

1 IN THE COMMONWEALTH COURT OF PENNSYLVANIA
2 PENNSYLVANIA DEPARTMENT OF GENERAL :
3 SERVICES, PENNSYLVANIA DEPARTMENT :
4 OF TRANSPORTATION, PENNSYLVANIA PUBLIC:
5 UTILITY COMMISSION, PENNSYLVANIA :
6 EMERGENCY MANAGEMENT AGENCY and :
7 PENNSYLVANIA DEPARTMENT OF STATE, :
8 Plaintiffs, :
9 - vs - : NO. 284
10 UNITED STATE MINERAL PRODUCTS : M.D. 1990
11 COMPANY, CERTAINTED CORPORATION, :
12 COURTAULDS AEROSPACE, INC., :
13 CHEMREX, INC., PHILIPS ELECTRONICS :
14 NORTH AMERICA CORPORATION, ADVANCE :
15 TRANSFORMER COMPANY and MONSANTO, :
16 Defendants. :

17 CONTINUED DEPOSITION OF CUMMING PATON, PH.D.

18 Friday, June 5, 1998

19 * * *

20 ESQUIRE DEPOSITION SERVICES
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Continued oral deposition of CUMMING
PATON, PH.D., held in the law offices of WHITE AND
WILLIAMS, L.L.P., One Liberty Place, 1650 Market
Street, Suite 1800, Philadelphia, Pennsylvania
19103, on Friday, June 5, 1998, beginning at 9:15
a.m., before Dianne Naulty, a Shorthand Reporter and
Notary Public in and for the Commonwealth of
Pennsylvania.

* * *

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2

3 WITNESS PAGE

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24 * * *

ESQUIRE DEPOSITION SERVICES

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ESQUIRE DEPOSITION SERVICES

1 (It is hereby stipulated and agreed by
2 and among counsel that sealing, certification
3 and filing are waived; and that all
4 objections, except as to the form of the
5 question, are reserved until the time of
6 trial.)

7 * * *

8 CUMMING PATON, PH.D., after having been
9 duly sworn, was examined and testified as
10 follows:

11 * * *

12 E X A M I N A T I O N

13 * * *

14 BY MR. PHALEN:

15 Q. Mr. Paton, my name is Ralph Phalen. I
16 represent the Commonwealth of Pennsylvania in this
17 suit. You're here today to answer a few questions
18 for us. You've been deposed before, so you're
19 probably familiar with the rules, but remember to
20 answer out loud and wait until I get done asking my
21 question before you answer so we're not both
22 speaking at the same time. If you have any
23 questions about my question and it's unclear, let me
24 know; otherwise, I will assume that you understood

1 the question.

2 Okay?

3 A. Okay.

4 Q. Would you state your name and address for the
5 record?

6 A. Yes. My name is Cumming, C-U-M-M-I-N-G,
7 Paton, P-A-T-O-N. My address is 13300 Fairfield,
8 all one word, Circle Drive, Town and Country, three
9 words, Missouri 63017.

10 Q. Mr. Paton, would you just briefly give me
11 your educational background?

12 A. Yes. I got a Bachelor of Science Degree in
13 Chemistry from the University of Aberdeen in
14 Scotland in 1955 and then I proceeded to do a Ph.D.
15 in Chemistry at the same university and graduated
16 with that in 1959, I recall.

17 Q. Have you done any formal education since
18 1959?

19 A. I think I started to do an M.B.A. at Ace
20 Western Reserve in Cleveland but I discontinued
21 that, when I was living and working in Cleveland at
22 the time, and when I moved to Saint Louis, I choose
23 not to pursue it anymore.

24 Q. Would you briefly give me your work history

1 starting from your Ph.D.?

2 A. I joined Monsanto and Wales and the U.K. and
3 stayed with them for --

4 Q. What year was that? '59?

5 A. That would have been '59. And I stayed with
6 them until the latter part of 1962. Then I went to
7 work for the Geigy Company, that's G-E-I-G-Y, in
8 Manchester, England. I worked with them until 1964
9 when I came to the United States.

10 Q. Where did you go in 1964?

11 A. In 1964 I came to the United States working
12 for a company in Ohio called Diamond Alkali,
13 D-I-A-M-O-N-D, A-L-K-A-L-I.

14 Q. If you just work up until the time you
15 retired.

16 MR. PENDERGAST: I'm going to object.
17 This was summarized in Pages 9 through 11 in
18 Mr. Paton's prior deposition.

19 MR. GOUTMAN: I'm aware of that and I
20 assume this will be brief and, therefore, I
21 won't interpose an objection.

22 MR. PHALEN: Yes.

23 THE WITNESS: What did I say, in 1964 I
24 came to the States? Is that what I said?

1 MR. GOUTMAN: Yes.

2 THE WITNESS: Then in 1966 I rejoined
3 Monsanto Company in Saint Louis and I was
4 with them until I retired at the end of
5 1991.

6 BY MR. PHALEN:

7 Q. Did you remain in Saint Louis the whole time?

8 A. No. I spent six years in Brazil from 1979
9 until 1985. I was in Korea from 1987 until the end
10 of 1990.

11 Q. You were in Saint Louis from 1966 through
12 1979?

13 A. Yes.

14 Q. And then when did you retire?

15 A. I retired the end of 1991.

16 Q. Mr. Paton, today's deposition is going to
17 focus on your work or contact with PCBs while you
18 were employed by Monsanto.

19 A. Yes.

20 Q. When did you first begin to work with PCBs?

21 MR. GOUTMAN: Objection to the form.
22 You may answer.

23 THE WITNESS: I would have become
24 involved with PCBs when I was with Monsanto,

1 and I think it probably would have been the
2 beginning of 1968.

3 BY MR. PHALEN:

4 Q. What was your first contact or relation with
5 PCBs?

6 A. At the beginning of 1968 I was appointed
7 market manager in a group of products known as
8 plasticizers and a group of products for which I had
9 business responsibility PCBs for plasticizer use was
10 one of them.

11 Q. How are PCBs used in plasticizers?

12 A. They were used as additives to modify various
13 plastics and give the formulation of certain
14 characteristics that the customers were looking for.

15 Q. Do you recall any of the customers that
16 purchased PCBs for plasticizer use?

17 MR. GOUTMAN: Objection. Overly
18 broad. You can answer it if you can.

19 THE WITNESS: Yes, that is a very broad
20 question because plasticizers -- the group
21 was really -- the term was an umbrella for
22 most of the products and sometimes products
23 were used where they weren't actually
24 plasticizing anything and I think that

1 certainly applied to PCBs.

2 BY MR. PHALEN:

3 Q. Were you aware of how the customers used the
4 PCBs?

5 A. In general terms.

6 MR. GOUTMAN: Excuse me. Objection.

7 Overly broad. Answer it if you can. I think
8 you just did, in general terms.

9 BY MR. PHALEN:

10 Q. Do you recall when you first heard of
11 potential problems with PCBs?

12 MR. GOUTMAN: Objection. Overly
13 broad. You can answer.

14 THE WITNESS: No. I don't understand
15 the question because I have a problem since
16 it's a very vague word.

17 BY MR. PHALEN:

18 Q. Environmental concerns.

19 A. Again, environmental concerns is somewhat
20 broad.

21 Q. What is it about the term environmental
22 concerns that you don't understand or that seems
23 broad to you?

24 A. Well, the word "concerns," again, it's

1 vague.

2 Q. Okay. How about environmental problems?

3 A. That's also vague, "problems."

4 Q. How about pollution problems relating to
5 PCBs?

6 A. That's a phrase that I can't recall.

7 Q. When was the first time that you learned of
8 PCBs being found in animals?

9 A. I'm not sure I ever heard of them being found
10 in animals.

11 Q. You're not aware of pollution problems
12 relating to PCBs?

13 MR. GOUTMAN: Objection. Overly
14 broad.

15 THE WITNESS: This is covering a long
16 period of time.

17 MR. GOUTMAN: Are you referring to
18 Yensin and Winmark (ph)?

19 MR. PHALEN: That's part of it, yes.

20 MR. GOUTMAN: Why don't you ask him
21 that besides, quote, pollution.

22 MR. PHALEN: Well, pollutants and
23 pollutions are the terms used in these
24 documents. That's why I'm asking him those

1 terms.

2 MR. GOUTMAN: Maybe you should show him
3 the document. If you show him the document,
4 perhaps he'll know what you're referring to.

5 MR. PHALEN: I'll get to that.

6 BY MR. PHALEN:

7 Q. You're not aware of the term pollution
8 problems? Pollution concerns is too broad for you
9 to understand or answer?

10 A. It's too broad in relating it to PCBs.

11 MR. PHALEN: Let's mark this as
12 Paton-9.

13 * * *

14 (Letter was marked as Paton-9 for
15 identification by the court reporter.)

16 * * *

17 BY MR. PHALEN:

18 Q. Mr. Paton, Paton-9 is Bates stamped MONS
19 097094.

20 MR. GOUTMAN: Take a second and read
21 it.

22 BY MR. PHALEN:

23 Q. Mr. Paton, have you ever seen this document
24 before?

1 A. I don't dispute that I probably wrote it back
2 in, what, 1968.

3 Q. It appears to be a letter or a memo from you
4 dated June 18, 1968 to Dr. R. Emmett Kelly. Is that
5 correct?

6 A. Well, it's to W.R. Richard.

7 Q. Okay. Is it cc'd to Dr. R. Emmett Kelly?

8 A. Yes.

9 Q. It says they are studying pollutants in Lake
10 Michigan and believe they have found PCBs. Do you
11 see that?

12 A. Yes.

13 Q. Is 1968 the first time that you became aware
14 of PCBs being discovered or being referred to as
15 pollutants or being found in the environment?

16 MR. GOUTMAN: Objection. Compound. Do
17 you want to break that down?

18 BY MR. PHALEN:

19 Q. When is the first time that you were aware of
20 PCBs being found in the environment?

21 A. Sometime in 1968 it was alleged to be found
22 at that time.

23 Q. Subsequently it was confirmed that they were
24 found in the environment, correct?

1 A. I think so, but, you know, I'm not an expert
2 to say yes or no definitely.

3 Q. Did you not ever see any documentation that
4 would have supported that?

5 A. I've seen --

6 MR. GOUTMAN: Excuse me. Supported
7 what?

8 MR. PHALEN: Supported that PCBs were
9 found in the environment.

10 THE WITNESS: I've seen papers that
11 have been written, allegations made. I'm not
12 the person who can say I'm absolutely sure if
13 they were or were not.

14 BY MR. PHALEN:

15 Q. So you're not trying to dispute the documents
16 or papers that were written?

17 A. No. Well, it depends on what's in them.

18 MR. GOUTMAN: Objection. What
19 documents or papers that were written?

20 MR. PHALEN: Documents or papers
21 concerning pollution or PCBs in the
22 environment.

23 THE WITNESS: I'm not sure that I've
24 seen all of them or I'm aware of all that

1 were written.

2 BY MR. PHALEN:

3 Q. I understand you're probably not aware of all
4 of them that were written, but there were numerous
5 documents discussing PCBs in the environment,
6 correct?

7 MR. GOUTMAN: Monsanto is not
8 contending that PCBs were not found in the
9 environment.

10 MR. PHALEN: I'm trying to establish
11 what he knew and when he knew them.

12 THE WITNESS: I'm not disputing that I
13 didn't get a call from this lady in the
14 Bureau of Commercial Fisheries in Michigan
15 saying she's studying pollutants and that
16 they found PCBs in Lake Michigan, but I think
17 it is a bit of a leap from what's in here to
18 say that, therefore, PCBs are pollutants.

19 BY MR. PHALEN:

20 Q. I was just trying to find out when you first
21 became aware that there was a concern.

22 A. I was aware that these things were being
23 alleged sometime in 1968.

24 Q. Are you aware of studies being conducted by

1 Monsanto regarding the toxicity or possible toxicity
2 of PCBs?

3 A. I think they had done some work on that or
4 did some work on it. I was not the person who was
5 responsible for doing the work.

6 Q. Were you aware that work was being done?

7 A. I was aware that work was being done, yes.

8 Q. What work was being done?

9 A. At this point in time we're going back 30
10 years. It would be impossible for me. I cannot
11 recall exactly what was being done.

12 Q. Can you recall what the results of the
13 studies were?

14 A. I would not be in a position to give you any
15 accurate description of the results.

16 Q. Do you recall whether PCBs were considered to
17 be a health hazard?

18 MR. GOUTMAN: Objection. By whom?

19 MR. PHALEN: By Monsanto.

20 MR. GOUTMAN: When?

21 MR. PHALEN: In 1968.

22 THE WITNESS: My recollection is that
23 if people got exposed to large quantities of
24 them, got PCBs all over their skin for

1 extended periods of time, there was a
2 possibly they could get, as I recall,
3 chloracne. That, I think, is the extent of
4 my knowledge of what the problems with PCBs
5 would be.

6 BY MR. PHALEN:

7 Q. How about breathing PCBs fumes?

8 A. Breathing PCBs fumes? Where? When?

9 Q. Was breathing PCBs fumes considered a
10 possible health hazard?

11 A. I don't know. Again, I think that would
12 depend on the concentration, the length of exposure
13 and a whole lot of other factors.

14 Q. So you said you don't recall any of the
15 toxicity testing or any of the results of the
16 toxicity testing?

17 A. I was aware that it was being done. We're
18 talking things that happened 30 years ago. You
19 know, I'm not trying to be difficult or evasive. I
20 just cannot recall, and I think rather than hazard
21 guesses, I better just say I can't recall.

22 Q. Do you recall when Monsanto first began to
23 consider phasing out the sale of PCBs?

24 MR. GOUTMAN: You mean anyone at

1 Monsanto?

2 MR. PHALEN: I mean when he became
3 aware of discussions inside Monsanto about
4 phasing out PCBs.

5 MR. GOUTMAN: Okay. You can answer.

6 THE WITNESS: I think -- I don't think
7 I was in the plasticizer group when I became
8 aware that that was being actively
9 considered. I may be wrong, but my best
10 recollection is that it was probably sometime
11 in 1970.

12 BY MR. PHALEN:

13 Q. When did you leave the plasticizer group?

14 A. I left the plasticizer division I think in
15 early 1970 to the best of my recollection and
16 knowledge.

17 Q. Where did you go from there?

18 A. I was promoted as a market manager for
19 responsibility for organic chemicals, sales, in
20 Latin America, for Latin America.

21 Q. Do you recall why Monsanto began considering
22 phasing out the sale of PCBs?

23 MR. GOUTMAN: Same objection. You can
24 answer.

1 THE WITNESS: Since I was in a new job
2 in 1970, I would not have been privy or part
3 of the decision or discussion process
4 regarding that.

5 BY MR. PHALEN:

6 Q. So you were not aware of why they began to
7 consider phasing out PCBs?

8 A. I was not a direct party to these
9 discussions. I probably did hear things second or
10 third hand or communicated with things in connection
11 with my new job, but at this late stage I cannot
12 remember what these factors were.

13 Q. You can't recall any reason why they
14 eventually completely stopped selling PCBs?

15 MR. GOUTMAN: That wasn't your
16 question.

17 THE WITNESS: That's a later situation,
18 I think.

19 BY MR. PHALEN:

20 Q. When did you become aware of why they were
21 going to stop selling PCBs?

22 A. I think in the first stage, which I believe
23 it was plasticizers they stopped first, I would have
24 heard it after I moved out of the plasticizer

1 division and had been told we're planning to do this
2 and I can't remember if that applied to Latin
3 America or not, immediately. I can't recall that.

4 Q. What were you told about why they were
5 planning to do that?

6 A. I can't at this stage recall what exact
7 reason I was given back then.

8 Q. Do you know now why they stopped selling
9 PCBs?

10 A. You mean PCBs totally or PCBs in
11 plasticizers?

12 Q. Let's do totally first.

13 MR. GOUTMAN: That's overly broad. You
14 can answer it if you can. Objection.

15 THE WITNESS: Well, the discontinuation
16 of products I think took place in several
17 stages. I think plasticizers, if I recall,
18 were first and I think they moved to heat
19 transfer fluids, which I was involved in,
20 hydraulic fluids, and I can't recall if I was
21 -- I think -- I can't recall if I had
22 responsibility for hydraulic fluids when they
23 began to phase them out or totally phased
24 them out. Again, I would have to see some

1 documents to check them. Then there was
2 dielectrics which I was involved in. No.
3 Wait a minute. Dielectrics, I think I -- I'm
4 not sure I was actually responsible for PCBs
5 at that time because I think that came in
6 1977 or some sort of time. Again, I'm a
7 little fuzzy on dates.

8 BY MR. PHALEN:

9 Q. I'm asking you the reason for why they began
10 phasing them out as opposed to when.

11 A. I can't speak to the exact reasons that led
12 to their decision on plasticizers. I can on heat
13 transfer fluids.

14 Q. Do you believe there was a difference?

15 MR. GOUTMAN: Objection. He said he
16 couldn't as to plasticizers, so how could he
17 say if they're different?

18 BY MR. PHALEN:

19 Q. Do you know if there was a different reason
20 for phasing out plasticizers versus phasing out
21 dielectric fluids?

22 MR. PENDERGAST: Objection. He said
23 heat transfer fluids.

24 THE WITNESS: The applications are so

1 different that there could be different
2 reasons.

3 BY MR. PHALEN:

4 Q. What reasons were you given for the phasing
5 out of PCBs in dielectric fluids?

6 MR. GOUTMAN: I think he said he knew
7 about heat transfer fluids.

8 MR. PHALEN: Heat transfer fluids.

9 THE WITNESS: In the case of heat
10 transfer fluids they were considered closed
11 systems because you use them to heat up tanks
12 or heat equipment or heat other materials,
13 and the idea of using them is obviously to
14 keep them contained so they circulate in some
15 fashion. I think one incident that took
16 place sometime, I'm guessing, in 1971
17 involved some company that was making chicken
18 feed, I believe, and was heating it and there
19 was a leak and it got into the chicken feed.
20 That, therefore, called into question whether
21 or not heat transfer systems were truly
22 closed. They were closed in the context that
23 they were designed to be closed, but whether
24 operators, the maintenance, was not carried

1 out or whatnot, I don't know, but it clearly
2 proves that leaks can occur. Then they
3 weren't open anymore, and I think -- you
4 know, you wouldn't want to contaminate food
5 with any chemical, PCBs or anything else,
6 and, therefore, if you have a situation where
7 people are alleging that this kind of
8 contamination is unacceptable, et cetera, et
9 cetera, then you got to see, well, can you
10 ensure that it can't happen again, and since
11 the responsibility for keeping systems closed
12 laid totally outside of Monsanto's
13 responsibility, you have to start questioning
14 how long you could, you know, have this sort
15 of a situation where you'd be getting adverse
16 publicity of your product that leaked. The
17 focus was more on that than it was more of a
18 problem as to why it occurred. I think for
19 some time we tried to differentiate between
20 things that would be considered food related
21 and those that weren't, but you would have a
22 difficult time policing that because you
23 don't know necessarily what your customers
24 are doing with these products.

1 BY MR. PHALEN:

2 Q. Okay. You said you left the plasticizer
3 group in early 1970. Were there discussions about
4 phasing out PCBs use in plasticizers prior to the
5 time that you left?

6 A. I cannot recall specifically. It could have
7 been, but it would be the early stages of saying
8 what do we do about certain things. I cannot recall
9 specifics. I'm not denying there weren't. I
10 honestly cannot recall.

11 Q. Do you recall if one of the reasons they
12 phased out PCBs was because of the failure of PCBs
13 to degrade in the environment?

14 MR. GOUTMAN: Objection to the form.
15 You can answer it.

16 THE WITNESS: I don't know if that
17 would have been at that point in time, how
18 much work would have been done at that point
19 in time in that issue.

20 BY MR. PHALEN:

21 Q. The issue of biodegradability?

22 A. Yes, the issue of biodegradability. I think
23 clearly the reason that the PCBs were used in many
24 applications was because it had fire resistance

1 which was used to protect property and people and
2 the advantage of a particular product that had fire
3 resistant attributes was that it was stable and it
4 didn't breakdown. There's a positive side of that
5 degrading and that was a reason that customers
6 evaluated and chose to use it.

7 Q. But you don't recall if that was one of the
8 reasons for phasing out PCBs?

9 MR. GOUTMAN: Objection. Again, overly
10 broad as to which PCB product at what time.
11 You can answer it if you can.

12 THE WITNESS: Yes. Again, I think that
13 PCBs refers to a family of products. You
14 can't take one polychlorinated by-product and
15 say they're all the same. You'll get further
16 muddy later when government agencies and
17 other agencies that got active in the
18 situation even said a monochlorified family
19 was a polychlorified family. A lot of people
20 aren't accurate in what they describe.

21 MR. PHALEN: Let's mark this as the
22 next exhibit.

23 * * *

24 (Memo was marked as Paton-10 for

1 identification by the court reporter.)

2 * * *

3 BY MR. PHALEN:

4 Q. Mr. Paton, Exhibit Paton-10 is dated October
5 14, 1971. It appears to be from Cumming Paton to
6 numerous individuals. It's Bates stamped MONS
7 098558 through 098561. Look at that and tell me if
8 you've ever seen it before.

9 A. Again, I don't deny that I was the author of
10 this memo.

11 Q. If you go down towards the bottom of the
12 first page where it says customer notification, do
13 you see that?

14 A. Yes.

15 Q. Earlier I asked you about PCBs causing
16 pollution and you told me that was too broad for you
17 to answer.

18 A. I think what you asked me had to do with a
19 date when I became aware of it. I think we were
20 talking about sometime in 1968 at that point in
21 time. This memo I think is several years beyond
22 that.

23 Q. Right. It says, a letter on the pollution
24 aspects of PCBs will be sent to customers. Do you

1 see that?

2 A. Yes.

3 Q. Do you recall sending a letter to customers
4 on the pollution aspects of PCBs?

5 A. I can't recall if a letter went out over my
6 name or not.

7 Q. Do you recall if a letter went out over
8 anyone's name concerning the pollution aspects of
9 PCBs?

10 A. Certainly on October 14th the intention was
11 to do it, and I think it may well have gone out,
12 but, again, I can't say for sure.

13 Q. Do you recall what you meant when you said
14 the pollution aspects of PCBs?

15 A. Not all that would have been involved in it,
16 I'm sure.

17 Q. How about any of the pollution aspects of
18 PCBs?

19 A. I think I would have referred to
20 allegations. Again, as I've been giving depositions
21 it helps to refresh my memory. I don't know if by
22 then the EPA got involved and there was any federal
23 register mention made of the products. I cannot
24 recall if there had been. I think that would have

1 been some of the things that might have been
2 included in such a letter.

3 Q. Do you recall what the pollution concerns
4 were at this time that you needed to notify
5 customers?

6 A. I cannot at this point in time recall
7 specifically what they were, whether they were
8 allegations, that buildup of articles and the media,
9 or what else there was. And, again, I'm not trying
10 to evade answering your question.

11 Q. Do you recall what the inability to
12 biodegrade was of the pollution concerns regarding
13 PCBs?

14 MR. GOUTMAN: Objection.

15 THE WITNESS: At some point, and I
16 don't know if it was at this point in time or
17 not, there were discussions about if PCBs got
18 into the environment what happened and what
19 would be the results of that, and the term, I
20 think, bioaccumulation is one that I recall
21 started coming into our vocabulary, and if
22 things broke down very readily, then I think
23 it's fair to say that they would not be able
24 to build up to a great extent over a long

1 period of time, and so then I think that's
2 when the issue of the fact that PCBs consist
3 of different products or different PCBs,
4 different degrees of chlorination, that
5 related to the extent, the rate, of
6 biodegradation, then this would be a factor.

7 BY MR. PHALEN:

8 Q. So you don't know what any letter would have
9 said that would have gone out?

10 A. I cannot remember. If you showed me a copy
11 of the letter, it would probably refresh my memory,
12 but I cannot recall the specifics of what this
13 letter said.

14 MR. GOUTMAN: Mr. Phalen, we produced
15 those letters, as you know, in discovery.
16 Perhaps you can show the witness to refresh
17 his recollection.

18 BY MR. PHALEN:

19 Q. Do you know if this letter went out to all
20 current customers who were buying PCBs at that time?

21 A. I cannot say for sure. The way I've written
22 this memo I'm talking about dielectrics, and this is
23 one part of that, and I go onto heat transfer fluids
24 and I go onto something else. We said if we didn't

1 plan notification of process fluids here, I see, so
2 I'm piecing together from what I wrote 27 years ago
3 that the customer notification here on Page 1 refers
4 specifically to dielectrics, but, again, I could
5 stand corrected if I saw the letter.

6 Q. Do you recall if at this time, October 14,
7 1971, Monsanto had stopped selling PCBs for any uses
8 at that point?

9 A. Possibly plasticizers. I think they probably
10 had for plasticizers.

11 Q. Do you know if this letter on pollution
12 aspects of PCBs would have been sent to former
13 plasticizer customers?

14 A. I can't say for sure if this particular
15 letter that you're referring to on Page 1 had been
16 sent. If we had discontinued plasticizers, which I
17 think we had by October 14th of '71, then I feel
18 sure that some communication had been given to all
19 customers at that time, but, again, I was not in the
20 plasticizer group at that point in time. In fact, I
21 obviously had just come back into product areas
22 using PCBs. I thought it was early '72 but it looks
23 like it was the latter part of '71 from this memo.

24 Q. So you don't know if any letter concerning

1 pollution aspects of PCBs would have been sent to
2 plasticizer customers?

3 MR. GOUTMAN: Objection. Those letters
4 have been provided. You have copies of those
5 letters.

6 MS. MEYERS: There is detailed
7 testimony about the letters and the dates
8 when they were sent in the deposition of Mr.
9 Papageorge and the dates are on the letters
10 and I have copies of the letters with me.

11 MR. PHALEN: Let Mr. Paton answer the
12 questions.

13 MR. GOUTMAN: You want his recollection
14 as to whether the plasticizer companies,
15 companies using PCBs as plasticizers,
16 received the kinds of letters referred to
17 under dielectrics in this document?

18 MR. PHALEN: Any letters concerning the
19 pollution aspects of PCBs.

20 THE WITNESS: I cannot say for sure
21 because for a period of almost two years I
22 was involved in plasticizers. PCBs were part
23 of the product group that I was working in
24 from early '68 until sometime in early 1970

1 and then there was a gap and I came back and
2 got involved in PCBs again in the latter part
3 of 1971. Between leaving the plasticizer
4 group in the early '70s and coming back, I
5 think the products were discontinued. I
6 cannot say what letters went out when I
7 wasn't there or what they said.

8 BY MR. PHALEN:

9 Q. All I wanted to know is what you knew.

10 A. Okay.

11 Q. Mr. Paton, do you recall when Monsanto began
12 putting warning labels or issuing warning labels
13 with their PCB products?

14 A. What kind of warning labels are you talking
15 about?

16 Q. Any warning labels. Let's start there.

17 A. On the products? You mean on the
18 containers?

19 Q. On the containers that they sold PCBs or
20 literature or anything.

21 A. Well, I think that in our bulletins there had
22 been statements referring to what I said earlier
23 about chloracne and so on. I think we're getting
24 bulletins that I would have seen when I joined the

1 plasticizer group in 1968. I don't know -- I can't
2 remember if that statement would have gone on a
3 label on a drum or not. I think it may well have,
4 but I can't say for sure. I do recall at some point
5 in time, and I think it was probably after 1971,
6 that there was a discussion, and I think it was
7 carried out, that there should be additional
8 statements made and put on labels, and I recall
9 working with someone in distribution whose job it
10 was to be aware of what governmental requirements
11 were on labeling. I think by then the European
12 union was starting. They had some requirements on
13 labeling and I seem to remember discussions and me
14 being involved in trying to determine what was
15 required to satisfy U.S. regulations and satisfy the
16 regulations of other countries and to try to get
17 some degree of coordination to gather that. Yes,
18 there were new labels added or new messages added.
19 The details now escape me. Does that answer your
20 question?

21 Q. Kind of.

22 MR. PHALEN: Let's mark this as the
23 next exhibit.

24 * * *

1 (Memo was marked as Paton-11 for
2 identification by the court reporter.)

3 * * *

4 BY MR. PHALEN:

5 Q. Mr. Paton, Paton-11 is a document dated April
6 27, 1972 from Cumming Paton. The subject is PCB
7 labeling and warnings. It's Bates stamped MONS
8 098318 through 098323. Mr. Paton, did you review
9 any documents in preparation for this deposition?

10 A. Yes. Some. Yes.

11 Q. Some?

12 A. Yes. Obviously I can't answer that I seen
13 all that you're going to show me, but I saw some.

14 Q. Have you seen the ones that we looked at so
15 far?

16 A. I think, yes. This one I'm not sure. I
17 think we talked about this though.

18 MR. GOUTMAN: You're not allowed to
19 talk about what we talked about. It's what
20 you call attorney/client privilege.

21 THE WITNESS: Let me look at this.

22 MR. GOUTMAN: Do you want him to read
23 this stuff?

24 MR. PHALEN: You can read it all.

1 MR. PENDERGAST: There's a pending
2 question as to whether he reviewed this
3 yesterday.

4 THE WITNESS: I don't think that I
5 actually looked at this particular memo
6 yesterday.

7 BY MR. PHALEN:

8 Q. I'm going to ask you about Attachment A. It
9 says bill of lading notice - drum shipments. Do you
10 see that?

11 A. Yes.

12 Q. The second sentence says, extreme care should
13 be taken to prevent any entry to the environment
14 through spills, leakage, disposal, vaporization or
15 otherwise. Do you see that?

16 A. Yes.

17 Q. Can you explain to me what vaporization is?

18 A. It would mean that if you would have heated
19 the product up to such an extent that it was no
20 longer a solid or a liquid, that you were forming
21 the vapor like if you did water. You get steam.
22 This would be the case with PCBs at very high
23 temperatures.

24 Q. What's the difference between vaporization

1 and volatilization, if any?

2 A. Oh, God. You're looking at someone who is
3 forgetting more than he remembers. Volatilization
4 can occur sometimes at normal temperatures. It can
5 occur if you're blowing air or strong winds can
6 volatilize. Vaporization is usually, in my mind at
7 least, associated with heating it up to deliberately
8 drive off, convert it, from a liquid to a solid into
9 a vapor for some reason.

10 Q. So to you volatilization would be something
11 that happens without heat and --

12 A. It would need some heat, but, you know, the
13 high vaporization in my mind is a deliberate
14 application of heat to drive it in that direction.

15 Q. So here it says disposable, vaporization or
16 otherwise. To you that would mean it would have to
17 be a deliberate application of heat?

18 A. Vaporization, yes, I think.

19 Q. Do you know if Monsanto contacted or sent in
20 any letters or warnings to plasticizer customers
21 warning them that vaporization or volatilization
22 could result in PCBs entering the environment?

23 MS. MEYERS: Objection to the form of
24 the question.

1 MR. GOUTMAN: Objection. It's compound
2 and it assumes a scientific fact that has not
3 been established and there's no foundation
4 that has been laid with this witness to
5 answer that question. You can answer it if
6 you can, if you remember what it is.

7 THE WITNESS: I can't really answer
8 it.

9 MR. GOUTMAN: If you remember what the
10 question was.

11 THE WITNESS: Well, maybe we should
12 read it just to refresh my memory, the
13 question again.

14 * * *

15 (Whereupon, the reporter read back
16 from the last record.)

17 * * *

18 THE WITNESS: I can't say for sure if
19 they did or didn't, but at the same time I
20 would say that customers using products would
21 be aware of that fact on their own. I think
22 that was a fairly basic thing that they would
23 know.

24 MS. HERSCHEL: Mr. Phalen, I'm a

1 newcomer. Is there an agreement that an
2 objection by one defendant is an objection by
3 all?

4 MR. GOUTMAN: I think that's an
5 agreement that we had throughout this
6 litigation.

7 MR. PHALEN: That would be fine.

8 MS. HERSCHEL: Thank you. Sorry to
9 waste your time.

10 MR. PHALEN: That's all right.

11 BY MR. PHALEN:

12 Q. If you then turn to Attachment C where it
13 says precautions, and it says avoid breathing
14 vapors, mists or fumes. Do you see that?

15 A. Oh, yes, precautions.

16 Q. It says vapors, mists or fumes. Would that
17 be the vapors that would be given off during
18 vaporization?

19 A. During vaporization or heating.

20 Q. Or volatilization?

21 MR. GOUTMAN: Objection.

22 THE WITNESS: I think vapors, mists,
23 fumes, however these were.

24 BY MR. PHALEN:

1 Q. So whether they were created by vaporization
2 or volatilization or some other method, would it be
3 the same warning?

4 MR. GOUTMAN: Objection. Overly
5 broad. This document doesn't say anything
6 about volatilization.

7 MR. PHALEN: It says vapors, mists or
8 fumes.

9 MR. GOUTMAN: Does that refer to
10 volatilizing?

11 MR. PHALEN: If a vapor, mist or fume
12 could be produced by vaporization or
13 volatilization.

14 MR. GOUTMAN: That hasn't been
15 established.

16 MR. PHALEN: I'm asking if you're to
17 avoid breathing a vapor, mist or fume if that
18 would apply in any way that a vapor, mist or
19 fume would be created --

20 THE WITNESS: Probably, but I'm not
21 sure.

22 BY MR. PHALEN:

23 Q. Is there some method that a vapor, mist or
24 fume would be created where this warning wouldn't

1 apply?

2 A. I can't answer that. That would be people
3 more technically involved than I am.

4 Q. Do you recall at some point Monsanto set up a
5 disposal facility to handle the disposal of PCBs?

6 A. If you're referring to -- are you referring
7 to an incineration facility?

8 Q. If that's a disposal facility, yes.

9 A. I recall there was an incineration facility
10 established at some point.

11 Q. Do you recall why it was established?

12 A. I think it had to do with the time when we
13 ceased selling PCBs for any heat transfer
14 applications and when we were encouraging customers
15 to change them to non-PCB heat transfer materials we
16 said that for a specific period of time they could
17 send those PCBs back to us and we would incinerate
18 them. I think for a certain time we wouldn't charge
19 and after a certain time we would charge for a cost
20 of the incineration.

21 Q. Do you recall when they stopped selling PCBs
22 for heat transfer?

23 A. I think it was early 1972. I can't say I'm
24 100 percent sure. That's my recollection.

1 Q. Were these offers to dispose the PCBs only
2 made to heat transfer customers?

3 A. I can't recall. I think I was made aware of
4 it and I accepted it from others. You know, I'm a
5 little hazy on that note.

6 Q. Do you recall if it was only for PCBs' oils
7 or PCBs' fluids?

8 A. It was primarily for PCBs, but if customers
9 were cleaning out systems such as you would get in
10 heat transfer systems or hydraulic systems, they
11 might have flushed, you know, with non-PCB fluid
12 before they put in the new fill and some of that
13 flushing fluid came back and contaminated the PCBs.

14 Q. How about a product that contained PCBs?

15 MS. HERSCHEL: Objection to the form.

16 THE WITNESS: Well, I thought that I
17 indicated that the incinerator was set up
18 primarily to use PCBs. The PCBs are most
19 difficult to incinerate because you need a
20 higher temperature to break down. If you put
21 other oils in them, they would burn them much
22 more easily.

23 BY MR. PHALEN:

24 Q. So a customer who manufactured a product that

1 contained PCBs could send it to Monsanto for
2 disposal?

3 A. What kind of product are you talking about?

4 Q. A plasticizer product, for instance.

5 MS. HERSCHEL: Objection to the form.

6 MR. PHALEN: Like caulk, duct work,
7 something like that.

8 MS. HERSCHEL: Same objection. I don't
9 think that the incinerator would be able to
10 handle that. I think the incinerator was
11 dealing more with, you know, liquids and
12 injecting that into the incinerator to try to
13 burn it as quickly as possible. So I
14 don't -- I'm almost certain that it wasn't
15 set up to handle some materials.

16 BY MR. PHALEN:

17 Q. So the offer to customers to dispose of PCBs
18 was for PCBs' oils versus a product containing PCBs?

19 A. Now that you pursue this question further and
20 I think about it, I think almost certainly, yes.

21 Q. Do you know if --

22 A. That's my recollection anyway.

23 Q. Do you know if Monsanto made offers to any of
24 their other customers to help them dispose of the

1 products containing PCBs?

2 A. I can't recall any specifics because I don't
3 think we were in a position to get specifics. I
4 think the letters that I recall talk about the need
5 for them to dispose of it and the way that they did
6 it and how to do it.

7 MR. PHALEN: Let's mark this as the
8 next exhibit.

9 * * *

10 (Letter was marked as Paton-12 for
11 identification by the court reporter.)

12 * * *

13 BY MR. PHALEN:

14 Q. Mr. Paton, Exhibit 12 is a letter dated
15 September 11, 1973. It appears to be from Mr.
16 Papageorge to Mr. George Blacklock. It's Bates
17 stamped MONS 094428 and 094429. It says that you
18 got a carbon copy of this letter.

19 A. Yes.

20 Q. Do you recall having seen this letter before?

21 A. No.

22 Q. Do you have any reason to believe that you
23 wouldn't have gotten a copy of this?

24 A. No, I'm not disputing that at all.

1 Q. If you go to the last paragraph of the first
2 page it says, the program which Monsanto voluntarily
3 implemented worldwide consisted of a planned
4 termination of sales to those applications in which
5 control of escape to the environment was
6 impractical. Do you see that?

7 A. Yes.

8 Q. Do you know what that means, control of
9 escape to the environment was impractical?

10 A. I cannot speak to what Mr. Papageorge meant
11 exactly by that.

12 Q. What would that mean to you?

13 A. To me it would say that it was impractical
14 because of, as I indicated earlier, how the product
15 was used and what steps were taken to make sure that
16 it didn't escape the environment. It was really
17 outside of our control.

18 Q. Is that because Monsanto really didn't have
19 any way to know how all their customers used the
20 PCBs?

21 A. That would be part of it, but the other part,
22 as I indicated earlier, is where it went into the
23 equipment and that would be the maintenance of that
24 equipment to make sure that no leaks and so on were

1 occurring. It was something in which we were not in
2 any way involved in and in many cases customers did
3 not tell us what they were doing with the product.

4 MR. PHALEN: That's all I have.

5 * * *

6 BY MR. PENDERGAST:

7 Q. Mr. Paton, my name is John Pendergast. I
8 represent Chemrex in this lawsuit and I have some
9 questions for you which are follow-ups to some of
10 the questions that you were asked near the end of
11 your prior deposition.

12 First I'd like to ask you, have you had
13 a chance to review your prior deposition?

14 A. Yes. I reviewed it when it came from the
15 court reporter.

16 Q. Have you reviewed it more recently in
17 preparation for your deposition today?

18 A. No, I didn't.

19 Q. Now, as I understand it, you were head of the
20 plasticizer division between 1968 and sometime in
21 early 1970. Is that right?

22 A. I was a market manager in that division.

23 Q. Who headed that division?

24 A. There was a product manager called Walter

1 Wakeoff (ph), and I can't recall who the general
2 manager was. I can't now recall the actual
3 reporting relationship beyond that.

4 Q. As marketing manager was it part of your duty
5 to understand the uses of the plasticizer products?

6 MR. GOUTMAN: Objection to the form.

7 You may answer.

8 THE WITNESS: Well, it depended. In
9 some cases I did know what they were being
10 used for and others I didn't. I would have a
11 general idea in what applications they might
12 be used for. It was a case of maybe having a
13 broader knowledge but then not being able to
14 know exactly what the specifics were because
15 some customers choose not to divulge what
16 they were doing with it and others would ask
17 for help, and when they did that, then we had
18 an opportunity to know more of what they were
19 doing.

20 BY MR. PENDERGAST:

21 Q. Did Monsanto have product literature they
22 used to advertise the various uses of its
23 plasticizer products?

24 A. They had product literature which would

1 probably give in general terms the kind of uses for
2 the products. They gave properties and from that
3 they might say.

4 Q. Were you aware while you were head of
5 marketing with the plasticizer division of Monsanto
6 that Aroclor was being used in polysulfide sealants?

7 A. By coincidence I knew of that from the work I
8 did with Diamond Shamrock which predated my joining
9 Monsanto in Saint Louis.

10 Q. What was your relationship with Diamond
11 Shamrock --

12 A. They had developed a type of polysulfide
13 product by the time I joined them and I was -- I
14 joined them as head of the technical service for
15 those new products, and in trying to formulate them
16 I recall that we tried to incorporate some articles.

17 Q. What property of Aroclors was perceived as
18 useful in incorporating them into polysulfide
19 sealants?

20 MR. GOUTMAN: Objection. By whom?

21 MR. PENDERGAST: By Diamond Shamrock.

22 THE WITNESS: They were used -- they
23 thought that polysulfides would find a use in
24 the general adhesive and sealants and,

1 therefore, they were finding ways. I think
2 one way was to see if you had a polysulfide
3 it might be tougher and more brittle than
4 plasticizers that would have an effect in
5 making it more flexible and also improving
6 its adhesion to other materials.

7 BY MR. PENDERGAST:

8 Q. So the properties were to enhance flexibility
9 and adhesion?

10 A. That's my recollection.

11 Q. Was the same true when you went over to
12 Monsanto? Was it still your understanding that PCBs
13 or Aroclors were being incorporated by some of
14 Monsanto's customers into polysulfide sealants to
15 enhance flexibility and adhesion?

16 A. I seem to recall one company in particular.
17 I think that it was Sonneborn that comes to mind.
18 When I was with Diamond Shamrock, they were still
19 trying to develop that product and they were not
20 being very successful at it, and so I'm not sure to
21 what extent they continued with that endeavor and
22 for how long they continued it. I can't recall.
23 After I came to Monsanto they were a very big
24 customer. Again, they were making the polysulfide

1 resin, so they would have been buying additives and
2 I don't know who their customers were.

3 Q. Can you tell us whether Aroclor 4465 was used
4 as a plasticizer? First off, the prefix 44, is that
5 a PCB product to your knowledge?

6 A. A polychlorinated terphenyl and a
7 polychlorinated biphenyl.

8 Q. Do you know what the use of that product was?

9 A. I think it was used in certain types of
10 adhesives, but, again, I'm getting a bit hazy. It
11 wasn't a product that was used in huge quantities
12 that I recall. It would have been a smaller
13 bottling product.

14 Q. How about Montar 1 or I?

15 A. Okay. Yes. Oh, dear. Now, what were they?
16 I'm not even sure -- I'm not sure if they were even
17 chlorinated. You're dredging up memories from the
18 long-distance past. Montar, I'm not sure that we
19 ever developed much of a market for that and ever
20 sold very much of it. It was there.

21 Q. Do you know if it was used as a plasticizer?

22 A. I would rather doubt it because it would have
23 been a very hard, difficult to melt, solid sort of a
24 thing. So my guess is it wouldn't be much use, but

1 I hope I'm not degrading some of the companies you
2 represent in the process. If I do, I don't mean to
3 do it. It's too ignorant.

4 Q. Your recollection is that that was a
5 by-product manufacture of the biphenyl, terphenyl
6 products and it's intended to be a hard material?

7 A. That's my recollection. If you talk to some
8 of my colleagues, they would say that fool Paton
9 doesn't know what he's talking about.

10 Q. Were the Santicizer products products within
11 the group of plasticizers?

12 A. Yes.

13 Q. Were the Santicizer products, based on their
14 name, non-Arocloric containing products?

15 A. I think in general, yes, but there may have
16 been cases when there might have been blends and
17 then they might have been sold under a Santicizer
18 name, but they would not be in a lot of them, but I
19 think there may have been some.

20 Q. I'm going to try to test your memory here for
21 a second, and if you don't recall, that's fine.
22 Santicizer 278, do you know if that contained
23 Aroclor?

24 A. I don't think it did.

1 Q. Santicizer 140.

2 A. No, I'm sure it did not.

3 Q. Santicizer 148.

4 A. No.

5 Q. Santicizer 679.

6 A. I think it was a blend, but I don't recall it
7 being a blend with PCBs. I don't think so, but I'm
8 not sure of that.

9 Q. Santicizer 160.

10 A. No.

11 Q. Santicizer 261.

12 A. No.

13 Q. Would you agree with me that the Aroclors
14 with the prefix starting with the number 54 were
15 Therminol products?

16 A. Yes.

17 Q. Therminol FR-1 was not a plasticizer product,
18 correct?

19 A. No.

20 Q. You agree with my statement?

21 A. I agree with your statement.

22 Q. It's a heat transfer fluid?

23 A. Yes.

24 Q. And so that would not be a product that would

1 be incorporated into sealants, correct?

2 A. I would not have expected it to be used in
3 sealants.

4 Q. I want to show you what was marked as Exhibit
5 Number 5 at your prior deposition and I'm going to
6 apologize for looking over your shoulder as you look
7 at it. It's a January 20th, 1972 memo from the
8 witness to W.S. Clark.

9 A. Okay.

10 Q. Would you agree with me that the memo
11 concerns Sonneborn's use of Therminol FR-1 in
12 general?

13 A. In general he's referring to the heat
14 transfer fluids based on PCBs in the Chicago plant,
15 yes.

16 Q. And there was some reference that Sonneborn
17 had considered using Kaneclors as a heat transfer
18 fluid which was a trade name of --

19 A. Kanegafuchi. It's a Japanese company.

20 Q. And you express under action that the
21 conversion team had some concern about that. What
22 was the concern of the Kaneclors under the heat
23 transfer system?

24 A. At the time we were announcing that we were

1 going to stop selling PCBs in the use of heat
2 transfer fluids. I think a lot of the focus of the
3 publicity concerning PCBs in the United States gave
4 the impression that Monsanto was the only user.

5 Q. Seller?

6 A. Only seller. Sorry. You're right, seller.
7 And we were trying to set in the industry that we're
8 not going to sell anymore. We're also trying to
9 help customers, if they wanted that help, to convert
10 away. We certainly couldn't stop them, stop
11 Sonneborn from using Kaneclor if they wanted to, but
12 clearly if there were problems, we did not want to,
13 therefore, be implicated in that situation, nor did
14 we particularly want to be taking PCBs back for
15 incineration. As far as we knew, that had not been
16 produced by us.

17 Q. And that was at a time when you were offering
18 to incinerate heat transfer fluids at a price to
19 some of your customers, correct?

20 A. Possibly. It might even have been for free,
21 but the fact of the matter was we didn't want to be
22 accepting responsibility for more than we had to.

23 Q. Were you involved at all in any
24 investigation, study, to determine whether Kaneclors

1 could be chemically identified separate and apart
2 from Monsanto Aroclors; in other words, through some
3 form of chemical analysis and say that's a Kaneclor
4 and this is an Aroclor?

5 A. I don't know for sure that you could be that
6 precise, but analytical chemists would be the better
7 people to answer that.

8 Q. Have you ever heard that Kaneclors differed
9 from the Monsanto Kaneclors, contained higher levels
10 of contaminants?

11 A. Back in 1972 I don't think I would. Would I
12 think so since I got into this deposition situation
13 in the last few years? I've heard this brought up
14 by plaintiffs' lawyers and the inference made. I
15 don't know to what extent that's right or wrong.

16 Q. One thing apparently from follow-up for W.S.
17 Clark was that, to my understanding in paragraph sub
18 2, Clark was to follow-up to see whether PCBs were
19 getting into the country from Europe and Japan.

20 A. Yes.

21 Q. Do you know if Clark ever did follow-up on
22 that?

23 A. I don't know. I have no reason to believe
24 that he didn't, but I don't know.

1 Q. Do you recall whether he was able to
2 determine whether Kanecolors were getting into the
3 country?

4 A. I can't recall that.

5 Q. Do you recall if at any point you were
6 advised that Monsanto was fairly confident that PCBs
7 were not coming into the country from other sources?

8 MR. GOUTMAN: Objection to the form.

9 BY MR. PENDERGAST:

10 Q. I just want to know whether at some point in
11 time Monsanto did have these concerns about its
12 public relations, its image, and given the fact
13 that Monsanto was doing so much to control the use
14 of PCBs and was, therefore, interested as to whether
15 PCBs were imported into the country. Do you recall
16 a time occurring where someone said we are fairly
17 confident now that Kanecolors from Europe, PCBs, are
18 not coming into the country?

19 MR. GOUTMAN: Objection to the form.

20 THE WITNESS: I can't recall that.

21 BY MR. PENDERGAST:

22 Q. Have you ever done any work with
23 urethane-based sealants?

24 A. You mean me personally?

1 Q. Yes.

2 A. Not directly.

3 Q. Do you understand where urethane-based
4 sealants get their adhesive and elastic properties
5 from?

6 A. I probably would have at one time.

7 Q. Would you at least agree with me that as
8 marketing director for Monsanto plasticizers that
9 you understood that urethane-based sealants were not
10 an area where Aroclors would be useful in enhancing
11 either elasticity or adhesive?

12 A. I don't know if it was or wasn't -- I can't
13 agree with you. I don't know.

14 Q. You don't have a recollection of ever selling
15 Aroclors for use with urethane-based sealants?

16 A. I can't think of specifics now, but that's
17 not to say that people bought them and used them in
18 that area. I just cannot remember.

19 Q. You have a Ph.D. in chemistry, correct?

20 A. Yes.

21 Q. You would not be able to offer us testimony
22 one way or another as to whether the use of Aroclors
23 with a polyurethane-based sealant would be
24 consistent or inconsistent or would even work?

1 A. I wouldn't want to speculate on that.

2 Q. I want to show you what was marked as Exhibit
3 Number 8 which was marked at your last deposition.
4 It's a March 25th, 1969 memo from yourself to Bill
5 Richard.

6 A. Yes.

7 Q. This represents the summary of the use of
8 chlorinated biphenyls as plasticizers with a date of
9 1968. Correct?

10 A. The date of '69.

11 Q. I'm sorry. But looking at 1968 figures.

12 A. Okay.

13 Q. Correct?

14 A. Okay.

15 Q. Would you agree with me that the memo
16 generally outlines the uses of PCBs as plasticizers
17 and includes some sales figures for the year 1968?

18 A. Yes.

19 Q. Would you agree with me that Monsanto's use
20 of PCBs as plasticizers would not have become more
21 diverse? In other words, your market for
22 plasticizers did not become more diverse after
23 1968.

24 A. I'm not sure of that. I think it's somewhat

1 unlikely, but I wouldn't draw that inference from
2 this particular memo.

3 Q. Okay. Now, under sealants you indicate
4 Aroclors are used in polysulfide sealants, correct?

5 A. Yes.

6 Q. And under that paragraph, subparagraph you
7 make no mention of the use of Aroclors in
8 urethane-based sealants, correct?

9 A. Correct.

10 Q. But your information as marketing manager of
11 Monsanto Company, your information as of March 25,
12 1969, is that Aroclors were being used in
13 polysulfide sealants, correct?

14 A. Yes.

15 Q. And you agree with me that if Aroclors were
16 being used in urethane-based sealants that you would
17 have included that in your memo had you been aware
18 of that at the time?

19 A. If I had been aware of it, but you also got
20 this distributor group here with four and a half
21 million pounds and with the nature of their market
22 it's very difficult to pinpoint that.

23 Q. Right. I'm asking you for your knowledge,
24 your knowledge as of March 25, 1969 as far as

1 sealants were concerned. Aroclors were being used
2 in polysulfide sealants, correct, and you had no
3 knowledge then and you have no knowledge today that
4 Aroclors were ever used in urethane-based sealants?

5 A. It never stood up. I never put --

6 Q. You had no knowledge in March of 1969 nor do
7 you have any knowledge today that Aroclors were ever
8 used in a urethane-based sealant. Is that correct?

9 MR. GOUTMAN: Objection. He just
10 answered that question. He can answer it
11 again if he wants.

12 THE WITNESS: I don't mention it here.
13 It was impossible to say where they were
14 used. It didn't stand up as a big use in its
15 own right.

16 BY MR. PENDERGAST:

17 Q. I'm going to ask you though for your
18 knowledge.

19 A. This is my knowledge.

20 Q. All right. Sitting here today --

21 A. I have -- I mean, I would have no reason --
22 I'd be less certain today than I was then.

23 Q. In the same exhibit, Exhibit 8, you refer to
24 miscellaneous uses including miscellaneous

1 applications as fire retardant additives, et
2 cetera. Realizing again that this was authored
3 many, many years ago, do you know what the wax
4 compounds were and what they were being used for?

5 A. No.

6 Q. How about the et cetera? Do you recall what
7 the other miscellaneous uses were?

8 A. Those were the customers to whom either I or
9 anybody else in my sales floor might have asked and
10 they said they don't know. So they would have gone
11 on the miscellaneous category.

12 Q. Are you aware of any instances in which a
13 product manufactured using an Aroclor plasticizer
14 leached Aroclors or PCBs into any materials?

15 MS. MEYERS: Objection to the form of
16 the question.

17 MR. GOUTMAN: Objection. It's overly
18 broad.

19 THE WITNESS: It's very broad. I don't
20 think I'm aware of -- at this point in time I
21 can't think of any specifics.

22 BY MR. PENDERGAST:

23 Q. There was a point in time where there was
24 some concern with feed being contaminated with

1 PCBs. Do you recall that?

2 MR. GOUTMAN: Objection to the form.

3 THE WITNESS: I vaguely remember that.

4 BY MR. PENDERGAST:

5 Q. Do you know if the problem there was leaching
6 of the material to the coating?

7 A. I really can't say for sure.

8 Q. As marketing manager for Monsanto's
9 plasticizer division during the time that you held
10 that position did Monsanto do any research itself to
11 determine the compatibility with Aroclors with
12 various sealants that were being marketed at the
13 time?

14 A. I'm not sure that that would have been done.
15 When you say sealants being marketed, you mean
16 sealants being marketed by other people?

17 Q. By others, yes.

18 A. I wouldn't have thought we would have done
19 that unless we've been specifically requested or
20 customers would have supplied us their products. So
21 I can't recall that sort of thing happening.

22 Q. Would you agree with me from a marketing
23 standpoint that you would have been looking for new
24 markets to get into with your plasticizer products?

1 MR. GOUTMAN: Objection to the form.
2 What period of time?

3 MR. PENDERGAST: While he was the
4 manager.

5 THE WITNESS: We would have been
6 looking for new markets for our products. We
7 certainly would have potential customers
8 coming to us and saying, look, we're trying
9 to develop this, that or the other and we
10 would like to use an Aroclor, do you have it,
11 and we would have said yes. But customers
12 often did their own development work. We
13 would have had work done in some cases where
14 we would have checked to see if plasticizers
15 were compatible with some common resins like
16 PCBs.

17 BY MR. PENDERGAST:

18 Q. And so Monsanto did do some of that type of
19 research?

20 A. Yes, but it would be what I call screening
21 information to give them some basic information so
22 they didn't waste their time trying something that
23 we said the chance of it working are slim to none.

24 Q. Do you recall Monsanto doing any work to see

1 whether Aroclors were useful to incorporate into
2 urethane-based products?

3 A. I can't recall. I can't recall that in my
4 tenure, but I would not be the right person to ask.

5 Q. Who would be the person to ask?

6 A. The people in the application technical
7 service type of department would have a better or
8 might have a better recollection than I do.

9 Q. Who would that be for the period of, let's
10 say, '68 through '71?

11 A. Somebody like a Bill Cocker. Who else?
12 Possibly a Norm Tushal (ph), Jim Renshal (ph),
13 possibly, maybe not. I'm not too sure.

14 Q. In the early 1970s you changed positions
15 within the company?

16 A. Yes.

17 Q. And what was your position after 1970?

18 A. I was marketing manager for organic chemicals
19 for Latin America.

20 Q. And that included the sale of Aroclors?

21 A. Yes, it did. It encompassed a fairly broad
22 range of products.

23 Q. When did you change positions again?

24 A. Sometime in the latter part of 1971 as best

1 as I recall and that was refreshed a little bit by
2 Mr. Phalen.

3 Q. And in that latter part of 1971 your position
4 was what again?

5 A. I think I became a product manager in heat
6 transfer fluids and dielectrics. Again, there's a
7 memo here that helped refresh my memory, and
8 something called process. I don't know if I was
9 involved in process fluids or I had a very close
10 coordination role. I can't remember. Heat transfer
11 fluids and dielectric fluids for sure.

12 Q. Processed fluids, were they Aroclor
13 containing?

14 A. No, I don't think so at that time.

15 Q. What were the process fluids used for?

16 A. They weren't really used as plasticizers, but
17 I think in the miscellaneous category they were
18 used.

19 Q. Do you recall that the heat transfer fluids
20 were completely discontinued, the Aroclor containing
21 heat transfer fluids?

22 A. Yes. It was on my watch and I can't recall
23 the exact date, but I think it was probably early
24 '72. I remember the planning leading up to it. I

1 remember the announcement and so on, but the date
2 escapes me, but I think it's early '72.

3 Q. Then after early 1972 was the only Aroclor
4 containing product or products being sold by
5 Monsanto being sold for use in the electrical
6 industry?

7 A. I think so. It wouldn't have been far off
8 the heat transfer fluid period time frame.

9 Q. Were you involved at all in obtaining
10 indemnity agreements from your electrical customers
11 in order to continue selling them Aroclors?

12 A. Was I involved?

13 Q. Yes.

14 A. Yes.

15 Q. Did there come a point in time where Monsanto
16 insisted that if it was going to sell Aroclors to
17 its customers that it insisted on obtaining an
18 indemnity agreement from them?

19 A. Yes.

20 Q. It became a policy of Monsanto that if such
21 an agreement was not signed, Monsanto would flat out
22 not sell the product? Is that right?

23 A. That's right.

24 Q. Do you recall the approximate date when that

1 occurred?

2 A. I know that it was after the end of -- it was
3 after I came back into being involved with PCBs. I
4 can't pin it down, but there were certainly
5 practical reasons why such a document was vital.

6 Q. Were companies other than Westinghouse and
7 General Electric signing those agreements?

8 A. I think there were other companies.

9 Q. Do you recall who the other companies were?

10 A. They would probably be the makers of
11 capacitors and there were a number of those.

12 Q. Was it a provision of the indemnity agreement
13 that the Aroclors not be resold?

14 A. I think it probably was, and I can't say for
15 sure, but I think almost certainly because the main
16 driving force in terms of considering such a plan
17 and implementing it here were we stop selling
18 plasticizers. We told the heat transfer people --
19 well, initially we said once they admitted they were
20 using it in food or food-related systems they could
21 not get it, and then we went further and said there
22 can't be any system because systems can leak or they
23 can be maintained. We have no control of that.
24 That incident where we said no more heat transfer

1 fluids with PCBs raised every ruckus. I mean,
2 people would call me and say, look, are you aware
3 that you're going to shut us down and you're
4 everything and so on and so forth. Then there were,
5 well, we'll try to find them somewhere else, and
6 you've seen reference here to finding imports. So
7 it would -- we had been -- at the same time the EPA
8 was saying that there's no suitable replacement in
9 the dielectric area and safety is a primary
10 concern. The products were used because of the fire
11 retardants and the fact that they wouldn't break
12 down. So we were caught in the horns of a dilemma
13 and there were also a great number of customers who
14 ran repair shops where transformers were being
15 repaired and they would be emptied out and refilled
16 and we were worried, I was worried, and my
17 colleagues as well, about that situation, but
18 certainly if an incident occurred and it appeared in
19 the press, I guarantee that Monsanto's name would
20 have been put there in an adverse light. So that
21 was the reason and it had some teeth in it. I've
22 been asked before, well, was it done just because we
23 wanted to be covered financially and to be nasty
24 people, but, no, if you're going to make something

1 stick, you're going to make it strong.

2 Q. And the intent was that the company
3 understood and the manufacturers felt, and so did
4 the EPA, that PCBs continued to be a useful product
5 for use in these dielectric uses but Monsanto was
6 concerned that, among other things, you might sell
7 to one of these people and there was a big market
8 for the PCBs and they turn around and resell them to
9 someone who is using it in open use and Monsanto's
10 name ends up in the paper?

11 A. Yes.

12 Q. We can probably get the documents, but it was
13 important that Monsanto, at least in its agreement
14 with customers after 1972, say that the customers
15 agree not to resell the Aroclors?

16 A. Yes, and we policed that as best we could. I
17 mean that would have been considered. If any
18 employee had been caught trying to do that, there
19 would be serious repercussions.

20 Q. As well as one of your customers, your
21 dielectric customers, if you found out that they
22 were reselling the material, that would have serious
23 repercussions as well?

24 A. Exactly.

1 Q. Was Aroclor 1242 used as a plasticizer?

2 A. I can't say Aroclor 1242 was used as a
3 plasticizer. I don't think so and not to any great
4 extent, but I wouldn't say absolutely no.

5 Q. Were there Aroclors that were specifically
6 marketed as plasticizers?

7 A. To the extent that you're thinking of PCBs
8 and using plasticizers in means to making the
9 plastics flexible, Aroclors weren't the first
10 product that jumped to mind because they weren't
11 particularly efficient in that regard. They were
12 used usually where other properties were being
13 looked for, such as, an inability to break down
14 under heat or give an element to fire resistance or
15 something like that.

16 Q. Am I to infer from that answer then that
17 there were no specific Aroclors that were considered
18 to be marketed as plasticizers?

19 A. I think we're talking about something
20 different. If you want to use a product with the
21 most fire retardant, you want higher chlorination.
22 This tended to be more viscous or being solid. So
23 from the use of plasticizers that was usually the
24 opposite direction in which you wanted to go and so

1 also -- as I think of it, the word plasticizers for
2 the division probably is a name that caused more
3 confusion than it's worth. I think now we use the
4 term polymorphously. I think of plasticizers if I'm
5 adding something because I want to make something
6 soft and flexible, and to that extent, if somebody
7 asks me what to use, the plasticizer material would
8 be pretty far down my list.

9 Q. With respect to the non-PCBs containing
10 plasticizers that were sold by Monsanto, what was
11 the basic chemical composition of those
12 plasticizers?

13 MR. GOUTMAN: Objection to the form and
14 also relevancy in this litigation. In any
15 event, you can answer it.

16 THE WITNESS: I think there are several
17 categories that we use. One is phthalate and
18 the other is phosphate. These were two of
19 the other categories.

20 MR. PENDERGAST: That's all the
21 questions I have. Thank you.

22 * * *

23 BY MS. MEYERS:

24 Q. Dr. Paton, my name is Joyce Meyers and I

1 represent Courtaulds Aerospace in this case. I have
2 a couple of questions for you.

3 I'd like you to clarify your
4 chronology, if you can. You said you left the
5 plasticizer division in early 1970.

6 A. Yes.

7 Q. Can you be any more specific than that?

8 A. You mean a date?

9 Q. Were you there for the first couple of months
10 of 1970?

11 A. Possibly. I think likely, but, I mean, it's
12 so far back that I just cannot remember.

13 Q. I would like to show you a document that
14 we'll mark as the next exhibit.

15 * * *

16 (Letter was marked as Paton-13 for
17 identification by the court reporter.)

18 * * *

19 BY MS. MEYERS:

20 Q. For the record this is a document that was
21 produced by Monsanto with Bates numbers PDT 013615
22 through PDT 013619. The first two pages are a
23 letter dated February 19th, 1970 with some
24 attachments.

1 A. Yes.

2 Q. Would you take a moment to look through these
3 pages and tell me if you have any recollection of
4 seeing them before?

5 A. I don't really recall having seen it. I
6 think from the date there's a very good possibility
7 that I did see it, but it doesn't stick out as
8 something I'm familiar with.

9 Q. The signature on the letter is W.E. Schalk.

10 A. Yes.

11 Q. Did you know Mr. Schalk?

12 A. Yes.

13 Q. Did he report to you?

14 A. No. I would have reported -- I'm not sure if
15 I would have reported directly to him, but he would
16 have been one level above me but in the plasticizer
17 group and he would have been responsible for sales
18 and the sales offices would have been his
19 responsibility.

20 Q. Do you have any recollection of discussions
21 with Mr. Schalk about sending such a letter?

22 A. I don't -- I think it's highly likely that I
23 did. I cannot recall specifics now.

24 Q. The letter says in Paragraph 2, Monsanto has

1 decided to notify all its customers of Aroclor
2 products of the publicity surrounding PCBs. Are you
3 aware at any time before February 19th, 1970 when
4 Monsanto sent such a notice to its customers?

5 A. I can't.

6 Q. On the second page in the second paragraph it
7 says, we intend to mail the attached letter to all
8 our Aroclor customers around February 27. And
9 starting at page Bates numbered PDT 013618 there is
10 a letter, a form letter, addressed dear customer.
11 Do you know whether that letter was, in fact, sent
12 to all customers on February 27th, 1970?

13 A. I don't know for sure.

14 MS. MEYERS: Let's mark this as the
15 next exhibit.

16 * * *

17 (Letter was marked as Paton-14 for
18 identification by the court reporter.)

19 * * *

20 BY MS. MEYERS:

21 Q. We've marked as Exhibit 14 a document
22 produced by Monsanto with Bates numbers PDT 013650
23 through PDT 013655. It's a letter dated June 1,
24 1970. It appears to be a form letter to Dear

1 Customer and signed by W.E. Schalk with some
2 attachments. Are you familiar with this document?

3 A. No. I may have gotten a copy of it in my
4 role as a marketing person in the new position that
5 I took over in 1970, but I almost certainly wouldn't
6 have had a hand in putting this together.

7 Q. The first sentence of it says, you have
8 received our letter mailed February 27, 1970
9 notifying you of the allegations that certain
10 polychlorinated biphenyls had been found in the
11 environment and were contaminants. And on the
12 second page of the letter in the first paragraph it
13 says, we have come to a decision to discontinue the
14 sale of PCB-containing products for modifier and
15 plasticizer applications effective August 30, 1970.

16 Does this letter refresh your
17 recollection as to when the sales were discontinued?

18 A. No, because clearly this was happening after
19 -- I'm almost 100 percent certain this was
20 happening after I moved to my other position.

21 Q. Did you at any time see these documents after
22 you returned?

23 A. Possibly. I wouldn't say I didn't. If it
24 had been, it would have been -- it might have been a

1 file where I had all the letters that I sent out
2 just for reference purposes, but I can't recall. By
3 the way, if I can clarify, I indicated earlier in
4 response to this gentleman that Montar was not
5 chlorinated. I see, and I stand corrected, but they
6 do say they contain PCBs. That certainly, once
7 again, we sold very, very little of it, at least
8 when I was involved we sold very, very little.

9 Q. Before leaving the plasticizer division in
10 early 1970 did you participate in discussions with
11 other people about the decision to send letters of
12 this type to customers?

13 A. I can't recall any. I think that was my
14 answer to Mr. Phalen. I can't recall specific
15 discussions.

16 MS. MEYERS: Thank you. That's all I
17 have.

18 * * *

19 BY MS. HERSCHEL:

20 Q. Mr. Paton, my name is Susan Herschel. I
21 represent Certainteed. Would you look again at
22 Paton-13? It's the February 19th, 1970 letter. In
23 the third paragraph on the first page it begins by
24 saying. We feel it's very desirable that you, as a

1 reseller of Monsanto's Aroclor plasticizers, alert
2 your customers, et cetera. At Monsanto, if there
3 was such a thing, to what type of customer does a
4 reseller refer?

5 A. The reseller would be a distributor.

6 MS. HERSCHEL: No further questions.

7 MR. GOUTMAN: I have a follow-up
8 question.

9

10 * * *

11 BY MR. GOUTMAN:

12 Q. Dr. Paton, you were questioned by plaintiff's
13 counsel about a document marked Paton-11 concerning
14 precautions on avoiding breathing vapors, mists or
15 fumes. To your knowledge did Monsanto ever warn
16 about volatilization of PCBs as a potential health
17 hazard?

18 A. For volatilization?

19 Q. Volatilization.

20 A. I can't recall specifically coming out with
21 that.

22 Q. Sir, avoid breathing vapors, mists or fumes,
23 would that relate to volatilization?

24 A. In my way of thinking, probably not, probably

1 more in the vaporization, going back to the
2 discussion that I had with Mr. Phalen, because
3 fumes, in my mind, vapors, you get when you
4 deliberately heat the product.

5 MR. GOUTMAN: That's all I have.

6 * * *

7 BY MS. HERSCHEL:

8 Q. Mr. Paton, may I ask a second question?
9 Would you look at Paton-14, the June 1, 1970
10 letter?

11 A. Right.

12 Q. First there's a salutation, Dear Customer,
13 you have received our letter mailed February 27,
14 1970 notifying you of the allegations that certain
15 PCBs have been found in the environment. Do you or
16 do you not, sir, infer from that that this form
17 letter was sent to the same group of people as the
18 February 27, 1970 form letter?

19 A. I can't say for sure or not. The only person
20 that presumedly could answer that would be Mr.
21 Schalk.

22 Q. And you don't infer that from the context of
23 the first sentence? Is that correct?

24 A. You could infer it, but I don't know that my

1 inferring it would mean very much because I had
2 nothing to do with sending it out.

3 MS. HERSCHEL: Thank you.

4 MS. MEYERS: May I ask a clarifying
5 question?

6 * * *

7 BY MS. MEYERS:

8 Q. Dr. Paton, in responding to Mr. Phalen's
9 questions about distinguishing vaporization from
10 volatilization you gave a description of the process
11 of vaporization. In your answer were you describing
12 a general process or were you referring specifically
13 to PCBs?

14 A. I was probably referring to a more general
15 process. Vaporization is where you normally have to
16 heat something up, heat it up to quite high
17 temperatures to bring about it going into a
18 different physical state, solid, liquid and then
19 vapor.

20 Q. Were you also describing a general process
21 when you were talking about volatilization?

22 A. Volatilization I was more vague about it
23 because it's something that can happen under a
24 variety of different circumstances. It's maybe not

1 such a precise process as is vaporization.

2 Q. When you say it can happen under certain
3 kinds of conditions, are you speaking generally or
4 are you speaking --

5 A. I'm speaking generally.

6 Q. So you're not speaking about volatilization
7 of PCBs?

8 A. In general, PCBs tend not to be volatile.

9 MS. MEYERS: Thank you. That's all I
10 have.

11 * * *

12 (Whereupon, the deposition was
13 concluded at 11:30 a.m.)

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1 INSTRUCTIONS TO WITNESS

2 Read your deposition over carefully. It is
3 your right to read your deposition and make changes
4 in form or substance. You should assign a reason in
5 the appropriate column on the errata sheet for any
6 change made.

7 After making any change in form or substance
8 which has been noted on the following errata sheet
9 along with the reason for any change, sign your name
10 on the errata sheet and date it.

11 Then sign your deposition at the end of your
12 testimony in the space provided. You are signing it
13 subject to the changes you have made in the errata
14 sheet, which will be attached to the deposition
15 before filing. You must sign it in front of a
16 witness. Have the witness sign in the space
17 provided. The witness need not be a notary public.
18 Any competent adult may witness your signature.

19 Return the original errata sheet and
20 transcript to the deposing attorney (attorney asking
21 questions) promptly! Court rules require filing
22 within 30 days after you receive the deposition.
23 Thank you.

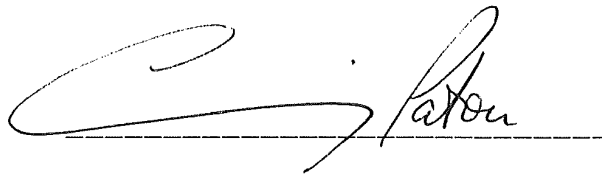
24

ESQUIRE DEPOSITION SERVICES

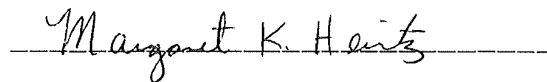
SIGNATURE PAGE
OF
CUMMING PATON, PH.D.

I hereby acknowledge that I have read
the foregoing deposition, and that the same is a
true and correct transcription of the answers given
by me to the questions propounded, except for the
changes, if any, noted on the attached errata sheet.

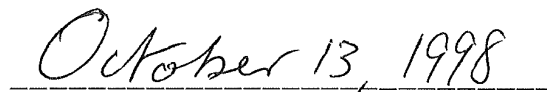
SIGNATURE:

A handwritten signature in dark ink, appearing to read 'Cumming Paton', written over a horizontal dashed line.

WITNESSED BY:

A handwritten signature in dark ink, appearing to read 'Margaret K. Hertz', written over a horizontal dashed line.

DATE:

A handwritten date in dark ink, appearing to read 'October 13, 1998', written over a horizontal dashed line.

ESQUIRE DEPOSITION SERVICES

ERRATA SHEET

	PAGE	LINE #	CHANGE	REASON THEREFOR
1				
2				
3	115	22	chose	should be past tense
4	116	2	"in" Wales not	
5			"and" Wales	transcription error
6			"in" the the U.K."	" "
7				
8	120	18	"Jensen and Widmark"	Spelling error
9	124	13	"got" instead of "didn't get"	grammar/tense
10	126	2	"possibility"	spelling error
11	127	18	"with" instead of "for"	grammar
12	127	19 & 20	Re was ^{phrase} to:	
13			"--- for sales of organic chemicals in	clarity
14			Latin America."	
15	127	20	Delete "for Latin America"	Redundant
16	131	12	Delete "heat" before "equipment"	Accuracy
17	133	24	"PCBs" instead of "it"	Clarity
18	134	4	"to not" instead of "of that"	clarity & accuracy
19	134	14	"product" instead of "by-product"	accuracy
20	134	15	Insert "this" between "get"	
21			and "further"	clarity
22	134	16	"muddied" not "muddy"	tense
23	134	18	"monochlorinated"	transcription error
24	134	19	"polychlorinated"	transcription error

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ERRATA SHEET

	PAGE	LINE #	CHANGE	REASON THEREFOR
1				
2				
3	142	12	Union	capital 'U'
4	143	12	Insert "have" before	
5			"seen"	grammar.
6	145	8	Insert "or" before	accuracy
7			"convert" and	
8	145	8	Replace "to" with "or"	accuracy.
9	149	2	Insert "for" between	
10			"be" and "people"	transcription error.
11	155	1 1	"Waychoff"	spelling
12	157	23	Insert "not" before	
13			"were"	transcription error.
14	158	1	Insert "not" after	} transcription error
15			"they" and before "would"	
16	158	1	Insert "would" and before	
17			"have."	
18	158	1	Insert "lots of" before	transcription
19			"additives"	error
20	158	13	Replace "bottling" with	
21			"volume"	transcription error
22	158	18	"long-distant"	Spelling
23	160	16	"No" not "yes"	Misunderstood
24				Question l. 13-14

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ERRATA SHEET

	PAGE	LINE #	CHANGE	REASON THEREFOR
1				
2				
3	162	15-16	Rephrase to read:	transcription
4			"incineration <u>that</u> , as far as we knew,	error
5			had not been produced by us"	
6	169	9	" <u>force</u> " not "floor"	transcription error
7	171	16	"PVCs" instead of	
8			"PCBs"	transcription error
9	172	8	" <u>than</u> " not "then"	spelling
10	172	11	Coker	spelling
11	172	12	<u>Touchette</u> , Jim Renshaw	spelling
12				
13	176	10	delete "the" before "fire"	trans/
14	176	10	" <u>their</u> " instead of "the"	transcription error
15				
16	176	11	"retardance"	soles spelling
17	176	12	" <u>on</u> " instead of "in"	grammar
18				
19	178	8	" <u>as a means to</u> ---"	transcription error
20				
21	178	21	" <u>retardance</u> "	spelling
22				
23	178	22	Insert "a" before "solid"	transcription error
24	179	4	"polymer modifiers" instead of "polymorphously"	transcription error.

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C E R T I F I C A T E

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I, DIANNE NAULTY, a Shorthand Reporter
in and for Commonwealth of Pennsylvania, hereby
certify that the foregoing is a true and accurate
transcript of the deposition of said witness who was
first duly sworn by me on the date and place
hereinbefore set forth.

I FURTHER CERTIFY that I am neither
attorney nor counsel for, nor related to or employed
by, any of the parties to the action in which this
deposition was taken, and further that I am not a
relative or employee of any attorney or counsel
employed in this action, nor am I financially
interested in this case.

DIANNE NAULTY
Shorthand Reporter

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LAWYER'S NOTES

1			
2	PAGE	LINE	
3	_____	_____	_____
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