

IN THE UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF TEXAS
BEAUMONT DIVISION

*
CECIL SCOTT, ET AL *
*
VS. * CIVIL ACTION
* NO. B-84-1103-CA
*
MONSANTO COMPANY *
*

VOLUME III

VIDEO DEPOSITION OF

R. EMMET KELLY, MD

9:09 a.m. to 12:00 noon
May 28, 1987
Ramada Airport Inn
St. Louis, Missouri

Reported by:

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COPY

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19 *****

20 Video Deposition of R. EMMET KELLY, M.D.,
21 taken on May 28, 1987, at Ramada Airport Inn, St. Louis,
22 Missouri, between the hours of 9:09 a.m. and 12:00 noon,
23 before Linda C. Baker, CSR No. 505 and Notary Public in
24 and for the State of Texas, at the instance of the
25 Plaintiff, pursuant to Notice and the Federal Rules of
Civil Procedure.

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*** VOLUME III ***

PROCEEDINGS

THE VIDEOTECHNICIAN: This videotape deposition is being taken in Cause No. B-84-1103-CA and is filed in the United States District Court for the Eastern District of Texas, Beaumont Division.

The style of the case is Cecil Scott versus Monsanto Company.

For the record, the video recorder today is James Heironimus of the firm Executive Service Groups; and the Certified Court Reporter present today is Linda Baker of the firm Nell McCallum & Associates.

We are here today to take the audio and video deposition of the witness, Mr. R. Emmet Kelly; and we're located at the Ramada Airport Inn in St. Louis, Missouri.

The date today is May 28th, 1987, and

1 the time is approximately 9:09 a.m.

2 Will Counsel now please state their
3 appearances for the record.

4 MR. LACEY: David Lacey, for the
5 plaintiffs.

6 MR. CRAWFORD: Walter Crawford, for
7 the defendant.

8 THE VIDEOTECHNICIAN: Would the court
9 reporter please swear in the witness.

10

11

12

13

14

15

EMMET R. KELLY, M.D.,

16 having been first duly sworn, testified as follows:

17

18

EXAMINATION

19

20 QUESTIONS BY MR. LACEY:

21 Q Will you state your name for the record,
22 please?

23 A R. Emmet Kelly, E-m-m-e-t K-e-l-l-y.

24 Q Dr. Kelly, you're the same Dr. Kelly whose
25 deposition we started in my office a couple of weeks

1 ago?

2 A That is correct.

3 Q And we're here today in St. Louis to complete
4 that deposition. Correct?

5 A Correct.

6 Q Okay. You understand you are still under oath,
7 exactly the same way as you were when you were in my
8 office i Houston to testify about this case.

9 A Yes.

10 Q Okay.

11 I want to try to complete some matters with you
12 by way of examination that we did not get a chance to
13 complete when we started your deposition in Houston.

14 The first topic I want to discuss with you is
15 the issue of contamination of PCB products manufactured
16 by Monsanto. And let me start by first asking you if
17 you understand what I mean by "contamination."

18 A No. Would you explain it?

19 Q Yeah, I'll try to do that, then.

20 The way that Monsanto designed its PCB
21 production, it was not designed to have in it products
22 other than PCBs that were -- when it -- the product was
23 finished, was it?

24 A Well, with the exception that in industrial
25 chemicals, one rarely gets 100 percent purity.

1 Q I understand. But the design was to have PCBs,
2 and not a mixture of PCBs plus other chemicals like
3 furans or naphthalenes or anything like that. Isn't
4 that correct?

5 A That is correct.

6 Q And then when we talk about contaminants, what
7 I'm talking about is the chemicals that one would find
8 in Monsanto's PCBs that were not PCBs. You understand
9 what I mean by "contaminants"?

10 A Yes.

11 Q And another way to put that is that the
12 contaminants are the products that would be found in the
13 PCBs that were not part of what Monsanto intended to
14 produce or designed to produce. Do you understand that?

15 MR. CRAWFORD: Well, be -- okay.

16 Be sure you understand what he's talking
17 about about the des- -- design. Were you
18 involved in the design of the product?

19 THE WITNESS: No, I was not.

20 MR. CRAWFORD: All right.

21 BY MR. LACEY:

22 Q My question --

23 A Would you repeat the question?

24 A Yes. Very clearly, did Monsanto design its
25 PCBs products to contain contaminants in them like

1 dibenzofurans and other similar chemicals?

2 A No.

3 Q Okay. And when we talk about contaminants,
4 then, we're talking about a chemical that is actually in
5 the PCBs but wasn't part of what was designed to be in
6 it. You understand that?

7 A Yes; that may be in the PCBs.

8 Q Okay; may be in it.

9 Now, with regard to contaminants, these are the
10 chemicals that we find or may find in PCBs. Are you
11 aware of any chemicals that were present in Monsanto's
12 PCBs which were not -- as actually produced -- which
13 were not designed to be there?

14 MR. CRAWFORD: During what period of
15 time?

16 MR. LACEY: During any period of time
17 that Monsanto produced PCBs.

18 MR. CRAWFORD: Well, that's a pretty
19 broad question, David. I think you ought
20 to limit it. I'm going to object to it.

21 BY MR. LACEY:

22 Q Well, let's start, then.

23 Are you aware of any contaminants -- that is,
24 chemicals that were not designed to be in Monsanto's
25 PCBs -- that were in them in the 1930's?

1 A No.

2 Q Are you aware of any contaminants -- that is,
3 chemicals that were not designed to be in Monsanto's
4 PCBs -- that were in Monsanto's PCBs in the 1940's?

5 MR. CRAWFORD: We didn't manufacture
6 the chemical in the '30's, I don't
7 believe, did we?

8 MR. LACEY: Well --

9 MR. CRAWFORD: The late '30's?

10 MR. LACEY: Actually, you bought
11 Swann Chemical Company in 1935.

12 MR. CRAWFORD: All right.

13 MR. LACEY: It became a part of
14 Monsanto, and I -- I don't know the effect
15 of your buying that company and assuming
16 its liabilities and its assets. I don't
17 know what that is; whether that means it's
18 Monsanto or not.

19 But you certainly manufactured them
20 from 1935 forward under the name Monsanto.

21 MR. CRAWFORD: From '35 is when
22 you're talking about?

23 MR. LACEY: No, I'm talking about at
24 any time during the 1930's, whether it's
25 Swann or whether it's before Swann was

1 acquired by Monsanto.

2 MR. CRAWFORD: Well, let's stick with
3 Monsanto, since that's what you're talking
4 about.

5 BY MR. LACEY:

6 Q Well, let me -- let me make it very clear.

7 Are you aware of any contaminants in materials
8 produced -- PCB materials produced by Monsanto or any
9 company that it acquired, whose plant it acquired,
10 during the 1930's?

11 A Yes. I -- yes.

12 Q What contaminants are you aware of in PCBs that
13 were produced by Monsanto or its predecessor in the
14 1930's?

15 A In the 1930's, there was a contaminant that was
16 not discovered when Swann Chemical manufactured PCBs
17 with an off-spec benzene; and they had different color,
18 and they had different specifications that I understood
19 was the cause for their chloracne at the time.

20 Q So, there was a problem with PCBs manufactured
21 in the 1930's, at least by Swann, with contaminants in
22 it. Correct?

23 A Well, I cannot say, because I do not know what
24 any of the details of that particular episode were.

25 Q Well, is it your understanding that there was a

1 problem with PCBs produced by Swann Chemical Company in
2 1930's that --

3 A I don't --

4 Q -- resulted from contaminants in the PCBs?

5 A I don't know what they were producing.

6 Q I see. Okay. So you do not know whether or
7 not PCBs produced by Swann Chemical company or Monsanto,
8 which later acquired Swann, had any problems with
9 contaminants in them in the 1930's. Is that correct?

10 A I cannot speak for Swann. I can only speak for
11 the time when I came with Monsanto. And from 1936 to
12 1939, inclusive, I do not know of any problems with
13 contaminants.

14 Q Fine. Now, during the 1940's, are you familiar
15 with any problems with Monsanto's PCBs that involved
16 contaminants? And by that, I mean chemicals that were
17 in the PCBs produced by Monsanto that were not designed
18 to be there.

19 A Not that I know of.

20 Q Okay. Now, in the 1950's, are you aware of any
21 problem with contaminants in the PCBs produced by
22 Monsanto? And, again, by that, I mean chemicals that
23 were not designed by Monsanto to be in its PCBs.

24 A No.

25 Q During the 1960's, are you aware of any problem

1 with contamination of Monsanto's PCB production? And by
2 that, I mean the presence of chemicals in Monsanto's
3 PCBs that were not designed to be there.

4 A Well, you have made two statements there,
5 Mr. Lacey. One is the problem, and one is the
6 premise -- the presence. Do you mind breaking that
7 down?

8 Q Are you aware during the 1960's of any
9 chemicals that were contaminants in PCBs made by
10 Monsanto? And by that, I mean chemicals in the PCBs
11 manufactured by Monsanto that were not designed to be
12 there.

13 A Of my own knowledge, I do not know. There may
14 have. I may have been told about it, but I have no
15 recollection at the present time.

16 Q I see. Up to the 1960's, your testimony is
17 you're relatively certain there was no contamination;
18 but beginning in the '60's, you're not sure?

19 A No, I didn't say there was no contamination.

20 Q All right.

21 A I said I was not aware of any contamination.

22 Q I see. So there may have been contamination of
23 Monsanto's PCB products in the 1930's?

24 MR. CRAWFORD: Well, he can't tes- --

25 David, I think he --

1 MR. LACEY: I want to make clear
2 whether his answer is there was none, or
3 there may have been some and he didn't
4 know about it. I need to know which --
5 which his answer is.

6 A Well, there may or may not have been.

7 BY MR. LACEY:

8 Q Okay. You just don't know.

9 A I don't know.

10 Q Okay. And that answer would -- would apply
11 from the '30's all the way through the '60's?

12 A With the exception that sometime in the late
13 '60's or early '70's -- I'm not sure of the time
14 frame -- there may have been analyses on Monsanto
15 products for specific contaminations.

16 Q Well, let me ask you about the 1970's. During
17 the 1970's, are you aware whether or not Monsanto's PCBs
18 contained any chemicals in them that were not designed
19 to be there; that is, contaminants?

20 A I cannot be sure of -- of that particular -- of
21 an answer to that statement, Mr. Lacey, because I have a
22 recollection of sometime that Monsanto had analyses of
23 PCBs that showed the absence of specific contaminants.
24 So I can't answer any more -- and I don't know when I
25 received that knowledge. I just do not remember it.

1 Q Well, I guess my question to you is: Did you
2 ever receive any information as the Medical Director of
3 Monsanto that there were any contaminants in Monsanto's
4 PCBs?

5 A I may, and I may have not. I can't answer
6 that.

7 Q You just don't recall?

8 A I do not recall.

9 Q Okay.

10 Can we agree that contaminants in a chemical
11 at -- even at very low levels, depending on what the
12 contaminant is, may have an important impact on the
13 toxicology of the chemical?

14 A Well, I won't agree unless you tell me: A, what
15 the contaminant is; B, how much is in there.

16 Q Well, I'm trying to find out if generally a
17 contaminant in a chemical -- I'm not talking about any
18 particular chemical or any particular level, but a
19 relatively low level; let's say one part per million of
20 a contaminant -- may, depending on the hazards of that
21 contaminant, create toxicological problems.

22 A It may or may not.

23 Q Okay. Depends on the chemical?

24 A Depends on a number of factors.

25 Q One of which is the dangerousness of the

1 contamination chemical?

2 A And how much is there.

3 Q Exactly. That's my question. Contaminants,
4 depending upon what the chemical is and the
5 concentration, may create a problem?

6 A Well, yes, and they may not.

7 Q Okay.

8 A They may be in such a percentage that it's
9 insignificant.

10 Q Okay. Now, are you aware of the fact that one
11 of the potential contaminants in PCBs are dibenzofurans?

12 A One of the potential --

13 Q Yes.

14 A -- so it may be there. Yes.

15 Q Okay. And, in fact, are you aware of the fact
16 that Monsanto's PCBs contained dibenzofurans in them as
17 a contaminant?

18 A At what particular period of time are you
19 stating this?

20 Q Well, for example, I believe Dr. Kaley has
21 testified as an expert on behalf of Monsanto that he
22 measured those chemicals in Monsanto's PCBs in the
23 1970's.

24 A Well, when in the 1970's?

25 Q Well, he didn't know exactly what the

1 production dates were for what he measured.

2 MR. CRAWFORD: Well, Mr. Lacey, he
3 left in 1974 the company, so I think you
4 need to keep that in mind when you're
5 asking him questions --

6 MR. LACEY: Yeah.

7 MR. CRAWFORD: -- about what he
8 knows.

9 MR. LACEY: Yeah.

10 BY MR. LACEY:

11 Q My -- my question really is whether or not you
12 knew that dibenzofurans were a contaminant in PCBs
13 produced by Monsanto.

14 A Before 1974 or after 1974? Any time?

15 Q Either time. At any time.

16 A I have seen reports that showed that they
17 looked for dibenzofurans, and they did not discover them
18 at the level of sensitivity that was present at that
19 time. That level of sensitivity was 1 to 5 parts per
20 million.

21 And later the sensitivity methods became much
22 more sophisticated, and they may have had some found --
23 some findings of dibenzofurans later, after I left. I'm
24 not sure.

25 Q I see. Would it be of any concern to you if

1 dibenzofurans were found in PCBs as a contaminant at a
2 relatively low level in the parts-per-million
3 concentration range?

4 A Well, after all, we had toxicity testing on
5 that product, and that product was made the same way.
6 And if it had dibenzofurans in 1974, it had
7 dibenzofurans in 1964, and 1954 when we ran the
8 toxicity.

9 So you cannot distinguish or separate any
10 toxicity of the dibenzofurans from the entire PCB
11 product.

12 Q Okay. So if I understand your testimony
13 correctly, if dibenzofurans were measured in PCBs that
14 Monsanto produced in 1976, since they were manufactured
15 the same way in 1976 that they were in 1966 and the way
16 they were in 1956, we can reasonably conclude, then,
17 that dibenzofurans would have been present in PCBs
18 manufactured in the '60's and the '50's as a
19 contaminant. Correct?

20 A No, that isn't what I said at all. I said I
21 was not concerned about the toxicity that could be added
22 by any possible presence of dibenzofurans, because we
23 had tested the whole ball of wax of the PCB, which
24 included any potential dibenzofurans if they were in
25 there or not in there.

1 Q Well, let me -- let me make sure I understand.
2 Let's try to analyze this thing logically. Unless
3 dibenzofurans were in every batch -- and PCBs were made
4 by batch, were they not?

5 A Yes.

6 Q Okay. Unless dibenzofurans were in every batch
7 of Monsanto PCBs that it made at a relatively consistent
8 level, the fact that you tested one particular batch of
9 PCBs wouldn't necessarily mean you had tested a batch of
10 PCBs that had dibenzofurans in it, would it?

11 MR. CRAWFORD: I don't understand the
12 question, Mr. Lacey.

13 BY MR. LACEY:

14 Q Let me make it real clear, if Mr. Crawford's
15 got a problem with it.

16 You told me that one reason you weren't
17 concerned about dibenzofuran contamination was because
18 you had tested PCBs --

19 A That wasn't what I said. I said I was not
20 concerned about the toxicity of the PCB that contained
21 any possible dibenzofurans, because we had tested --

22 Q Okay.

23 A -- the PCBs.

24 Q And the only way that you would know that the
25 furan contamination in PCBs was unimportant would be if

1 the ~~batches~~ batches of PCBs that you had tested had, in fact,
2 had the dibenzofuran contamination in them. Isn't that
3 correct?

4 A I didn't use the word "unimportant." I don't
5 say that the presence or absence of dibenzofurans is
6 unimportant in PCBs. I said that whatever additive
7 toxicity dibenzofurans might have contributed to the
8 PCBs, that was included in the gross toxicity that we
9 obtained from the testing of the entire product.

10 Q And that would only be true if the batches that
11 you tested actually had those dibenzofurans in them as
12 contaminants. Correct?

13 A No, because I do not know if there is any
14 evidence that shows that whatever amount of
15 dibenzofurans in the PCBs of different batches were
16 significant, as far as the toxicity is concerned.

17 Q Well, let me stop and ask the question.
18 You -- you tested certain batches of PCBs.

19 A Yes.

20 Q And those batches of PCBs that you tested, you
21 do not know if they were contaminated with dibenzofurans
22 or not. Correct?

23 MR. CRAWFORD: Mr. Lacey, I think you
24 ought to show him whatever test you're
25 talking about. I mean --

1 MR. LACEY: He's the one who's
2 talking about his testing.

3 MR. CRAWFORD: Well, he didn't say he
4 personally tested them.

5 BY MR. LACEY:

6 Q Now, let's make it real clear. You arranged
7 through your department for the testing of certain
8 PCBs --

9 A Would you mind lowering your voice a little
10 bit, please?

11 Q Certainly. I'll try to do that.

12 You arranged through your Medical Department
13 for the testing of certain batches of PCBs with regard
14 to their toxicity, didn't you?

15 A Yes.

16 Q And you do not know whether those batches of
17 PCBs that you had tested were contaminated with
18 dibenzofurans, do you?

19 A No.

20 Q It is possible, as far as you know, that those
21 batches of PCBs that you tested did not have any
22 disdibenzofuran contamination, is it not?

23 A Well, anything is possible. But I think the
24 possibility of one batch of PCBs being different from
25 other batches that are manufactured under the same

1 manufacturing conditions is extremely remote.

2 Q Okay. So, while you believe it is possible
3 that Monsanto may have produced batches of PCBs that did
4 not very dibenzofuran contamination in them, the more
5 reasonable conclusion is that every batch would have had
6 the dibenzofuran contamination in it. Correct?

7 A Would you repeat it, please?

8 Q Yes. You just told me that anything is
9 possible. Right?

10 A That's correct.

11 Q So that it is possible that Monsanto made some
12 batches of PCBs that were not contaminated with
13 dibenzofurans. Correct?

14 A Well, if anything is possible, that's possible,
15 too.

16 Q Okay. But what I understood you also to tell
17 me is that it's not reasonable to believe that some
18 batches of PCBs manufactured by Monsanto would have been
19 free of dibenzofuran contamination if other batches were
20 contaminated with dibenzofurans. Correct?

21 MR. CRAWFORD: I don't believe he
22 said that, Mr. Lacey.

23 BY MR. LACEY:

24 Q You can answer the question.

25 A What is the question again?

1 Q The question is: I understood what you said
2 to -- to be that it's not reasonable to believe that
3 certain batches of PCBs made by Monsanto would have been
4 free from dibenzofuran contamination if other batches of
5 the PCBs made by Monsanto in exactly the same way had
6 dibenzofuran contamination.

7 THE WITNESS: Would you read my
8 answer back to that previous question,
9 please?

10
11 (The following answer was read back
12 by the Reporter:

13 "ANSWER: Well, if anything is
14 possible, that's possible, too.")

15
16 THE WITNESS: Well, it's the -- I
17 think it's before that.

18 THE REPORTER: Before that?

19
20 (The following answer was read back
21 by the Reporter:

22 "ANSWER: Well, anything is possible.
23 But I think the possibility of one batch
24 of PCBs being different from other batches
25 that are manufactured under the same

1 manufacturing conditions is extremely
2 remote.")

3
4 A Yes, I -- I agree with that.

5 BY MR. LACEY:

6 Q Okay. So you believe, then, it's -- it is
7 reasonable to conclude that almost every batch of PCBs
8 made by Monsanto were contaminated with dibenzofurans.
9 Correct?

10 MR. CRAWFORD: He didn't testify to
11 that.

12 MR. LACEY: Well, that's the question
13 I'm asking, and I want to get his answer.
14 I agree; he hasn't answered that question,
15 but I want --

16 MR. CRAWFORD: Well, he made a
17 statement. You might ask him the
18 question.

19 MR. LACEY: Yes.

20 BY MR. LACEY:

21 Q Is it your opinion that almost every batch of
22 PCBs made by Monsanto was contaminated with
23 dibenzofurans?

24 A I have no knowledge of -- as far as that is
25 concerned. I just do not know. I do not know what the

1 sensitivity of any method was; if it was one part per
2 billion, one part per trillion. I just cannot answer
3 that.

4 Q So your testimony is you do not have any way of
5 knowing whether every batch was contaminated. Correct?

6 A That's correct.

7 Q And, therefore, you have no way of knowing
8 whether the batches of PCB that you had tested for
9 toxicity contained dibenzofuran contamination. Correct?

10 MR. CRAWFORD: Mr. Lacey, that's a
11 broad question. You haven't limited it as
12 to time. You -- you -- you're opening it
13 up -- what -- what are you talking about?

14 MR. LACEY: At any time.

15 MR. CRAWFORD: Well, let's limit it
16 to a specific time.

17 BY MR. LACEY:

18 Q At what points in time did you have your PCBs
19 tested for toxicity?

20 A From 1938 to 1970.

21 Q Fine. Now, at any point in time, do you know
22 of any batch that you had -- well, strike that.

23 From 1938 to 1970, you didn't have every batch
24 of PCBs tested, did you?

25 A No, sir.

1 Q Okay. Out of the -- out of the total
2 production that went on from 1938 to 1970, approximately
3 what percent of the PCBs produced by Monsanto were
4 actually tested for toxicity?

5 A I don't know.

6 Q A small percent?

7 A Yes, a small percent.

8 Q Certainly less than 10 percent?

9 A Certainly less than 1 percent.

10 Q Okay. So between 1938 and 1970, less than 1
11 percent of the total amount of PCBs produced by Monsanto
12 were tested for their toxicity?

13 A Yes, sir.

14 Q Okay. Now, of those PCBs that were tested for
15 toxicity between 1938 and 1970, you have no way of
16 knowing whether any of the batches selected for testing
17 contained any disdibenzofuran contamination. Is that
18 correct?

19 A Yes, sir.

20 Q Okay.

21 A If not --

22 Q And therefore --

23 A If not tested.

24 Q And, therefore, you do know no whether it had
25 it or not?

1 ~~A~~ I do not know for a certainty. I -- but when
2 batches that were tested that were manufactured in the
3 same way showed the presence of small amounts of
4 dibenzofuran, it is reasonable for me to assume that
5 that was present in the earlier batches that we tested.

6 Q Okay. So your assumption is that the batches
7 of PCBs that you did test from 1938 to 1970 were
8 contaminated with dibenzofurans. Correct?

9 A I would say that the batches that we tested
10 were representative of the batches that were analyzed
11 and checked for dibenzofurans. But I have to say that I
12 do not know whether dibenzofurans were found up to 1974
13 by methods that we -- that were sensitive enough to
14 analyze.

15 Q Yeah. That -- that's really not my question.

16 A All right. Would you repeat the question?

17 Q Yeah. My question is: You do not know whether
18 or not the PCBs that were tested from 1938 to 1970 were
19 contaminated with dibenzofurans. Correct?

20 MR. CRAWFORD: Well, I think he
21 stated, Mr. Lacey, that the testing was
22 not sensitive enough to pick up any --

23 MR. LACEY: That --

24 MR. CRAWFORD: -- contaminants.

25 MR. LACEY: That -- I'm -- let's make

1 ~~it~~ it very clear.

2 BY MR. LACEY:

3 Q I'm talking about the toxicological testing you
4 had done of PCBs.

5 A Yes, sir.

6 Q And what I'm trying to find out is whether you
7 know one way or the other whether those batches of PCBs
8 that you had toxicological tests done on were
9 contaminated with PCBs or not.

10 And I don't really care whether you -- you --
11 they were sensitive methods or not sensitive methods. I
12 just want to know whether you knew they were or were not
13 contaminated.

14 MR. CRAWFORD: You mean, does he know
15 now, or does -- did he know then?

16 MR. LACEY: Either one.

17 MR. CRAWFORD: Well --

18 MR. LACEY: Has he -- has he ever
19 known at any point --

20 BY MR. LACEY:

21 Q Have you ever known at any point in time
22 whether or not the batches of PCBs you had tested for
23 toxicology from 1938 to 1970 were contaminated with
24 dibenzofurans?

25 A We did not know for a -- for a scientific

1 certainty; but we did know that if a product is
2 manufactured the same way and the same -- to the same
3 specifications, it is representative -- one year's
4 production is quite representative of another.

5 So that after the '70's, when we were able to
6 analyze for PCBs -- for dibenzofurans in PCBs and found
7 this minute amount, it was -- seemed to me to be a
8 logical assumption, although not a scientific certainty,
9 that those figures were representative of the ones --
10 the batches that we used for testing.

11 Q Okay. And I take it, then, that it is your
12 assumption that the PCBs that were tested for
13 toxicological effects from 1938 to 1970 were
14 contaminated with dibenzofurans at about the same levels
15 that were measured in the 1970's.

16 MR. CRAWFORD: Well, don't assume
17 anything, Doctor. You can --

18 MR. LACEY: No, I'm asking -- he has
19 given an assumption. I want to make sure
20 I understand it.

21 BY MR. LACEY:

22 Q Is that the assumption that you make?

23 A Let's repeat the assumption.

24 Q Let me ask the question very clearly.

25 Is it your assumption, Doctor, that the PCBs

1 that were tested for toxicology between 1938 and 1970
2 were contaminated with the -- with about the same amount
3 of dibenzofuran contamination as was measured in
4 Monsanto's PCB production in the 1970's?

5 A Well, it's an assumption. I have no -- no
6 scientific proof that it was.

7 Q But that is your assumption?

8 A That's my assumption.

9 Q Okay. And because of that assumption, you
10 believe that any impact of dibenzofuran contamination on
11 the toxicology of PCBs was taken into account in the
12 toxicological testing of PCBs done between 1938 and
13 1970?

14 A That's correct.

15 MR. CRAWFORD: I object to the form
16 of the question.

17 MR. LACEY: Fine.

18 BY MR. LACEY:

19 Q Now, do you know what the factors are that
20 might cause the amount of dibenzofuran contamination to
21 vary between batches of PCBs that were produced?

22 A No, sir.

23 Q Okay. Do you know what factors contribute to
24 the existence of dibenzofuran contamination in PCBs
25 manufactured by Monsanto?

1 A At any time in their life history?

2 Q Yes. Yes.

3 A Yes. Pyrolysis --

4 Q What is pyrolysis?

5 A Fire.

6 Q Okay. And how does fire contribute to
7 dibenzofuran contamination in Monsanto's production of
8 PCBs?

9 A It does not contribute in the production of
10 Monsanto's PCBs.

11 Q Okay. Well, let me make my question very
12 clear.

13 I'm trying to find out what factors, if any,
14 that you know about that contribute to or affect the
15 existence of dibenzofuran contamination in PCBs produced
16 by Monsanto.

17 A After it leaves Monsanto's plant?

18 Q No. I'm talking any that Monsanto --

19 A Any time --

20 Q -- produces.

21 A You mean while it pro- -- is being produced?

22 Q Yes. Let me -- let me make my question very
23 clear.

24 Again, Monsanto does not seek to produce PCBs
25 with dibenzofurans in it, does it?

1 MR. CRAWFORD: Object to the form the
2 question.

3 A Does it? No, it does not.

4 BY MR. LACEY:

5 Q Okay. What Monsanto is seeking to produce is
6 PCBs and only PCBs. Correct?

7 MR. CRAWFORD: Object to the form of
8 the question.

9 A What Monsanto is seeking to produce is PCBs as
10 pure as they can make it.

11 BY MR. LACEY:

12 Q Okay. And that does not include as a part of
13 the plan to make some dibenzofurans on the side, does
14 it?

15 A Not as part of the plan to manufacture PCBs,
16 no.

17 Q Now, the measurements that were made in the
18 1970's showed that PCBs made by Monsanto, in fact,
19 contained some dibenzofurans. Correct?

20 A You'll have to show me the report.

21 Q I see. You don't know?

22 A I want to be positive.

23 Q I see. With regard to dibenzofuran
24 contamination, let me show you a Document 25363, written
25 by David Wood, Marketing Manager for Dielectrics, to a

1 Robert A. Stenger with General Electric, dated October
2 30, 1975, listing chlorinated dibenzofurans as one of
3 the contaminants in PCBs (tendering).

4 A (Reviews document.)

5 Q Do you see that?

6 A May -- may I finish reading it?

7 Q Certainly.

8 A (Reviews document.)

9 Yes, I see it. This is a letter dated October
10 the 30th, 1975, which is approximately a year after I
11 left Monsanto.

12 Q Yes. My question to you now is: We know that
13 PCBs manufactured by Monsanto contained some
14 dibenzofurans in them, don't we?

15 A Well, they say under five-tenths parts per
16 million.

17 Q But they were identified --

18 A Just a moment.

19 I do not know the sensitivity of the method. I
20 don't know if five-tenths of a part per million is the
21 lower limit of their sensitivity. And if they say under
22 five-tenths of a part per million, that may be as -- as
23 low as -- as low as they can identify it. So I can't
24 answer that question.

25 Q You don't know? You -- that letter doesn't

1 tell that you there were contaminants in Monsanto's
2 PCBs, including dibenzofurans?

3 A It tells me, but I do not know what the
4 sensitivity of the method is.

5 If the method is sensitive to only five-tenths
6 of a part per million, and this is under five-tenths of
7 a part per million, obviously it doesn't help me.

8 If the method is one-tenth of a part per
9 million --

10 Q I see.

11 A -- it -- it would help me (tendering).

12 Q Mr. Wood says -- and maybe I'm having trouble
13 reading the English language -- "Identifiable materials
14 present in our biphenyl contributes to the presence in
15 the polychlorinated biphenyl mixture of the following:

16 "Chlorinated naphthalene, chlorinated methyl
17 naphthalene, chlorinated methyl biphenyl, chlorinated
18 dibenzofurans," and "Unidentified."

19 Now, you have trouble understanding that
20 Mr. Wood is saying that the materials that he listed
21 there are present in the PCBs produced by Monsanto?

22 A Well, he is saying that chlorinated
23 dibenzofurans are present in under five-tenths of a part
24 per million.

25 Just a moment.

1 I don't know whether that means one part per
2 billion, one part per trillion, or -- just a moment,
3 please, Mr. Lacey. May I finish?

4 And I do not know the sensitivity of the
5 method. Now, if he cannot analyze for under five-tenths
6 of a part per million, that invalidates that statement.

7 Q So Mr. Wood may be inaccurate in reporting that
8 dibenzofuran are present in Monsanto's PCBs?

9 MR. CRAWFORD: Doctor -- Mr. Lacey, I
10 don't want you to ask this witness to
11 speculate about something somebody else
12 did after he left Monsanto, and I object
13 to the question. I think it's improper.

14 MR. LACEY: Fine.

15 BY MR. LACEY:

16 Q That -- that document doesn't permit you to
17 reach the conclusion that there were dibenzofurans as
18 contaminants in Monsanto's PCBs. Is that your
19 testimony?

20 A That's my testimony.

21 Q Okay, sir. Fine.

22 And as I understand it, you are not familiar,
23 then -- sufficiently familiar with Monsanto's
24 dibenzofuran contamination problems, nor does this
25 document help you refresh your recollection that

1 Monsanto's PCBs were contaminated with dibenzofuran. Is
2 that correct?

3 MR. CRAWFORD: I'm going to object to
4 the form of the question.

5 THE WITNESS: Yes, there are three
6 questions there.

7 MR. CRAWFORD: Three questions, and
8 you've also made some assumptions in there
9 that are --

10 MR. LACEY: I see.

11 MR. CRAWFORD: -- not supported by
12 anything in this record --

13 BY MR. LACEY:

14 Q Let me ask you --

15 MR. CRAWFORD: -- and I think --

16 MR. LACEY: Well, I think they're
17 well-supported by the record. I think
18 they're, in fact, well-supported by
19 Monsanto's Answers to Interrogatories, the
20 testimonies of Dr. Richard, Dr. Munch,
21 Mr. Papageorge. But that's fine. We'll
22 let the Jury decide that one.

23 MR. CRAWFORD: Well, let's stick with
24 the record on this witness, Mr. Lacey.

25 MR. LACEY: Well, it seems that this

1 witness has a troublesome time assuming
2 the testimony given by other people.

3 BY MR. LACEY:

4 Q Now, let me ask you a question --

5 MR. CRAWFORD: I'm sure he can
6 testify on his own behalf with -- about
7 what he knows, not what somebody else --

8 MR. LACEY: Well, actually, he's here
9 as a 30(b)(6) corporate representative, as
10 well.

11 MR. CRAWFORD: For some matters.

12 BY MR. LACEY:

13 Q Now, are you familiar with the relative
14 toxicity of polychlorinated biphenyls versus the
15 relative toxicity of chlorinated dibenzofurans?

16 A Yes.

17 Q Chlorinated dibenzofurans are a considerably
18 more toxic material, in your opinion, than PCBs, are
19 they not?

20 A Yes.

21 Q Okay. Now, are you familiar with the toxicity
22 of chlorinated dibenzodioxins?

23 A Yes.

24 Q And in your opinion, the toxicity of
25 chlorinated dibenzodioxins is considerably greater than

1 the toxicity of chlorinated biphenyl. Correct?

2 A Yes.

3 Q Okay. In fact, chemicals like dioxin have
4 systemic effects on human health that can be present at
5 parts as low as 200 parts per billion, do they not?

6 MR. CRAWFORD: Object to the form of
7 the question.

8 A 200 parts per billion given how often, and what
9 effects, Mr. -- Mr. Lacey?

10 BY MR. LACEY:

11 Q Without regard to the frequency, they can
12 produce systemic effects at 200 parts per billion, can't
13 they?

14 A One dose of 200 parts per billion?

15 Q Whether it's one or whether it's chronic, my
16 question to you is: One cannot be exposed to dioxins at
17 the level of 200 parts per billion and assume there will
18 be no effect, can he?

19 MR. CRAWFORD: Object to the form of
20 the question.

21 A I'm not sure I have seen the evidence for that.

22 BY MR. LACEY:

23 Q I see.

24 Do you remember giving a deposition in the case
25 of James N. Adkins, Administrator of the Estate of Ralph

1 E. Adkins versus Monsanto Corporation in a case pending
2 in the United States District Court for the Southern
3 District of West Virginia at Charleston on March 2nd,
4 1984?

5 A May I see it?

6 Q Certainly (tendering)

7 A (Reviews document.)

8 Yes, sir. I remember doing it. I don't
9 remember the details of the deposition --

10 Q Sure.

11 A -- the details of the case.

12 MR. LACEY: May I see the deposition,
13 Walter?

14 MR. CRAWFORD: May I look at it?

15 MR. LACEY: Feel free.

16 MR. CRAWFORD: (Reviews document.)

17 Mr. Lacey, I'd like to take about a
18 five-minute break and ask him about this
19 deposition, since you've dropped it on us
20 here.

21 MR. LACEY: Well, I think I'm
22 entitled to continue with my examination.

23 MR. CRAWFORD: Oh, I think you are.
24 There's no question about it.

25 MR. LACEY: Well, I don't see why we

1 need to take a break at this time.

2 MR. CRAWFORD: Well, I'd like to talk
3 with the doctor just briefly about it.

4 MR. LACEY: Well, do you mind if I
5 ask him my questions from that deposition
6 and impeach his testimony before you show
7 it to him and try to clean it all up?

8 MR. CRAWFORD: I'm not going to try
9 to clean anything up, but I think I need
10 to find out when he gave his deposition
11 and --

12 MR. LACEY: The date's on the front
13 of it.

14 MR. CRAWFORD: Well, I know, but I
15 want to ask him something about it just
16 very briefly. We'll be back in about five
17 minutes.

18 MR. LACEY: I see.

19
20 (Recess)

21
22 THE VIDEOTECHNICIAN: Okay. We've
23 been off the record for a short break.
24 We're now back on the record, and the time
25 is 9:52 am.

1 BY MR. LACEY:

2 Q You recall giving the deposition in the Adkins
3 case?

4 A Yes.

5 Q In that deposition and in that case, one of the
6 issues present there was the presence of dioxins; and
7 you were asked about matters that related to the
8 concentrations at which they could produce health
9 problems. Is that correct?

10 MR. CRAWFORD: Mr. Lacey, I'm going
11 to object to any testimony that this
12 witness gives or any questions that you
13 may have involving dioxins, since they're
14 not involved in this lawsuit and you
15 haven't shown that they're involved in any
16 PCB products.

17 MR. LACEY: That's fine.

18 MR. CRAWFORD: And I'm going to
19 object to it on the record.

20 BY MR. LACEY:

21 Q Okay. Now, my -- my question to you is: In
22 that case, the Adkins case, there were issues about
23 dioxins, were there not?

24 A Yes.

25 Q And the levels at which they could cause health

1 effects. Correct?

2 A That may be.

3 Q Okay. And in that case, you were shown a
4 letter that you wrote, dated March 17th, 1965; and I
5 want to direct your attention to Page 54A of your
6 deposition, where you noted in that letter that you
7 wrote in 1975 that trace amounts of dioxin at the level
8 of 200 parts per billion had caused chloracne
9 (tendering). Is that correct?

10 MR. CRAWFORD: Mr. Lacey, I'd suggest
11 that you get his letter to him so he can
12 see it in context. You're asking him to
13 comment about a deposition which he
14 apparently gave several years ago, and I
15 don't think it's fair to require the
16 witness to try to recall some letter
17 that -- that's not attached and you
18 haven't produced.

19 MR. LACEY: Well, as you know,
20 Monsanto hasn't produced that letter to
21 me. I have the benefit of the deposition,
22 but I don't have the benefit of the
23 letter. If you can produce it for us here
24 today -- I know we're in St. Louis, and
25 you've got your stuff on computer -- I'll

1 be happy to show it to him.

2 MR. CRAWFORD: Well --

3 MR. LACEY: But I don't have it. I'm
4 sorry. Monsanto hasn't give me the
5 pleasure of being able to look at it.

6 MR. CRAWFORD: Well, maybe that's
7 because you haven't requested it.

8 MR. LACEY: Oh, I think I've
9 requested it.

10 A What was the question?

11 BY MR. LACEY:

12 Q Isn't it -- your testimony in that deposition
13 was that dioxin at a level of 200 parts per billion
14 could cause chloracne in rabbits. Is that correct?

15 A That's what I said, according to Dow. That was
16 according to Dow's work.

17 Q Okay. And so there is scientific evidence
18 establishing that dioxins at a level of 200 parts per
19 billion can cause chloracne. Correct?

20 A Yes. It does not say how often this was
21 applied to the rabbits; whether it's one time, 40
22 times --

23 Q I understand.

24 A Yes.

25 Q But whatever the frequency of application is,

1 dioxin at the level of 200 parts per billion can cause
2 chloracne, whatever the test conditions were that Dow
3 did?

4 A According to Dow, yes.

5 MR. CRAWFORD: Mr. Lacey, I'm going
6 to object to the question. We're
7 talking -- what are we talking about;
8 rabbits, or humans, or what? You're
9 skipping around. Are you talking about
10 this testimony?

11 MR. LACEY: I'm talking about that
12 testimony right there (indicating).

13 MR. CRAWFORD: About rabbits?

14 MR. LACEY: Yeah.

15 BY MR. LACEY:

16 Q Do you have any problem? Isn't that what
17 toxicological testing is normally done on; animals?

18 A Yes.

19 Q Okay.

20 A But we're talking here -- I'm quoting Dow's
21 work on -- that they stated 200 parts per billion have
22 caused chloracne in rabbits. Unless I had the
23 opportunity to read the entire Dow report, at this time
24 I could not comment any further on it than that.

25 Q Okay. Well, let's -- let's just try to get a

1 few things clear.

2 When you do toxicological testing of chemicals,
3 you normally do that with test animals, don't you?

4 A Yes.

5 Q Okay. And it's not unusual to use rabbits as a
6 normal test animal for toxicological testing, is it?

7 A Well, it is. You generally use them to test
8 for skin problems.

9 Q And chloracne is a --

10 A -- skin problem.

11 Q Okay. So rabbits are just the sort of animal
12 that people use to test for skin problems, isn't it?

13 A Yes, it is.

14 Q Chloracne is a skin problem, is it not?

15 A Yes, but there's also quite a bit of discussion
16 as to whether chloracne can be caused in rabbits or not.
17 There's a good body of investigators that do not believe
18 you can cause chloracne in rabbits. It appears that Dow
19 believes you can.

20 Q Well, not only Dow believes you can; but that
21 their people administered dioxins at the level of 200
22 parts per billion, and the animals got chloracne.

23 A Dow said the animals got chloracne.

24 Q Okay.

25 A I said there is a dispute among investigators

1 as to whether chloracne is caused in animals.

2 Q I see. Okay. Well, if it wasn't chloracne, is
3 there some -- is there something else the investigators
4 want to call it besides chloracne? Is -- skin
5 sensitivity? Is that --

6 A It is not skin sensitivity. It could be called
7 folliculitis. It could be called any number of things.

8 Q Okay. And so there's a question whether you
9 should call it chloracne or whether you should call
10 it -- what's the word?

11 A Folliculitis, f-o-l-l-i-c-u-l-i-t-i-s.

12 Q Okay. Whether it was properly called
13 chloracne, or whether it should have properly been
14 called follicu- -- folliculitis, whatever it was, these
15 rabbits exposed to dioxins at 200 parts per billion
16 showed that effect. Correct?

17 MR. CRAWFORD: Mr. Lacey, he didn't
18 say that. He said the Dow report, about
19 which they were asking him, indicated
20 that.

21 BY MR. LACEY:

22 Q That's the information that you had. Correct?

23 A What information did I have?

24 Q That the 200 parts per billion exposure to
25 dioxin caused what Dow called chloracne, what maybe

1 correctly should be called folliculitis --

2 A Folliculitis.

3 Q -- in rabbits.

4 A Yes; something that they -- they got something,
5 yes.

6 Q Okay.

7 MR. CRAWFORD: Well, on the Dow
8 report.

9 A According to their report.

10 BY MR. LACEY:

11 Q Now, that establishes in the way that
12 toxicologists establish it, does it not, that exposure
13 to dioxins at very low levels can have effects.
14 Correct?

15 MR. CRAWFORD: Object to the form of
16 the question.

17 A On rabbits?

18 BY MR. LACEY:

19 Q On rabbits.

20 A Yes, at -- at levels of 200 parts per billion.
21 I do not know the frequency of the -- of the exposure,
22 but it did cause effects in rabbits.

23 Q Okay.

24 MR. CRAWFORD: In that report.

25

1 BY MR. LACEY:

2 Q Would -- would that information cause you as
3 the Medical Director of Monsanto to attempt to ensure
4 that human exposure to dioxins would be limited to less
5 than 200 parts per billion?

6 MR. CRAWFORD: Mr. Lacey, I'm going
7 to object to the question. You haven't
8 limited it in time as to when he was the
9 Medical Director, as to when that report
10 came out; and I think that the question is
11 improper, the way you phrased it.

12 BY MR. LACEY:

13 Q Do you remember when you were Medical Director
14 at Monsanto?

15 A Yes.

16 Q Okay. Well, do I need to repeat that in every
17 question for you?

18 A Yes, please. Just give me the years. You
19 don't have to repeat --

20 Q I see.

21 A -- when I'm --

22 Q I see.

23 A -- when I'm -- you don't have to remind me when
24 I was Medical Director or remind -- I know that.

25 Q Well, I was a little bit confused by

1 Mr. Crawford's objection.

2 A No; but if you ask me about when I knew
3 something, it would help if you would say, "Did you know
4 this in 1930, '40, '50, '80 --"

5 Q Well, let's just go at it an entirely different
6 way.

7 You were responsible ultimately for the
8 decision-making process by Monsanto with regard to what
9 safety precautions to take with regard to your own
10 workmen. Correct?

11 A Correct.

12 Q And with what to advise customers to whom you
13 sold products about safety precautions to exercise with
14 Monsanto products?

15 A Correct.

16 Q Okay. Now, if you, as a person in charge of
17 safe handling and a person in charge of giving
18 instructions to others about safe handling, had
19 information that dioxin exposure at 200 parts per
20 billion caused this skin condition in rabbits, whatever
21 it's called properly, would that mean that you would
22 want to limit the exposure of humans to dioxin to less
23 than 200 parts per billion?

24 A Again, you have to quantify the exposure.

25 If you are talking about one -- one exposure, a

1 single exposure, no. If you talked about a single
2 exposure once a month, no. If you talked about repeated
3 exposures every day, I may or may not have, because that
4 is only one part of the -- of the decision-making
5 process.

6 The other decision-making process is: What has
7 been the clinical history of the men who have been
8 exposed to a particular product that contains 200 parts
9 per billion of dioxin?

10 Remember, now, we're talking about dioxin,
11 which I understand has nothing to do with PCBs.

12 Q That's your understanding.

13 A Yes.

14 Q Okay. Did Monsanto produce any products that
15 contained dioxin at levels of 200 parts per billion?

16 MR. CRAWFORD: Mr. Lacey, I'm going
17 to object to that. This case is about
18 PCBs, and not about other products that
19 Monsanto produced in this case, and I'm
20 going to object to it. I think it's
21 improper for you to go into that.

22 MR. LACEY: Well, you can object all
23 you want, Walter. I think the evidence in
24 this case is going to show that PCBs are
25 contaminated with furans, they're

1 contaminated with dioxins; and that's a
2 real problem Monsanto's got in this case.

3 MR. CRAWFORD: Well, I object to
4 that. I don't think that's what it's
5 going to show, and I object --

6 MR. LACEY: Well, that's what we'll
7 let the Jury figure out.

8 BY MR. LACEY:

9 Q Did Monsanto make any products that contained
10 dioxins at levels of 200 parts per billion or greater?

11 MR. CRAWFORD: PCB products?

12 MR. LACEY: Any products.

13 A Any products? Yes, they may have. I don't
14 know the time frame. They manufactured an insecticide
15 that contained, presumably, dioxins in that percentage.

16 BY MR. LACEY:

17 Q Okay. And did any human beings ever exhibit
18 any health problems resulting from that?

19 A During the manufacture of this product, they
20 did manifest health prod- -- problems. The use of the
21 product was not accompanied by any health problems.

22 Q But your workers who were exposed to dioxins at
23 levels of, you assume, around 200 parts per billion --
24 is that correct?

25 A No, I don't assume that at all.

1 Q What was the exposure?

2 A I don't know.

3 MR. CRAWFORD: Mr. Lacey, so I don't
4 have to interfere any more and I can let
5 you go with this line, may I have a
6 running objection to all testimony on
7 dioxins in other products? Is that all
8 right? Can I have a running objection?

9 MR. LACEY: Well, what is the
10 objection? To the form of the question?
11 All objections are being reserved that can
12 be reserved.

13 MR. CRAWFORD: All right.

14 MR. LACEY: I think the issues of
15 what objections you're going to make at
16 trial --

17 MR. CRAWFORD: Okay.

18 MR. LACEY: -- and what the Court may
19 rule are issues you're going take up with
20 the Court.

21 MR. CRAWFORD: Just so we don't waive
22 that, that's fine.

23 MR. LACEY: Well, I don't think --
24 if you've got an objection to the form
25 of my question, I'd like to have the

1 form-of-the-question objections covered
2 at this point, because I'll fix that.

3 MR. CRAWFORD: Okay. Well, the last
4 one was leading.

5 MR. LACEY: Okay. Well, that's fine.
6 I think I -- I am entitled to ask your
7 expert witness leading questions. I think
8 he's probably an adverse party to me,
9 since he's a -- an expert, been retained
10 against me in this case. Any problem with
11 Mr. Kelly being an adverse witness?

12 MR. CRAWFORD: Well, I have problems
13 with leading questions, and loading it up
14 with a bunch of stuff he didn't say,
15 but --

16 MR. LACEY: I see.

17 MR. CRAWFORD: -- let's hear the
18 questions.

19 MR. LACEY: Well, I'm sure he'll tell
20 me about it.

21 BY MR. LACEY:

22 Q Now, what level do you believe the workers at
23 Monsanto who exhibited health problems from being
24 exposed to dioxins were exposed to, in terms of parts
25 per billion?

1 MR. CRAWFORD: Object to the question
2 in that it assumes something that he
3 hasn't testified to.

4 A Monsanto workers were exposed to what was
5 presumably dioxin that was formed by an explosion at the
6 plant in Nitro, West Virginia. The exact nature of the
7 compound was never established; so, obviously, the
8 percentage of the material of dioxins in there was never
9 established.

10 During the manufacturing of the insecticide
11 following that explosion, people developed chloracne;
12 workers at Monsanto developed chloracne. And it was
13 found that dioxin was present in considerably higher
14 levels than 200 parts per billion.

15 BY MR. LACEY:

16 Q What were the levels?

17 A I can't recall right at the present time, but
18 they were considerably higher than 200 parts per
19 billion.

20 Q Was it as high as 1 part per million?

21 A It may have been. I mean, I'd -- I'd have to
22 speculate. I don't know.

23 Q Okay. You know it was higher than 200 parts
24 per billion, but you're not sure if it was as high as
25 1 part per million?

1 A That's correct.

2 Q Okay. By the way, you say that that happened
3 after an explosion. Are you telling me that the dioxins
4 would not have been present in the product, but for this
5 explosive process?

6 A No. I didn't say that at all.

7 Q Were the -- were the dioxins present in the
8 product even without the explosive process?

9 A Yes.

10 Q I see. And did the explosive process
11 contribute to the presence of dioxins in the product or
12 add to the presence of dioxins in the product?

13 A It added to the disability of the individuals,
14 because their reaction was much more severe cleaning up
15 the explosion than it was during the routine manufacture
16 of the product.

17 Q My question -- and let me make it clear -- is
18 whether or not, as a result of the explosive process,
19 more dioxins were created than were already present in
20 Monsanto's product.

21 MR. CRAWFORD: Object to the form.

22 A I told you before I couldn't answer that,
23 because the -- the analysis of the charred material that
24 remained after the explosive -- after the explosion was
25 not identified.

1 BY MR. LACEY:

2 Q Do you know whether or not dioxins can be
3 created as the result of explosions or fires of
4 PCB-containing materials?

5 A I do not know.

6 Q Okay.

7 Now, are you familiar with the fact that from
8 time to time, there were efforts to improve the quality
9 of Monsanto's PCB products?

10 A I don't know any of the details in it -- about
11 it, so I can't comment on it.

12 Obviously, in all industrial processes, you are
13 trying to improve it as you go along. But I have no
14 direct information as to -- to answer your question.

15 Q Would one be interested in trying to improve
16 the quality of the product by reducing the level of
17 contaminants in it?

18 MR. CRAWFORD: That assumes there was
19 a contaminant in it. I'm going to object
20 to the form of the question.

21 MR. LACEY: Okay. That's fine.

22 BY MR. LACEY:

23 Q Can -- can you assume with me for the -- for
24 the moment that Monsanto witnesses have testified that
25 Monsanto's PCB products did contain contaminants in

1 them?

2 MR. CRAWFORD: If you know about that
3 testimony.

4 BY MR. LACEY:

5 Q I'm asking if you can assume it.

6 MR. CRAWFORD: Well, he shouldn't
7 assume anything.

8 MR. LACEY: I see.

9 BY MR. LACEY:

10 Q You can't assume that Dr. Richard has told me
11 that Monsanto's PCBs were contaminated with
12 dibenzofurans ?

13 MR. CRAWFORD: I wouldn't assume
14 anything.

15 MR. LACEY: I see.

16 MR. CRAWFORD: Just ask the question,
17 David.

18
19 (Discussion off the record)

20
21 BY MR. LACEY:

22 Q I don't know how much of Dr. Richard's
23 deposition you want to read, Dr. Kelly. At Page 104 of
24 his deposition, beginning at Line 16, Dr. Richard
25 said --

1 MR. LACEY: Okay. We're back on.

2 BY MR. LACEY:

3 Q -- "We looked for any dibenzofurans and found
4 parts per million late in 'Seventy -- late in the
5 Seventies -- I shouldn't say late in the Seventies, but
6 late in the Sixties, early in the Seventies.

7 "QUESTION: So you have found some
8 dibenzofurans as impurities in the manufacture of PCBs?

9 "ANSWER: Parts per million possibly."

10 Now, is that -- does that satisfy you that
11 Dr. Richard has testified--

12 A May I see it, please?

13 Q Surely. Feel free (tendering). There are
14 several pages of testimony by Dr. Richard about
15 dibenzofuran contamination.

16 A (Reviews document.)

17 Well, I don't believe you've quoted him exactly
18 correctly.

19 Q Well, you want to read from Line 16 --

20 A Yes.

21 Q -- on that page down through Line 22?

22 A Yes, I will.

23 A Feel free to read it.

24 A "We look for any dibenzofurans" -- well, I'll
25 start on Line 13, if you like.

1 Q Well, actually, I think I quoted beginning at
2 Line 16. If you're challenging the accuracy of my
3 quotation --

4 MR. CRAWFORD: Well, you --

5 BY MR. LACEY:

6 Q -- why don't you begin at Line 16?

7 MR. CRAWFORD: -- you asked him to
8 read it and read what he wanted. He can
9 read what he wants to.

10 BY MR. LACEY:

11 Q Okay. If you just want to start reading out of
12 Dr. Richard's deposition, go ahead.

13 MR. CRAWFORD: He can start up
14 with any --

15 A "If we're looking for that, we did not find any
16 dioxins in our product analytically. And these methods
17 were developed late. We looked for any dibenzofurans
18 and found parts per million late in 'Seventy -- late in
19 the Seventies -- I shouldn't say late in the Seventies,
20 but late in the Sixties, early in the Seventies.

21 "(QUESTION) So you did have some dibenzofurans
22 as impurities in the manufacture of PCBs?

23 "(ANSWER) Parts per million possibly.

24 "(QUESTION) Well, when you measured it, you
25 found it. Not possibly. You actually found it, didn't

1 you?

2 "(ANSWER) I think we did. It was not --"

3 BY MR. LACEY:

4 Q Please don't tear it up. If you --

5 A I'm not, but I've got to read it.

6 "You would have to ask the analytical people
7 what the exact parts per million were, but very low.

8 "(QUESTION) Which analytical people did that
9 work?

10 "(ANSWER) Applied sciences -- in general,
11 applied sciences were working under Dr. Keller,"
12 K-e-l-l-e-r.

13 Q Any question from that excerpt that Monsanto
14 looked for and found dibenzofurans in its PCB products?

15 A This is no question that they looked for it.
16 He said, "I think we did," when we were asked about if
17 we found it. So I can't be any stronger than what he
18 says.

19 He said, "I think we did," and he's got a "Parts
20 per million possibly" in there. I think you'd have
21 to -- have to ask him more definitely about that.

22 Q I see. Well, is there any -- do you have any
23 problem assuming that -- that your people found furans
24 as a contaminant in PCB products when they looked for
25 it? Is that something you can assume with me?

1 ~~A~~ I could assume.

2 Q Okay. Fine. Now, in a effort to clean up PCB
3 products, one of the things you would want to do would
4 be to take out any contamination, is it not?

5 A That's correct.

6 Q Okay. Do you know whether or not Monsanto had
7 a problem with its product, resulting in a competitive
8 problem because they weren't pure enough?

9 A No, sir, I do not.

10 Q Okay. Do you know whether a response to a
11 problem like that would be to attempt to clean up the
12 product?

13 A I don't know what their attempt would be.

14 Q I see.

15 Was it always a goal of Monsanto to produce a
16 better-quality product?

17 A Yes.

18 Q Did Monsanto attempt to make improvements in
19 its production processes over time to improve the
20 quality of its products?

21 A Yes.

22 Q And would one of the goals of those
23 improvements be to reduce or eliminate contaminants in
24 its products?

25 A It may or may not have been.

1 Q I see. So Monsanto may not have made an effort
2 to get the contaminants out of its products. Is that
3 correct?

4 A Well, I -- you'll have to ask someone
5 elimination about that. I don't know.

6 Q Okay. Was it ever a directive from the Medical
7 Department that Monsanto should attempt to produce
8 products that did not have contaminants in them?

9 MR. CRAWFORD: Mr. Lacey, I'm going
10 to object to the form of the question,
11 because you have not defined
12 "contaminants." What are you talking
13 about?

14 MR. LACEY: Any -- well, let's go
15 back. I thought we defined that earlier
16 today.

17 BY MR. LACEY:

18 Q Didn't we establish earlier today that a
19 contaminant is a chemical that's found in a product
20 manufactured by Monsanto that it didn't design to be in
21 there?

22 MR. CRAWFORD: I don't think we
23 established that.

24 MS. OLESEN: You asked him to assume
25 that definition.

1 BY MR. LACEY:

2 Q Well, let's -- let's try to see if we can get
3 it clear, and let's just do it with PCBs.

4 A Fine.

5 Q Monsanto set out to produce PCBs. Correct?

6 A Yes.

7 Q And they weren't attempting to produce as a
8 part of their PCBs any dioxins, were they?

9 A No.

10 Q They didn't design their process to produce
11 PCBs containing dioxin, did they?

12 A No.

13 Q They didn't design their process to produce
14 PCBs containing dibenzofurans, did they?

15 A No.

16 Q They didn't produce their -- they didn't design
17 their process to produce PCBs containing naphthalenes,
18 did they?

19 A No.

20 Q They didn't design their process to produce
21 chlorinated naphthalenes, did they?

22 A You'll have to ask the design man. I do not
23 know whether the presence of some of these things are a
24 nec- -- are of importance inside a PCB range. I don't
25 know that.

1 Q So naphthalenes may be important in that. Is
2 that correct?

3 A I don't know. I said, you'll have to ask
4 someone else.

5 Q I see.

6 Now, just talking about those chemicals that
7 definitely were not part of what Monsanto set out to
8 manufacture, I want to use the word "contaminants" for
9 those chemicals. Do you have any problem with that?

10 A No. Under our definition, it's an unwanted
11 product in the compound, yes.

12 Q Exactly.

13 MR. CRAWFORD: But you're limited to
14 what you said.

15 BY MR. LACEY:

16 Q And dioxins, if they were present in PCBs,
17 would be a contaminant, would they not?

18 A Yes.

19 Q Furans, if they were present, would be a
20 contaminant, would they not?

21 A Yes.

22 Q Okay.

23 Now, my question to you, with that definition
24 that you've given me of "contaminants": Did the Medical
25 Department ever seek to have Monsanto attempt to reduce

1 or eliminate the presence of contaminants in its
2 products?

3 A You said before we're limiting it this to the
4 PCB, did you not?

5 Q Well, if you want to limit it to PCB, I'll be
6 happy to.

7 A All right. Fine.

8 Q Did the Medical Department ever seek to have
9 Monsanto limit the presence of or eliminate the presence
10 of contaminants in its PCB products?

11 A When I was in charge of the Medical Department,
12 we did not.

13 Q Okay. Now, did the Medical Department ever --
14 and I'm going to broaden the question beyond PCBs -- did
15 the Medical Department ever seek to have Monsanto limit
16 or eliminate the presence of contaminants in any of its
17 chemical products?

18 A Yes.

19 Q Which chemical products did Mon- -- the Medical
20 Department seek to have Monsanto limit or eliminate the
21 presence of?

22 THE WITNESS (to the Reporter):

23 Repeat the question?

24 BY MR. LACEY:

25 Q Let me just -- let me just ask it again.

1 What contaminants in what products did the
2 Monsanto Medical Department seek to have Monsanto limit
3 or eliminate the presence of?

4 A The Medical Department recommended that
5 Monsanto minimize the presence of dioxin in a herbicide,
6 2,4,5-T.

7 Q Okay. Any other contaminants that the Medical
8 Department ever recommended that Monsanto production
9 people seek to limit or eliminate as a contaminant in a
10 product?

11 A Yes.

12 Q What else?

13 A A copper scavenger in a hydraulic fluid. I do
14 not recall the name of copper scavenger, but it was in
15 Hydraul hydraulic fluid.

16 Q A PCB-containing hydraulic fluid?

17 A No, it was not a PCB-containing hydraulic
18 fluid.

19 Q I see. And what was the purpose of the
20 scavenger?

21 A To pick up loose piece of -- pieces of metal.

22 Q Okay.

23 Any others that you recall?

24 A I don't recall. There may have been, but I
25 don't recall.

1 Q You don't recall. You don't recall any others.
2 Correct?

3 A I don't recall any. That does not mean that
4 they did not --

5 Q The reason that you asked the production people
6 to eliminate or limit the presence of dioxin as a
7 contaminant in 2,4,5-T was because of the very high
8 toxicity of dioxin. Is that not correct?

9 MR. CRAWFORD: Object to the form of
10 the question.

11 A We knew that dioxin was causing chloracne in
12 our workers at our Nitro plant, so we wanted to
13 eliminate it.

14 BY MR. LACEY:

15 Q To eliminate it. Correct?

16 A Minimize it, yes.

17 Q And did the production people seek to do that?

18 A Yes.

19 Q Were they successful in doing that?

20 A Yes.

21 Q That simply required exercising more caution in
22 the production process, did it not?

23 MR. CRAWFORD: Object to the form of
24 the question.

25 A I'm not a process engineer. I can't tell you

1 that.

2 BY MR. LACEY:

3 Q I see.

4 I believe in -- when we started your
5 deposition, you told me that after you became Medical
6 Director of Monsanto following World War II -- or at
7 least by that time, if it did not occur earlier -- there
8 was a directive from the management of the company that
9 all questions regarding toxicology and safe handling of
10 products come to the Medical Department for response.
11 Correct?

12 A Correct.

13 Q And also a directive from the management of the
14 company that all information given out to customers
15 about toxicology and safe handling come from the Medical
16 Department. Correct?

17 A Yes. But, of course, obviously, if a salesman
18 is giving a customer a Technical Bulletin that has
19 toxicity and safe-handling information, it comes from
20 him, but it comes --

21 Q Yes.

22 A -- indirectly from us.

23 Q The -- the -- and the way that would work,
24 obviously you didn't physically go out and hand out
25 every piece of paper to a customer that had the stuff in

1 it on safe handling.

2 A That's correct.

3 Q But before a piece of paper went out on safe
4 handling, it had been approved, at least in substance,
5 by the Medical Department?

6 A Correct.

7 Q Okay. And am I also correct in understanding
8 that to the extent that a customer wanted information
9 that had greater detail in it, more step-by-step
10 instruction than was in the Technical Bulletins, on the
11 warning labels, and the like, that more detailed or
12 technical information would come from the Medical
13 Department or be approved by the Medical Department?

14 A Well, there, you're -- you're giving a -- a
15 broad -- a question that is a broad spectrum.

16 They may have wanted engineering details that
17 would minimize personal contact. That would not come
18 from the Medical Department.

19 If they wanted more detailed information about
20 specific action of a product or specific personnel
21 handling methods or specific personal precautions, that
22 would come from the Medical Department.

23 Q If somebody were asking for specific
24 information on the best way to handle a Monsanto product
25 to avoid problems of dermatitis and toxicology, those

1 are the sorts of things that would be spoken to either
2 directly or indirectly by the Medical Department
3 department. Correct?

4 A Not exactly. Suppose they were asking about
5 methods of conveying of -- how to handle it in a
6 centrifuge; whether you should have a self- --
7 self-emptying centrifuge or a manually-op- -- -emptied
8 centrifuge. That would not come from the Medical
9 Department.

10 Q So if it were a technical piece of equipment
11 type of question, somebody else might speak to it?

12 A They might.

13 Q My understanding from talking to Mr. Elmer
14 Wheeler was that he often was the person at Monsanto
15 that would speak to things like how to design pieces of
16 equipment in order to minimize human exposure in an
17 acceptable way. Is that correct?

18 A I would like to see what he -- exactly what he
19 said, whether -- because his -- he would just be talking
20 about designing ventilation, spot or general
21 ventilation. He wouldn't be designing whether you had a
22 closed conveyor system, or something like that. I don't
23 believe that was part --

24 Q I see.

25 A -- of his expertise.

1 Q Who at Monsanto would be giving very detailed
2 design directions to customers about how to handle
3 Monsanto products?

4 A I don't know.

5 Q Do you know if anybody ever did?

6 A I don't know whether they did or whether they
7 did not.

8 Q Okay. General questions about safe handling,
9 though, where a customer asked what to do or how to
10 handle it, would come through the Medical Department?

11 A That's correct.

12 Q Okay. And to the extent they had a specific
13 inquiry that went beyond the Technical Bulletins and the
14 warning labels, and they were to be given information
15 beyond the Technical Bulletins or the warning labels,
16 that would come from the Medical Department. Correct?

17 A If it related to possible health hazards, if it
18 related to possible exposures, if it related to the type
19 of personnel equipment to use, yes.

20 Q Okay. And it was your intention in requesting
21 that management provide that information on safe
22 handling and toxicology be approved by the Medical
23 Department to ensure that what was being said to
24 customers was generally consistent, generally uniform
25 throughout the company. Correct?

1 A And accurate.

2 Q And accurate.

3 Now, did you review the material that went in
4 any manuals that salesmen used as instructions of what
5 they were to talk to customers about on toxicology and
6 safe handling?

7 A I do not recall any such manuals.

8 Q Okay. Well, would it have been -- and let me
9 ask it this way, then -- would it have been your
10 understanding that had such manuals existed during the
11 time that you were Dir- -- Medical Director at Monsanto,
12 that anything in them about what the salesmen were to
13 tell customers on toxicology, safe handling, precautions
14 for their workers, would be approved by you for its
15 accuracy and correctness?

16 MR. CRAWFORD: David, why don't you
17 show him the manual you're talking about
18 so he can have something to focus on?

19 MR. LACEY: Well, I'm not sure that
20 there is a manual. I'm just trying to
21 find out. I -- I -- you know, I'm not
22 sure that we've got one of those. But I'm
23 trying to find out if that was covered by
24 this.

25 MR. CRAWFORD: Well, if there's not a

1 manual, how can he answer the question?

2 MR. LACEY: Well, that's what I'm
3 trying to find out.

4 I'm trying to make sure that if one
5 shows up -- and as you know, Walter, we've
6 had documents continue to show up, and I
7 don't know how many more are going to show
8 up -- I intend to conclude this deposition
9 today, and I want to make sure I
10 understand whether or not any statements
11 in any Salesmen's Manuals or the like that
12 you may provide to us during the time this
13 man was Medical Director would have been
14 something that, under the policies of the
15 company, should have had his approval.
16 It's very simple.

17 A I -- I have no recollection of ever seeing a
18 Salesmen's Manual.

19 BY MR. LACEY:

20 Q Fine.

21 Now, my question to you is a very simple
22 question: Was the directive that you sought from the
23 company's management and that went out from the
24 company's management one such that any literature that
25 was provided by Monsanto to its sales forces that

1 contained information for them to use in conveying to
2 customers would have been information that you had
3 approved and consistent with what your views on
4 toxicology and safe handling were?

5 MR. CRAWFORD: I object to the form
6 of the question. It's about ten
7 strung-together statements that make no
8 sense to me, and I can't understand it.

9 MR. LACEY: Well, let me make it
10 clear so even you can understand it,
11 Walter.

12 MR. CRAWFORD: Well, that's what we
13 need to try to accomplish.

14 MR. LACEY: Okay. Well, let's do
15 that.

16 BY MR. LACEY:

17 Q Had there been any instructions to salesmen on
18 how to talk to customers -- do you understand that
19 question?

20 A Is this in a subjunctive, a subjunctive --

21 Q Yes.

22 A -- had there been?

23 Q Exactly. You told me that you're not aware of
24 any. Is that correct?

25 A That's right.

1 Q Okay. Now, what I'm trying to find out is: If
2 someone in the company had put out a manual that it
3 would go to the people that were the salesmen to tell
4 them what to say and what to do, if there were such a
5 mean, any sections in that type of literature that dealt
6 with toxicology and safe handling of Monsanto products
7 should be consistent with what you as the Medical
8 Department said were the safe-handling instructions for
9 the product. Correct?

10 MR. CRAWFORD: You're going to have
11 to show him what you're talking about.

12 A Yes. You're asking me to comment on something
13 that I don't know exists, and --

14 BY MR. LACEY:

15 Q I don't know if it does, either, Dr. Kelly.

16 A Well, if I -- if it doesn't exist, how do I
17 know what should be in it? Because that --

18 Q Well, let me -- let me try to make it clear.
19 It's not a complicated question, I don't think.

20 A Well, yes.

21 Q It's not.

22 A I think you're asking me to decide on things
23 that don't exist, and I can't be assuming situations
24 that aren't present.

25 Q No, I -- what I'm really trying to find out,

1 Dr. Kelly -- let me make it very clear -- I'm trying to
2 find out about the scope of the direction that you
3 sought to have issued by company management, what went
4 out to company management, stating what matters had to
5 be approved by the Medical Department before they could
6 be given to others. Do you recall that?

7 A Yes, certainly.

8 Q And if I understand your testimony correctly,
9 the directive that you sought from company management
10 was that everything on toxicology and safe handling of
11 Monsanto chemicals had to be approved by the Medical
12 Department. Correct?

13 MR. CRAWFORD: The directive he
14 sought?

15 MR. LACEY: That he sought to get
16 management to send out.

17 BY MR. LACEY:

18 Q Is that correct?

19 A Repeat it.

20 Q What you sought to have Monsanto management put
21 into place was a requirement that anything on safe
22 handling of chemicals and the toxicology of the
23 chemicals had to be approved by the Medical Department.
24 Correct?

25 A What management approved was that any published

1 literature that related to health effects of Monsanto's
2 products, precautionary information relating to health,
3 was to be furnished by the Medical Department.

4 Q Okay. Now, what I'm trying to find out is
5 whether or not the scope of that directive was such that
6 a salesman would or would not be told to say more about
7 the precautions to take with safe handling than what you
8 had approved in the published literature.

9 A I can't answer that question. I can only say
10 that during the course of my time with the company, we
11 had literally thousands of requests from salesmen for us
12 to answer the questions of toxicity and safe handling.
13 I do not know what every individual salesman did. But I
14 do know that they were only too happy to refer any of
15 those problems back to us at the Corporate Office.

16 Q And it was your understanding, I take it, that
17 what they were supposed to do was to only give out the
18 information that was published by Monsanto, like
19 Technical Bulletins and warning labels.

20 A That's correct.

21 Q They weren't to go beyond that, but rather to
22 refer any additional materials or any additional
23 questions back to the Medical Department.

24 A Well, we've got to break that down.

25 For example, suppose a customer said to him,

1 "Has this been used before?"

2 And he said, "Yes. X Chemical -- X Company has
3 used 40,000 pounds of this a week for the last five
4 years."

5 "Have they had any ill effects?"

6 You wouldn't say, "You'll have to go back and
7 the people in St. Louis." You would say, "No, they
8 haven't had any ill effects. I've been there once a
9 week talking to them."

10 Q Okay. So he would be authorized to give his
11 personal knowledge?

12 A That's correct.

13 Q Okay. Would he be authorized to give his
14 personal opinion about what type of protective equipment
15 ought to be supplied?

16 A If he were knowledgeable, yes.

17 Q And where would he get the information about
18 the protective equipment that would be needed for the
19 safe handling of a chemical?

20 A From the Medical Department, from the Safety
21 Department, and from the Manufacturing Department.

22 Q Well, I guess my question to you is: Would he
23 have to check with those people and make sure what he
24 was giving out was the right information before he gave
25 it out?

1 A The first time, certainly.

2 Q Okay.

3 A But then after the first time --

4 Q Well, then, that goes back to the same point.

5 The source of the information initially had then to come
6 from the Medical Department, and he could repeat that
7 when he was asked subsequently?

8 A Yes.

9 Q But the first time a salesman was asked what
10 sort of protective equipment should be supplied, he
11 would come to the Medical Department and get an answer.
12 Correct?

13 A It -- it might be in the Technical Bulletin
14 that he had in front of him.

15 Q Okay. If it wasn't in the Technical Bulletin,
16 if it wasn't on the warning label, then when he was
17 asked that question it was his obligation to come to the
18 Medical Department and get the information?

19 A I think so, yes.

20 Q Okay. And he could then report back to the
21 customer whatever information the Medical Department
22 gave him with regard to additional safe-handling
23 precautions that might not be contained in the Technical
24 Bulletins or on the warning labels. Correct?

25 A Correct.

1 Q And then if another customer asked him the same
2 question again, he wouldn't have to come back to the
3 Medical Department the second time; he could go ahead
4 and give out the already-approved information?

5 A That's correct.

6 Q Okay.

7 Now, with regard to PCB products in particular,
8 what information, if any, did the Medical Department
9 give to its salesmen about safety precautions to use
10 around PCBs that were not contained in the Technical
11 Bulletins or on the warning labels?

12 MR. CRAWFORD: During what period of
13 time?

14 MR. LACEY: During the entire time he
15 was Medical Director.

16 BY MR. LACEY:

17 Q And I'll go year by year; but I want to know
18 what the Medical Department told salesmen to tell
19 customers about PCBs that goes beyond what's on -- on
20 the warning labels and in the Technical Bulletins, if
21 anything.

22 A We had -- I'm sure we had personal contact with
23 marketing people throughout -- and development people
24 throughout the course of my time at Monsanto.

25 And this information, we transmitted to them

1 verbally or trans- -- was transmitted verbally to the --
2 down the line to the sales personnel. I had many
3 instances of salesmen talking to me in St. Louis about
4 the safe-handling procedures of various things with
5 PCBs. I recall that also.

6 So there -- there were many contacts.

7 Q Well, I'm trying to find out -- and let me make
8 it very clear -- I'm not interested in the extent to
9 which you just repeated what was in the Technical
10 Bulletins or the warning literature. Okay? I'm
11 interested in what it was that you told salesmen so that
12 they could tell customers about safe handling or
13 toxicology that went beyond what was in the published
14 literature.

15 A Well --

16 MR. CRAWFORD: If there was such a
17 thing.

18 BY MR. LACEY:

19 Q If there was any. And -- and maybe there
20 wasn't any.

21 A Yes. For example, if a customer were worried
22 about after lightning hit a transformer, is there
23 phosgene produced, I do not know if that's in the
24 Technical Bulletins or not. But the salesman would ask
25 me, and I would say, "No, phosgene is not produced if

1 lightning hits a transformer."

2 And there -- I'm sure there are other
3 instances, but I can't -- can't think about -- of any
4 more at the present time.

5 Q The only question you can ever recall salesmen
6 coming to you and asking about is whether or not
7 phosgene gas would be created after a PCB transformer
8 was struck by lightning?

9 A That's all I can recall at the present time.

10 Q Do you recall salesmen ever coming to the
11 Medical Department and asking for specific details on
12 protective equipment to wear beyond what was in the
13 Technical Bulletins and on the warning labels?

14 A Yes. They talked about gloves. Gloves were a
15 problem.

16 Q Okay. So salesmen came and asked about gloves?

17 A Uh-huh.

18 Q What other protective equipment?

19 A I don't recall. Those are the ones that I
20 remember.

21 Q Okay. What did you tell salesmen about gloves
22 that was above and beyond whatever may have been said in
23 the Technical Bulletins and on the warning labels?

24 MR. CRAWFORD: Object to the form of
25 the question.

1 A When very thin Neoprene-coated gloves were
2 available, we talked to the salespeople about that.

3 BY MR. LACEY:

4 Q What did you tell them?

5 A That these were available. There is a --

6 Q I'm not sure I follow that. How -- can you
7 explain the context of that?

8 A Yes. PCBs disintegrate rubber gloves. The
9 old-fashioned Neoprene gloves were so thick that you
10 couldn't use them.

11 So in some of our bulletins we had recommended
12 canvas gloves, which were discarded, obviously; canvas
13 gloves could get wet.

14 Then later on in my course at Monsanto, they --
15 gloves were manufactured. I am not sure of the
16 manufacturer, but they were a thin imp- --
17 PCB-impervious glove.

18 Q And so you told salesmen about this new
19 manufacture of gloves that were thinner and easier to
20 use?

21 A Well, I don't know if I told the salesmen or if
22 that information was transmitted from -- from the
23 Purchasing Department to me or from someone else to me.
24 But I recall that I have told some salesmen about it.

25 Q Did you ever see any need to have a document

1 that would provide to salesmen -- and I'm talking in
2 particular now about salesmen for PCBs -- the basic
3 information about toxicology and safe handling so that
4 they would know what to tell customers and be sure that
5 that what they said was consistent and correct?

6 A No; because I think when you get a third party
7 in between someone, the individuals who understand
8 toxicology, a salesman cannot -- you cannot give them a
9 cookbook and say, "Here is what the toxicology of this
10 product is."

11 I think you -- the chances of errors are
12 magnified. So we say, "If a customer is interested
13 about the toxicology, let them talk to us, and we'll
14 answer them."

15 Q Is the same thing true for safe handling, as
16 well; how to handle it safely?

17 A Well, that is a -- is a much more limited and
18 direct statement.

19 After all, if the salesman is supposed to tell
20 the individuals, "Don't get any on your hands, don't
21 breathe the material, don't breathe it at elevated
22 temperatures or in confined spaces," that's -- it's hard
23 to misinterpret that.

24 But if you're talking to somebody about LD-50s
25 and chloracne on rabbits' ears, it's a pretty hard thing

1 to get that information across to a nontechnically- --
2 nontoxicologically-trained individual.

3 Q Well, I guess I'm -- what I'm trying to find
4 out about is this: Did you ever see any need to provide
5 salesmen with written information -- a reference book,
6 so to speak -- that they could go to, so that they could
7 answer questions about what was required for protective
8 gear to safely handle PCBs?

9 A No, because we had been manufacturing this
10 material for 30 years; and however the information got
11 out, it certainly got out, because the amount of
12 complaints that we had or reports of alleged injury were
13 extremely few in those 30 years.

14 Q The answer to my question is that you did not
15 see any need, then, for salesmen to have a reference
16 book they could go to in order to answer questions about
17 safe handling and worker precautions?

18 A The answer is "no," because we were certain
19 that the salesmen were instructed. And whether they had
20 such a reference book or not, I can't answer that; but I
21 didn't see any need for giving one to the salesmen.
22 They were getting the information they needed very
23 adequately.

24 Q And to your knowledge, no such reference book
25 existed while you were Medical Director?

1 A I don't know if one did or not.

2 Q Well, to your knowledge, you don't know.

3 That's really my question.

4 A No, I do not know, to my knowledge.

5 Q And had there been such a book that did exist

6 on safe handling, it should have come to you for

7 approval of what was said in it. Correct?

8 A If a book existed, which I don't know whether

9 it existed or not --

10 Q I understand.

11 A -- I would have to look at the whole context of

12 the book to see how -- what we were talking about in

13 that. So I really can't give you a "yes" or "no" answer

14 on that.

15 Q Okay. So it's been -- it's possible, then, as

16 far as you're concerned, that the book might have been

17 able to say something about safe handling, and it would

18 not have been required for you to approve it first?

19 A I didn't say that. I said that I couldn't

20 answer the question, because I didn't know what the book

21 looked like which doesn't exist.

22 Q I guess I'm -- I'm having a problem trying to

23 figure out whether, had there been salesmen's manuals or

24 instructions for salesmen and there were information in

25 there about safe handling and protective equipment, that

1 is a matter that you should have reviewed before
2 salesmen were provided with a reference book to use in
3 talking to customers.

4 MR. CRAWFORD: Mr. Lacey, I'm going
5 to object to the form of the question, and
6 I'm also going to object to it because
7 it's improper. It's like asking him, "How
8 long is a piece of string?"

9 You're talking about some mythical
10 book, some -- that's got speculative stuff
11 in it that we don't know what you're
12 talking about. How can he answer the
13 question?

14 BY MR. LACEY:

15 Q Well, the question -- the question --

16 A I can't answer the question.

17 Q The question has to do with whether or not it
18 was the function of the Medical Department to review and
19 approve what was written by Monsanto as a source of
20 information to give others about the safe handling of
21 chemicals manufactured by Monsanto.

22 A Now, when you say "others," we have to define
23 the others; because in plant operating departments, the
24 people would use information we had given them and write
25 operating manuals for the workers. We did not review

1 those operating manuals. We assumed that the
2 responsible people who did it used the Medical
3 Department data that was in the technical manuals.

4 Q I'm talking about third parties, customers.

5 A Well, that, I can't answer, because I -- oh,
6 third party customers?

7 Q Yes. My question, again, is very simple.

8 A Well, it isn't quite so simple, Mr. Lacey.
9 Let's make it simple.

10 Q Well, let's try to make it simple.

11 My question is whether it was the policy of
12 Monsanto that information which would be referred to or
13 used by Monsanto employees to tell customers about how
14 to safely handle Monsanto chemicals was supposed to be
15 reviewed by the Medical Department before it was given
16 to the customers of Monsanto.

17 MR. CRAWFORD: That's so broad, I
18 don't see how he can answer it. I'm going
19 to object to it. You've got to give him
20 something more specific than that.

21 BY MR. LACEY:

22 Q Can you answer the question?

23 A Well, if -- repeat it.

24 MR. LACEY: Would you read it back,
25 please?

1 (The following question was read back
2 by the Reporter:

3 "QUESTION: My question is whether it
4 was the policy of Monsanto that
5 information which would be referred to or
6 used by Monsanto employees to tell
7 customers about how to safely handle
8 Monsanto chemicals was supposed to be
9 reviewed by the Medical Department before
10 it was given to the customers of
11 Monsanto.")

12
13 A Well, that, you're -- you're saying any
14 information that an employee got, a salesman got or any
15 employee of Monsanto got, no matter how, had to be
16 reviewed by the Medical Department?

17 BY MR. LACEY:

18 Q No. I'm asking whether or not the policy of
19 Monsanto was that reference materials given --

20 A What do you mean by "reference materials"?

21 Q Any piece of paper; I don't care whether it's
22 a -- whether it's called a Technical Bulletin, whether
23 it's called a Product Bulletin, whether it's called a
24 warning label, whether it's called instruction to
25 salesmen, whether it's called Toxicology and Safe

1 Handling of Chemicals, whatever it may be called -- any
2 written material that was provided by Monsanto to its
3 employees as a source of information to be used in
4 telling customers about the safe handling of Monsanto
5 chemicals.

6 Was that supposed to be approved by the Medical
7 Department before the -- the Monsanto employee gave that
8 information to a Monsanto customer?

9 A The information that a salesman received was
10 primarily based on information that the Medical
11 Department supplied. How that was -- that
12 information -- the form of which that information was
13 transmitted to the salesman, I don't know.

14 Q But whatever the information was that was
15 transmitted to salesmen with regard to safe handling and
16 toxicology was supposed to have been approved by the
17 Medical Department?

18 A Primarily approved, yes, by -- if in the
19 finished -- if there were this mythical sales handling
20 manual, there may be some grammatical addition of the --
21 of material.

22 Q But the substance of it was to be approved by
23 the Medical Department before the salesman would take
24 that and use it for what he told customers?

25 A That, and the knowledge that he got from --

1 Q Sure.

2 A -- from sales meetings, from letters from me,
3 from correspondence, from telephone correspondence with
4 me; any of these.

5 MR. CRAWFORD: David, let's take
6 about five minutes.

7
8 (Recess)

9
10 THE VIDEOTECHNICIAN: Okay. We've
11 been off the record for a short break.
12 We're now back on the record. The time is
13 10:55 a.m.

14 BY MR. LACEY:

15 Q Dr. Kelly, did you ever recommend or suggest
16 that salesmen be provided with any type of reference
17 material that they could use in answering questions
18 about toxicology and safe handling beyond the Technical
19 Bulletins and the product warning labels?

20 A I have no recollection of making such a
21 recommendation.

22 Q Okay. Am I correct that it is your belief that
23 every customer who bought PCBs from Monsanto received
24 the Technical Bulletins that Monsanto put out on those
25 chemicals?

1 MR. CRAWFORD: David, you've got a
2 document that you're reading from there --

3 MR. LACEY: No, I'm not reading from
4 a document, Walter. If you're going to
5 leave me alone --

6 MR. CRAWFORD: Well --

7 MR. LACEY: -- I'm just asking -- can
8 I look at a document while I ask the
9 question? Am I permitted to do that?

10 MR. CRAWFORD: Well, I mean, if
11 you're reading from it --

12 MR. LACEY: I'm not.

13 MR. CRAWFORD: Okay.

14 A Okay. Repeat the question.

15 BY MR. LACEY:

16 Q Let me -- let me ask the question again.

17 Is it your belief that every customer of
18 Monsanto was supplied with the Technical Bulletins or
19 product literature that Monsanto put out about those
20 chemicals so that they would have information on the
21 safe handling and toxicology of the chemicals?

22 A I don't know whether every customer received it
23 or not.

24 Q Was it your direction from the Medical
25 Department that every customer should receive the

1 Technical Bulletins on Monsanto's chemicals that they
2 bought so that they could have the information on
3 toxicology and safe handling?

4 A I don't recall making such recommendations.

5 Q Okay. Well, then, it was, as you understand
6 it, perfectly possible that customers would buy
7 chemicals from Monsanto without the benefit of having
8 available to them the materials on toxicology and safe
9 handling contained in the Technical Bulletins. Is that
10 correct?

11 A No, it isn't correct, because it depends on
12 what the compound is. It depends on the knowledge -- on
13 what the -- the relationship of that customer has been
14 to Monsanto in regard to that particular product.

15 Q Well, are you telling me that if there were
16 customers who were thoroughly familiar with the product,
17 you wouldn't be as concerned about getting the technical
18 information to them?

19 A I think getting the technical information to
20 the customer was a part of the development and the
21 marketing group. I was concerned that everybody would
22 get the information.

23 Certainly, it was not as necessary in the case
24 of sophisticated users, who knew as much as about the
25 product as we did.

1 Q And in the case of people who were not as
2 sophisticated, it would be more important that they get
3 the technical information. Is that correct?

4 A Yes.

5 Q So that either by supplying the Technical
6 Bulletins to the nonsophisticated customer, or because
7 of the knowledge of the sophisticated customer, all
8 Monsanto customers for any particular chemical would
9 have the necessary information on toxicology and safe
10 handling?

11 MR. CRAWFORD: Object to the form.

12 A Well, I can't guarantee that everyone had it.
13 I don't know of my own knowledge that every Monsanto
14 customer had this.

15 BY MR. LACEY:

16 Q Was there any program at Monsanto designed to
17 ensure that every customer had, through one means or
18 another, the appropriate information on the safe
19 handling and toxicology of the Monsanto products they
20 bought?

21 A Well, I think that was certainly part of the
22 development and marketing programs; that the safety
23 and -- and safe handling and precaution --

24

25

(Telephone in deposition room rings)

1 ~~WALTER~~ A -- was just as important a part of the --
2 selling a product to the company as -- as the price or
3 the date of shipping or -- I don't know about how that
4 was implemented.

5 BY MR. LACEY:

6 Q Was it your --

7 MR. CRAWFORD: Do you want to take a
8 break?

9 MR. LACEY: I guess so, Walter. I
10 guess we've got to.

11

12 (Recess)

13

14 THE VIDEOTECHNICIAN: We've been off
15 the record for a short break for telephone
16 calls, and we're back on the record. The
17 time is 11:12 a.m.

18 BY MR. LACEY:

19 Q Did you have any awareness of problems with
20 PCBs being used in electrical apparatus that were
21 involved in fires or explosions?

22 A No, sir, not during my time with Monsanto.

23 Q Okay. Nobody ever came to you and asked about
24 what the effect might be if PCBs were in a product where
25 there was a fire or a -- an explosion?

1 A No, with the exception of the lightning
2 episode; if -- if -- if a transformer were struck by
3 lightning.

4 Q And the only question that was raised there was
5 the question of phosgene gas?

6 A Correct.

7 Q Do you recall being informed whether one way or
8 the other there was ever any concern within the
9 customers or users of PCB electrical equipment about the
10 toxicity of PCBs?

11 A We had -- yes. We had numerous letters from
12 customers concerning the toxicity of PCBs.

13 Q Expressing concerns that they were toxic, or
14 just asking about whether they were toxic?

15 A Well, there were all sorts of questions they
16 were asking: Could this condition have resulted from
17 PCB contact; Could -- How should you handle this? There
18 were all sorts of letters that I answered that falls
19 under the answer to your question.

20 Q Let me try to refine what I'm asking about,
21 because I'm really not trying to ask about a specific
22 letter.

23 I'm trying to find out whether you recall,
24 while you were Medical Director of Monsanto, a level
25 of concern among those people who would use

1 PCB-containing electrical equipment that PCBs were
2 toxic; and, therefore, that caused them to have concern
3 or a desire not to use PCB-containing electrical
4 equipment.

5 A I never had any information from a customer
6 saying they were thinking of discontinuing PCB
7 electrical equipment because of toxicity.

8 Q Okay. What about -- and -- and I -- when you
9 say "customer," you're talking about somebody who -- to
10 whom Monsanto sold PCBs directly?

11 A No; or the transformer customer --

12 Q Okay.

13 A -- a person who bought the transformer.

14 Q Okay. So you're not aware of anyone who had a
15 sufficient concern about toxicity of PCBs that it might
16 have affected their decision of whether or not to
17 purchase transformers or capacitors containing PCBs.
18 Correct?

19 A Correct.

20 Q And nobody within the company ever asked you to
21 get involved in convincing people that PCB-containing
22 electrical equipment was safe, from a toxicity
23 standpoint. Is that correct?

24 A I find it hard to -- to understand your
25 question. If you are saying that while I was in the --

1 in the company, did I attempt to convince third-party
2 users that the use of PCB in electrical transformers was
3 safe?

4 Q Yes.

5 A I'm sure I wrote letters to people saying that
6 these products could be handled safely inside a
7 transformer, but I -- I don't know. I have no
8 recollection. Will you show me a letter that I might
9 have written?

10 Q I'm really not trying to find out about
11 specific letters. I'm trying to find out whether you
12 were asked to write such letters.

13 A I don't recall. By whom? By the customer?

14 Q No. By people at the company; by people at
15 Monsanto.

16 A I don't --

17 MR. LACEY: David, he was there for
18 30 years. I don't think that --

19 A I don't recall whether I was or not.

20 BY MR. LACEY:

21 Q Do you recall a Donald Pogue with Monsanto?

22 A No, I don't.

23 Q I see.

24 Do you recall seeing a report entitled "The
25 Transformer Askarel Fluid Market" that was published

1 in ~~==~~ or put out by Monsanto in 1970?

2 A I don't recall it. I may have.

3 Q Do you recall any suggestion by anyone at
4 Monsanto that Monsanto should address itself to frequent
5 utility technical service visits to neutralize concerns
6 on Askarel's toxicity and handling?

7 MR. CRAWFORD: Well, David, you've
8 got a document you're reading from now.
9 Could you show it to him --

10 MR. LACEY: Sure.

11 MR. CRAWFORD: -- and let him look at
12 it?

13 MR. LACEY: Sure.

14 BY MR. LACEY:

15 Q Let me direct your attention to a document
16 entitled "The Transformer Askarel Fluid Market," written
17 by Donald R. Pogue, dated February 17, 1970, Document
18 No. 27924 through 28017, specifically directing your
19 attention to Page 27935. And there's an underlined
20 portion here in the next-to-last paragraph (indicating).

21 A (Reviews document.)

22 On Page 6, now? Is that right? Is that what
23 you asked me?

24 Q I had a page open for you there.

25 A Yes (indicating.)

1 Q Yes, that's the paragraph.

2 A I have no recollection of ever seeing this
3 document before.

4 Q Okay. That wasn't my question to you.

5 A What was it?

6 Q My question to you was whether you were ever
7 involved in or asked to assist in these visits to
8 utility people in order to convince them about the
9 safety of Askarel.

10 A No.

11 Q Okay. That's clearly what's being recommended
12 by Mr. Pogue, is it not?

13 A You'll have to give it back to me.

14 Q I see.

15 A He -- they didn't recommend me go over there,
16 did they? Did he recommend that?

17 Q No. I -- it doesn't appear he said by name who
18 he recommended do it. But it does indicate that
19 Monsanto needed to assess -- address itself to making
20 direct utility visits with regard to the safety of
21 Askarel and safe handling. Correct?

22 A (Reviews document.)

23 Well, he says, "We must address ourselves to
24 frequent utility technical services" -- "technical
25 service visits" -- that's technical service people --

1 "to neutralize emotions on Askarel toxicity and
2 handling."

3 That's what he says.

4 A Yes. And now I'm trying to find out whether
5 you were involved in any way, your department was
6 involved in any way, in providing information, or
7 advice, or anything else to these technical service
8 representatives that they could then use in these visits
9 with utilities to try to not -- what did he say?

10 "Neutralize" --

11 A "Neutralize emotions."

12 Q "Neutralize emotions" on what?

13 A "Askarel's toxicity and handling."

14 Q I see. And you were not -- the Medical
15 Department was not at all involved in that?

16 A I have no recollection of that at all.

17 Q So it -- it may be that that information was
18 provided on toxicity and safe handling without the
19 authorization and approval of the Medical Department?

20 A No, you may not. I do not believe that the
21 technical service people would provide information on
22 toxicity that was not approved by the Medical
23 Department.

24 Q Okay. By the way, do you -- do you have any
25 idea where in the world people were getting the idea

1 that this PCB-containing transformer fluid known as
2 Askarel might have problems with toxicity and safe
3 handling?

4 MR. CRAWFORD: Object to the form of
5 the question.

6 A I have no idea.

7 BY MR. LACEY:

8 Q Was that a topic that was generally being
9 discussed in the electrical industry in the 1970 time
10 frame, or do you know?

11 A It certainly wasn't discussed to my knowledge;
12 because we had very, very few requests for toxicity
13 information from the electric -- from people in the
14 electrical industry.

15 Q In fact, were you involved in the program that
16 was instituted by Monsanto to defend Aroclor at least as
17 early as 1968?

18 MR. CRAWFORD: Object to the form of
19 the question. It's --

20 A What is the program to defend them?

21 MR. CRAWFORD: Yeah.

22 A From what? How?

23 BY MR. LACEY:

24 Q Well, let me show you a document dated December
25 9th, 1968, Document 39204-39205, written by Dr. Richard

1 to several people, about seven names here, entitled
2 "Defense of Aroclor" (tendering).

3 A (Reviews document.)

4 Q Were you involved with this program to defend
5 Aroclor?

6 A I have no recollection of being so involved. I
7 do not -- as you see, I'm not copied in on that.

8 Q Well, I notice you're not; and that's why I was
9 curious whether or not the Medical Department got
10 involved in this defense of Aroclor, or it was left to
11 others within the company to go out and defend the
12 cus- -- the product.

13 A I'm holding this one piece of -- of
14 correspondence; and, certainly, this is a very
15 preliminary statement from a research man, so I don't
16 know anything about it (tendering).

17 Q Well, are you thinking that maybe that program
18 never got off the ground?

19 A I don't know anything about it.

20 Q I see.

21 Well, let me show you another document dated
22 September 9th, 1969, from Dr. Richard to E. Wheeler.
23 That's Elmer Wheeler, isn't it?

24 A That's correct.

25 Q And Document No. 30840 through 30847, entitled

1 "Defense of Aroclor, F Fluids." I believe that stands
2 for Functional Fluids, doesn't it (tendering)?

3 A Yes, it does.

4 (Reviews document.)

5 Is there a question?

6 Q Yes. My question to you is: Were you ever
7 involved in the program that Dr. Richard referred to as
8 the "Defense of Aroclor"?

9 MR. CRAWFORD: Objection to the form
10 of the question. It assumes there was a
11 program.

12 A Well, yes. But you must realize that this
13 particular defense of Aroclor functional fluids was in
14 relationship to the ecological problems with Aroclor,
15 which surfaced in the '68-'69 time frame. So we're not
16 talking about harm to workers or users; we're talking
17 about fish, hawks, Peregrine falcons.

18 BY MR. LACEY:

19 Q I see. So there wasn't any concern in this
20 "Defense of Aroclors," then, to try to prove that the
21 PCB products were safe for humans. Is that correct?

22 A I don't know what you mean by "try to prove."
23 We had --

24 Q Well, did --

25 A We had -- we had 40 years of experience that it

1 was safe to use.

2 Q Did --

3 A So I don't know what other proof was necessary.

4 Q Did the defense of Aroclor include attempting
5 to prove that it did not pose hazards to human health?

6 A I don't believe it did at this time. It was --
7 it was -- this was for ecological purposes when it --
8 (tendering).

9 Q What was it that the Defense of Aroclor Program
10 took on an effort to prove that it was safe for human
11 contact?

12 A That occurred when there was inadvertent human
13 contact with Aroclors later on around that time,
14 somewhat later, around '70, '71. I'm not sure of the
15 time frame.

16 Q Were you involved in the portion of the Defense
17 of Aroclor Program that attempted to prove that Aroclors
18 were safe for human contact?

19 A Now, when you -- you'll have to -- you'll have
20 to delineate what you mean by "human contact."

21 Q Didn't cause any problems in humans.

22 A Any place, any time?

23 Q Yes.

24 A I was certainly involved in showing -- in
25 developing information that when inadvertent

1 contamination of food products by Aroclors in the
2 plasticizer field occurred that was involved in
3 developing long-term toxicological studies that showed
4 what the toxicity was, and the Government agencies; some
5 information on which they could set a safe level of
6 Aroclors in food products. I was involved in that, yes.

7 Q And that was human food and the question of
8 whether PCBs would cause problems in humans. Correct?

9 A It was inadvertent human contact, and it was a
10 question then of finding out what the long-term feeding
11 studies with PCBs would show. This material was
12 submitted to the Government, who then made their
13 decision as to what they considered a safe level.

14 Q The people within the Medical Department at
15 Monsanto who were primarily responsible for determining
16 the effect of PCB exposure on humans were the
17 toxicologists. Correct?

18 A No. I was the primary responsibility --
19 responsible person.

20 Q Well, let me see if I understand correctly.
21 Isn't toxicology the discipline that attempts to study
22 the effect of chemicals on humans, among others?

23 A Usually, it's referred to -- the toxicologist
24 is referred to animals, but translation of the
25 information derived from animals to humans and the

1 relationship of any ill effects in humans to any
2 supposed chemical really falls under -- fell under my
3 responsibility --

4 Q I see.

5 A -- my expertise.

6 Q Well, who had the greater expertise in the
7 Medical Department with regard to trying to assess what
8 PCBs might cause by way of health hazards? You or your
9 trained toxicologists?

10 A Health hazards to whom? Animals, fish, birds,
11 humans?

12 Q All of the above.

13 A Well, we'll start with humans. I did, as far
14 as humans are concerned.

15 Q Okay. So you were --

16 A Animals -- let me finish. Animals, fish, birds
17 were toxicologists.

18 Q So you were more knowledgeable and you had a
19 better understanding of the health hazards caused by
20 PCBs to humans than the toxicologists that worked for
21 you?

22 A Yes.

23 Q I see.

24 Who was better able to interpret the animal
25 data and assess whether or not it would indicate a

1 potential problem for humans?

2 A A toxicologist.

3 Q Okay. So to the extent that one would be
4 forming an opinion concerning whether or not effects
5 seen in animal data would indicate a potential adverse
6 human effect, one would look primarily to the
7 toxicologists on your staff?

8 A No, because we are not -- you -- going just on
9 animal data. You are making a decision based on animal
10 data and what the human experience has been over the
11 decades past.

12 MR. LACEY: Let's go ahead and change
13 the tape right now, and then we'll pick
14 up.

15
16 (Recess)

17
18 BY MR. LACEY:

19 Q The only human experience that you had was
20 whatever information you received from workers in your
21 plants, plus whatever you heard about from workers in
22 plants to whom you sold PCBs. Correct?

23 A No; because it's also communication with other
24 doctors in the field who are using PCBs, and it -- it
25 also included medical literature that related to the

1 presence or absence of any ill effects --

2 Q Did you --

3 A -- in workers.

4 Q I'm sorry. Go ahead.

5 A In workers.

6 Q Did you take into account the Yusho and Yuchang
7 incidents -- incidents in evaluating the effect of PCBs
8 on human health?

9 A Yes.

10 Q Do you know of any disagreements that existed
11 within the Medical Department between the people on your
12 staff about what adverse health effects could or could
13 not be caused in humans by PCBs?

14 A I don't know. I don't -- there may. I have no
15 recollection.

16 Q Well, did you in the Medical Department ever
17 get together and discuss what adverse effects you
18 thought could be caused by human exposure to PCBs?

19 A Certainly. But you're -- you've got to
20 decide -- delineate what you mean by "exposure."

21 If you mean by swallowing it, like they did
22 over in Yusho -- if you mean -- if you're talking about
23 Japanese PCBs, which are different from the United
24 States PCBs -- if you're talking about the extra
25 ingredients or the contaminants that you referred to of

1 the Japanese PCBs, which were enormously more than they
2 were in the United States PCBs, yes.

3 I forget what the question was, but --

4 Q But you've got an answer for it, anyway.

5 A Well, I have an answer for it.

6 But we took all that into consideration, as far
7 as ill effects on humans. We -- I think there was still
8 just a feeling of all among the United -- the Medical
9 Department specifically on whether the workers who were
10 exposed to PCB in industrial use in the United States
11 suffered ill effects. I think we all agreed that that
12 did not occur.

13 Q What were the contaminants that you understood
14 to exist in the Japanese PCBs that you mentioned with
15 regard to the Yusho and Yuchang incidents?

16 A They were dibenzofurans. They were quat- --
17 quatriphenyls. I don't know what other ones may have
18 been in there.

19 Q It is your understanding that the quality of
20 the product produced by the Japanese and its purity was
21 not as good as the American product?

22 A It is my understanding that their percentage
23 of -- of benzofurans was higher than it was in the
24 United States product.

25 Q So you understood that the Japanese had more

1 contaminants in their PCBs than Monsanto had in its
2 PCBs. Is that correct?

3 A We were just talking about the level of
4 nitrofurans and what was -- and the quatraphenyls which
5 were present in the Japanese.

6 Q Let me --

7 A They certainly had more.

8 Q Let me ask about -- about the specific
9 contaminant dibenzofuran.

10 A Yes.

11 Q Is it your understanding that the Japanese PCBs
12 had a higher level of contamination with dibenzofurans
13 than Monsanto had in its PCBs?

14 A It is my understanding that it did. And it's
15 also my understanding that after this material was
16 subjected to heat in the -- in the heat exchange and in
17 the -- the manufacture of the rice oil or the -- the
18 procedures that were used with the rice oil, a higher
19 level of benzofurans occurred.

20 Q What was your understanding about whether the
21 uses to which Monsanto's PCBs were put could result in
22 creation of additional dibenzofurans?

23 A I had seen records of used PCBs that did not
24 show any increase in dibenzofurans.

25 Q What records did you see?

1 ~~A~~ Well, I don't know. But I've seen reports --
2 certainly, the literature -- that showed -- that stated
3 that dibenzofurans were not increased in used PCBs. I
4 can get that reference for you, if you want.

5 Q Was that Monsanto PCBs, PCBs generally?

6 A I believe it referred to United States
7 production, in which Monsanto was something like
8 98 percent.

9 Q And you believe that in use, the Japanese PCBs
10 produced more dibenzofurans?

11 A No. I said that the Japanese produced more
12 PCBs in the rice-oil episode; that something increased
13 the dibenzofurans from the time that the PCBs were in
14 the heat exchanger to the treatment of the rice oils in
15 cooking.

16 Q Did you in the Medical Department ever consider
17 whether the types of problems that would appear in
18 humans would be greater, depending upon the level of
19 exposure?

20 MR. CRAWFORD: Object to the form of
21 the question. It assumes something that
22 you haven't established.

23 A Well, the greater exposure, the greater the
24 possibility of -- of injury, certainly. That's why we
25 recommended against repeated skin contact, prolonged

1 skin contact.

2 BY MR. LACEY:

3 Q What did the Medical Department conclude were
4 the human problems that could arise from high levels of
5 exposure to PCBs?

6 A How high? I hate to say, "How high is high?"

7 In what method or exposure? You're talking
8 about inhalation? You're talking about drinking it?
9 You're talking about getting it on the skin? Just tell
10 me what you mean.

11 Q Well, let's start with ingestion.

12 A Well, here is an industrial chemical that is --
13 is not supposed to be taken internally. We believe that
14 if somebody had the idea of taking an ounce of this
15 every day for a month, he would have problems.

16 Q And my question is: What sort of problems did
17 you in the Medical Department believe would result from
18 that type of exposure to PCBs?

19 A We didn't know, because there has been no
20 evidence of any such exposure. So I do not know how the
21 human body would handle an ounce of PCB every day.

22 Q So the Medical Department had no knowledge on
23 that. Correct?

24 A Correct. We had no knowledge about what
25 happens to repeated human ingestion of PCB, no.

1 Q And no one had any opinions about what we might
2 see the results in humans being, based on animal data or
3 anything else?

4 A Well, if you took enough, you could die;
5 certainly.

6 Q All right. What about inhalation? What did
7 the Medical Department conclude the effects on humans
8 could be from inhalations at very high concentrations?

9 A At very high concentrations, one could die from
10 it if you had a high concentration in a confined space
11 where you couldn't get away.

12 Q And what was the conclusion about the source of
13 death? What would be the cause of death?

14 A If it were immediate cause of death, it would
15 be pulmonary irritation.

16 If it were three or four days later, it could
17 be liver failure.

18 Q So you concluded that in an inhalation
19 situation, there could be either pulmotary -- pulmonary
20 irritation, or absorption through the body and the
21 result of liver damage. Correct?

22 A In high enough levels. It's -- now, you're --
23 you're making an assumption that we have high levels, if
24 you said any -- any level at all. So, certainly, if you
25 get enough PCB at elev- -- at high enough temperatures

1 in an enclosed space, you could have some of those
2 problems; certainly.

3 Q Okay. Any other problems besides the
4 respiratory problem and the liver failure, that you are
5 aware of?

6 A There have been cases of chloracne develop in
7 people who were exposed to inhalation of PCBs.

8 Q That's a systemic effect?

9 A Yes.

10 Q Anything else besides the respiratory, the
11 liver, and the chloracne?

12 A No. I don't believe we made any assumptions,
13 anything further from that.

14 Q What about very substantial skin contact? What
15 did the Medical Department conclude the results of very
16 substantial skin contact might be?

17 A Again, now, what do you mean by "very
18 substantial"? You and I may not be -- be talking about
19 the same levels.

20 Q Okay. Getting it on the skin in direct contact
21 with the skin on a daily basis.

22 A It could be -- could -- nothing to happen to
23 you.

24 Q Well, what else could happen?

25 A If you --

1 Q What are the possible consequences?

2 A If you got enough of it over -- and left it on
3 a large enough portion of your skin, if you had clothes
4 soaked in it and left it on, you may develop absorption
5 of the material and cause -- cause chloracne.

6 Q Anything else that can be caused from skin
7 contact besides chloracne?

8 A That is the only thing that I have seen happen.
9 I do not know whether or not you would get systemic
10 injury -- whether you would get enough absorption.

11 Now, we have to talk about which PCB we're
12 talking about.

13 If you're talking about one of the higher
14 levels where it's less easily absorbed through the skin,
15 or one of the higher-chlorinated ones where it's more
16 viscous -- and some of them are solids -- that's -- the
17 dust of that would not cause any problems.

18 But I would think that in the absence of
19 chloracne, you would not ex- -- there would not be any
20 other ill effects.

21 Q Well, let's assume that the effect is
22 sufficient or there's enough skin absorption to get
23 chloracne. What else did the Medical Department believe
24 might result in humans besides chloracne from skin
25 contact, if anything?

1 A We didn't know. We didn't conclude anything,
2 because we had they ever had a dosage of individuals or
3 heard about a dosage of individuals that gave them
4 anything except chloracne.

5 So I don't know what would happen if the person
6 took a bath in the material every day.

7 Q Did you take into consideration animal work to
8 determine what the effect of repeated skin contact would
9 be?

10 A Yes, but animal skin and human skin is entirely
11 different.

12 Q My question is whether or not from the animal
13 work that was done with regard to skin contact, you
14 concluded whether there might be any systemic effects
15 other than chloracne.

16 A Well, I'd have to look over the animal reports.
17 I can't answer that off the top of my head.

18 Q You can't recall any, as you sit here today?

19 A Can't recall any what?

20 Q Any reports or any conclusions you reached
21 about problems from skin contact that might be assumed
22 in humans, other than chloracne, as you sit here today.
23 Is that correct?

24 A That is correct.

25 Q Okay.

1 Were you consulted about lawsuits filed against
2 Monsanto in which claims were made of adverse effects on
3 human health resulting from contacts with PCBs?

4 A This is one.

5 Q No, I understand. I'm talking about back when
6 you were a full-time employee of Monsanto. Did that --
7 let me -- let me rephrase my question. I think the word
8 "consulted" is confusing to you.

9 During the time that you were employed by
10 Monsanto as Medical Director, did anyone bring to your
11 attention any lawsuits in which someone was claiming
12 that they were injured as a result of contact with PCBs?

13 A I don't recall any.

14 Q Okay.

15 MR. LACEY: Let's go off the record
16 for just a second.

17
18 (Discussion off the record)

19
20 THE VIDEOTECHNICIAN: We're back on
21 the record. The time is 11:45 a.m.

22 BY MR. LACEY:

23 Q Dr. Kelly, at the time we began your deposition
24 several days ago, we went over the fact that you were
25 appearing as a witness designated to testify on behalf

1 of the company as to certain matters. Do you recall
2 that?

3 A Yes, we went over it.

4 Q And at the time of that deposition, you were
5 not aware or had not been aware for a long period of
6 time that you had been so designated before we started
7 your deposition. Correct?

8 A I don't know if that's accurate or not. I did
9 not know what -- what the parameters of my appearance
10 would include.

11 Q Yes. And with regard to that, there were
12 certain matters about which you indicated it would be
13 necessary for you to review information before you could
14 give testimony. In particular, one of those matters had
15 to do with the budgeting of toxicological studies. Do
16 you recall that?

17 A Well, I don't believe that there was -- unless
18 you wanted me to find the exact dollars, I think I told
19 you that the Medical Department had a certain amount of
20 money that they used for toxicological matters at their
21 own discretion; and any larger amounts, as far as
22 "larger" being \$20,000 and up, was to -- charged back to
23 the individual sponsoring department.

24 Q And I believe you told me in that regard that
25 you could not testify as to what the budgets were with

1 regard to the testing of PCB materials without reviewing
2 certain records. Is that correct?

3 A Yes. I -- well, I didn't even know if those
4 records were still extant.

5 Q Have you since that time of -- of the beginning
6 of your deposition made an effort to determine what the
7 budgeting was and how much money was spent by Monsanto
8 on toxicological testing --

9 A No, sir.

10 Q -- of PCBs?

11 A No, sir, I haven't.

12 Q You made no effort after your --

13 A No effort; no.

14 Q None. Okay. Did you ask anybody to assist you
15 in finding out that information so you'd be able to
16 testify about that here --

17 A No, sir.

18 Q -- in the completion of your deposition?

19 A No, sir, I didn't.

20 Q You weren't aware of the fact from my questions
21 that I was interested in finding out about that budget
22 information?

23 MR. CRAWFORD: Well, David, it's up
24 to you to get the -- the -- the
25 information that you want and ask him

1 about it. He doesn't have to go out and
2 research the -- the -- the problem for
3 you --

4 MR. LACEY: I see.

5 MR. CRAWFORD: -- or the area.

6 MR. CRAWFORD: Well, he's the
7 corporate representative, and I --

8 MR. CRAWFORD: Well, you never asked
9 us -- you never asked us to go get that
10 stuff and have him ready on it, and -- and
11 it's not --

12 MR. LACEY: I see.

13 MR. CRAWFORD: -- his obligation to
14 do that.

15 MR. LACEY: I see.

16 MR. CRAWFORD: That's your obligation
17 to get the documents and ask him --

18 MR. LACEY: I see.

19 MR. CRAWFORD: -- about it.

20 MR. LACEY: Well, you haven't
21 provided me with the documents on the
22 budgeting, Walter.

23 MR. CRAWFORD: Well, you never asked
24 me for the documents on the budgeting.

25 MR. LACEY: Well, I guess we'll take

1 that up with the Court.

2 BY MR. LACEY:

3 Q The period of time that you were Medical
4 Director, were you responsible for the decision on how
5 much money to spend in hiring professional staff for the
6 Medical Department?

7 A Well, I always had to get my budget approved by
8 someone higher up; yes.

9 Q But did you make the recommendation on who
10 ought to be hired in the Medical Department?

11 A Yes.

12 Q Were you ever refused by Monsanto the
13 opportunity to hire additional professional staff that
14 you requested for the Medical Department?

15 A No, sir, not that I can recall.

16 Q Did you ever request that Monsanto hire an
17 epidemiologist while you were Medical Director of
18 Monsanto?

19 A No, sir.

20 Q And none was hired for you, was one?

21 A No, sir.

22 Q So all of the information that you relied on
23 with regard to the absence of any complaints or problems
24 in your own plants, or anything you heard from the
25 plants of others, was not reviewed by an epidemiologist

1 before that information was published by Monsanto. Is
2 that correct?

3 MR. CRAWFORD: Object to the form of
4 the question. It assumes something that
5 you haven't established.

6 A We had no epidemic-- epidemiologist. I know
7 of no epidemiologist that reviewed the material until --
8 and whether he reviewed the material after -- when an
9 epidemiologist came on board or after I left, I don't
10 know.

11 BY MR. LACEY:

12 Q So when you would say to others that in 40
13 years or 30 years, or whatever, of use there had been no
14 problems, that was not based on an epidemiologist's
15 review. Correct?

16 MR. CRAWFORD: Object to the form of
17 the question.

18 A It was not based on an epidemiological review,
19 but it was based on a review of the literature; it was
20 based on communication with the users; it was based on
21 current medical thinking, industrial medical thinking of
22 those days.

23 BY MR. LACEY:

24 Q Well, the discipline of epidemiology existed
25 for a number of years prior to the time you retired as

1 Medical Director of Monsanto, did it not?

2 A Yes, it did. But the amount of epidemiologists
3 in industry were probably one to two, at the most.

4 Q And it would have been possible for you to hire
5 an epidemiologist to conduct such a review, would it
6 not?

7 A As I said earlier, anything is possible. Yes,
8 it's possible.

9 Q Well, I mean, there were epidemiologists who
10 were in practice who you could have retained to assist
11 you in that regard?

12 A I could have.

13 Q You did not choose to recommend that?

14 A It was not, to my opinion, needed at that
15 particular time.

16 Q And prior to the work with Industrial Bio-Test,
17 you undertook -- undertook no long-term chronic testing
18 of Monsanto's PCB materials. Is that correct?

19 A No, it isn't correct; because we did some what
20 was considered long-term with the Kettering group back
21 in the 50's.

22 Q What was the long term you did?

23 A Well, it was --

24 Q How much?

25 A It was 90 days at that time. But in the 50's,

1 that was considered long-term.

2 Q I see. The studies you undertook with IBT were
3 two-year and in some cases generational studies, were
4 they not?

5 A That's correct. But there -- you have to
6 recognize the fact that in toxicity you have sort of a
7 moving target, and it is always increasing in duration
8 and -- and widening of scope of the various tests.

9 Q Well, there were people who were doing
10 two-year-type studies back in the 50's on chemicals,
11 were there not?

12 A They might have been doing them on food
13 chemicals. I do not recall whether they were doing them
14 on industrial chemicals that were not intended for use
15 in food.

16 Q In any event, you didn't have any such
17 long-term tests done on your PCB materials in the
18 1950's, or even up until 1968?

19 A We -- we had what we considered long-term
20 enough to give us data that we needed for the safe
21 handling of PCBs by our own people and by our customers.

22 Q I see.

23 In taking into account whether or not the
24 experiences of Monsanto employees with regard to PCBs
25 showed that human exposure did not cause problems, did

1 you take into account what protective garments were
2 provided to Monsanto employees?

3 MR. CRAWFORD: Object to the form.

4 A Yes. We -- we knew that they were available.
5 Whether they wore them all the time, I can't be sure.

6 BY MR. LACEY:

7 Q Well, I guess my question is: If all of your
8 employees wore all of the protective clothing all the
9 time, then they never would have contacted any PCBs.
10 Correct?

11 A Well, that is an idealistic situation that
12 rarely occurs in industry, that --

13 Q Well --

14 A -- that they wear all the protective clothing
15 all the time.

16 Q Okay. If your employees had worn all the
17 protective clothing that they were supposed to wear,
18 they wouldn't have contacted the PCBs, would they?

19 A Yes, they could, by inhalation.

20 Q I see. But they certainly would not have had
21 any skin contact, would they?

22 A If they wore gloves all the time and if they
23 wore aprons all the time, no.

24 But that is a situation that you never see in
25 industry. You see people with their gloves in their

1 pockets more than you see them on their hands.

2 Q Let me -- let me ask my question, though: If
3 your people had worn their protective clothing all the
4 time, they never would have had any skin contact with
5 PCBs, would they?

6 MR. CRAWFORD: Well, I object to the
7 form of the question. You haven't
8 established what conditions, what
9 protective equipment. It's -- it's an
10 impossible question to answer.

11 A Well, it --

12 MR. LACEY: No, it's not impossible
13 to answer.

14 A Well, it isn't impossible to answer.

15 But they were not in impervious suits,
16 remember. And there were sprays and leaks that could
17 contact -- contact their clothing.

18 If they had gloves, obviously, they would
19 not -- and wore them all the time, they would not get
20 skin contact with their hands and wrists.

21 That does not mean that there could not be
22 leaks on their shoulders and coveralls and other methods
23 of skin contact.

24 BY MR. LACEY:

25 Q The point is: When you would report to others

1 that in 30 or 40 years of Monsanto's experience you'd
2 had no problems with PCBs, you really didn't know to
3 what extent your people had even come into contact with
4 PCBs, did you?

5 A Yes, we did. I mean, we have had air analysis
6 at times that we knew what they were -- were being
7 exposed to. We had -- had some practical understanding
8 of what industrial workers do, and we that knew that we
9 were not living in a perfect world where people wear
10 protective clothing all the time.

11 Q You assumed that your people didn't wear their
12 protective clothing all the time?

13 A I accepted as a fact that people do not wear
14 gloves all the time, eight hours a day, in a chemical
15 plant.

16 Q That -- that's just part of what the truth of a
17 chemical plant is? Is that what you're saying?

18 A Beg your pardon?

19 Q That's just part of the way a chemical plant
20 works? Is that what you're saying?

21 A Well, that's the way -- it's part of the way
22 workers work.

23 Q And it's not possible for the employer to do
24 anything about that?

25 A Certainly, it's possible for him to do so

1 something about it.

2 Q Well, did you assume that Monsanto did anything
3 to ensure that their people wore their protective gear?

4 A Certainly, they did their best to see that the
5 people wore their protective gear. But that didn't mean
6 that they had a hundred percent success.

7 Q I see. What was the success rate at Monsanto
8 in having workers wear their protective gear?

9 A That, I don't know.

10 Q Did you instruct that the operations people
11 were to make it a -- a matter of priority to ensure that
12 the workers wore their protective gear?

13 A We knew that the priority was high enough,
14 because the workers had no troubles. They had no
15 adverse ill effects from the manufacture of this
16 material.

17 Q And that doesn't tell you what levels they were
18 exposed to or how often that they wore the protective
19 gear, I take it.

20 A As I say --

21 Q That does not tell you how often they wore
22 their protective gear or what extent they were exposed
23 to. Is that correct?

24 MR. CRAWFORD: Well, David, he wasn't
25 down on the floor there every day watching

1 this, if that's what you're asking.

2 A If it's a simple "yes" or "no," the answer is
3 no, it doesn't; because I do not know when spills
4 occurred; I do not know what the people did when spills
5 occurred. So I -- I would have to answer no, it does
6 not tell me.

7 BY MR. LACEY:

8 Q Did you make an effort to ensure that your
9 operations people advised Monsanto employees working
10 with PCBs of the things that might happen to them if
11 they didn't make use of their protective equipment?

12 A Would you repeat that?

13 Q Yes. Did you advise your operations people to
14 instruct Monsanto employees of the types of hazards that
15 they might encounter if they didn't wear their
16 protective equipment?

17 A In some cases, we did. Some, we may not have
18 done.

19 We -- we said that "You have to keep this off
20 of you." "You should" -- "If you do the" -- "If you
21 follow these safety precautions, you will get no ill
22 effect."

23 We didn't say, "If you follow these safety
24 precautions, you won't get this, this, this, and this,"
25 no. We said you would not get any ill effect.

1 Q You didn't --

2 A We did not describe in detail the ill effects,
3 no.

4 Q You didn't tell them, I take it, then, for
5 example, that if they got enough of it, it might kill
6 them.

7 A No, because that was entirely out of the range
8 of probability at these plants.

9 Q You're talking about the Monsanto plants?

10 A That's correct.

11 Q And why was that entirely out of the range of
12 possibilities?

13 A Probabilities, I said.

14 Q Probabilities.

15 A Because we knew that we had precautions there
16 that would prevent it. We -- we knew that we had been
17 operating for years and years and years with not even
18 coming close to this type of an exposure.

19 Q And so you just assumed there wouldn't be any
20 problems in the future?

21 A Well, we assumed our present situation of
22 having no problems would continue.

23 Q Okay.

24 MR. LACEY: Mr. Benignus is supposed
25 to be here now, Walter?

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~~MR. CRAWFORD:~~

MR. CRAWFORD: He'll be here for
lunch, yeah.

MR. LACEY: I'll pass the witness.

(Discussion off the record, and the
deposition was concluded at 12:00 noon)

1 THE STATE OF _____ *

2 *

3 COUNTY OF _____ *

4
5 I, R. EMMET KELLY, M.D., hereby certify that
6 I have read the foregoing transcript of my testimony
7 given in the foregoing numbered and styled case, and
8 that same is true and correct to the best of my
9 knowledge and belief.

10 I further certify that any and all
11 corrections have been made on a separate page and
12 attached hereto.

13 SIGNED on this the _____ day of _____,
14 1987.

15
16 _____
17 R. EMMET KELLY, M.D.

18 SWORN TO AND SUBSCRIBED BEFORE ME on this
19 the _____ day of _____, 1987.

20
21
22 _____
23 Notary Public
24
25

1 THE STATE OF TEXAS *

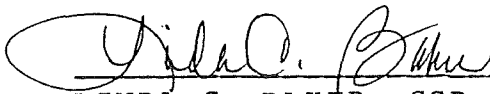
2 COUNTY OF HARRIS *

3
4 I, LINDA C. BAKER, a Certified Shorthand
5 Reporter, hereby certify that the foregoing testimony
6 was given before me after the Witness had been first
7 duly sworn.

8 I further certify that I prepared this
9 transcript and that the foregoing 132 pages constitute a
10 complete and correct copy of the transcript of the
11 proceedings, and that the original is being given to the
12 attorney taking same, to be filed by him if necessary.

13 I further certify that I am neither attorney
14 for, related to, nor employed by any of the parties to
15 the lawsuit in which this deposition was taken; further,
16 I am neither related to nor employed by any attorney of
17 record in this cause, nor do I have a financial interest
18 in the matter.

19 GIVEN UNDER MY HAND AND SEAL OF OFFICE in
20 Houston, Texas, on this the 14 day of June, 1987.

21 

22 LINDA C. BAKER, CSR, RPR

23 Certification Number: 505
24 Date of Expiration: December 31, 1988
25 Address: 2900 Smith Street, Suite 104
Houston, Texas 77006
Phone: 713/523-3767