A. We're talking just about PCB's, we are not talking about trichlorobenzene and PCB's, that's a different ball game.

Q. I'm talking now about Inerteen, the product that was provided to Westinghouse?

A. Well, that's a different horse.

Q. Yes, now let's talk about that horse.

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MS. RUTTER: Well, for the record a different corporate designee has been designated to talk about that horse.

MR. RACE: Well no, insofar as his warnings and I want to know what he's warning about, and I want to know whether or not in formulating his warnings there was an issue of contaminants. Now whether or not there was contaminants in there and the composition of Inerteen we can talk to Papageorge about that; but I'd like to know what his beliefs were prior to drafting the warnings which may or may not have been provided to Westinghouse; so it's on the warnings issue.

Q. (By Mr. Race) So could you Did you have any belief as to whether PCB's were in the Inerteen supplied to Westinghouse?

A. PCB's were certainly in the Inerteen, yes.

Q. Okay. Well, we got one compound, did you have any belief as to whether dioxin was in the Inerteen provided to Westinghouse?

A. I did not know that dioxin was in the Inerteen. I did know that under certain thermal conditions that dioxin, that dioxin could be formed at a particular window of either six to eight hundred degrees Fahrenheit and after it could be formed in that window and after the temperature passed that it could be destroyed.

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Q. And six hundred to eight hundred degrees are temperatures that can be reached when soldering or welding on the containers?

MS. RUTTER: Objection, he's not designated in that area.

Q. (By Mr. Race) Did you give any consideration to whether additional warnings were warranted because of a possibly dioxin contaminant in the Inerteen provided to Westinghouse?

MS. RUTTER: Objection, assumes facts that are not and will not be in evidence.

But you may answer the question.

A. I forgot the question.

MR. RACE: Could you read it back, I forget.

(Reporter read back from the record as directed:

"Q. (By Mr. Race) Did you give any consideration to whether additional warnings were warranted because of a possibly dioxin contaminant in the Inerteen provided to Westinghouse?")

A. No, because we tested the entire material itself and the amount of dioxin that might have been present was part of the fluid that we tested and it did not alter the toxicity characteristics of the fluid. It's just as though if you were if carrots were poisonous, more poisonous than the soup and you tested the soup with

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the carrots in, you've got a toxicity evaluation of the whole product itself, that's what we did, we tested the Inerteen whether it had dioxin in it or not.

Q. So you tested Inerteen for dioxin when it left Monsanto?

A. No.

MS. RUTTER: Objection to that, mischaracterizes prior testimony and

MR. RACE: Let me rephrase it.

MS. RUTTER: Counsel, on the record Mr. Papageorge

MR. RACE: Is going to talk about Inerteen.

MS. RUTTER: And Dr. Kaley are the designees in this area.

A. But we did not test for dioxin, we tested the toxicity of the Inerteen with whatever dioxin was in there.

Q. (By Mr. Race) Okay. And that was at Monsanto?

A. Yes.

Q. Would a different type of warning be necessary for compounds containing dioxin?

A. It depends how much dioxin was in the material. It would depend on the toxicity of the product with this larger amount of dioxin in it.

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Q. So your answer is under certain circumstances, yes?

MS. RUTTER: Objection, mischaracterizes his prior testimony.

Q. (By Mr. Race) Subject to the objection, is that correct? You can answer.

THE WITNESS: Am I answering?

MS. RUTTER: You may answer if you remember the question and answer sequence.

MS. RUTTER: Do you need to have it read back?

THE WITNESS: I need to have it read back.

(Reporter read back from the record as directed:

"Q. Would a different type of warning be necessary for compounds containing dioxin?")

Q. (By Mr. Race) Doctor, let me try to repeat this: Under certain circumstances in which dioxin was present in a compound and may be exposed, and may be absorbed by an individual would you agree that it that additional warnings would have to be provided than the standard warnings that Monsanto provided with PCB's?

MS. RUTTER: I object to the form of the question, it's a hypothetical, it assumes facts that are not and will not be in evidence and it omits necessary facts for the formation of the opinions sought and it

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calls for speculation and conjecture.

Q. (By Mr. Race) Do you remember the question?

THE WITNESS: Do I answer?

MS. RUTTER: You may answer if you understand it. If you don't understand it, you can ask him to rephrase it.

THE WITNESS: Let's hear it back.

(Reporter read back from the record as directed:

"Q. (By Mr. Race) Doctor, let me try to repeat this: Under certain circumstances in which dioxin was present in a compound and may be exposed, and may be absorbed by an individual would you agree that it that additional warnings would have to be provided than the standard warnings that Monsanto provided with PCB's?")

A. If there were enough dioxin in the product that the gross toxicity of the product was exceeded the toxicity of the material that we commonly shipped then the warnings might have to be stronger; but as I said before when we tested all of the material, whenever dioxin was in there we did not need any extra warnings.

Q. Okay. You said the warnings would have to be stronger; what language constitutes stronger warnings?

A. Probably a warning instead of caution.

Q. Let's get to the gradation here. Caution, warning, danger; is that the stratification of the words

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utilized in drafting a warning?

A. Yes, sir.

Q. So the first level is the caution warning?

A. Right.

Q. Second level is the warning, says the word warning?

A. Warning.

Q. And third level is danger?

A. Right.

Q. They increase with the toxicity of the substance?

A. Correct.

Q. On what category did PCB's fall?

A. Caution.

Q. That's the lowest category?

A. Right.

Q. If the dioxin was present in Inerteen to such an extent to increase the toxicity of that substance above a PCB level then you would place the word warning, is that correct?

MS. RUTTER: Counsel, for the record are you hypothesizing in your question that PCB's contained dioxins at the time of manufacture?

MR. RACE: No.

MS. RUTTER: Well, then I'm very confused

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about what it is you're asking.

MR. RACE: I'm saying they may have contained dioxins at the time they were exposed to Mr. Bechtold.

MS. RUTTER: I want the question to be clear whether you're talking are you talking about warning I don't understand at what point in time you're asking about the warning labels. Are you talking about

MR. RACE: I'm talking about the warning

Q. (By Mr. Race) When you formulated warnings, when you were director of the medical department and you had three classifications, correct?

A. Right.

Q. And PCB's fell into the lowest classification?

A. Right.

Q. Was there any discussion in the department or thought on your part to elevate PCB's at any time from the lowest warning level?

A. No, sir.

Q. As a matter of fact you used the same basic warning that was used when PCB's were manufactured by someone back in 1935, isn't that correct?

A. I do not know what the Swan labels had on it. That was before my time, I just don't know; but they tested and we did these fifty or so, that we ran on PCB's

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during the decades following the thirties gave us information as to the general toxicity of the product; if there had been any increase in dioxin that would change the toxicity it would have been picked up by our testing. If we saw the warnings and that did not occur the warnings did not have to be changed.

Q. And all the fifty tests you did with the exception as you maintain of Treon were acute toxicity tests?

A. That's correct.

Q. And first chronic toxicity test was conducted by IBT?

MS. RUTTER: Objection, mischaracterization.

Q. (By Mr. Race) With the exception of how we categorize the Treon study, is that correct, sir?

A. Yes.

Q. So if we categorize a chronic toxicity study as one which requires a two year period of time then the first toxicity study which was funded or undertaken by Monsanto were the IBT studies in 1969, is that correct?

A. Correct.

Q. Are you familiar with a J.W. Wigert, W i g e r t?

A. I don't know. Does he have a title or an address or

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Q. Cleveland Works Material and Process engineer?

A. I don't have any independent recollection, but if you show me something I may.

Q. Do you have an independent recollection of an E.C. Barnes, industrial hygiene engineer?

A. E.C. Barnes.

Q. Yes, B a r n e s?

A. Yes, is that the That was the Barnes who was an industrial hygienist for Westinghouse.

Q. Is chronic poisoning a condition which occurs through prolonged absorption of a material?

A. Prolonged or repeated.

Q. I'm going to hand you a handwritten note. Do you recognize any names on that handwritten note, if there are any, do you recognize that handwriting?

A. No, I do not.

Q. Have you ever seen that note previously?

A. Beg pardon?

Q. Have you ever seen that handwritten note previously?

A. I'm looking, not that I know of, not that I can recollect.

Q. From the content or any form do you recognize the author or can you give me any identification as to

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that note?

A. Well, there's a date on it, I can see that, 10/22/69, but I

Q. You don't know anything other than that's what's written as the date?

A. No, sir, I do not.

Q. I'm going to hand you a document entitled rough draft, 11/10/69 outlined, "PCB Environmental Pollution Abatement Plan." Do you recognize that document at all? Do you recognize that document at all?

A. I think I've seen it, yes, sir.

Q. Is this an internal document or a document that was drafted or presented at Monsanto?

A. It's a rough draft of an internal document.

Q. Of an internal Monsanto document?

A. Right.

Q. Do you know the author of that document?

A. No, I don't, but It was going to discuss something about the ad hoc committee, but I don't know who.

(Whereupon, Plaintiff's Deposition Exhibit No. 3 was marked for identification.)

Q. And the purpose of this outline in conjunction with the ad hoc committee was to discuss the problems associated with PCB's being in the environment,

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is that correct?

MS. RUTTER: Objection, Counsel, for the record which area of the designation do you contend this document relates to? I'm concerned about you asking him the purpose of a document that he did not draft.

MR. RACE: Okay, insofar as it's things that may be told to the government, things represented to government agencies regarding effects on Monsanto, effects on customers, sources of contamination, implement the recommended courses of action, it has long term which will affect both alternatives and possible alternatives and possible testing.

MS. RUTTER: Counsel, I don't see anything in this document that has to do with

MR. RACE: There it is.

MS. RUTTER: Where.

MR. RACE: Just what areas I read, nature of the problem, source of contaminants which we're talking about.

MS. RUTTER: He's not designated on that topic.

MR. RACE: Public relations, which would include anything, which would include that which was given to or information provided to the government, I think is the gist of this document.

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MS. RUTTER: Counsel, I don't think this document has any relation to anything he has designated.

MR. RACE: He's designated on representations to government agencies regarding the safety of PCB's, is he not?

MS. RUTTER: Where does this document refer to

MR. RACE: Public relations, which I would assume

Q. (By Mr. Race) Doctor, does public relations include which areas representations made to the U.S. government?

MS. RUTTER: Objection to the form of the question.

A. I couldn't even hear the question.

MS. RUTTER: You're asking him to speculate about a document that was authored by

MR. RACE: If he doesn't know, he doesn't know, that's fine.

MS. RUTTER: I think you're going very far astray from the topics on which he's designated on on.

Q. (By Mr. Race) Do you remember the circumstances in which you viewed this document?

A. Which one?

Q. In which you viewed this document?

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A. It was probably shown to me by Elmer Wheeler.
Q. And Mr. Wheeler was whom?
A. What?
Q. Mr. Wheeler was whom?
A. He was the medical and corporate.
Q. And were you the chairman of the medical that oversaw Mr. Wheeler?
A. Yes, he reported to me.
Q. And this document was formed as part of the what you previously discussed, the ad hoc committee?
A. That I don't know, I'll have to see what that says.
Q. Do you remember anything else concerning the circumstances surrounding your initial review of this document?
A. No, sir, I do not, and it says here on page three or something that they issued a report on October the 15th, this is a rough draft of 11/10 November of the same year.
Q. What year was that, 1969?
A. '69.
Q. What was your connection with the ad hoc committee?
A. No direct connection except that Wheeler was

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the chairman and Wheeler was a member of the medical department.

Q. So Wheeler was in the medical department?

A. And he reported told me.

Q. So you were kept advised as to the action of the ad hoc committee through Dr. Wheeler?

A. That's probably true, apparently not through all major actions but I don't think I did not follow the day by day activities of the committee.

Q. And a report such as outline of PCB Environmental Pollution Abatement Plan would be considered a major action?

A. Yes, I think so.

Q. So in that context you would have reviewed this?

A. Yes.

Q. And as the medical department, as the chairman of the medical department and Dr. Wheeler's supervisor if there's anything that you did not disagree with you could have informed Mr. Wheeler, is that correct?

MS. RUTTER: Objection to the form of the question, it's vague and confusing.

Please listen to it carefully. Could you read it back?

(Reporter read back from the record as directed.

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"Q. And as the medical department, as the chairman of the medical department and Dr. Wheeler's supervisor if there's anything that you did not disagree with you could have informed Mr. Wheeler, is that correct?")

(Whereupon, a discussion was held off the record.)

MR. RACE: I apologize, I do apologize.

A. No problem.

Q. (By Mr. Race) As chairman of the department and supervisor of Dr. Wheeler if there was anything that you disagreed with in this report you could have requested its change, is that correct?

A. I could have requested; they may not have done it.

Q. Do you recall requesting any changes in this draft?

A. I don't recall it.

Q. Could you again clarify who Dr. J. W. Barrett is?

A. I couldn't hear the last word.

Q. Barrett?

A. Yes, he's He was with Monsanto Company, Limited, which is our English subsidiary. I do not know his position, I thought it was research; I'm not sure.

Q. Did you ever dissuade or attempt to dissuade

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Dr. Barrett from conducting any toxicological studies on PCB's?

A. Yes.

Q. Okay. And why was that?

A. Because he wanted to find out what the limit of PCB's would be to kill animals in order to and I don't know why he wanted that, because I said, "Look, we've got a safe level, that's what we want to do, why spend money to find an unsafe level?"

Q. Was he suggesting acute animal studies?

A. No, not acute, I thought it was chronic. It never went any farther than that memorandum of his.

Q. So as chronic your appreciation is he wanted to have long term animal studies and after the long term animal studies perform pathology on the organs to see what the effects were?

MS. RUTTER: Objection to the form of the question. Counsel is referring to a memo more than forty years ago that Counsel has imprinted

MR. RACE: I'm pointing with my finger, Counsel, don't tell me what I'm referring to. I have got papers all over this desk.

MS. RUTTER: You're asking him questions about a memo from forty years ago and you're not doing him the courtesy of showing him the memo.

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MR. RACE: No, I'm pointing with my finger to this line, Counsel.

MR. RACE: Okay.

A. Okay, what.

Q. (By Mr. Race) Can you answer the question? Of course not, we've got to have it read back.

A. Of course not, we need to have it read back.

MR. RACE: Fair enough because I can't remember it.

(Reporter read back from the record as directed:

"Q. So as chronic your appreciation is he wanted to have long term animal studies and after the long term animal studies perform pathology on the organs to see what the effects were?")

A. That was not my impression of what he wanted. My impression of what he wanted was: "What is the dose that will harm animals?" Whereas I wanted a dose that animals could be tolerant of; and I said, "What do you want to prove?" and I said, "We have a safe level, what else is needed?" So that's the last I heard of it.

Q. (By Mr. Race) When you said there were approximately fifty tests conducted, correct?

A. That's correct, I was I'm not certain of the number.

Q. Fifty acute tests?

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A. Yes.

Q. And they were conducted from 1938 continuously until 1970, is that correct?

A. That's correct.

Q. So you were killing animals continuously from 1938 to 1970, wasn't that correct?

A. Yes.

Q. So even after this 1955 report when you told Dr. Barrett not to kill animals, you and Monsanto were still killing animals?

MS. RUTTER: Objection to the form of the question?

A. I didn't tell them not to kill animals, I said, "What do you want to prove?"

Q. (By Mr. Race) Who conducted these fifty acute toxicity tests?

MS. RUTTER: Objection, asked and answered.

Go ahead, I was just saying that it was repetitious; but you may go on?

A. The Younger Laboratories and Scientific Associates Laboratories, now remember I

Q. Scientific was the first one and then it split off and then it was Younger and then you went with Younger?

A. More or less.

Q. More with Younger than with Scientific Associates?

A. But my fifty was an approximation, I was not sure of it.

Q. Was there anyone other than Scientific and Younger that conducted acute animal toxicity studies on behalf of Monsanto?

A. No, sir.

Q. Who was it at acute Younger or at Scientific, Younger?

A. Who was it?

Q. Who was the individual that you contacted?

A. Fred Younger was the man at Younger, I forget the name of the man at Scientific Associates.

Q. Did they produce documentation on each of these toxicity studies?

A. Yes.

Q. Would that much documentation be in Monsanto's files?

A. They were when I left.

MS. RUTTER: Counsel, it's my belief that those test reports were produced to you.

MR. RACE: All fifty of those test reports.

MS. RUTTER: He said that was a rough approximation and he made it clear that he was giving a

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guess. We have produced, it's my understanding we have produced what there is, I'm assuming you asked for them and I assume we produced them.

MR. RACE: I'm assuming we only got six of the fifty.

MS. RUTTER: I don't know what you asked for, Counsel.

Q. (By Mr. Race) Could you explain to me, Doctor, why fifty acute toxicity tests were performed?

A. Yes, we had varied formulations, we had a sort of a quality control on our manufacture operation, by running a toxicity and we had customers writing in asking us about toxicity of various PCB's.

Q. And so you continuously ran the acute toxicity tests?

A. I can't hear you.

Q. Then you continuously ran the acute toxicity tests, fifty of them?

MS. RUTTER: Objection, mischaracterizes.

Q. (By Mr. Race) And never did you conduct a chronic toxicity test?

MS. RUTTER: Objection, mischaracterizes his prior testimony. You have been over this area now three or four different times.

Q. (By Mr. Race) Are you familiar with the

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Handbook of Dangerous Materials?

A. What did you say?

Q. Are you familiar with the Handbook of Dangerous Materials?

A. Yes, I am.

Q. Is that a guide that's utilized in the medical profession concerning the toxicity of chemicals?

A. What was your verb?

Q. Used as a guide?

A. I don't believe it's used by anybody of any scientific bent. Sachs is a person who does not do his own work, he compiles stuff of various tests that he sees in the literature. I do not think it is held up as gospel in the toxicological field.

Q. Doctor, I'm going to hand you a handwritten note from stationery of Industrial Biotech, dated January 14th, 1972, saying, "Dear Don," and signed, "Sincerely, Otis." Do you know who either the Don or the Otis are?

A. First of all, if this is Dear Dad or Dear Don, I don't know either one.

Q. And Otis, do you recognize Mr. Otis?

A. Beg your pardon.

Q. Otis, do you recognize Otis?

A. Yes, Otis Fancher, he was one of the administrators of Industrial Bio test Laboratories.

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Q. And Dr. Thatcher

A. Fancher, F a n c h e r.

Q. Okay. But you don't know to whom the letter is directed?

A. I didn't hear you.

Q. You don't know to whom that letter is directed?

A. No, I don't. In fact I don't even know if it's is it Dad or Dod or David, I just don't know.

Q. Do you know who L.A. Watt is?

A. I'm sure it's who he was.

Q. Okay. Could you tell me who Mr. L.A. Watt was?

A. He was a person who was in charge of technical service for the organic division of Monsanto Chemical Company.

Q. Do you recognize a memo from L.A. Watt dated October 11, 1937?

A. Yes, I do.

Q. And you're the Dr. Kelly referred to in that memo?

A. Yes.

MS. RUTTER: What Exhibit number are we on?

MR. RACE: No. 4.

MR. WUNDERLICH: Number what?

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MR. RACE: 4.

(Whereupon, Plaintiff's Deposition Exhibit No. 4 was marked for identification.)

Q. (By Mr. Race) Are you familiar with a publication which appeared in 1947 called the Chemist Analyst?

A. No, I am not.

Q. Are you familiar at all with that publication, the name of it?

A. Beg pardon?

Q. The name of it?

A. The Chemist Analyst, September 1947, and this is by an industrial hygienist of the city of St. Louis, talking about the toxicity of Aroclors.

Q. Are you familiar with that publication?

A. Beg pardon?

Q. You're not familiar with that publication?

A. No, but I've read the memorandum.

Q. You've read the article?

A. I don't know if that's the whole article I have, that looked like a letter to the editor or something.

Q. Well, having read it I will attach this Exhibit No. 5.

(Whereupon, Plaintiff's Deposition Exhibit No. 5

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was marked for identification.)

Q. Who is A. Mather, M a t h e r?

A. If he is who I remember he is, a person at our English subsidiary, Monsanto Chemicals, Limited, but I'm not sure what his position was.

Q. And P.C. Hayward, Haywood, excuse me?

A. I don't recall.

Q. Do you recognize that document?

A. Yes, sir.

Q. Okay, you do recognize that document?

A. Yes, I do.

Q. Okay. Do you know who that was directed to, Mr. Haywood?

A. Beg your pardon?

Q. Are you familiar with Mr. Haywood now?

A. Yes.

Q. Who is Mr. Haywood?

A. Did it say he's in Australia.

Q. Newport?

A. Oh, Newport, that's in England, that's in Wales, but Mr. Mather is wrong about almost in every paragraph.

Q. Okay. But so Mr. Mather is a Monsanto, Inc., Great Britain employee, correct?

A. That's correct.

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Q. And Mr. Haywood is a Monsanto, Great Britain employee?

A. That's correct.

Q. And this is an internal memo between two Monsanto employees in Great Britain?

A. That's correct.

Q. That's Exhibit 6. What is a come clean type of label?

A. What is the come clean.

Q. Type of warning that was placed on

A. I don't know if I have ever heard of it. I don't know. I mean, the information seems to be quite solid on this statement, "Avoid prolonged or repeated contact with the skin, avoid prolonged breathing of vapor or fumes."

Q. How long is prolonged if you read this?

A. I think that's a judgement call by the individual.

Q. So prolonged is left up to the interpretation of the individual, is that correct?

A. I think so. It certainly has worked because as I said we didn't have any problems.

Q. Who is J. R. Kellogg?

A. I don't know.

Q. And what about Mr. D.T. Mayer?

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A. I don't know who he is. He's at the East St. Louis plant or the Monsanto, Illinois plant.

Q. Okay. Is this a Are you to be CC'd on this, is this you?

A. That's I, I'm the third person.

MS. RUTTER: Is that R.E. Kelly?

MR. RACE: I don't know.

A. Well, it looks like Oh, I'm sure it's I, though.

Q. (By Mr. Race) Have you ever seen this document before?

A. I don't think so; but judging by the ones they sent it to I think I would have gotten a copy of it.

MR. RACE: I'll mark it as an Exhibit No. 7.

(Whereupon, Plaintiff's Deposition Exhibit No. 7 was marked for identification.)

Q. (By Mr. Race) You're familiar with the World Health Organization, are you not?

A. I couldn't hear you.

Q. You're familiar with the World Health Organization?

A. Yes.

Q. And that's a respectable body, is that not?

A. Well, I don't know that much about them. I just know who they are and that's about it.

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Q. It's a world organization that in part monitors and studies toxic chemicals, does it not?

A. I don't know that. I don't remember receiving any of their publications routinely.

(Whereupon, a short break was taken.)

Q. Yusho occurred in 1966, is that correct?

A. '65 or '66.

Q. Okay. And the effects, the toxicological effects started to become known about two years later, about 1968, is that correct?

A. Well, I think the effects became known less than two years, but the causative agent was not decided until two to four years later.

Q. And the causative agent in that regard was determined to be furans?

A. That's correct.

Q. And the furans were found in the Yusho oil in parts of five parts per million?

A. Oh, higher than that, I'd say figures up to five thousand parts per million.

Q. Where did you see the figures of five thousand parts per million?

A. Oh, these memorandum around here.

Q. The contamination that was ultimately Were you still employed by Monsanto when the level of furan

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contamination was established in PCB's?

MS. RUTTER: Objection, are you talking about Yusho?

MR. RACE: No.

MS. RUTTER: We've already answered this question.

MR. RACE: And I'm just clarifying when the time he retired it was not yet established the contamination level of furans in PCB's.

Q. (By Mr. Race) Is that correct?

MS. RUTTER: Objection, it's vague. Are you referring to Monsanto PCB's?

MR. RACE: Yes.

A. Yes, that's correct.

Q. (By Mr. Race) What is yellow atrophy of the liver, acute yellow atrophy of the liver?

A. Acute yellow atrophy of the liver is an illness caused by either viruses or chemical intoxication. It's characterized by jaundice, discoloration, jaundice of the skin, discoloration of the liver, shrinkage of the liver and can be fatal.

Q. Is there any correlation between acute yellow atrophy of the liver and PCB's?

A. And who?

Q. PCB's?

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A. No, sir, I don't think so. There had been a correlation set up by some people due to the fact that Halowax Corporation in 1936 or '37 used a chlorinated diphenyl benzene which is not a PCB in connection with one of their chlorinated naphthalenes, and that particular compound along with other plain, plain chlorinated naphthalenes were correlated with yellow atrophy of the liver in cable pullers in New England.

Q. Okay. So you are You testified that there's a correlation, a possible correlation between chlorinated naphthalene and acute yellow atrophy of the liver?

A. Yes, sir, there has.

Q. But not chlorinated biphenyls?

A. That's correct.

Q. And is it not true is that chlorinated naphthalenes and chlorinated biphenyls are of the same chemical family, namely hydrochlorinated aromatic or chlorinated, chlorinated aromatic hydrocarbons?

A. Yes, but just because, coal and die must come from the same family, but they are a lot different.

Q. Is it not true that in 1955 various studies did in fact show that there were correlations between acute yellow atrophy of the liver and PCB exposure?

A. What was that question again, I don't

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Q. Are you aware of any studies which occurred as early as 1955 earlier which drew correlations between acute yellow atrophy of the liver and PCB exposure?

A. No, sir, I do not recall those. There have been statements made by individuals that have tagged chlorinated PCB's with the same brush they tagged chlorinated naphthalene; but if you analyze the records you'll find that the yellow atrophies occurred in women workers who were subjected only to chlorinated naphthalene exposure.

Q. What are the adverse human effects of exposure to PCB's?

A. It could range from nothing if you don't have much exposure to possible, to chloracne, if you get enough exposure, which hasn't occurred. Conceivably you could get liver failure or chemical hepatitis and liver failure.

Q. Is liver failure a serious human injury?

A. Is what?

Q. A serious human injury?

A. Oh, yes, certainly it is.

Q. Is chloracne a human injury?

A. Chloracne is what?

Q. A human injury, would you classify it as a human injury or ailment?

A. Yes.

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MR. RACE: Off the record.

(Whereupon, a discussion was held off the record.)

Q. (By Mr. Race) Doctor, have you seen this document entitled, Analytical Chemistry, Special Studies, 71 dash 3.

MS. RUTTER: Let's see what the date is. Is there a date on this document, Counsel.

MR. RACE: No, that's one of my questions. If you didn't spend all that money having somebody shuffle these documents like a big deck of cards then they might have been in chronological order and it might not have been such a problem.

(Whereupon, a discussion was held off the record.)

Q. (By Mr. Race) Are you familiar with that document?

A. Not too familiar, no, because it's my impression that the residue studies were reported from Bio test either at the time I was leaving Monsanto or after I left them.

Q. So this appears to be a report from Bio test to Monsanto?

A. No, I think Monsanto did the testing on material kept in the deep freeze by Bio test and sent down to Monsanto.

Q. Okay. So this was a matter of Monsanto

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re testing Biotech?

A. They weren't rejecting them, no, we had the expertise in radioactive finding and they either didn't or it was wiser for us to do it.

Q. So you believe that documents represents a Monsanto study done of Biotech?

A. Samples.

Q. Samples?

A. Yes.

Q. Okay, I'm going to mark that as

(Whereupon, a discussion was held off the record.)

Q. And would that be true of these two studies, the first one?

MR. WUNDERLICH: What was that one marked?

MR. RACE: 8. And No. 8 is job number 1348006. I think this is just a continuation and has the same job number on it, the first one; and the second one actually is No, different dates.

A. This one is a continuation of one that Monsanto 2144 21449.

Q. (By Mr. Race) And finally the last one is also a continuation?

A. This is a, in dogs, the last one he just gave me, 2164 was the determination of PCB's in dog tissues, two year chronic testing.

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Q. That one will be marked 10 and the last one identified as a continuation of original study was marked No. 9. Okay, it's in this box, okay, now this box. Now F.R. Johanson was a toxicologist with

A. Who is this?

Q. Johanson?

A. Yes.

Q. He was a toxicologist with Monsanto, correct?

A. Yes.

Q. Do you know if any studies, epidemiological studies were conducted after you left?

A. You went too fast, I couldn't hear you.

Q. Do you know whether any epidemiological studies had been in the works and started after you left, were there any plans made for epidemiological studies that had not started before you left?

A. No.

Q. Do you know anything about that record, Doctor?

A. Do I know anything about this memorandum?

Q. Yes.

A. No, sir, I don't.

Q. Do you recall anything at all, "Dr. Kelly says burning N.C.R. paper a problem here?"

A. Is

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Q. Along with all others?

A. Howard is the fellow's last name underneath it? Well, I must have said it, N.C.R. paper uses PCB's in their carbonless carbon paper and it was burned it could conceivable volatilize in PCB's.

Q. And what temperatures would that be changed, would that be reached when burning that paper?

MS. RUTTER: Objection, calls for speculation and conjecture.

A. I don't know.

Q. (By Mr. Race) I'll mark that as Exhibit 11.

(Whereupon, Plaintiff's Deposition Exhibit No. 11 was marked for identification.)

Q. You're familiar with the IBT studies in which Dr. Levinskas was involved and asked that wording in those studies be changed?

MS. RUTTER: Objection, I think you're asking about issues that are after his time.

MR. RACE: I don't know.

MS. RUTTER: I object to the characterization.

MR. RACE: I don't know, I mean, I'm not certain at all as to when that occurred. I don't have my date line.

A. I do not believe that the correspondence

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between Levinskas and Calandra occurred while I was still with Monsanto. I think that occurred after.

Q. (By Mr. Race) And who would have been the director at the time that occurred?

A. What?

Q. Who would have been in that position at the time that that occurred?

A. Roush.

Q. Roush?

A. But I'm not certain.

Q. So had you visited the IBT facility?

A. Oh, yes, quite frequently.

Q. Had you taken note of anything other than clean standard operation procedures?

A. No, it looked very first class to me. I've been in a lot of toxicological laboratories in Europe and the United States, this was right up at the top of them.

Q. Okay. Did you know Paul Wright at the time you were the medical director?

A. Yes.

Q. And you were aware that he had left Monsanto to take a position with IBT?

A. Yes.

Q. And after a stint with IBT he returned to Monsanto, correct?

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A. To the medical department, yes, sir.
Q. And he worked underneath you, did he not?
A. Beg your pardon?
Q. He worked underneath you?
A. Yes.
MS. RUTTER: Counsel, there's just one thing I'd like to clarify that was unclear to me.
Did you know Paul Wright before he worked in the medical department?
THE WITNESS: No. I worked for Monsanto, he worked in the research department, the agricultural department. Wheeler knew him, but I did not know him.
Q. (By Mr. Race) But he then after leaving IBT returned to Monsanto in the medical department?
A. That's correct.
Q. And worked under you as a toxicologist?
A. Yes.
(Whereupon, a discussion was held off the record.)
Q. If PCB's are heated and workers are exposed to vapors they should wear respirators, correct?
A. It depends on how long they are exposed to the vapors. It depends on the temperature, it depends on which PCB's.
Q. Did you advise, put warnings on the PCB's materials to insure that the ultimate user was aware to

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wear respirators under those conditions.

MS. RUTTER: I object to the form of the question. It contains undefined terms that I think have come to be used as legal terms of art.

Q. (By Mr. Race) Subject to the objection?

A. I told them to avoid breathing the fumes at elevated terms or confined spaces. How they did that depended on their own operation. They may have had exhaust ventilation at the site, they may have had airline helmets, they may have had spot ventilation at the site; so I did not tell them how to achieve what I recommended.

Q. Okay. The warnings that were placed Or strike that. The PCB's that were shipped to Westinghouse were done in tank cars, correct, sir?

A. Yes, sir.

Q. Warnings were not put on tanks cars until 1972, is that correct?

A. I don't know, I don't know.

Q. Okay. If you previously testified that the warnings on tank cars first appeared in 1972 would you have any reason today to doubt that testimony?

A. Did I previously testify.

Q. I think If you haven't, you haven't, record will speak for itself.

A. I don't recall, but I know that we have that

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seven different language plaquard that we put on tank cars; but I thought that was around 1970.

Q. Once again, the only two harmful effects noted to humans have been chloracne and liver damage, correct, exposure to PCB's, correct?

A. Acute exposure to PCB's gave rise to a chemical hepatitis, chronic exposure gave rise to chloracne.

Q. And those were the only two harmful effects to individuals, to workers that you knew of, is that correct?

A. That's correct.

Q. And how long did you did you know of those two harmful effects?

A. Well, I was positive when the case reports of rather when two organizations called me about using PCB's as a heat transfer agency, heat transfer agent; they had leaky jury rigged heat transfer apparatus that leaked and the people breathed it for three or four days at elevated temperatures. That was in the fifties, I believe. I had experience with women who immersed their heads in a thermometer factory someplace in New England that developed chloracne, again for PCB's but not electrical installation, and now I suspected it all the time that it could be possible from the Drinker work.

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Q. What was the OSHA recommended levels, air levels?

A. I don't know what the OSHA levels were. The levels recommended by the American Conference of Government Industrial Hygienists was .5 milligrams per cubic meter for 1254 and 1.7 milligrams for either 48 or 42, I don't know which one.

Q. 1.01 milligrams per

A. Cubic feet, and that was to be an extremely safe level. That's what they thought.

Q. And that would be a level that Monsanto would abide by?

A. Yes.

Q. And that's arrived at from an occupational medicine doctor's point of view as being a level which would be far below that which could possibly cause injury, isn't that correct?

A. Well, who arrived at that level?

Q. Somebody in your position?

A. Well, I don't know if it was far more, but it was a safe level. Whether it was after factor of two, three or ten, I don't know.

Q. And that would be a level that would be safe for both humans and animals, is that how that level is determined?

WATER_PCB-SD0000009291

A. Well, yes, they determine it on animals and then they extrapolate it to humans.

Q. Who is W.B. Brown?

A. Brown?

Q. Yes.

A. I don't know, there are a lot of Browns a round.

Q. Browns

A. There was a Brown in the government, there was a Brown at GE, but I don't know what Brown you're talking about.

Q. Was there a Brown that worked for Monsanto in 1955?

A. I don't know, could be, could not be.

MS. RUTTER: Counsel, on the record I have about eight minutes to 4:00 and as I mentioned we have to strictly adhere to the four hour testimony restriction.

MR. RACE: How are you feeling, Doctor?

THE WITNESS: I'm fine.

MR. RACE: Thank you.

THE WITNESS: But I cannot be here without my counsel.

MS. RUTTER: He's also medically advised not to testify beyond four hours a day and the four hours expires at 4:00 o'clock.

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Q. (By Mr. Race) I'm not stressing you, am I, Doc?

A. Beg your pardon?

Q. I'm not stressing you out?

A. No.

Q. You're stressing me out.

A. No, I don't think so.

(Whereupon, a discussion was held off the record.)

Q. Do you recognize that memo and the names on there? That's directed to J.W. Barrett, who you previously identified as employed by Monsanto U.K., is that correct?

A. That's correct.

Q. And the author is a Brown; do you recognize the Brown, go to the last page. The author is a Brown.

A. It's Hardy here.

Q. Who is Mr. Hardy? I stand corrected, it's Mr. Hardy?

A. Hardy was a I think he was a research man in the Monsanto, England.

Q. So this appears to be a communications between internal communications of Monsanto U.K., is that correct?

A. That's correct.

Q. And these internal communications would

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regularly be sent to Monsanto U.S., is that correct?

A. Well, I don't see people from Monsanto U.S. on it, I'm not on it, and there are two memoranda here, it looks like, one there is a Brown, I don't know who he is, the first memorandum is by Hardy, the next one is by Brown.

Q. Yes, the first memorandum you have identified is a memorandum appearing to be a memorandum of Monsanto U. K., can you tell me anything?

A. Yes, that's right.

Q. And the second memo, do you recognize that at all?

A. Yes, it's by

Q. Do you recognize it as being a Monsanto memo at all?

A. Yes, it's a Monsanto memo by Brown.

Q. Let me identify that as 12.

(Whereupon, Plaintiff's Deposition Exhibit No. 12 was marked for identification.)

Q. And you were not employed by Monsanto on July 18, 1975, correct?

A. I didn't hear the date.

Q. 1975, July

A. I was not.

Q. The Journal of Industrial Hygiene and

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Toxicology, was that a recognized journal?

A. Yes, it was, that's stopped publication.

Q. Yes, but when it was publishing in the thirties it was recognized as a scientifically accepted magazine, is that correct?

A. Yes.

Q. Is that something that you read and consulted?

A. Yes.

Q. In your early days in medicine?

A. Yes.

Q. Are you familiar with Frederick B. Flynn, Ph.D., who published articles in 1946?

A. I don't know him. I know his work, he did work for Swan Chemical Company on their PCB's when they had their chloracne epidemic.

Q. And he was a recognized authority on PCB's?

A. I don't think so. I don't know much about it, but someone picked him.

Q. And he had studied It's your appreciation he had studied the problem for sometime?

A. Beg pardon?

Q. It's your appreciation that Dr.

A. Flynn.

Q. That Dr. Flynn had studied the chloracne

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problem of someone?

A. Yes. I don't know if he studied the problem, but he read some tests on material they sent him, to see which if he could find out which was the

Q. Is there a correlation between smelling PCB's and the concentration in the air?

A. Between what?

Q. Smelling?

A. Well, I'm not sure at this time if I know what the odor threshold is.

Q. In other words if you smell it is it too strong?

A. I don't think so.

Q. Are there those that would disagree with you?

MS. RUTTER: Objection, calls for speculation and conjecture.

MR. RACE: Fine.

Q. (By Mr. Race) Do you recognize that there are scientists that would disagree with that, that by virtue of the fact that the chemical smell, the concentration is in such levels it would be harmful to the individual?

A. Well, I don't know. I haven't seen reports of that.

MS. RUTTER: Got about twenty seconds,

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Counsel.

MR. RACE: We attempted to finish, however, this has been very lengthy, it is very warm and the doctor has been very good; so the decision has been made that we'll resume this deposition at a later date, both Papageorge and Kaley will be produced, we'll make a decision as to whether or not we'll have to finish up with Dr. Kelly or after reviewing the deposition make a determination as to whether the questions asked are sufficient.

MS. RUTTER: I need to do one real quick thing since we don't know whether you're going to ask to have him back or not, and this is on the records.

CROSS EXAMINATION

QUESTIONS BY MS. RUTTER:

Q. Dr. Kelly, I believe Mr. Race asked you some questions about furans and dioxins and a topic that you hadn't been designated on and I believe you gave a window for dioxin formation in pyrolysis if you had PCB's blended with trichlorobenzene of six hundred to eight hundred degrees and I think you said Fahrenheit?

A. I'm not sure. It would be centigrade.

Q. Mr. Race also gave you some hypotheticals asking you to assume that were dioxins had been found as a contaminant of PCB's; I just want to make sure if the

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record is clear. While you were medical director of Monsanto up through the end of November of 1974 no dioxins were found as contaminants of Monsanto manufacturing PCB's, is that correct?

A. That's correct.

MR. RACE: But my question was not with respect to PCB's, it was therein.

MS. RUTTER: I think the record was very unclear what you were talking about, counsel, and whether it was pyrolysis or in the manufacture and in any event this witness is not designated on that topic.

MR. RACE: Sorry.

MS. RUTTER: Dr. Kaley is designated on that topic.

R. Emmett Kelly, M.D.

Subscribed to before me this_____, 1994.

(Notary Public.)

My commission expires: _____.

Bechtold v. Monsanto/TM

NOTARIAL CERTIFICATE

STATE OF MISSOURI)

CITY OF ST. LOUIS)

I, TOD MINNIGERODE, a Certified Shorthand Reporter and a duly commissioned Notary Public within and for the State of Missouri, do hereby certify that pursuant to agreement there came before me at the offices of Wilburn, Suggs & Watkins, 1221 Locust, St. Louis, MO,

R. EMMETT KELLY, M.D.,

who was by me first duly sworn to testify to the truth and nothing but the truth of all knowledge touching and concerning the matters in controversy in this cause; that the witness was thereupon examined under path and said examination reduced to writing by me; to be signed by the witness; and that this deposition is a true and correct record of the testimony given by the witness.

I further certify that I am neither attorney nor counsel for nor related nor employed by any of the parties to the action in which this deposition is taken; further, that I am not a relative or employee of any attorney or counsel employed by the parties hereto or financially interested in this action.

IN WITNESS WHEREOF, I have hereunto set my hand and seal on June 2, 1994.

My commission expires July 28, 1995.

[Notary Public]

IN THE CIRCUIT COURT OF THE CITY OF ST. LOUIS

STATE OF MISSOURI

JUDITH BECHTOLD, et al,)

Plaintiffs,)

vs.) Cause No. 922 00911

MONSANTO COMPANY, et al,)

Defendants.)

REPORTER'S CERTIFICATE AND STATEMENT OF DEPOSITION CHARGES

I hereby certify that the original deposition transcript of R. EMMETT KELLY, M.D. taken May 31, 1994, is in the custody of Mr. Joseph A. Race, of the Murray Law Firm, 909 Poydras St., Ste. 2550, New Orleans, LA 70112.

Per signature, transcript temporarily held at Waller Reporting, 815 Olive, St. Louis, MO 63101.

I further certify that costs to be taxed as per statute are as follows:

Taxed in favor of:		
Murray Law Firm	Orig. & 1 Atten. & Notary	378.20
909 Poydras St.		76.00
New Orleans, LA 70112	Total:	$ 454.20
Taxed in favor of:		
Husch & Eppenberger	One copy:	134.20
100 N. Broadway		
St. Louis, MO 63102		
Taxed in favor of:		
Lewis, Rice & Fingersh	One copy:	134.20
100 N. Broadway	Delivery:	3.00
St. Louis, MO 63102	Total:	137.20

Upon delivery of transcripts above charges had not been paid. It is anticipated that all charges will be paid in the normal course of business.

IN WITNESS WHEREOF, I have hereunto set my hand and seal on June 2, 1994.

Notary Public

My commission expires July 28, 1995.

WATER_PCB-SD0000009298

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