IN THE CIRCUIT COURT
TWENTIETH JUDICIAL CIRCUIT OF ILLINOIS
ST. CLAIR COUNTY

FRANCES E. KEMNER, et al	)	
	)	
Plaintiffs,	)	
	)	
VS.	)	No. 80-L-970
	)	
MONSANTO COMPANY,	)	
	)	
Defendant.	)	

Before the HON. RICHARD P. GOLDENHERSH, Judge

REPORT OF PROCEEDINGS

JURY TRIAL

March 26, 1986

APPEARANCES:

MR. REX CARR and MR. JEROME SEIGFREID
on behalf of the Plaintiffs;

MR. KENNETH R. HEINEMAN and MR. JOSEPH NASSIF
on behalf of the Defendant.

KIMBERLY GANZ, CSR, RPR, CM
Official Court Reporter

BE IT REMEMBERED, that on March 26, 1986, the same being one of the regular judicial days of said court, the above-entitled cause came on regularly for hearing before the HONORABLE RICHARD P.GOLDENHERSH, one of the Judges of said court, at the St. Clair County Building, 10 Public Square, in the City of Belleville, St. Clair County, Illinois. Whereupon the following proceedings were had:

(The following proceedings were had in the hearing and presence of the jury).

MR. HEINEMAN: Your Honor, may counsel approach the bench before we start?

THE COURT: Yes, you may.

(Bench conference had out of the hearing of the jury.)

MR. HEINEMAN: I have a couple of matters for the record, Your Honor. With respect to the 1953 Lane record that Mr. Carr referred to, we do not find any such 1953 Lane record.

THE COURT: Which one was that?

MR. HEINEMAN: The guys name is Alva Lane and there was a reference in Mr. Carr's examination concerning the Nestmann report. I think it was Nestmann report.

MR. CARR: Yes.

MR. HEINEMAN: The Nestmann report. And Doctor

Suskind suggested that he thought he remembered seeing a record in 1953. We do not find such a record. Mr. Lane left the company, resigned from the company in 1952. I think what Doctor Suskind was referring to was his 1950 report where he examined Mr. Lane and that is in the evidence.

THE COURT: Okay.

MR. CARR: What I wanted was an affirmation -- I either wanted the production in 1953 or in light of the Doctor saying he saw a 1953 report that contradicted Doctor Nestmann's report to this man's document.

THE COURT: There is no such document?

MR. HEINEMAN: There is no 1953 report. There is a '50 report which Doctor Suskind prepared which was in evidence.

THE COURT: Okay.

MR. HEINEMAN: The second thing is is that Mr. Carr marked an exhibit a couple of days ago which I believe was Plaintiffs' 1795. It was a Nestmann report with respect to an E. W. Miller and he said that he only had two or he only had one page of it.

THE COURT: I remember that.

MR. HEINEMAN: It was apparently Plaintiffs' Exhibit 1782.

THE COURT: I remember. It was only a one page

report in the group.

MR. HEINEMAN: Our copy we have the second and third pages. I gave them to Mr. Carr yesterday. I would move that they be added to Plaintiffs' Exhibit 1795 so that it could be complete.

THE COURT: Any problems with that?

MR. CARR: That is fine with me.

THE COURT: Good.

MR. HEINEMAN: That is all I have.

MR. CARR: Your Honor, I would like to announce to the jury that Doctor Suskind did not see a 1953 report relating to Mr. Lane that contradicted Doctor Nestmann's findings and that counsel has affirmed that there is no such report in existence.

MR. HEINEMAN: Well, I would object to that unless it was also added that he does have a 1950 report.

MR. CARR: That is not neither here nor there. The 1950 report had acute symptoms, had problems that he had that he has been treated for it. That in no way contradicted Doctor Nestmann's report in 1955.

MR. HEINEMAN: Your Honor, obviously --

MR. CARR: I object to any statement about a 1950 report because it was a 1953 report that the doctor said contradicted Doctor Nestmann's report. That he saw one and

he saw one that counsel had.

MR. HEINEMAN: The statement that Doctor Suskind made was that he thought that he had seen a 1953 report that had been provided to him by counsel. That is what he said. It turns out that is incorrect and we don't find a 1953 report as well at the time. I mentioned to the court that I didn't know what report he was referring to. All right. It appears he is referring to the 1950 report which he made.

MR. CARR: There is no such thing. There would be no doubt he would know about his own report. He wasn't talking about his own report. He was talking about a report he saw of somebody else's of 1953 from the plant, some other report that contradicted. If he was referring to his own report, there wouldn't be any doubt about it. He knew that he saw the name in 1950. He knew that he made the report in 1950 about the man so he couldn't possibly --

THE COURT: When did this exchange take place?

MR. CARR: It took place, Your Honor, during the time that I was cross examining the witness as to what reports were submitted to the commission.

MR. HEINEMAN: This would have been last Friday, maybe.

MR. CARR: As to what Nestmann reported to the commission and as to these ailments that Mr. Lane had.

MR. HEINEMAN: I think -- You were asking when, the date?

THE COURT: So I can look at my notes.

MR. HEINEMAN: I think it was Friday. Thursday or Friday of last week.

THE COURT: Let me look at my notes and then I will decide what is to be announced and we can do that at the break.

MR. HEINEMAN: Your Honor, I would like the record to show that I would object to an announcement being made as done purely on the effort to try in some way to embarrass the witness.

MR. CARR: No doubt about it. That is exactly correct. I want to show that the witness was not telling the truth because there was no doubt about it. He stated affirmly and strongly that he saw plant medical records from 1953 or some medical record from 1953 that contradicted what Doctor Nestmann said about Lane's complaints and problems. There was no question about it. He was firm on it and I do indeed want to embarrass the witness with that because I decided at that time I want an affirmation from counsel that there is no such report or I want the report. I have made it clear and explicit.

MR. HEINEMAN: You have your affirmation and I

think that the secondary purpose which you have just announced is improper and I object to it.

THE COURT: I am going to reserve rulings until I have a chance to at the break to look at my own notes and to refresh my memory on exactly what happened. I will decide this matter.

MR. CARR: The exhibit would be in the 1780s. That will help you find it. I don't know the exact number of the exhibit and then you could find it very easily.

THE COURT: Okay.

MR. CARR: The exhibit in question is number 1787.

MR. HEINEMAN: Come again?

MR. CARR: The exhibit in question is number 1787. That is the one that we were talking about.

THE COURT: Okay. Great. I will find it. Thank you.

(The following proceedings were had in the hearing and presence of the jury)

RAYMOND SUSKIND

having resumed the witness stand, being previously sworn, testified further as follows:

CROSS EXAMINATION

By

MR. REX CARR.

Q. Doctor Suskind, at the close of the day, we were discussing the question of whether or not you had included employees in your morbidity study who had been employees prior to 1955 and who had been terminated. Do you recall that, sir?

A. Yes.

Q. And I suggested to you that we could, we would have the evidence today that would indicate the accuracy of my statement. Do you recall that, sir?

A. Well, I am not sure what the statement indicated. That we did have -- we did have people who were terminated?

Q. No. That you did not include people who had been terminated prior to 1955 other than the people who had been identified as having chloracne and being in the 1949 accident, that list of 122 or 121 persons. Now, Doctor, with that prepatory remark --

A. Are you stating a positive statement, sir?

Q. Doctor, I am about to read to you Doctor Roush's statement with reference to the 1955 employees, sir. This is on July 10, 1985, counsel, and --

MR. HEINEMAN: Can we have just a moment to find it?

MR. CARR: Surely.

Q. And the question at that time is on page 17,

counsel. The question was, "Doctor, you have your records of those people. You know who was there. You know the people that were working in that department. You had the personnel records and their job assignments, do you not, sir?" His answer was "No, sir." "Question: What happened to the 1949 records or did you destroy them? Answer: The records as far as we could go back and identifying is, I think 1955. You could not identify any of your workers prior to 1955? No, sir."

And then on page 18. "What efforts did you make, you at Monsanto, make to identify these people that were your employees before 1955? Answer: We made a great effort to try and identify those. Question: What did you do, Doctor? Answer: We went back through the records as far as we could. Question: And, Doctor, are you telling the jury and telling me, this Court, that Monsanto did not keep the names and addresses of their employees prior to 1955?" His answer was "Yes."

Then I asked this question: "Why on earth would you destroy those records, sir? Why would you get rid of those records and when did you do it? Answer: I can't answer that."

Then with regard to the identification of workers who were involved in the accident and did not get chloracne.

This is on page 16 -- starting on page 12, rather. Well, actually it starts on page 11. "Question: Well, you know as a matter of fact that what they did, they actually didn't study anybody that had been exposed prior to 1955 other than the 122 workers who were involved in the TCP accident. You know that, don't you, sir?" And his answer was "Yes, sir." And then at line 11. "Question: There was any number of people that were involved in that accident and that worked in that department who did not get chloracne, isn't that correct, sir?" His answer was "Yes, sir. I don't know how many but there were those, yes. Question: And they were never included in this study, were they, sir?" And his answer was "No, sir." "And these people that were exposed to the same dioxin -- and those people, they were exposed to the same dioxin as the people that got chloracne, weren't they, sir? Answer: Yes, sir. And we know, sir, that people can have disabilities and animals can have disabilities from dioxin exposure and never get chloracne? We know that, don't we, sir?" His answer was "No, sir."

"Question: Have we not established that, Doctor Roush, in this case early on? Answer: No, sir. Question: We have not established that, sir? Answer: No, sir. Question: You don't recall testifying from the documents that I gave you to that effect? Answer: Yes, sir." And then I

said, "I thank you, sir. I thought you would recall it."

And then on page 16, middle of the page at line 12, beginning on line 11. On page 15. "Doctor, how could you possibly sit there and say that a study to determine whether or not dioxin causes cancer, for instance, is valid if you have automatically excluded a large group of people that have been, large groups of people that have been exposed to dioxin? How can you say that, sir? Answer: We didn't exclude it. Doctor, you did exclude it. You just stated you excluded it," and then there is an objection. And then he says "No, I didn't. Question: Go ahead. You said we didn't exclude it? Answer". That is right."

Then I suggested that he finish his answer and he said "That Suskind study was based on the data that we had available in our records. We couldn't do a study on those on which we had no records. We went far back and included everyone that was possible to be exposed that we could identify that had been working in the 2,4,5-T unit. Question: Doctor, you did not invite anyone in 1949 that was in that accident unless they had chloracne, isn't that a fact, sir, and didn't you just testify to that fact? Answer: Invite what? Question: Invite anyone that was in the 1949 accident that had worked in that department in 1949 unless they had chloracne? Answer: We didn't. We couldn't

identify -- Question: To this study to participate in this study? Answer: We invited everyone that we could identify that had worked in 2,4,5-T. Question: Including those that did not have chloracne in the 1949 accident?" and then I read the rest of it about the '49 records.

No, I didn't read that. "Answer: We didn't know them. Question: Doctor, you have your records of those people. You know who was there. You know the people that were working in that department. You have the personnel records and their job assignment, do you not, sir?" His answer was "No, sir." "Question: What happened to the 1949 records, or did you destroy them? Answer: We -- the records as far as we could go back and identify is, I think 1955. You could not identify any of your workers prior to 1955?" And then I read the remainder over on page 18.

MR. HEINEMAN: The answer there--

MR. CARR: What is that, counsel?

MR. HEINEMAN: -- to that last question?

MR. CARR: I read those answers already. Do you want me to read them again?

MR. HEINEMAN: No. To the last question, please.

Q. "You could not identify any of your workers prior to 1955? No, sir." And then I read over on page 18 that "Monsanto did not keep the names and addresses of their

employees prior to 1955," and he can't answer why they were destroyed.

Doctor, in addition to that, on April 16, 1979, you had a meeting with Judy Zack, did you not, sir, relative to and I know you can't recall the exact date so let me give you a memo to help you.

A. I didn't have --

Q. I hand you now what has been marked as Plaintiff's Exhibit 1803 and ask you if you recognize that as a memo dealing with a meeting held with you on April 6, 1979, the memo bearing the date of April 16, 1979. And I offer this exhibit into evidence, if it please the Court.

MR. HEINEMAN: May counsel approach the bench?

THE COURT: Doctor, let me have the question answered and then we will do it. Can you answer the question, please, Doctor?

Q. The question is do you recognize this memorandum, sir? Do you recognize it as a memo dealing with the meeting that you had with Judy Zack on April 6 of '79?

A. Yes, I do, sir.

THE COURT: Now you may approach.

(Bench conference had out of the hearing of the jury.)

MR. HEINEMAN: Your Honor, I would like to note for

the record that the offer was made before any answer was gotten from this witness.

THE COURT: Right.

MR. HEINEMAN: And I would object to the offer as it stood at that time.

THE COURT: Right.

MR. HEINEMAN: As there being absolutely no foundation. This document is a hearsay document. There is no foundation, no authentication, no identification and I object to it on that basis. The Court then realizing obviously what I was going to object to since the witness hadn't answered the question had the witness answer the question and I still object to it on the same basis, Your Honor.

MR. CARR: Your Honor, I offered it before the witness answered because there is no necessity that I lay a foundation other than the document itself. It is a document that the Court knows was produced to us by Monsanto. It is clearly one of their documents. It is clearly part of their records. It constitutes admission on their part. There need be no further identification by anybody.

THE COURT: It is admitted over objection.

(The following proceedings were had in the hearing and presence of the jury).

Q. Doctor, this memo states, does it not, that you, Doctor Ferd Meyer, Judy Zack and Ms. Pam Winner met to discuss the upcoming medical examination study, the so-called morbidity study, correct, sir?

A. That is correct, sir.

Q. And, Doctor, it bears a statement there that you would like to examine all the workers exposed since 1948 including terminated employees, correct, sir?

A. That was my --

Q. Doctor, my question --

A. That was my initial objective.

Q. It contains that statement, does it not?

A. Yes.

Q. It also contains the statement that we, that is Judy Zack et al, indicated that we have not identified or traced all of the terminated employees and could not easily do so within a short period of time. Doctor Suskind settled on examining the following groups of employees. Number one, all persons associated with the 1949 TCDD accident, parenthesis, this group involves some terminated employees. Then active and retired employees who got chloracne who had been exposed. Active and retired employees who were exposed and did not get chloracne. And then a controlled group, correct, sir?

A. That is correct, sir.

MR. HEINEMAN: Your Honor, may counsel approach the bench please?

THE COURT: Yes, you may.

(Bench conference had out of the hearing of the jury.)

MR. HEINEMAN: Your Honor, I am going to object to Mr. Carr's obvious intentional effort to mislead and confuse this witness. He is flip-flopping in between.

MR. CARR: Do you want to tell everybody or do you want to turn around and face the jury?

MR. HEINEMAN: I am facing the Judge. I am right here where the Judge has ordered me to be.

MR. CARR: You are talking more loudly than you need to.

MR. HEINEMAN: He is flip-flopping between the two studies, Judge. What he read from Roush he is talking about the morbidity study. What he is asking, he is talking about the mortality study and now he is talking about the morbidity study.

MR. CARR: I asked initially about the morbidity study.

MR. HEINEMAN: You started yesterday with 121 people. You addressed that at the beginning of this morning.

The 121 people are in the mortality study that were in the '49 incident. That is what you said yesterday. Do you mind if I finish? That is what you ended with yesterday. That is what you began with today. You are flip-flopping between the two studies. The Roush testimony related to the morbidity study, not the mortality study, and I object to this flip-flopping between these two studies in order to try to confuse the witness and that is what they are talking about here is the morbidity.

MR. CARR: No, sir, and, Your Honor, counsel has a short memory. We got into this line of inquiry in order to establish who was exposed to TCDD and who got chloracne and who didn't and the amount of exposure it would take to cause chloracne or other systemic. Whether it is a high dose or low dose. I asked the witness about his own chapter that he wrote in this book. That was the subject. I asked him isn't it a fact that the only way you identified anybody connected with that accident as being part of the morbidity study was that they got chloracne. Yes, that is correct. And the only list you have is the 122 that were involved in the accident that made compensation claims and had chloracne. Yes, that is correct. And did not include anybody in the morbidity study that did not get chloracne involved in the accident, isn't that correct, sir? And you did not include in that

study people who had been terminated prior to 1955, isn't that correct, sir? That is exactly what we have been talking about from then until now.

THE COURT: Your objection is overruled. You may continue.

(The following proceedings were had in the hearing and presence of the jury).

Q. Doctor, in addition to this meeting, you received shortly after from --

MR. CARR: Could you give Plaintiffs' Exhibit 1475 to the witness? If it is difficult for to you get because it is farther down, I have a spare copy. Let me give him a copy and I can move on.

Q. I hand you what has been previously marked Plaintiffs' Exhibit 1475 and ask you if you recognize that as a letter which was sent to you and dated April 18, '79? Do you, sir, signed by Judy Zack? Doctor Suskind, it bears your name in the address area, does it not, sir?

A. Yes, sir. May I read the letter, sir?

Q. Doctor Suskind, if you don't mind, we could move along if you would answer my question. It is not necessary for the purpose of my question for you to read the entire letter. I am only going to refer to a small part of it.

A. I would like to read the entire letter in order to

make sense in my --

THE COURT: Doctor --

A. Yes, sir.

THE COURT: Doctor, again, please. I have asked you many, many times, please just answer the questions that counsel asked of you.

A. Yes, sir. It is addressed to me, sir.

MR. HEINEMAN: May counsel approach the bench?

THE COURT: Yes, you may.

(Bench conference had out of the hearing of the jury.)

MR. HEINEMAN: Your Honor, it is an obvious abridgment of this man's right to insist that he not be permitted to read a letter which has been handed to him as an exhibit that he is going to be questioned about and I object to Mr. Carr's trying to prevent him from doing that. I object to the Court's instructing him that he can only answer the questions and not read the exhibit. I think it is patently unfair to the witness.

THE COURT: You are telling me it is unfair for him to not read aloud a letter? That is exactly what he was asking to do. He had already read it and had finished reading the second page before he made that request and the question was very specific and in response to that he wants

to read the letter aloud? That is obviously not responsive to the question that was asked of him and --

MR. HEINEMAN: The word aloud didn't appear in the statement.

THE COURT: No, it did not, and it came after he had finished reading the letter to himself. If you will look at the witness, you would see that he had read the first page. He had opened the second page and had finished reading that. Had gone back to the first page. He was asked the question and he asked if he could read the letter. That is what happened and that is not --

MR. HEINEMAN: Mr. Carr chastized him for reading it. Mr. Carr was saying well, your name is right on the first page and he was saying I want to read the letter.

MR. CARR: Your Honor, even if he hadn't read any part of it, until I start asking him about the content of the letter, it may be that all I want to do is establish that he got this letter and not a single other thing. Maybe that is all I want to do is establish that he got this letter. The letter is in evidence. Now, until such time as I start asking him about the content of the letter and referring him to a particular area, if he believes that he cannot fairly answer that question that I am asking him about the particular section that I am referring to, then obviously if

he can't answer it and the Court feels that he can't answer, he should be given the right to read the entire exhibit. But I have given him from time to time exhibits that are an inch and a half in thickness and if this witness were to have the right or opportunity as he has wanted to on other exhibits to read the entire exhibit before he answers the question, this case will never end. I have given him a book and said isn't this exhibit so and so, isn't this the book so and so and for him to have to read the entire document before he can answer the question is absolutely ridiculous. Because if this Court sees that I am taking something from context or if the witness says I am taking something from context, then it might become important for him to read the entire document but until I have demonstrated what I am going to use the document for, all this is is an enormous waste of time to allow the witness to read every single exhibit that I hand to him.

In addition to that, yesterday if the Court will recall, I was asking the question, a question about a particular report that he had made. Just in passing to the point, he was digging for it and trying to get his report out before he would answer my question. Now, this is ridiculous and we can never finish if this witness is allowed to determine under what circumstances he is or is not going to

answer questions. He has a number of times accused me of not letting him read something, not letting him study something and it would appear with counsel backing up his request, it would appear that they are trying to suggest to the jury that I am being unfair to the witness or that the Court is being unfair to the witness to make him answer the question without doing that which he wants to do. He is not in control of this courtroom, although it surely looks like it sometimes, he is certainly trying to arrogate control and I respectfully suggest that this witness should not be allowed to make the rules.

MR. HEINEMAN: Your Honor, that statement is ridiculous. We are talking about a man wanting to read a two page document. I should say a page and a half document. He clearly is entitled to do that. It is unfair to question a witness about a document without giving him a chance to read it. It is just not fair and I object to it.

THE COURT: Objection is overruled on the grounds I stated.

(The following proceedings were had in the hearing and presence of the jury).

Q. Doctor, the first sentence of this letter states, does it not, sir, "We have tentatively categorized the approximately 700 active retired and terminated, parenthesis,

terminated from 1949 TCP accident only", is that correct, sir? The first sentence, Doctor. You are looking down at the bottom of the page.

A. No, I am looking at that sentence, sir. You haven't completed the sentence, sir.

Q. You are correct. I stand corrected. "Employees, according to birthdate, wage, sex, rate, salary code and type of exposure", correct, sir?

A. No, it is not correct. The terminated from 1949 TCP accident only is in brackets, sir.

Q. That is what I said in parenthesis. Did you hear that, Doctor Suskind?

A. No, I did not.

Q. Doctor, the part that is in brackets refers to the preceding word, that is, terminated, does it not, sir?

A. That is what this states.

Q. They are telling you again here that the one people they have identified are those that have been terminated from the 1949 TCP accident only, isn't that correct, sir?

A. That is what this reads, sir.

Q. And that is consistent with the preceding exhibit 1803 in which they indicated to you that they were going to give you, that you settled on examining the group of people, that is all sources associated with 1949 TCP accident, isn't

that correct?

A. No, sir, it is not correct, sir.

Q. That may include some terminated employees?

A. It is not correct, sir.

Q. Doctor, isn't that what 1803 says, sir?

A. That is what it says but --

Q. That is my question to you.

A. I said that it is not correct, sir.

Q. Doctor, isn't that what this memo states?

A. That is what this memo states but it is not correct, sir.

Q. You did not settle on examining that group of people, Doctor?

A. No. There are other issues. For example --

Q. I am not talking about other issues. I am trying to settle the issue, sir, like we started out this morning of Doctor Roush saying that they could not give you and did not give you the terminated employees and this document confirms that you settled upon, according to this document, that you settled upon those persons associated with the 1949 TCP accident. Does it not, sir?

A. No, sir.

Q. Doesn't it say that, sir?

A. No. The first sentence is incorrect, sir.

Q. Doesn't it say that, sir?

A. The first sentence is incorrect, sir.

MR. CARR: Your Honor, would you direct the witness to answer my question?

THE COURT: Doctor, answer the question that is asked of you, not another question. Listen to the question and answer that alone. I have asked you to do that many times. I would appreciate it if you follow that.

A. Yes, sir.

Q. Doesn't it say that, sir?

A. That is what it says, sir.

Q. Thank you, Doctor. Now, Doctor, in addition -- strike that. I hand you now what has been marked Plaintiffs' Exhibit 1804. Doctor, were you acquainted with a young man, medical employee, Mr. William R. Brooks. Turn to the second page, his name appears. Maybe it will help you. He worked with you in the morbidity study?

A. A Doctor William R. Brooks?

Q. He wasn't a doctor. I think he was a medical student. He was working in the medical department in Monsanto with you?

A. I don't recall that he worked with us, sir.

Q. I am sorry?

A. I don't recall that he worked with us, no.

Q. Well, he worked with this study. He assisted you?

A. No, he did not, sir. He is not listed and you know it. He is not listed among the employees who we used.

Q. Doctor, I appreciate it very much if you would not say I know it because this man has been identified by Doctor Roush.

MR. HEINEMAN: Objection, Your Honor. May counsel approach the bench?

THE COURT: Yes, you may.

(Bench conference had out of the hearing of the jury.)

MR. HEINEMAN: From my recollection of the testimony, that is a flat misstatement. Roush said that this man was not an employee of the company.

MR. CARR: He testified he was a medical student working for the company; that they had been working on this study and assisting in getting the employees there and other things.

MR. HEINEMAN: I don't believe that.

THE COURT: I think this is the one that he said was working there during the summer.

MR. CARR: That is correct.

THE COURT: Who did this?

MR. HEINEMAN: What summer? '84, Your Honor?

THE COURT: Whatever summer it was. Wait a second. I think this is the person who was employed as a summer worker.

MR. HEINEMAN: He has not been identified by Doctor Roush as an employee of the company. He has not been identified by Doctor Roush.

MR. CARR: I don't quarrel with that, counsel. It is in the record that he was working for Monsanto and he prepared these various reports for Monsanto. And without identification by this witness, I will offer this exhibit into evidence.

THE COURT: My recollection is that he was a summer employee they had doing this.

MR. CARR: I think you are right, Your Honor.

THE COURT: And I would stand by my recollection and --

MR. CARR: Counsel agrees he was a summer employee.

MR. HEINEMAN: My objection, Your Honor, is that Doctor Roush did not identify this man as a summer employee and he has not been identified by any other witness as a summer employee.

MR. CARR: Counsel, didn't you just state that he was a summer employee?

MR. HEINEMAN: No, I didn't just state he was a

summer employee.

MR. CARR: Was he an employee of Monsanto?

MR. HEINEMAN: I don't have the vaguest idea.

THE COURT: I think he was at the time. I don't remember whether you were here or not, frankly.

MR. HEINEMAN: Well, I was here for Roush's testimony and I object to this document. There has been absolutely no foundation for this exhibit. It hasn't been identified by this witness. It hasn't been authenticated by the witness. It is hearsay. There is no statement that the author is an employee of Monsanto Company and I object to it. There is no foundation laid for it at all.

MR. CARR: The exhibit itself is an exhibit that bears the production number from Monsanto. Doctor A. Ford is an acknowledged Monsanto employee. The introduction says "At your request, and that is of Doctor Ford's request, I have reviewed plant documents concerning the University of Cincinnati health study conducted in June of '79." Basically there is no question that this is a company document that you furnished to us and it certainly is self authenticated.

THE COURT: It is admitted over objection.

(The following proceedings were had in the hearing and presence of the jury).

Q. Doctor, I wish to withdraw an assertion that I made

because I am not now sure that it is correct that Mr. Brooks was an employee working at the time of your study or working with you. The information that we have is that he was an employee of Monsanto subsequent to that time and I don't have my finger on it that he was working for you at the time and you have no recollection of him, is that correct, sir?

A. No.

Q. According to this report, Doctor --

MR. CARR: Your Honor, I have copies of the last two pages of the exhibit 1804 that I would like to pass to the jury.

THE COURT: You may do so.

(Last two pages of Plaintiffs' Exhibit 1804 are passed to the jury).

Q. Doctor, the last two pages, have you had an opportunity to read this?

A. I have, sir.

Q. Doctor, the last two pages summarizes, according to Mr. Brooks, the classification of the individuals that participated. That is, the exposed groups that participated in your health study, correct, sir?

A. Yes, I believe it does.

Q. And, Doctor, it breaks them down into the various categories whether they are active or retired, either

salaried or hourly personnel and there is one category of exposed, terminated and another category of exposed, active retired and another category exposed, vested retirees and another one intermittent salaried, active and another one intermittent, retired salaried and another one intermittently exposed, correct, sir, hourly retired?

A. That is what this memorandum indicated, sir.

Q. And within each of those categories, of course applicable, it is broken down into those with chloracne and to those without chloracne that were part of this study, correct, sir?

A. Yes, sir.

Q. And it shows that, for instance, in the exposed, active salaried employee, there were 25 that had chloracne and 12 that did not?

A. Yes, sir.

Q. And it shows the same thing for the exposed, retired with salary, rather, 16 with and one without, correct, sir?

A. That is what it shows, sir.

Q. And over to the right there it shows the column of the numbers to the left show the number of employees involved, the column in the middle of the page shows the number that participated, is that correct, sir?

A. Yes, it does.

Q. For instance in the active salaried personnel there were 25 that were exposed with chloracne and all 25 participated?

A. Yes, sir.

Q. 12 without chloracne and nine of those, that is 75 percent participated, correct, sir?

A. Are you referring to the first group, sir?

Q. I am.

A. Yes.

Q. Is that correct, sir?

A. Yes, that is correct.

Q. And, Doctor --

A. In this report it is correct.

Q. And, Doctor, on the last page there, it summarizes that of the 210 persons in the exposed group with chloracne, 146 participated. Do you see that, sir, according to this?

A. According to Monsanto records, sir.

Q. Is that right?

A. According to Monsanto records.

Q. It is not even according to Monsanto's records. According to this man's interpretation of Monsanto's records, correct, sir?

A. I say according to his view of the Monsanto

records.

Q. That is what I am asking you, Doctor.

A. Okay.

Q. Doctor, that is what I am asking you about.

A. Okay.

Q. And according to this document, of the 64 that were exposed who did not have chloracne, 36 of those participated in the study, correct, sir, according to this document?

A. According to this document, sir.

Q. Now, Doctor, that would be a total of 182 in the exposed group that participated, that participated, correct, sir?

A. I don't follow that, sir.

Q. If you add those with chloracne and those without chloracne, you get a total, do you not, sir, of 182? 146 with chloracne and the 36 without chloracne?

A. According to the Monsanto way of classifying, yes, sir, but not ours.

Q. Doctor --

MR. CARR: Your Honor, would you direct the jury to disregard what the doctor said. He knows I am talking about this document.

A. Yes, sir, okay.

THE COURT: That answer was not responsive to the

question, ladies and gentlemen. You are ordered to disregard it. Doctor, please keep your answers confined to the question that was asked of you. No more, no less. Listen to the question carefully, respond to that question and that question only.

Q. Doctor, according to this August of 1984 analysis, 182 persons in the exposed groups participated in this study, is that correct, sir?

A. If one adds that, that is what one can get from this particular report, sir, yes.

Q. And, Doctor, that would indicate, according to this report, that there were, in fact, insofar as exposure is concerned, at least 64 of those employees that could be identified who were exposed who did not get chloracne, is that correct?

A. According to this report, sir.

Q. All right. And, Doctor, you, yourself, identified at least 28 in the exposed group who did not get chloracne, correct, sir?

A. That is correct, sir.

Q. So, you do acknowledge, sir, that you can be exposed to dioxin and not get chloracne, isn't that correct?

A. I have done so previously, sir, yes, sir.

Q. And, Doctor, you also agree, do you not, sir, that

you can absorb the dioxin by skin contact, contact ingestion or inhalation in humanbeings, correct, sir?

A. No, sir.

Q. Doctor, when you -- you said no, sir, yesterday as well. I thought perhaps you might reconsider it overnight. When you say exposed, sir, when you put somebody in the exposed group, don't you mean a person that has, is in a position to absorb 2,4,5-T or its contaminants either by contact, ingestion or inhalation. Don't you mean that, sir, when you say it?

A. No, sir.

Q. Doctor, you recall you were under oath in the federal court case on March 13, 1985. This is page 28709, counsel, of that day.

MR. HEINEMAN: Could we take a moment?

MR. CARR: Surely.

Q. Doctor, the plaintiff's attorney at that time asked you this question, did he not? Line six, counsel. "Doctor, you defined exposure as a person who was in a position to absorb 2,4,5-T or one of its contaminants and that would be either through the skin or breathing it or ingesting it in some fashion, is that right? And your answer was yes"?

A. That is right.

Q. Was that your answer at that time, sir?

A. Position to be exposed, sir. That means potentially exposed.

Q. Doctor, was that your answer?

A. That was my answer. That was my answer.

Q. And, Doctor, was that the truth then?

A. Oh, it certainly was the truth then.

Q. Then one can absorb 2,4,5-T or its contaminants by either through the skin or breathing it or ingesting it, isn't that correct, sir?

A. No, sir, that is not what it says. It says if one is potentially exposed.

Q. Doctor, it doesn't say potentially.

A. Position to be exposed. It reads position.

Q. Doctor, position to absorb it. If what you mean by exposure, what you meant by exposure in the federal court in West Virginia, what you meant there by exposure, sir, was any person who was in a position to absorb TCDD either through -- to absorb 2,4,5-T or one of its contaminants and that would be either through the skin or breathing it or ingesting it in some fashion, is that correct, sir?

A. That is what it says, sir,.

Q. Doctor, I know that is what it says but that is the position you took in the federal court, is it not, sir?

A. I did, sir.

Q. And the position you have taken here is that you cannot absorb 2,4,5-T by ingesting it or by inhaling it, isn't that correct, sir?

A. No, that is not the position --

Q. Isn't that the position you just took here?

A. No. My answer is no.

Q. Would you please go back and find the answer so we can get that straight. That question and that right before I referred to this document.

COURT REPORTER: "And, Doctor, you also agree, do you not, sir, that you can absorb the dioxin by skin contact, contact ingestion or inhalation in humanbeings, correct, sir? Answer: No, sir."

A. Yes, I did say that.

Q. Yes, you did?

A. Yes, sir.

Q. Doctor, have you seen some scientific work since March 13, 1985, that would cause your statement at that time to no longer be true, sir?

A. No, I haven't seen --

Q. And, if so, what work, sir?

A. I haven't seen any work that would change my mind, sir.

Q. Now, Doctor, you have agreed, I take it, now that a

person can get, can absorb dioxin by breathing it, by ingestion or by skin contact, is that now correct,, sir?

A. No, sir, I didn't say that.

Q. Oh, isn't that what you said, sir, in the federal court?

A. No, sir.

Q. Doctor, you did not say that you can absorb the 2,4,5-T either through the skin, breathing or ingesting it?

A. That is what I said. Hold it --

Q. Is that the truth?

MR. HEINEMAN: Objection.

A. Position to be absorbed. You are confusing the issue, sir.

Q. Doctor, let me read it to you carefully.

A. Position to be absorbed. That is different, sir.

Q. Doctor, if you are in a position to absorb it, you have to be in a position to breathe it, don't you, sir. Doctor, you have told us here yesterday and today --

A. I don't know what you are saying, sir.

Q. That you cannot absorb 2,4,5-T and its contaminants by breathing it or by ingesting it, did you not, sir?

A. No, I did not, sir.

Q. Would you want to read the question again?

A. Please do.

Q. Would you find that question again?

MR. HEINEMAN: Objection, Your Honor. May counsel approach the bench?

THE COURT: Yes, you may.

(Bench conference had out of the hearing of the jury.)

MR. HEINEMAN: Mr. Carr keeps continually misstating what this witness has previously said. The question that he is reading back has to do with all three entries. Then he only mentions two. He says well didn't you say that you could absorb it by eating or breathing and he said no, I didn't say that because the witness previously said that pica or children eating dirt does occur so he is not saying that he never said that you can't absorb it by ingestion. So that it is totally misleading what Mr. Carr is doing.

MR. CARR: Do you want to read the question and the answer again?

MR. HEINEMAN: Which question?

MR. CARR: That I just asked this morning prepatory to reading this document which you read and the Court heard and I am asking the Court Reporter to again read the same question so there wouldn't be any question but what I asked that very same thing.

MR. HEINEMAN: Which very same thing?

MR. CARR: That you can get it, you can absorb it either by breathing it, eating it or by contact.

MR. HEINEMAN: But that isn't what you just now asked.

MR. CARR: Oh, yes, I did.

MR. HEINEMAN: No, sir. You asked him about eating and breathing and he said no, I didn't say you could do it by eating and breathing because he previously had said yesterday that you could absorb it by ingestion.

MR. CARR: It is pure nonsense.

THE COURT: Overruled.

(The following proceedings were had in the hearing and presence of the jury).

MR. CARR: Would you find that question against that you just read and his answer?

COURT REPORTER: "And, Doctor, you also agree, do you not, sir, that you can absorb the dioxin by skin contact, contact ingestion or inhalation in humanbeings, correct, sir? Answer: No, sir."

A. Yes, sir. That is what I answered, sir.

Q. You did say, sir, just this morning that you cannot get it by skin contact, ingesting it or by breathing it, did you not, sir?

A. You asked me about all three, sir, and I said no, sir, to all three.

Q. Doctor, did you hear the word "or" in there?

A. No, but --

Q. Well, read it again to make sure that you heard the word "or" in there.

COURT REPORTER: "And, Doctor, you also agree, do you not, sir, that you can absorb the dioxin by skin contact, contact ingestion or inhalation in humanbeings, correct, sir? Answer: No, sir."

Q. Did you hear the word "or" in there, sir?

A. Even if there is no "or".

Q. Did you hear the word "or"?

A. No, I didn't here an "or".

Q. Read it to him again.

COURT REPORTER: "And, Doctor, you also agree, do you not, sir, that you can absorb the dioxin by skin contact, contact ingestion or inhalation in humanbeings, correct, sir? Answer: No, sir."

A. I didn't hear an "or".

Q. Read it to him again so he can hear the "or".

COURT REPORTER: "And, Doctor, you also agree, do you not, sir, that you can absorb the dioxin by skin contact, contact ingestion or inhalation in humanbeings, correct, sir?

Answer: No, sir."

A. I heard the word "or".

Q. All right. And you said this morning, then, just exactly as the Court Reporter read it, did you not, sir?

A. Right, sir.

Q. But in Nitro, West Virginia, you said you defined -- this question. "You defined exposure as a person who was in a position to absorb 2,4,5-T or one of its contaminants and that would be either through the skin or breathing it or ingesting it in some fashion, is that right?" And your answer there was "Yes", isn't that correct, sir?

A. That is correct, sir.

Q. And, Doctor, the word "or" was included there as well, was it?

A. It sure was.

Q. Yes. Now, Doctor, do you now agree that a person exposed to 2,4,5-T or its contaminants can absorb that contaminant or 2,4,5-T through the skin or by breathing it, that is, inhaling it or by eating it, by ingestion, do you not?

A. No, I do not, sir.

Q. Doctor, has there been something that has happened in between March of 1985 and today to make you now conclude that a person cannot absorb it either through the skin or

breathing it or ingesting it in some fashion?

A. No. There hasn't been anything that has changed my mind, sir. That says something different than what I said today, sir.

Q. Oh, you think it says something different?

A. Yes, it does.

Q. Doctor, let me read it to you again carefully, sir. You defined exposure as a person who was in a position to absorb 2,4,5-T or its contaminants. We got that down straight?

A. Uh-huh.

Q. Exposure is a person who is in a position to absorb TCDD, right, sir? Is that correct, sir?

A. No, not necessarily.

Q. Doctor, the question is: "Doctor, you defined exposure as a person who was in a position to absorb 2,4,5-T or one of its contaminants". Didn't you say that, sir? That is how you defined exposure?

A. That is what I said, sir.

Q. So, your definition of exposure is a person who is in a position to absorb it, correct, sir?

A. Correct, sir.

Q. And that may be -- the absorption of it may be, according to your testimony in the federal court, either

through the skin or breathing it or ingesting it in some fashion, is that correct, sir?

A. Is that how it reads, sir?

Q. Doctor, I read it to you five times.

A. Yes, sir.

Q. And, Doctor, then is it true that a person may absorb TCDD through the skin or by breathing it or by ingesting it?

A. I have answered the question, sir.

MR. CARR: Would you direct the witness to answer the question?

A. And my answer is no.

Q. Doctor, you said in the federal court the answer was yes, did you not, sir?

A. No, I did not.

Q. Would you want to read it again, Doctor?

A. It is a different kind of statement.

Q. Excuse me. Would you read that question to yourself and tell me whether or not you said yes to that question?

A. I said in a position to absorb. That is potential --

Q. Doctor, read --

A. And the likelihood of being --

THE COURT: Doctor, you were asked to read the question to yourself. There is not a question posed to you that would require an oral answer. Please read it to yourself and then wait for the next question.

A. I have, sir.

Q. Now, Doctor, after having read it to yourself, did you not say that a person can absorb TCDD through the skin by ingesting it or by inhaling it, by breathing it?

A. Not in the way you state it, sir.

Q. Doctor, would you want to read that question and your answer outloud so maybe perhaps --

A. "Doctor, you defined exposure as a person who was in a position to absorb 2,4,5-T or its contaminants and that it would be either through the skin or breathing it or ingesting it in some fashion, is that right, sir? Yes".

Q. And, Doctor, you said there that you can absorb it. In what manner can you absorb TCDD, sir?

A. You might absorb it -- you might absorb it if you were in a position to absorb it.

Q. Yeah, and how would you absorb it if you are in a position to absorb it? That is, if you are exposed to it?

A. Through the skin or through ingestion or through the respiratory tract.

Q. And, Doctor, you said today that you couldn't do

that, didn't you, sir?

A. I did.

Q. All right. Doctor, and what you said today wasn't the truth, was it, sir?

A. Oh, it was, sir.

Q. Didn't you just say today that you couldn't do that?

A. No, I did not.

Q. Doctor --

A. These are two different situations.

Q. Would you just read the question --

A. Two different questions.

Q. Would you just read the question that I just asked him where he said yes that is what I said to him.

COURT REPORTER: "And, Doctor, you said today that you couldn't do that, didn't you, sir? Answer: I did."

A. Yes.

Q. You said today that you couldn't do it and your response was yes, isn't that right, sir?

A. Yes.

Q. All right. Now, Doctor, in the federal court you said you could do it and you also said today that you could do it. Now, which is the truth? Which of those statements is the truth, sir?

A. They are both the truth because they are different questions and they are different situations. In the one instance, sir --

Q. Doctor, the question is the same. Now, is it the truth?

A. The likelihood of absorption --

MR. CARR: Your Honor, would you ask the witness to wait until I ask him the question?

MR. HEINEMAN: Objection. May counsel approach the bench?

THE COURT: Yes, you may.

(Bench conference had out of the hearing of the Jury.)

MR. HEINEMAN: You see, Your Honor, typical of Mr. Carr's disingenuous technique is that he gives him a statement the questions are the same. Now, Doctor, and he goes on. The questions aren't the same and that is what this witness is trying to point out. The questions aren't the same. So he is arguing with the witness. He makes a statement and then goes on with the question. I object to the statement. If it is part of the question, then the witness ought to be allowed to answer it and respond to it. That he disagrees that the questions are the same. If it is part of the question, he should be allowed to do that. If it

isn't, then it should be stricken as a statement and the jury should be instructed to disregard it and I object to it.

THE COURT: Do you have anything you want to say?

MR. CARR: Counsel's statement is absurd. The witness said here that you couldn't do it through the skin or by ingesting it or by inhaling it. He admitted that he just said it and now he is saying that you can't do it or you do it or you don't do it. He is saying anything that comes to his mind. He is not answering my questions directly.

MR. HEINEMAN: You haven't responded to my objection, Mr. Carr.

THE COURT: I think he has. Objection is overruled.

(The following proceedings were had in the hearing and presence of the jury).

Q. Would you read the last question that I asked?

COURT REPORTER: "Doctor, the question is the same. Now, is it the truth?"

A. Yes, it is the truth, sir.

Q. Now, which is the truth? That you can absorb it through the skin or by ingesting it or by breathing it? Is that the truth or is the truth that you can't absorb it through the skin, by breathing it or by ingesting it? Which is the truth?

A. I cannot answer that question because --

MR. CARR: Would you direct the witness to answer that question and just that question, Your Honor?

MR. HEINEMAN: Your Honor, may counsel approach the bench?

(Bench conference had out of the hearing of the jury.)

MR. HEINEMAN: There is an opinion which I have read, Judge, and I will be glad to show it to you, that says if a witness says he can't answer it in that form, he is entitled to say that.

THE COURT: He is entitled to say it. I have heard this witness on this witness stand for days. I have heard his responses to questions. I don't believe that answer. He is capable of answering that question and I am ordering him to answer it. Because he says he is not capable of it and that is not binding me to his opinions that he is not capable of it. I do not accept his opinion that he is not capable of it. Your objection is overruled.

MR. HEINEMAN: You would agree with me, Your Honor, would you not, about the case that says he can answer yes, he can answer no?

THE COURT: I haven't seen your case. Would you show it to me and I will read it. I will tell you whether I

agree with you, with your opinion of the case or not. I am telling you that his answer he is not capable of answering it does not buy me. Your objection is overruled.

MR. HEINEMAN: Your Honor, when you do that, when you make a statement like you have made and you order him to answer a question that he can't answer, you are indicating to the jury that you don't believe his statement and that is an abuse of discretion.

THE COURT: No, it is not. As a matter of fact, that is not what I am indicating to the jury. Your objection is overruled.

(The following proceedings were had in the hearing and presence of the jury).

THE COURT: Doctor, I am ordering you to answer the question that was asked of you in the manner that was asked of you, no more, no less.

A. Would you repeat the question, please?

COURT REPORTER: "Now, which is the truth? That you can absorb it through the skin or by ingesting it or by breathing it? Is that the truth or is the truth that you can't absorb it through the skin, by breathing it or by ingesting it? Which is the truth?"

A. I believe they are two different questions, sir.

Q. They are indeed two different questions, Doctor. I

am asking you to tell me which of those two statements is the truth, sir?

A. Well, the second statement is --

Q. Excuse me, Doctor. My question to you is to answer which of those two statements is the truth, sir?

MR. HEINEMAN: He answered. I object.

THE COURT: The objection is overruled.

A. The second statement --

Q. Doctor --

MR. CARR: Your Honor, would you direct the witness --

Q. Are you saying the second statement is the truth, Doctor? Which statement is the truth? Is the second statement the truth?

A. The second statement is different.

Q. It is different. I gave them to you different.

A. How is it different?

MR. CARR: Would you direct the witness to answer the question?

THE COURT: I didn't order you to ask a question of the attorney questioning you. I ordered you to answer the question. Now, I am ordering you to do that again. Please follow the order of this court and answer the question that was asked of you.

A. Your Honor, I don't understand it.

THE COURT: Doctor, answer the question.

A. Would you read the question again, please.

COURT REPORTER: "Are you saying the second statement is the truth, Doctor? Which statement is the truth? Is the second statement the truth?"

A. You can't absorb it is the truth. What I am saying is that the second part that you cannot absorb it by breathing it or through the skin, that is what I would regard as the truth, sir. You cannot --

Q. That you cannot absorb it by breathing it or through the skin?

A. Well --

Q. Doctor, now you are really going off base.

A. No. You included the two together and I can't include the two together.

Q. Doctor --

A. That is why it is confusing, sir.

Q. Doctor, it was --.

A. Please don't confuse me.

Q. Doctor, they were all three included together, were they not?

A. No. There were two in the last sentence.

Q. Doctor, if you would let me finish.

A. That is why I am confused.

Q. There were not two in the last sentence.

THE COURT: Let him finish.

Q. Doctor, which is the truth? You can absorb TCDD either through the skin or breathing it or ingesting it. Is that statement the truth, or is this statement the truth. You cannot absorb it either through the skin or breathing it or by ingesting it?

A. You cannot absorb it by breathing it.

Q. All right. Now, Doctor --

A. If you include all of the three, you cannot.

Q. That is correct. Now, in the federal court you said you could absorb it by breathing it, did you not, sir?

A. No, I did not.

Q. Doctor, let me read it to you again. "Doctor, you defined exposure as a person who is in a position to absorb 2,4,5-T or one of its contaminants and that would be either through the skin or breathing it or ingesting it in some fashion," and your answer was, "Yes".

A. Correct.

Q. Now, Doctor, so you said in the federal court that you could absorb it by breathing it, did you not, sir?

A. If you were in a position to do so, yes.

Q. Doctor, you said you could absorb it if you are in

a position to do so by breathing it, did you not, sir?

A. If you were in a position to do so.

Q. Obviously. You have to be in a position to breathe it, otherwise you could never absorb it, not even through the skin?

A. No, sir. Because the likelihood of --

Q. Doctor --

A. -- of breathing it in is almost zero and that is the point, sir.

Q. Doctor --

A. The likelihood of breathing it in is almost zero.

Q. Doctor, your answer in the federal court was that you could absorb it by breathing it.

A. Potentially.

Q. Was that correct, sir?

A. Potentially.

Q. Can you absorb it by breathing it?

A. I said there yes. If you are in a position to do so.

Q. And you said here no?

A. Absolutely because the likelihood of doing it is zero.

Q. Doctor, which is the truth? Can you absorb it by breathing it or not? Which is the truth?

A. That is not the question, sir.

Q. That is indeed the question. Which --

A. In this instance --

MR. CARR: Your Honor, would you direct the witness that I am asking the question and the question is, Doctor, can you absorb it by breathing it or not?

THE COURT: Doctor, you have to answer that question.

A. My answer to that question is no.

Q. Doctor, your answer to that question in the federal court was yes?

A. It was a different question, sir.

Q. Doctor, your answer in the federal court was yes?

A. To a different question.

Q. Doctor, I will ask you the same thing. If you are in a position to absorb 2,4,5-T, can you absorb it by breathing it?

A. My answer there was yes.

Q. And what is your answer here in this court? If you are in a position to absorb 2,4,5-T, can you absorb it by breathing it?

A. If you are asking that same question, are you? Are you asking the same question?

Q. Did you hear my question, Doctor? Did you hear my

question? If you are in a position to absorb 2,4,5-T, can you do it by breathing it, sir?

A. My answer is the same as it was there. Yes.

Q. Then you can do it then. So, Doctor, you can absorb 2,4,5-T and its contaminants either by skin contact or by breathing it or by ingestion, is that correct, sir?

A. No, sir.

Q. That is not correct?

A. No, sir.

THE COURT: Mr. Carr, let's take a short break at this point in time. We will take a short recess and then resume testimony and remind you you are not to discuss this matter among yourselves, with anyone outside the jury panel or as of yet form any opinions or conclusions about the matters on trial. Court is in a short recess.

COURT RECESSED:

(The following proceedings were had in the hearing and presence of the jury).

THE COURT: Ladies and gentlemen before we start back, let me make two announcements. This afternoon we are going to have a slightly abbreviated schedule. We are going to break for lunch between twelve and one o'clock. Start promptly at one. We will break between 2:15 and 2:30 for the day.

The second announcement is next Tuesday which is April 1st we will not be having court so we will have court Monday and then Wednesday, Thursday and Friday.

RAYMOND SUSKIND

having resumed the witness stand, being previously sworn, testified further as follows:

CROSS EXAMINATION

By

MR. REX CARR.

Q. Doctor, on this business of breathing, absorbing it by breathing it, wouldn't a worker be at risk to absorb? Wouldn't a person be at risk to absorb or have a potential to absorb dioxin by breathing it if it were in the dust?

A. The likelihood of his being able to absorb --

Q. Doctor, I am not asking you about the likelihood. I am asking you whether or not there does not exist the potential for absorbing TCDD by breathing it if it is in the dust, sir?

A. The potential is there.

Q. Yes, Doctor.

A. Depending upon the load, depending upon -- and I think you asked me that once before about a restaurant.

Q. Doctor, please just answer my question, would you, sir?

A. Okay.

Q. Is the potential for absorbing dioxin present if the dioxin is in the dust and if you are breathing in the dust?

A. The potential is there, sir.

Q. Now, potential means it has the power, that it is possible, that it may occur, isn't that correct, sir?

A. That is what I believe the definition is but the likelihood is something else.

Q. Doctor, I am not talking about the likelihood, am I, sir? We are talking about potential, are we not, sir? My question is, sir, if you breathe in, if you are in an area where there is dust in the air and that dust contains TCDD, does not the potential exist to absorb the TCDD that is in the dust by breathing in the dust?

A. My answer to that would be no, sir, it would not.

Q. Doctor, you have testified in the federal court that there would be a potential. Well, I am sorry, page --

A. Correct.

Q. I will ask you, Doctor, whether or not these questions were asked you, Doctor, and whether or not these were your answers on page 28711.

MR. HEINEMAN: Same date?

MR. CARR: The same date, yes, counsel.

Q. "And so if you were doing your study on the Seveso people under the same criteria, the persons who were in the path of the cloud or who were in the area where the dioxin was in the soil or on the soil would be classified as exposed for purposes of the study?" And your answer was, "Or potentially exposed". Is that correct, sir?

A. I would say potentially exposed.

Q. Well, my question, sir, do you recall that, and it wasn't a question. Do you recall that question being asked you and that being your answer?

A. No, I don't. I honestly don't.

Q. Well, was it the truth then, sir?

A. Sure.

Q. Did you answer that question in the way that I read it that they would be classified as exposed for the purpose of the study or potentially exposed?

A. And my answer was the truth, sir.

Q. My question, sir, is did you say that? Did you say they would be exposed or potentially exposed if they were in this, in the path of this cloud of dust or on the soil, sir?

MR. HEINEMAN: Your Honor, may counsel approach the bench?

THE COURT: Sure.

(Bench conference had out of the hearing of the

jury.)

MR. HEINEMAN: Your Honor, the answer doesn't say exposed. It says potentially exposed and Mr. Carr suggested --

MR. CARR: That is what I said.

MR. HEINEMAN: You said didn't you say exposed or potentially exposed.

MR. CARR: That is what he is saying.

THE COURT: Wait. You guys are ahead of me. Let me read the whole question and the answer. Objection is overruled.

(The following proceedings were had in the hearing and presence of the jury).

Q. Doctor, you do agree that you said at that time these people would be classified as exposed or potentially exposed, did you not, sir?

A. If that is what I said, that is what I said, sir.

Q. Not if that is what is said. You did say that, didn't you, sir? That was your answer? The question was would they be classified as exposed for purposes of this study. Your answer was quote, or potentially exposed. Wasn't that your answer?

A. My answer was -- yes, sir.

Q. So, you are saying there that they would be

classified either as exposed or potentially exposed, did you not, sir?

A. That was my answer, yes, sir.

Q. Now, Doctor, they would be exposed or potentially exposed by virtue of the fact that they could absorb dioxin by breathing in the cloud of dust if there was dioxin in that cloud of dust at a particular level, correct, sir?

A. No.

Q. Well, Doctor --

A. There was more than that. There was skin contact too, there.

Q. Doctor, my question is talking about breathing, though, sir. My question is, sir, would they not be -- would there not be the potential of exposure of being absorbed by breathing in the dust that has the TCDD in it at some level, sir?

A. In that instance, yes. It was a cloud.

Q. Well, Doctor, in the instance of breathing in the dust, correct, sir?

A. No, sir.

Q. No? Isn't that what you said, sir?

A. Yes.

Q. Well, Doctor, if you said that, that is by breathing in the dust, is it not, sir?

A. No, it is not. It is the quantity of the dust, sir, and at Seveso there was a cloud.

Q. Doctor, I am not talking about quantity.

A. I am.

Q. Doctor, do you recall the question being asked you?

A. Yes.

Q. And you did say, did you not, sir, they would have the potential for absorption if it is in the soil where people walked, worked or walked on or in the dust. They would have the potential for absorption either by breathing the dust or swallowing it, wouldn't they, sir?

MR. HEINEMAN: Where is that?

A. In that instance, sir, in that particular instance, yes.

Q. Then, Doctor, and you did testify that they could absorb it by breathing in the dust, didn't you, sir?

A. In that instance.

Q. Yes. In that instance. Did you testify --

A. In that instance, yes, sir.

Q. And if it is in the dust, you can breathe it in. You can absorb it by breathing it in, can't you, sir?

A. Not any dust. No, sir.

Q. Doctor, the dust has to contain the TCDD, does it not, sir?

A. It might.

Q. In order for you to breathe it?

A. It might or might not.

Q. In order for you to absorb TCDD by breathing it, the TCDD has to be in the dust?

A. If it is, sir.

Q. That is always a predicate, isn't it, sir, that there is TCDD in the dust at a level sufficient to absorb, isn't that correct, sir?

A. That is a definition of exposure. Sufficient to be absorbed.

Q. Well, Doctor --

A. So one -- If that is my definition --

Q. Doctor, my question, sir, is, I don't want to get on another tangent, you can indeed absorb dioxin that is in the dust by whatever level, sir, by breathing the dust or by swallowing it, can you not, sir?

A. In that instance, yes.

Q. And in any other instance where the TCDD is in the dust at a particular level and you breathe it in or swallow it or touches your skin, isn't that correct, stir?

A. Not necessarily, sir.

Q. Doctor, not necessarily? I am not saying not necessarily, am I, sir? If you can do it, sir, if you can

breathe it in, then you are absorbing it, aren't you, sir, if you breathe it in and if it is in the dust?

A. No, sir. No, sir. Absolutely not.

Q. Well, Doctor, can you absorb it if it is in the dust by breathing it, breathing it in?

A. Not necessarily.

Q. Doctor, I didn't say not necessarily. My question is, can it be done? Can you ingest it, sir?

A. Yes, sir, you can ingest it.

Q. Can you breathee it in, sir, and can you get it in your by skin contact, sir?

A. Yes, you can.

Q. And it is the truth, is it not, sir, that you can absorb TCDD either by skin contact or by breathing it or by ingesting it, isn't that correct, sir?

A. No, sir. No, sir.

Q. Doctor, did you not say in the federal court that you could do it either through the skin or breathing it or by ingesting it?

A. If one is in a position.

Q. Didn't you say that?

A. I qualified it, sir. I qualified it. In a position to absorb.

Q. Doctor, let's stop a moment. Is the word yes there

or not, sir?

A. It is sure there but it is a different question and you know it.

Q. Doctor, let me read it to you again.

A. The respiratory tract --

THE COURT: Doctor, please. You have answered the question. Don't go beyond the question. Let the attorney ask the next question.

A. Thank you, sir.

Q. Didn't you say, Doctor, that you defined exposure as a person who was in a position to absorb 2,4,5-T, correct, sir?

A. Correct.

Q. Or one of its contaminants, right, sir?

A. Correct.

Q. Exposure is a person who is in a position to absorb 2,4,5-T?

A. Correct.

Q. And that is what you said in the federal court?

A. That is, sir.

Q. And you can be in a position to absorb 2,4,5-T -- if you are in that position to be absorb 2,4,5-T, it can be either through the skin or breathing it or ingesting it in some fashion, isn't that correct, sir?

A. That is true.

Q. All right. So it is true then, sir, that if you are in a position to absorb it, you can absorb it by breathing it, isn't that correct, sir?

A. If you are in a position to absorb.

Q. That is what I said?

A. Through the respiratory tract.

Q. Isn't that correct, that if you are in a position to absorb it, you can absorb it by breathing it?

A. If you are in a position.

Q. Doctor, would you answer that question?

A. Yes.

Q. Thank you, Doctor. So you can indeed then get the TCDD in your system if you are in the position to, if you are exposed to it, sir, by breathing it, by ingesting it or by skin contact, correct, sir?

A. If you are in the position to absorb it and that is a big if, sir.

Q. Doctor, and that has been the if all along?

A. No, it hasn't because in the respiratory tract --

Q. For you to absorb it, you have to be in a position?

A. No, sir. In --

Q. How can you absorb it if you are not in the position to absorb it?

A. The respiratory -- Let me answer that question.

Q. The question is, how can you absorb something if you are not in a position to absorb it?

A. Let me answer that question.

Q. That is what I am asking you to answer.

A. Okay.

Q. Yes. Tell me how that can happen, sir?

A. Please let me finish, sir. In the respiratory tract there are a large number of defenses and these defenses consist of the hairs in the nose and the villi in the large bronchi which push things away from the respiratory tract and that is true of dusts. It is true of dusts. So that the level, the level of dust or the level of TCDD is enormously important and you have not considered that and a scientist does so.

MR. CARR: Your Honor, would you direct the witness to answer the question that I asked.

A. I am. That is the answer.

THE COURT: Doctor, please listen to the question again. Listen to it as it is restated and answer that question. Would you repeat the question, Mr. Carr?

MR. CARR: Would you read it to him, please?

COURT REPORTER: "Yes. Tell me how that can happen, sir?"

A. That was the question, sir, and I am answering that.

THE COURT: Not that question, the one before it.

COURT REPORTER: "The question is, how can you absorb something if you are not in a position to absorb it?"

A. I will try to answer the question, sir. Now, if the load of the dust is high enough, you might absorb some through the respiratory tract, if --

Q. Doctor, that isn't my question.

A. Yes, it is. You asked how can you absorb it and I am telling you.

Q. That is half the question. My question is, how can you absorb something if you are not in a position to absorb it?

A. You have to be in a position to absorb it.

Q. Exactly correct, Doctor. That is what I am asking. You cannot absorb something if you are not in a position to absorb it, can you, sir?

A. That is correct, sir.

Q. All right. Doctor, now, that being true, when you say, Doctor, that a person is in a position to absorb something, you mean that they have to be in a position to absorb it. They have to be present, isn't that correct, sir, at some level sufficient for their body to get it and take it

in, isn't that what you are saying, sir, when you say in a position to absorb it?

A. Yes, sir. And you have correctly stated it. In a position, and the level is important and in this instance the level is tantamount.

Q. Would you mind just answering my question, please, sir? I have told you from the beginning, sir, at a level. The words have always been there.

A. You have not, sir. You never mentioned level until I did.

Q. Was it mentioned in the federal court, sir?

A. It may have been mentioned in the federal court but you didn't.

Q. Doctor, was it mentioned there? Was the question asked you in the federal court that if you are in a position to absorb it -- you define exposure as a person who was in a position to absorb it, right, sir?

A. Correct.

Q. What does it mean there? In a position to absorb it?

A. It means all the things I have just said.

Q. No, Doctor. I would like for you to tell me. When you said here you defined exposure as a person who is in a position to absorb 2,4,5-T, what did you mean there, sir?

A. I meant that the level of concentration has to be high enough whether it is a dust or a vapor or something getting on the skin. That is the first factor. The second factor, how did the defenses of this organ system, the skin -- let me finish, sir.

Q. You are going beyond. You are describing how a person absorbs it. I am not asking --

A. Position to absorb, sir.

THE COURT: Doctor, please let him finish the question so that you can be directed to that question.

MR. HEINEMAN: Your Honor, may counsel approach the bench?

THE COURT: Yes, you may.

(Bench conference had out of the hearing of the jury.)

MR. HEINEMAN: Your Honor, he is --

THE COURT: Get over here so we are close to the reporter.

MR. HEINEMAN: Wait a minute. Why do I have to be here and he over there?

THE COURT: Because you are much bigger. You have naturally a much louder and more booming voice and it is less likely for the jury to overhear this if, number one, your back is to the jury and you are talking directly to me rather

than at that angle. Just a second. Mr. Carr does not have as large and as booming a voice and I do not have as strong and as booming voice. This insures that the person with the loudest voice we can position him so that the jury doesn't overhear what is being said here and all of us should stay close to the Court Reporter, too, so she can hear all of us.

MR. HEINEMAN: Then may we all face you so that Mr. Carr while I am making my objection is not turning around and preening and prancing and making faces at the jury while I am making my objection?

THE COURT: I haven't seen that.

MR. HEINEMAN: Well, you are the only one in the courtroom who has not seen it.

MR. CARR: I do not preen and I do not prance and I have not made a face at the jury and the Court asked you to move. You were not facing the jury when you were making these statement, or not facing the Court, rather, when you were making the statement. You were facing the jury. You had your left arm on the podium, on the bench and you were, well I take it back. You weren't directly facing the jury. You were facing the witness. You were more facing the jury than facing the Court.

MR. HEINEMAN: That is an outright falsehood. I was facing the Court directly. If you are ordering me to be

here then I want you to order Mr. Carr to face you as well so that he is not putting on a show for the jury while I am making an objection.

THE COURT: Fine. You are both ordered to do that and you are to stay in this position because of the fact of your voice.

MR. HEINEMAN: Now, let me remember what I came up here for. Let me think a moment.

THE COURT: I don't think you got to it yet. While you are up here, I did get a chance to look at my notes and I think, Mr. Carr, your position on this matter was correct so you may make that statement.

MR. CARR: Yes, Your Honor.

THE COURT: I did get a chance to look at my notes.

MR. HEINEMAN: Can I take a moment to confer with counsel, Your Honor, and be right back because I am trying to remember.

THE COURT: Go ahead.

MR. HEINEMAN: Your Honor, my co-counsel has reminded me of what the question was. My objection, Your Honor, was that Mr. Carr interrupted the answer. The question was what do you mean by it being in a position to absorb. The doctor was in the middle of answering that question when he was interrupted by Mr. Carr and the Court directed him to

answer the question and I object to the Court's direction. I object to Mr. Carr's interrupting him because he was in the process of defining what he means by being in a position to absorb.

MR. CARR: He was defining what it means to absorb something and which it goes into the lungs. My question was to him what he meant by a person being in a position to absorb. He was not answering that question.

THE COURT: The problem was he had answered it and he was going past it. His answer as far as the level or was a person in a position. He was then going into repetition of how things have to be absorbed inside of the respiratory system and I agree. I don't think that second section of his answer was responsive and that is why I raised when I said to him in the manner so that he could answer direct to the question. The first part of what he said I think was responsive and that wasn't the point that was interrupted. The second part about absorption in the system, that was not responsive, and by that second part, I asked him to let him redirect him back to the question and I think he had answered the first part I think was responsive. That was not the part that was interrupted.

MR. HEINEMAN: Your Honor, I think this scientist is the one who should be permitted to define his terms and he

may believe in his training that part of being in a position to absorb relates to the internal defense mechanisms and that is what he was in the process of defining.

THE COURT: I don't think that that is what he was doing. I think that he -- when he is asked a question, he has to be responsive to it. Now, he knows the technical matters that make the part responsive. It is my responsibility to determine whether his presentation of those matters are, in fact, responsive to the question that was asked. That is my first job in the case, and through the exercise of my discretion in listening to that question and listening to the answer, that second part was not responsive and it was properly interrupted. Objection is overruled.

(The following proceedings were had in the hearing and presence of the jury).

Q. Doctor, my question to you is, what is meant by a person who is in a position to absorb it? Not how it is absorbed but what you meant when you said the person has got to be in the position to absorb it?

A. I think, Mr. Carr, I am in the best position to know what I meant by what I said there, sir.

MR. CARR: Your Honor, may I move the Court to direct the witness to answer my question?

A. I will answer your question.

THE COURT: Doctor, that what you said was not responsive to the question. I am ordering you to answer the question as it was asked of you. Now, please answer it.

A. What I meant by that -- is that what you are asking me?

Q. No, that isn't what I am asking you, Doctor.

A. Well --

MR. CARR: Would you read the question to him?

COURT REPORTER: "Doctor, my question to you is, what is meant by a person who is in a position to absorb it? Not how it is absorbed but what you meant when you said the person has got to be in the position to absorb it?"

A. What I meant is does this material get to the respiratory tract, to the area of the respiratory tract from which it is absorbed. That is what I meant, sir.

Q. And if a person is in a contaminated area, he can get that into his respiratory tract by breathing it, can he not, sir?

A. He might.

Q. Yes. Thank you, Doctor. And in addition, Doctor, if he is working in it, he might absorb some of the contaminant, might he not, sir?

A. Not necessarily, sir.

Q. Doctor, doesn't it depend upon whether or not he

would have worn protective clothing, head gear, respirator, things of that sort?

A. No, sir.

Q. In the federal court weren't you asked right after the question that you responded yes to on the one that I read you several times, weren't you asked this further question: "For example, a person would be an exposed person if he dug into a sewer where 2,4,5-T was disposed of, is that right, and worked in the sewer?" And your answer was, "Well, if there was any 2,4,5-T or its toxic contaminants found in that area and he was working there for days, he might have absorbed some. It also depends upon what kind of garb he was wearing. He could have worn protective clothing and head gear with a respirator and could have been completely protected." Was that your answer at that time?

A. That indeed was and I stick by it, yes.

Q. And, Doctor, then the question was also asked you, "Doctor, so it really depends upon not really that he was there but under what circumstances he was exposed" -- or, I am sorry, that is your further answer. "So it really depends upon --

A. Why don't you read that, sir. Please read it.

THE COURT: Doctor, there was no question asked of you. That response was improper. Mr. Carr, you may proceed.

Q. Yes, Your Honor. So you went on to say, "So it really depends upon not really that he was there but under what circumstances he was exposed," and then the lawyer asked you this question. "Well, Doctor, I wasn't really addressing the issue of whether the person absorbed any dioxin or not. I am simply saying that a person in that situation was in a position to absorb 2,4,5-T or one of its contaminants. Now, granted he could have been encased in plastic and probably wouldn't have gotten a bit of it. On the other hand, he could have been working with no shirt and no respirator and breathing dust and working with wet materials and he could have easily have absorbed material, isn't that true?" And your answer was, "If there was 2,4,5-T there." Wasn't your answer to that question that?

A. That is correct. Those were my answers.

Q. And then it went on to ask you the question, "And the same would be true if there was dioxin on the surface. Let's say after that cloud blew like in Seveso, it spread dioxin quite a ways along a path did it not, where the cloud passed over?" And your answer was "Yes." And then the question: "And there was dioxin in the soil and people who were in that area would, for purposes of your study, be exposed, meaning they had an opportunity or they were at risk of absorption, isn't that right?" And your answer was "Yes."

Do you recall that, sir?

A. I do indeed.

Q. And these people would be at risk of absorption, wouldn't they, sir?

A. By the skin, sir, yes.

Q. Doctor, they would also be at risk of absorption by breathing the dust, wouldn't they?

A. From the soil, sir, no, sir.

Q. By breathing the dust?

A. In the cloud, yes, sir.

Q. And, Doctor, that would be a risk of absorption of breathing the cloud of dust, correct?

A. The cloud of dust in that situation, yes, sir.

Q. And it would be also, sir, if it was in the soil, wouldn't it, sir?

A. Not breathing. Contact, sir.

Q. Doctor --

A. He didn't ask me whether it was breathing, sir.

Q. Doctor, you will see in a moment that he did but my question is, sir, if you are working in the soil, if it is in the soil and the dust comes up from the soil, you can ingest, you can get it in you by breathing that dust, can you not, sir?

A. No likelihood, sir. Unlikely. Very unlikely.

Q. Did you not answer these questions at that time on the next page. "And so if you were doing your study on the Seveso people under the same criteria, the persons who were in the path of the cloud or who were in the area where the dioxin was in the soil or in the soil would be classified as exposed for purposes of the study," and we have read this answer already, "Or potentially exposed," and then the next question: "Yes. Potential exposure. Now, some of them may not have absorbed any of it. On the other hand, others might. And that would be one of the things you would be testing in your study, I would assume? Answer: Well, we were testing outcome. Question: Yes, doctor. Let's not get into that. So, in any event, in that situation, a person would be exposed given this definition likewise at the Nitro Plant if -- and I am not suggesting to you that it is the case but I am saying if there was, if you tested the soil and you found dioxin in the soil where people worked or walked, you would have a potential for absorption either by breathing the dust or swallowing it, isn't that true?" And your answer at that time was, "Yes, but it would depend upon how much dioxin." Wasn't that your answer to that question?

A. The potential of absorption, sir, yes.

Q. Either by breathing the dust, by walking on the contaminated soil, isn't that correct, sir?

A. Potential of absorption, yes.

Q. So, that is potential for absorption by working with or walking on the soil?

A. It doesn't say it was absorbed. It just says potential, sir.

Q. Doctor, potential means that it can happen, does it not, sir? It has the possibility of happening, it has the power of happening. Isn't that what we established potential means?

A. Depending upon the circumstances.

Q. Isn't that what we established what potential means?

A. Yes, sir.

Q. Now, Doctor, you also are aware of the fact that there can be low exposure or chronic exposure in addition to acute exposure and that chloracne is not a reliable indicator of low or chronic exposure, isn't that correct, sir?

A. No, sir, it is not correct, sir.

Q. Are you saying, Doctor, that you cannot have chronic or low exposure without having chloracne?

A. No, I am not saying that.

Q. Then, Doctor, you can have low exposure to dioxin or chronic exposure to dioxin without chloracne, can you not, sir?

A. That is possible.

Q. Sir?

A. That is possible. You said exposure, not absorption, sir. Remember, you said exposure not absorption.

Q. That is exactly right.

THE COURT: Doctor, that was not responsive to the question. Please restrain yourself to the questions that have been asked you. Mr. Carr, is this a good point to break for lunch?

MR. CARR: Yes.

THE COURT: We will resume at one o'clock. The admonishments that I gave you earlier will apply during this break also. Court is in recess for lunch.

COURT RECESSED:

(The following proceedings were had in the hearing and presence of the jury)

RAYMOND SUSKIND

having resumed the witness stand, being previously sworn, testified further as follows:

CROSS EXAMINATION

By

MR. REX CARR.

Q. Doctor Suskind, I would like to have you define for us what is or tell us what is a clinical effect or symptom?

A. My definition of a clinical effect is a set of clinical findings which may be elicited by a physical examination or other kind of diagnostic studies. Other kind of diagnostic studies. Those are clinical effects, sir.

Q. Well, can an effect also be a symptom?

A. I think one has to consider that complaints or clinical symptoms have to be considered but if there is no physical examination finding or laboratory or other type of diagnostic findings which --

Q. I don't want to get into laboratory yet, Doctor. That is the next question. Confine your answer, please, to the clinical aspect.

A. Well, I think when you talk about clinical aspect, you are talking about the whole ball of wax. You are talking about all of the aspects of the clinical examination which includes pulmonary function, which includes X ray, which includes ECG, which includes all of those things including laboratory. That is what I would regard as clinical examination.

Q. Would it also include then the symptoms?

A. The symptoms only act as a clue to what might be found, but if there is no physical basis for the complaints or the symptom, the subjective symptom, then one has to consider whether or not they are indeed real or what other

basis those complaints have which are not elicited by the clinical examination.

Q. All right. Doctor, if the symptom is real, if I understand you correctly, if it is real, that is if you the clinician believe that it is real, then it is a clinical effect?

A. No, sir.

Q. No?

A. No. The reality of it, sir, is that the patient believes that it is there. That is the reality of it.

Q. Well, that is another point, Doctor. I am trying to -- for instance, is a headache a clinical -- is a headache a clinical effect, for instance, of something?

A. I think it would be if, for example, there were a series of patients like in this case that had complaints of headaches.

Q. Then that would be considered a clinical effect then?

A. Well, it is a symptom which one has to consider because of the numbers that have it.

Q. Well, my question is --

A. The numbers that have it.

Q. The headache then can be a clinical effect even though you, the clinician, cannot see it?

A. That is correct, sir.

Q. And the same thing I take it would be true of this malaise. That would also be a clinical effect even though you can't see it, is that correct, sir?

A. Well, it is a subjective symptom and if you have a lot of people who are in the same situation, whether it is from a cold or from a chemical exposure complaining of headache, you associate --

Q. Malaise this time.

A. Malaise. You associate malaise with that exposure.

Q. All right. But what I am saying is, Doctor, would the malaise under that circumstance be considered by you as a clinical effect, sir?

A. It would be considered a clinical symptom, sir.

Q. I know. You said that, sir, and there is no question that the malaise is a symptom. But my question is, would you, like the headache, will you consider that a clinical effect?

A. If there were enough people complaining about it, yes.

Q. All right. And you would only need enough people complaining about it. That is just kind of a persuasive element. That persuades you that the malaise or the headache is in fact occurring as a result of something, isn't that

correct, sir?

A. Or associated with it, yes, sir.

Q. So, in point of fact, if only one person had a headache resulting from something or malaise resulting from something, that headache or that malaise would be a clinical effect of that something, even if just one person had it, correct, sir?

A. If one person had it and I don't think one would consider it seriously except if this person were unique in that he or she had the headache and nobody else did.

Q. Well, Doctor, let's take it away from an epidemiological kind of thing. If a patient came in to you and said he or she had a headache, if she in fact had the headache, even though she was the only one in the family that -- let's say she watched TV too much or something of that sort and she came and told you that she had a headache --

A. All right.

Q. You would consider that under that circumstance a clinical effect, would you not, sir?

A. Yes. It would be a clinical effect as determined by the complaint, right.

Q. And the same thing would be true, then, of any singular symptom. You would consider that symptom a clinical effect if you as the clinician believed that it resulted from

whatever the person came in and said they were exposed to or were doing, if, in fact, you believed that it resulted from that. It would then be an effect, would it not, sir?

A. No, sir.

Q. No, it would not?

A. No.

Q. All right. Hasn't anything to do with your belief, does it, Doctor? That is the problem. It has to do with whether or not something caused that result, actually, that is what --

A. No. I think it would be several factors. I think one has to consider the fact of the circumstances under which this person is being examined and are they complaining even though they may not have these symptoms. They may not have these symptoms.

Q. The complaints without the symptom, then, is clearly not a clinical effect, is it, sir?

A. Well --

Q. And if you don't have a headache and you are complaining of a headache, then the headache is not the clinical effect. The complaints may be a clinical effect of some psychological disturbance or some psychoneurosis or something of that thing. That could be -- the complaints could be the clinical effect of that but I am talking about,

now, not that aspect. I am talking about the man that comes in and tells you that he has a headache. He has been watching a lot of TV and he has a headache. That headache, if I understood your answer originally or correctly, would be a clinical effect, would it not, sir?

A. Which one would associate with too much TV, perhaps.

Q. Right. But it would be a clinical effect associated with that exposure to the TV, would it not, sir?

A. If the patient were telling the truth, sir, yes.

Q. And just like fatigue, if a person told you that he was tired and worn out and also told you that he had done a lot of work and really extended himself, the fatigue that he has would be a clinical effect of that work and going beyond his ordinary capacity, would it not, sir?

A. Well, that would really depend upon whether or not he was again telling the truth.

Q. Well, I am taking that as a given, Doctor. If he comes in and tells you he is worn out and fatigued and telling you the truth and that he had chopped some trees down or did work that he is not physically -- his body isn't physically able to do and he came in and told you he is fatigued and worn out, fatigue in that circumstance would be a clinical effect of that over exertion or over activity,

would it not, sir?

A. It could be, yes.

Q. All right. And the clinical effect, the acute clinical, these then really, when you are talking about on this exhibit, Defendant's Exhibit 1692A, when you are talking about these human health effects, the clinical features, the acute, the eye, the respiratory, skin, headache and malaise, you are talking about in this circumstance the clinical effects of this acute exposure, are you not, sir?

A. Yes, sir.

Q. Yes. All right. And in the next exhibit number that you referred to here, 1692B, when you have described here the acne, neuromuscular symptoms, pain in skeletal muscles, chest, extremities, peripheral neuritis, fatigue, enlarged tender liver, porphyria cutanea tarda, hyperpigmentation, hirsutism of face, irritability and nervousness, you are talking about the clinical effects of this particular TCDD exposure, subacute or subchronic, are you not, sir?

A. Yes. As it is reported in the literature.

Q. Now, so clearly, the clinical effects can include things like pain in the skeletal muscles?

A. Yes. If everybody complains about it who are exposed to a particular virus or a particular chemical agent,

one would say that there is evidence to show that pains or neuromuscular symptoms are associated with that exposure.

Q. Okay. But once you have established the clinical effects of a particular toxin, for instance, and this is as on this board 1692B, the clinical effects of this exposure are established under the heading clinical features. Those clinical effects, once established, then when somebody else comes in, another patient who was just by himself on the occasion of the exposure, for instance, at home and nobody is around or anybody, not a number coming in, when he comes in and tells you I have these particular problems, these problems that he has, assuming that he is telling the truth, even though they happen in just one person that time, you can consider that to be in him as well a clinical effect of this particular exposure, can you not, sir?

A. No. I think in that point the doctor, physician, would include the possibility that the clinical symptoms were associated with that, were associated with the exposure of that larger group that he knew about.

Q. Well, but if they existed in the single person, they are just as much a clinical effect in that single person as if he happened to be in the crowd of a thousand people that got exposed at that same time and the other 999 also had the same problems, isn't that correct, sir?

A. They would be clinical symptoms but one wouldn't say yes, that is definitely associated with that.

Q. I am not asking you to definitely say that yes, definitely and conclusively that is a clinical effect of that exposure. What I am asking you, Doctor, isn't it true that if these problems occur in the case of one person exposed to the same substance but say on the following day, for instance, or a year later, or even five years later, that person exposed to this substance comes in and has these same clinical features, just because they are occurring in one person doesn't mean it is not a clinical effect in that person of the particular exposure, isn't that correct, sir?

A. That is quite true, sir. You would consider the possibilities that they are similar to the others.

Q. I know you as a clinician would consider the possibility. I am not asking you that point. I am asking you, the effect in that person, these problems, occurring in him are clinical effects in that person of this exposure, are they not, sir?

A. They are clinical effects that could be considered associated with that exposure.

Q. All right. Now, on the other side of the ledger, laboratory findings, sir. What is a laboratory effect, if you will?

A. Well, I am not sure I understand what you mean by a laboratory effect. Laboratory studies are carried out in order to determine if there are any abnormal effects, abnormal effects of a given virus or a given exposure on parameters which can only be determined by laboratory studies. For example, blood count or hemoglobin in the blood or white count or differential. Whether they are more polymorphonuclear leukocytes than there should be or there are more lymphocytes that is within normal range. Then you go into the blood chemistries which are designated in that exhibit which may relate to blood sodium or blood calcium or, in this instance, the enzymes which indicate liver function or the lipids in the blood which indicate normal or abnormal levels related to lipid metabolism.

Q. All right. Now, Doctor, then a laboratory effect of TCDD absorption, for instance -- well, an effect found in the laboratory would be considered a laboratory effect associated with or caused by this particular toxin or whatever problem you are talking about, correct, sir?

A. Associated with it, yes.

Q. In this instance, you found associated with TCDD absorption was these signs that are under the heading laboratory findings -- these effects, rather, under laboratory findings. Myelin degeneration. We also

established it was muscle destruction as well?

A. Not muscle destruction.

Q. Fibers. It wasn't muscle. You are exactly right. The neuro fibers in the -- the fibers of the nerve destruction, right, and the all these other elevated SGOT, GGTP, prothrombin times, triglycerides, lipids and uroporphyrinuria?

A. I didn't find those. I found some of them in my patients but this is a list from the literature.

Q. Doctor, what I am asking you, the thing that I am asking you, as opposed to clinical effects, the findings in the laboratory as we have given them hypothetically are in fact laboratory effects, aren't they, sir? That which you can see in the laboratory, wherein the laboratory tests as you have indicated comes out abnormal. That is a laboratory effect?

A. Yes. But these laboratory effects, sir -- I think one has to consider are they really associated with this exposure or are they not.

Q. I am not even trying to get into that point.

A. Okay.

Q. All I am trying to do is get a definition of laboratory effect. We have established what clinical effect is of exposure or toxin. It doesn't have to be this

particular case, what a clinical effect is, and now I would like to establish what a laboratory effect is. It is that which you find in the laboratory that is considered an abnormal finding on a given laboratory test, whatever that test might be, as you have suggested, the lipids, the blood count and things of that sort, correct, sir?

A. Correct.

Q. That would be considered a laboratory effect?

A. That would be considered a laboratory effect.

Q. All right. Now, Doctor, with respect to this problem when we get into the area -- one other thing. Systemic manifestation. What is your definition of a systemic manifestation of a toxic exposure? What do you mean if you were to say or use the word systemic manifestation?

A. In this instance we use systemic manifestation as distinguished from cutaneous or skin. So if other organ systems are affected like the liver or like the lung or like --

Q. The kidney or the porphyrins or the blood or anything else?

A. That would be systemic.

Q. All right. So, if it is something that is other than the skin --

A. In this instance.

Q. It would be a systemic manifestation?

A. Yes, sir.

Q. And manifestation means sign of the system being affected, correct, sir?

A. Well, there would have to be findings relative to that, yes. Findings relative to the systemic.

Q. Well, there would have to be effects of that in order for it to be manifestation, correct, sir? It would have to be a clinical effect like that we have previously established. The neuromuscular symptoms, pain in the skeletal muscles, the enlarged tender liver. These other things, well, practically everything on your exhibit, rather, everything on your Exhibit 1692B would be considered a systemic manifestation other than the acne then, is that correct, sir?

A. No, sir.

Q. Okay. Didn't you say that you meant to include those effects other than acne or effect upon the skin?

A. But if you will look down below you will see there are others there.

Q. Other than?

A. Hyperpigmentation and so on.

Q. Other than acne and hyperpigmentation, all of the effects on this board 1692B are considered systemic

manifestations?

A. No. There is another one. Hirsutism would be considered.

Q. That is part of the acne problem or associated --

A. Not part of the acne problem. That is part of the skin problem.

Q. All right. Then everything on this board other than those associated with the skin would be considered systemic manifestations, is that right, sir?

A. I believe so, yes.

Q. Now, if you just had one of these manifestations, say the enlarged tender liver, would that by itself be a systemic manifestation?

A. No, sir.

Q. It would not?

A. No, sir.

Q. What do you have to have for it to be considered a systemic manifestation?

A. Well, in the instance of that particular exhibit, sir?

Q. Yes.

A. And I believe you are referring to that, I have never seen and I think I have enough experience, we have never seen systemic manifestations without skin

manifestations.

Q. Well, Doctor, I am not really asking you that.

A. I thought you were, sir.

Q. What I am asking you is in the broad sense of the word systemic manifestation, what is a systemic manifestation of any kind? It doesn't have to be dioxin.

A. Manifestations other than the skin.

Q. Sir?

A. Manifestations which occur or found involving other organ systems than the skin.

Q. All right. Now, if it involves just one other organ other than the skin, is it still considered a systemic manifestation?

A. It depends upon the substance, sir.

Q. Well, all right. Depending upon the substance.

A. In the case of TCDD, it is not.

Q. Well, I am not talking about that at this point in time, Doctor. Is a systemic manifestation a sign that the system other than the skin has been affected?

A. It could be, yes.

Q. Is that a definition of the word systemic manifestation?

A. Yes, that is correct.

Q. Now, Doctor, when we talked about absorption this

morning as we concluded today, you distinguished between exposure and absorption. Do you remember that, sir?

A. I did, yes.

Q. Do you agree, sir, that the marker of absorption in the case of TCDD or some other toxic substance, for that matter, not just TCDD but the marker of absorption of a toxic substance is an adverse effect?

A. I would agree that an adverse effect might be considered, yes. Might be considered if one recognizes that it is usually associated with a chemical compound like carbon tetrachloride, for example.

Q. Doctor. Without getting into specifics.

A. Well, I think I have to.

Q. I think you differentiated this morning between exposure that suggested that you can have exposure to a substance without ever absorbing it, correct, sir?

A. Yes, you could.

Q. And you made that point this morning. Now, the marker of absorption then, if you can't tell just because one is exposed to it that that doesn't mean that they have absorbed it, then the only way you can tell whether they have absorbed it is to determine whether or not it has had an effect upon the system, upon the organism in question, correct, sir?

A. If indeed that effect is known to be associated with that particular exposure.

Q. Well, Doctor, even that isn't completely true. Science doesn't know everything.

A. Right.

Q. It doesn't know a fraction of everything.

A. Correct.

Q. And you can have an effect from a toxin or a substance, it be an adverse effect or even a beneficial effect from that exposure, and just because science doesn't know everything, it could still be a marker or an effect, rather, of that absorption, could it not, sir?

A. I couldn't disagree with that, sir.

Q. Sir?

A. I couldn't disagree with that.

Q. That is a fact, as a matter of fact. There are all kinds of things that we don't know.

A. That are still unknown.

Q. AIDS. We don't know what, if anything, are causing -- what absorption the system is getting to cause AIDS, for instance. All we know is is that something out there is happening, that somebody is coming in contact with some virus, germ, bug or absorbing something in his system that is causing AIDS, isn't that right, sir? That is about all we

know?

A. Generally that is true, sir.

Q. So, therefore, you can have an effect upon the body without you as a scientist knowing that it was caused by a particular substance, isn't that right, sir?

A. If the substance has never been studied thoroughly, yes.

Q. Well, Doctor, even if it has been studied thoroughly, we are learning everyday more and more and more about things that have been studied thoroughly, have we not? Are we not, sir?

A. Yes.

Q. Newton's theory of gravitity (sic). I don't know what that means. A freudian slip or something. Like gravity, Newton's law of gravity has been studied for centuries now and they are still learning about Newton's other things about the law of gravity, aren't they, sir?

A. Especially about how apples fall.

Q. And the same thing is true with regard to the human health system. They are studying everything and learning more and more and there is probably no end to it as far as learning, isn't that correct, Doctor?

A. That I think in a general way is true but what I think is more significant is that in the past, we have

learned a great deal about the fact that certain phenomenon occur and currently for those things we know about these phenomena, we are studying why they occur. Why they occur.

Q. Doctor, getting it closer to this case, there is all kinds of things that you scientists do not know about dioxin and how it affects the human system, isn't that correct, sir?

A. No. I think we know a good deal about --

Q. Doctor, I will agree with you that you know a good deal about it but my question is is that there is a great deal yet to learn, is there not, sir?

A. Only as to why things occur. Not that they do occur but why things occur. For example, why there is an elevated -- I am sorry, why there is elevated SGOT early in the course of events. We don't know why.

Q. More than that, the world doesn't even know what the critical level of exposure to dioxin, for instance, is that might cause injury to a human. You don't know that either, do you, sir?

A. That is true, sir.

Q. If the world doesn't know the critical level for humans, for human injury, what that is of dioxin, if you don't know what that level is that will cause human injury, then there is a lot you don't know about dioxin, isn't there,

sir?

A. There is a lot we don't know about the human.

Q. That is what we are talking about.

A. The human effects as related to dose.

Q. Yes.

A. As related to dose.

Q. You don't know, the world doesn't know what is the dose level for humanbeings that causes human injury in the case of dioxin, isn't that correct, sir?

A. I think generally that is true, sir.

Q. Yes. Indeed it is. And, Doctor, in the area of absorption and back to the point of absorption, the marker of absorption is an adverse effect whether it is a clinical effect or a laboratory effect, isn't that correct, sir?

A. Not in the case of TCDD, sir.

Q. Not in the case of TCDD?

A. No, sir.

Q. Now, Doctor, directing your attention again to the federal court case and your testimony in that case, sir, on the same day that these other questions have been read, counsel, on March 13, 1985, wasn't this question asked you at page 28680. "Question: How would you ever know that someone was exposed to dioxin if there was no effect?" And your answer was, "You would know by simply knowing that they had

worked in an area. Exposure is different from absorption. Question: That is what I am trying to get at, Doctor. Answer: Absolutely. Question: I don't understand the difference. Answer: And you are quite right. The marker of absorption is an adverse effect. Whether it is a clinical effect or a laboratory effect."

Doctor, isn't that what you said at that time and you went on to say, "The marker of absorption is an adverse effect but the fact that people are exposed does not necessarily mean they absorbed enough to develop an adverse effect and, as a matter of fact, it is quite well known in toxicology that you can give an animal," if I am going too fast, yell at me, "an experimental animal a subclinical dose of a toxic agent and they wouldn't develop any adverse effects." Wasn't that your answer at that time, sir?

A. It was.

Q. And didn't you say at that time, sir, "That the marker of absorption in the case of TCDD and dioxin is an adverse effect whether it is a clinical effect or a laboratory effect." Didn't you say that, sir?

A. I was talking about --

Q. Excuse me, sir. My question is, did you not say that, sir?

A. With respect to dioxin?

Q. Yes, sir.

A. I don't believe I limited it to dioxin.

Q. Doctor, the question was being asked of you about dioxin. I just read that question to you preceding that, sir.

A. Would you please read the question again, sir?

Q. "Question: How would you ever know that someone was exposed to dioxin if there was no effect? Answer: You would know by simply knowing that they had worked in an area. Exposure is different from absorption. Question: That is what I am trying to get at, Doctor. Answer: Absolutely. Question: I don't understand the difference. Answer: And you are quite right. The marker of absorption is an adverse effect whether it is a clinical effect or a laboratory effect." Didn't you say that, sir?

A. When I answered that question, sir --

Q. My question is --

A. Yes, I said that.

Q. And, Doctor, the marker in this case that we are talking about here, your exhibit here, the clinical effects we have gone through, have we not, sir, and the laboratory effects we have gone through, have we not, sir?

A. We have.

Q. So, the marker of absorption of dioxin in this case

is these clinical effects and these laboratory effects that we have gone through that is shown on 1692B?

A. No, sir.

Q. Doctor, did we not --

A. When we talk about marker, we are talking about the signal.

Q. Excuse me, Doctor. Didn't we establish that the marker of absorption is an adverse effect?

A. The marker of absorption in the case of many different compounds, yes, sir.

Q. And --

A. I was asked two questions there, sir.

Q. No, Doctor.

A. The first one was about TCDD and my answer was --

Q. Did you understand that they were talking about anything other than dioxin, sir?

A. My answer was referring to any substance absorbed through whatever, however it is absorbed. The marker of absorption could be any substance, could be either laboratory or clinical. In the case of TCDD, they didn't limit it to TCDD.

Q. Well, Doctor. You didn't exclude TCDD, did you, sir?

A. Oh --

Q. Did you think you weren't talking about TCDD?

A. If they asked me specifically what about TCDD, I wouldn't have answered it that way, sir.

Q. My question is, Doctor, did you think you were not talking about dioxin in that case?

A. I was and I was the answerer.

Q. Doctor, my question is, did you think you were not talking about dioxin?

A. I was talking about chemicals as a whole, sir.

MR. CARR: Your Honor, would you please direct the witness to answer my question?

THE COURT: Doctor, please answer the question that was asked of you, not something else.

A. In that answer I was not talking about dioxin specifically, sir, no.

Q. Doctor, you do recognize that this was a question in a series of questions in which you were talking about absorption and exposure of 2,4,5-T and its contaminants?

A. Yes, sir.

Q. Now, Doctor, would you like for me to read to you more than just that which I read so that you could be assured that you were talking about dioxin, among other things? Would you like for me to read more of your testimony, Doctor?

A. Whatever you wish, sir.

Q. No, Doctor. I am asking you if you are unsure that you weren't talking about dioxin, I would be more than happy to read to you more of this, sir. Didn't you say absorption can only be in this instance determined by the adverse effect? Didn't you say that. Talking directly about dioxin, sir?

A. Uh-huh, talking about --

Q. Directly about dioxin, sir?

A. The question was raised originally about TCDD and I went from the specific to the general about substances, how you can determine absorption, and my answer was the marker of absorption, the initial incident which the initial finding in absorption can be either a laboratory or a systemic, or an organ system effect; however, with respect to TCDD and I wasn't asked specifically at that point about it. I can say that yes, this is a marker for TCDD. That is a marker --

Q. Doctor --

A. And not any marker, one marker.

Q. My question to you, sir, didn't you say here that the marker of absorption is laboratory and/or clinical effects?

A. Yes. Of substances in general, yes, sir.

Q. Including dioxin?

A. No, sir. Not including dioxin.

Q. Did you tell the jury there or the Court there that you were not talking about dioxin? Did you tell them that, sir?

A. I didn't have to, sir.

Q. Excuse me. Did you tell them that, sir?

A. No. But I didn't ask them.

MR. CARR: Your Honor, would you direct the jury to disregard the latter statement of the witness?

THE COURT: The last part of the remark was not responsive to the question. You are ordered to disregard it. Doctor, please keep your responses confined to the question that is asked of you. I have asked you to do that before.

Q. Doctor, you were asked these questions in that series and just to make sure that we are talking -- that you know we are talking about the same thing, Doctor, I will be more than happy to read some additional questions preceding it and some questions coming after it so that you can make sure that you were talking about dioxin, sir. Page 28678.

"Question: Now, when you use the word exposed here, are you talking about absorption or opportunities for absorption? Answer: These were persons who by virtue of what their work records showed, medical records showed, and I gathered safety records as well because that is how, that is

how the Monsanto list was derived, who were known to be exposed and who either had a history of chloracne through their medical records and workmen's compensation records or they did not. Question: Doctor, my question to you was when you used the word exposure in this study, do you mean absorption of dioxin or do you simply mean opportunity to be or an opportunity to absorb dioxin?" Still talking about dioxin, right, Doctor?

A. In that context, yes.

Q. And your answer was, "well, I think at this point I would like to define what you are asking me to define. Question: Well, that would be good because that is what I am asking. Answer: And that is, and exposure is simply an opportunity to be exposed to a toxic agent. Let's say, it doesn't mean that there was absorption but they had a potential for exposure, and that type of situation is called a hazard. So these people had an opportunity to be exposed to a potential toxic hazard. Doesn't mean absorbed. Question: So, when this first group, this first list--" and you interjected, "Exposed in this instance means that --" and counsel said, "Can I finish my question?" And then your answer was, "They were known by their work records and their medical records to have been exposed to the 2,4,5-T process in some way. Question: Well, does that mean that those

persons had absorbed dioxin or just that they had the risk of absorbing dioxin? Answer: They had the risk of being exposed. You separate absorption from exposure. Absorption can only be, in this instance, determined by the adverse effect, so that --

"Question: Well, then, I could be exposed to dioxin and not be hurt?" And your answer was, "Absolutely. Question: The key to it is to absorb dioxin and have some demonstrable biological effect by chloracne? Answer: That is not the key. We were attempting to determine in this group as well as how many people who were exposed and never had any adverse reaction. Question: Well, how would you know that, Doctor, if you say the only way you can tell that you absorbed dioxin is by obesrving? Answer: I didn't say absorbed. I said exposed." And the Court said, "Doctor, please let counsel finish the question before you respond. Go ahead." "Mr. Caldwell: And your answer was? Would you repeat the question please.

"Question: How would you ever know that someone was exposed to dioxin if there was no effect? Answer: You would know by simply knowing that they had worked in an area. Exposure is different from absorption. Question: That is what I am trying to get at, Doctor. Answer: Absolutely. Question: I don't understand the difference.

Answer: And you are quite right. The marker of absorption is an adverse effect. Whether it is a clinical effect or a laboratory effect. The marker of absorption is an adverse effect but the fact that people are exposed does not necessarily mean they have absorbed enough to develop an adverse effect, and as a matter of fact, it is quite well known in toxicology that you can give an animal, an experimental animal a subclinical dose of a toxic agent and they wouldn't develop any adverse effects.

"Question: That makes sense to me, Doctor. Answer: Does it? Question: Yes. That makes sense. Answer: That is fine. And what we are saying is is that there was a group, there could be a group who were known to be exposed who did not demonstrate historically any adverse effects."

And, Doctor, that was your answer at that time following the questions that I just gave to you, were they not, sir?

A. That was indeed, yes, sir.

Q. And, Doctor, you went on to say, and the question went on to read that "When you say this group was not exposed, you mean the group that did not even have a chance of absorbing dioxin? Answer: They didn't have a clearly demonstrated chance vis-a-vis their history, their work

history. What does this vis-a-vis history mean, Doctor? Well, in relation to -- All right. So that was an important consideration for this kind of study because what you are getting ready to do, you were going to examine exposed people as you have defined it and persons who were not exposed as you have defined it."

And then, Doctor, over on page 28698 referring to the dioxin again, your answer was -- the question was, "Something you had the risk of absorbing dioxin, right?" Your answer was, "No. Exposed to 2,4,5-T and its toxic contaminants and what we were looking ostensibly at was the TCDD effect but to begin with, we were looking essentially at whether or not they were exposed. I think again we have had to separate the clinical effects from the exposure."

Was that your answer at that time, sir? And then you went on to say -- counsel tried to say something, "Well, Doctor, I was just trying --" and you interrupted and said, "Because there were indeed people who were exposed who didn't have clinical effects. Question: I was just trying to get some definition of exposure, Doctor, and as I understood what you said earlier in this case in this study, exposure meant a person being in a place where he might absorb 2,4,5-T or any one of its contaminants."

Now, Doctor do you recall were or were not those

your answers to those questions?

A. Yes, they were, sir. Yes.

Q. Now, Doctor, there can be in the case of low chronic exposure clinical effects and laboratory effects, can there not, sir, of being exposed to dioxin?

A. Did you say clinical and laboratory effects?

Q. And/or, sir.

A. No, sir.

Q. Does that mean that you are saying there needs to be both clinical effects and a laboratory effect?

A. No, I am not, sir. I am saying simply that we have not seen laboratory effects without the clinical effects, sir.

Q. Well, then, what you are saying as far as your experience is concerned, when you see a clinical effect, you will also see a laboratory effect, is that right, sir?

A. You might, sir. Yes, you might.

Q. Well, do you or not?

A. No.

Q. You might or might not, is that what you are saying?

A. Sure. You can have acne without any other laboratory findings. Without laboratory findings.

Q. Doctor, my question doesn't refer just to acne.

Acne is one clinical effect of exposure to dioxin. One of the many, is it not, sir?

A. No, sir.

Q. Isn't acne -- aren't there many clinical effects here, sir, on your board --

A. Yes, sir.

Q. -- of exposure to dioxin?

A. Yes, sir.

Q. And isn't acne one of those many?

A. No, sir.

Q. Doctor, is acne on this board or not?

A. It is the first clinical finding.

Q. Doctor, my question is, is it one of many?

A. It is one of many but it is the first, sir.

MR. CARR: Your Honor, I would like to have the jury to be instructed to disregard the answer given. My question is simply is acne one of the clinical effects.

THE COURT: The jury is so instructed. It is not responsive. Doctor, please answer the question.

A. Okay, sir.

Q. Doctor, it is true, is it not, sir, that people at Times Beach, for instance, may or may not have been exposed chronically and the effects of that chronic exposure can be somewhat difficult than an acute effect of a massive

exposure?

A. I don't know what the actual exposure at Times Beach was and I don't believe that, if you are referring to the State of Missouri report --

Q. Doctor, what I am referring to are the people at Times Beach, sir.

A. Well, I only know them through the report, sir, through the clinical report which was conducted and published.

Q. Doctor, at the meeting that you attended at this panel discussion, Plaintiffs' Exhibit 1802, you participated along with others in a panel discussion. We have already referred to part of what you said at that panel discussion, have we not, sir?

A. Mr. Carr, is that the Michigan State panel?

Q. It is the book that was written here, Dioxin and the Environment?

A. Yeah.

Q. I gave you a portion of that marked Plaintiffs' Exhibit 1802?

A. I have it here. It isn't the exhibit but I have a copy of it here, sir.

Q. Doctor, that panel discussion --

A. I am sorry. I don't have the panel discussion

here. Can I have it? I have the paper, not the panel.

Q. It should be among this group of exhibits here but we can give you this one to save some time so you don't have to dig for it.

A. Thank you.

Q. In that panel discussion, a Professor McConnell participated, did he not, sir?

A. Yes. General McConnell.

Q. And there is no question about his expertise, is there, sir?

A. Sorry?

Q. No question about his authority and expertise, is there, sir?

A. Only with respect to animal research, sir. He is a veterinarian and not a physician, sir. Not a doctor.

Q. Doctor, we have had a toxicologist in this case who is a veterinarian that came forward as an expert on the effects pf dioxin.

A. On animals, sir. Yes, sir, he really is.

Q. Doctor, he said a lot more than animals in this case.

A. I am talking about Doctor McConnell.

Q. Doctor, I would like to refer you, sir, to this panel discussion. Mr. McConnell in responding to various

things that was said at that discussion including yours. You responded starting at page, the bottom of page 270, did he not, sir? "I would like to respond to that in point of fact." He was responding to what Doctor Smuckler said and Doctor Smuckler was responding to something that you said, so the dialogue took place like this. "Insofar as Professor McConnell was concerned, I would like to respond to that and take a little bit different tact. I would agree that it is hard to compare a Nitro, West Virginia, or an acute exposure in an animal to a Times Beach situation because the former are single exposure." And by former he is referring to the Nitro and not the Times Beach?

A. Yes.

Q. "And people may or may not have been exposed in Times Beach but if they were exposed, they were exposed chronically. Now, how do you compare that? We have shown in animals that chronic low level exposures in several species of animals appear to be more potent than a single equivalent dose. In other words, it takes less of the TCDD spread out over a period of time to produce a given effect than it does in a single exposure. Just the opposite of what occurs with many, many chemicals. So, I am not sure that following the Nitro group in a negative sense will be able to predict anything in terms of a chronic disease. If I did find

something in" --

MR. HEINEMAN: Wait a minute.

Q. "Predict anything in terms of a chronic exposure. If I did find something in a Nitro group, I certainly would look for it in the Times Beach group but I might expect to find something different in the Times Beach exposed population." It says that, does it not, sir?

A. That is what it says, sir.

Q. And, Doctor, Doctor McConnell does point out a difference that he believes that exists between chronic or low dose exposure such occurs at Times Beach and an acute dose like took place at Nitro, correct, sir?

A. No, I don't think that is accurate, sir.

Q. Doctor, isn't he saying, sir, that the effect of TCDD spread out over a period of time, at least in animals, appears to be more powerful than a single equivalent dose?

A. That is what he is saying but he is talking about the Nitro group and I disagree with that, sir.

Q. Doctor, I will get to the Nitro group in a moment and I am not asking you right now as to whether or not you agree or disagree with him. I am trying to establish what he, in fact, is saying with the help of your interpretation.

A. Thank you.

Q. He is saying, Doctor, that his experiments in

animals -- and he has published on it. They are in the evidence in this case, sir. His experiments with animals show that you can take the same amount of TCDD and if you spread it out in low doses over a period of time in those animals, it will have a more potent effect than if you gave it all at one time, isn't that what he is saying?

A. That is what he is saying, sir. Yes.

Q. So, what he is saying from that experience of his, from that scientific experimentation of his, he is saying that by following the Nitro group which is as pointed out on your board, many of these symptoms are acute symptoms, by following the Nitro group, you don't necessarily expect to find that in the Times Beach people because he is saying you might find something different in the Times Beach exposed population, is he not, sir?

A. That is what he is saying, sir.

Q. All right. Now, Doctor, there is also other discussions that took place at that panel relating to dioxin and the exposure, was there not, sir?

A. I believe there were. There is an exhibit on it.

Q. And, Doctor, handing you now what has been marked Plaintiffs' Exhibit 1805, did I pass my copy to the Court or counsel? There is one that has some marks on it. I have got it back here, I am sorry. Doctor, Exhibit 1805 is the

Chapter 19 from that same book, is it not, sir?

A. It is, sir.

Q. And it was authored by a Matsumura?

A. Yes.

MR. CARR: And we have had documents of his in evidence here earlier as well, Your Honor. I would like to offer 1805 into evidence.

THE COURT: Any objection?

MR. HEINEMAN: Counsel approach the bench?

THE COURT: Sure.

(Bench conference had out of the hearing of the jury.)

MR. HEINEMAN: Your Honor, I object to it being offered. Well, I object to the document that has been offered on the basis, A, that it is hearsay. Second, on the basis that it is -- that no foundation has been laid. It hasn't been identified, authenticated and it is hearsay and it is inadmissible.

MR. CARR: Previously authenticated with the book. The Doctor said it was authoritative. I asked him to describe the authorities of people that he considered to be not experts in this group, the panelists and contributors. He did not name Matsumura as one of the non expert people.

MR. HEINEMAN: Well, regardless of whether the man

thinks it is authoritative, that doesn't establish its foundation for itself admission. It is still hearsay.

THE COURT: The exhibit will be admitted.

(The following proceedings were had in the hearing and presence of the jury).

MR. CARR: Your Honor, I would like to pass the chapter to the jury.

THE COURT: Fine.

(Plaintiffs' Exhibit 1805 is passed to the jury).

Q. Doctor, Doctor Matsumura is part of the Michigan State University group, is he not?

A. Yes, I believe he is.

Q. And isn't he head of the Pesticide Research Center?

A. I don't know if he is head of it but he is attached to it, sir.

Q. And Chapter 19 is the paper that he delivered at that conference at the same time you delivered your paper, isn't that correct, sir?

A. It is a rewritten version, yes, sir.

Q. And, Doctor, in the first paragraph, he discusses the toxic effect of -- as a matter of fact the first two paragraphs he discusses the toxic effect of TCDD and it is under that heading, is it not, sir?

A. Toxic effect in animals, sir, yes.

Q. Doctor, is the answer to my question yes, he discusses the toxic effect of TCDD?

A. No, sir. The answer is no, sir. If it is overall toxic effects.

Q. Is the heading on it, Doctor, Toxic Effects of TCDD?

A. That is the first paragraph only covers animals, sir.

Q. Doctor, I will get to that in a moment. Is the heading the Toxic Effects of TCDD?

A. Yes, sir.

Q. Was this conference held for the purpose of having concern over the health of animals or was this conference held because of the concern over the health of humans?

A. I believe that the conference was held to determine a variety of things, not just the health of humans, sir, or the health of animals. It had to do with the effect on the environment.

Q. Doctor, with respect to the health aspect of the conference, was the conference concerned with the health of animals or was it concerned with the health effects on humans?

A. It was concerned with both of them, sir. Both of them.

Q. Doctor, where would you think that primary concern would be?

A. The primary concern was a large number of different aspects of the effects of dioxin.

Q. Primary meaning one, Doctor?

A. Yes.

Q. My question, sir, is what was the primary concern of this meeting, Doctor, this conference?

A. Primary effect. The primary purpose was to discuss dioxin in the environment.

Q. Doctor, what was the primary concern for wanting to discuss dioxin in the environment?

A. To determine what the effect on man's ecosystem was, including man.

Q. Doctor, and wasn't the primary concern the health of humans and the consequences of the unknown human health consequences?

A. It was only one, sir, and this would be a small section, if you look at that, one small section devoted to human health effects.

Q. Doctor, I didn't ask you that.

A. And that was the last day.

Q. Doctor, I didn't ask you that, did I, sir?

A. Yes, you did.

Q. I didn't ask you to analyze the number dealing with human health effects?

A. You asked me what was the main purpose of it, sir.

Q. Yes, Doctor, but I didn't ask you to tell me how many chapters were devoted to the human health, did I, sir?

A. Not specifically.

Q. I asked you the primary concern of this conference.

A. It is called Dioxin in the Environment, sir.

Q. My question was the primary concern.

A. Is dioxin in the environment, sir.

Q. And doesn't the preface read, Doctor, "Dioxins and other closely related chemical compounds have attracted both public and scientific attention in the recent years. Several incidents have resulted in the introduction of both facts and fear regarding the extent of dioxin distribution and the unknown human health consequences." Isn't that, sir, the very lead off section of the preface, sir?

A. That is what it reads, sir. That is what it reads.

Q. And, Doctor, with respect to these toxic effects of TCDD, does it not say the very first sentence that "there is no question that TCDD is a very unique poison"?

A. That is what it reads in this chapter, sir.

Q. "The first time I gave TCDD to animals, I expected

to see some immediate symptoms. We waited and waited. We could not see any signs of toxicity. The animals did look a little quieter but there was no obvious toxicity until about 30 days later. At that point the animals just died. In addition, we could find no clear cut dose response. Even when we gave high doses, not all animals died and we had no idea what the difference was among the population. Not only are there differences within species, there are very large differences between species as Doctor McConnell pointed out, McConnell 1984. TCDD is so different in not showing organ specific toxicity. Although it does produce organ damage, the target organs differ from species to species, Moore, 1973. In addition, you cannot say what effect leads to the death of the animal. If you give something like DDT, the animal starts showing convulsions so you suspect that the nervous system must be affected. But in the case of TCDD, you cannot say why they die. It is really a mysterious compound." Does Doctor Matsumura say that about dioxin, sir?

A. That is what he says, sir.

Q. Thank you, Doctor. Do you disagree with Doctor Matsumura?

A. I sure do, and if you want me to tell you why, I will.

Q. No, Doctor, Mr. Heineman can ask you why but I just

want to establish whether or not you disagree with this gentleman as you have the others.

A. I sure do.

Q. Doctor, the article --

MR. CARR: Your Honor, do you want me to continue with this?

THE COURT: How much longer do you have?

MR. CARR: Well, I have this.

THE COURT: We will break now then. Ladies and gentlemen, we will recess at this time. We will resume again on Monday. As I told you we are off Good Friday. Thursday we are off and Friday is a court holiday. I would remind you as I do on any overnight break, you are not to discuss this matter among yourselves, with anyone outside the jury panel or as of yet form any opinions or conclusions about the matters on trial. And further remind you that you are not to read, listen to or watch anything about this case in particular or subject matter in general in any of the media. Thank you for your attention and cooperation. Have a good weekend. We will see you Monday.

COURT ADJOURNED:

STATE OF ILLINOIS)
)
TWENTIETH JUDICIAL CIRCUIT) SS
)
COUNTY OF ST. CLAIR)

I, Kimberly Ganz, one of the Official Court Reporters, do hereby certify that the foregoing transcript is a true and correct transcript of the proceedings had in the above-entitled cause.

Dated this 1st day of April, 1986.

KIMBERLY GANZ

STATE OF ILLINOIS)
)
TWENTIETH JUDICIAL CIRCUIT) SS
)
COUNTY OF ST. CLAIR)

I, RICHARD P. GOLDENHERSH, one of the Judges in and for the Twentieth Judicial Circuit, do hereby certify that the foregoing transcript is a true and correct transcript of the proceedings had in the above-entitled cause.

Dated this 1st day of April, 1986.

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HON. RICHARD P. GOLDENHERSH

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