

No. 92-CV-204 WDS
Honorable William
Stiehl

PAUL B. HODGES, 6/1/94

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QUESTIONS BY:

PAGE NO.

Mr. Ricci

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PAUL B. HODGES, 6/1/94

1 UNITED STATES DISTRICT COURT
 2 SOUTHERN DISTRICT OF ILLINOIS

3 CERRO COPPER PRODUCTS)
 4 COMPANY,)
 5)
 6 Plaintiff,)
 7)
 8 vs.) No. 92-CV-204 WDS
 9) Honorable William Stiehl
 10 MONSANTO COMPANY,)
 11)
 12 Defendants.)

13 DEPOSITION OF WITNESS, PAUL B.
 14

15 HODGES, produced, sworn and examined on the 1st
 16 day of June, 1994, between the hours of eight
 17 o'clock in the forenoon and six o'clock in the
 18 afternoon of that day, at the offices of COBURN,
 19 CROFT, One Mercantile Center, 29th Floor, St.
 20 Louis, Missouri 63101, before KELLY L. WILLIS, a
 21 Notary Public and Registered Professional Reporter
 22 within and for the State of Missouri, in a certain
 23 cause now pending in the United States District
 24 Court, of the Southern District of Illinois,
 25 Eastern Division, wherein CERRO COPPER PRODUCTS
 COMPANY is Plaintiff and MONSANTO COMPANY, is
 Defendant.

PAUL B. HODGES, 6/1/94

A P P E A R A N C E S

For the Plaintiff:

LOWENSTEIN, SANDLER, KOHL,
FISHER BOYLAN
65 Livingston Avenue
Roseland, New Jersey 07066-1791
by: Mr. Richard Ricci

For the Defendant:

COBURN, CROFT
One Mercantile Center
29th Floor
St. Louis, MO 63101
by: Mr. Kenneth Heineman

IT IS HEREBY STIPULATED AND AGREED,

by and between counsel for the Plaintiff and
counsel for the Defendant that this deposition may
be taken in shorthand by Kelly L. Willis, a notary
public and shorthand reporter, and afterwards
transcribed into typewriting; and the signature of
the witness is expressly reserved.

(WHEREIN, Plaintiff's Deposition
Exhibit 14, 15, 16-Hodges was marked for
identification by the Court Reporter.)

PAUL B. HODGES, 6/1/94

1 **PAUL B. HODGES,**

2 of lawful age, produced, sworn and examined on
3 behalf of the Plaintiff, deposes and says:

4 **DIRECT-EXAMINATION**

5 **QUESTIONS BY MR. RICCI:**

6 Q. (By Mr. Ricci) Good morning, Mr.
7 Hodges, I've just handed you a document that we've
8 marked as Hodges 14 for identification purposes,
9 and this is a document with Bates Number C00030.
10 Have you had a chance to review that document?

11 A. What's that?

12 Q. Have you had a chance to review that
13 document?

14 A. Just now.

15 Q. Have you ever seen that document
16 before?

17 A. I don't remember it.

18 Q. The document references a
19 conversation between yourself, and a Mr.
20 Sallwasser from Horner & Shifrin, is that correct?

21 A. It appears to be.

22 Q. Do you have any recollection of
23 having such a conversation with Mr. Sallwasser in
24 and around November of 1965?

25 A. No.

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1 Q. According to the document that we've
2 marked as Hodges 14, the document states that Paul
3 Hodges of Monsanto has indicated that Monsanto
4 Company is very desirous that the force main
5 discharge into the 36-inch overflow sewer south of
6 the tracks rather than north of the tracks as
7 originally contemplated, do you see that in the
8 letter?

9 A. Yes.

10 Q. Do you have any idea as you sit here
11 today why Monsanto was desirous that the force
12 main discharge south of the railroad tracks
13 instead of north of the railroad tracks?

14 A. No, I don't.

15 Q. Do you have any understanding of
16 what the significance to Monsanto was of where the
17 force main that was discussed in the letter
18 discharged?

19 A. No.

20 Q. Do you know what force main this
21 letter is referring to?

22 A. No.

23 Q. Do you know if it has anything to do
24 with the interceptor line that was going to be
25 installed to accept Cerro's waste and direct it to

PAUL B. HODGES, 6/1/94

1 the Village sewers?

2 A. No.

3 Q. Do you have any recollection
4 whatsoever of the events discussed in this letter?

5 A. No. You might say I may very well
6 have been echoing something we got out of
7 Engineering.

8 Q. I'm sorry. Engineering would be
9 Central Engineering?

10 A. Yes.

11 Q. That would be somebody like Mr.
12 Stutz?

13 A. Uh-huh.

14 Q. Or Mr. Kasky?

15 A. Kasky or somebody like that, because
16 I'm completely cold on this.

17 Q. In the last sentence of the second
18 paragraph there's a discussion of designing the
19 system under consideration here to allow overflow
20 into Dead Creek during periods of storm runoff and
21 direct dry weather flow from the pumping station
22 into the 36-inch line without overflowing into
23 Dead Creek, do you see that?

24 A. Yes.

25 Q. Does that ring a bell to you at all

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1 as to what issues are under consideration at all?

2 A. Not at all.

3 Q. Do you have any recollection as to
4 what Monsanto's position was with respect to this
5 system?

6 A. No.

7 Q. In the last paragraph on the first
8 page of Hodges 14 there's a discussion of cleaning
9 the 24-inch sewer north of the railroad tracks in
10 order to keep the hydraulic radiant in the 24-inch
11 line, sewer line below the invert elevation of the
12 46-inch overflow sewer, do you see that?

13 A. Yes.

14 Q. Do you know what the hydraulic
15 radiant is?

16 A. Yes.

17 Q. What is that?

18 A. Difference in levels.

19 Q. Differences in levels of what?

20 A. Of the flow, the sewer line will be
21 higher at one point then it will be at another and
22 the flow will go to the low end, that's hydraulic
23 radiant and that's measured in levels of liquid.

24 Q. Do you know what's meant by the term
25 invert elevation?

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1 A. No, I don't recall.

2 Q. Do you have any recollection
3 whatsoever of why you were discussing with Mr.
4 Sallwasser cleaning the 24-inch sewers or
5 adjusting the hydraulic radiants in this
6 particular project?

7 A. No.

8 Q. On the second page of the letter
9 there's a discussion of an observation on November
10 8th, that the hydraulic radiant in the 24-inch
11 sewer was approximately 2 feet above the invert
12 elevation of the 36-inch sewer. Do you see that?

13 A. Yes.

14 Q. Do you know why -- withdraw that.
15 Were you aware of any observations being made of
16 any sewer systems or any sewers on the Monsanto
17 property in November of 1965?

18 A. I don't recall any.

19 Q. And you didn't have any involvement
20 in the measurements that are discussed here.

21 A. Not that I recall.

22 Q. The last sentence of this letter
23 indicates, states that the overflow radiant is
24 very important to Monsanto Company, but must be
25 controlled by the hydraulic to provide sumper

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1 without overflow during dry weather, do you see
2 that?

3 A. Yes.

4 Q. Do you know why the overflow radiant
5 was important to Monsanto Company?

6 A. I don't know, in this particular
7 case. I can speculate that --

8 MR. HEINEMAN: Excuse me, please
9 don't speculate just tell him what you know.

10 THE WITNESS: I just don't know what
11 they're talking about here.

12 Q. (By Mr. Ricci) In the last
13 paragraph of the letter there is an invitation for
14 you to comment on the information contained in the
15 letter, do you see that?

16 A. Yes.

17 Q. Do you recall whether you, in fact,
18 did comment on any of the conditions stated in the
19 letter?

20 A. I don't recall.

21 Q. And you're shown as receiving a cc
22 of this letter, is that correct?

23 A. That's right.

24 Q. Do you know if you did, in fact, get
25 a cc of this letter?

PAUL B. HODGES, 6/1/94

1 A. I don't know.

2 Q. If you could turn over to Hodges 15,
3 have you had a chance to review Hodges 15?

4 A. Yes.

5 Q. For the record this is a document
6 with Bates number C00032. Mr. Hodges, can you
7 identify this document?

8 A. It says it's comments on
9 specifications, on specifications for Dead Creek
10 Interceptor.

11 Q. Do you recognize it as you sit here
12 today?

13 A. No.

14 Q. Now in 1965 you were still at
15 Krummrich, is that correct?

16 A. Yes.

17 Q. When you were at Krummrich, was it
18 your practice in preparing letters to make a
19 carbon copy of the letter that would not perhaps
20 be on letterhead or to retain a copy of a letter
21 that would not perhaps be on letterhead?

22 A. I don't recall.

23 Q. If you could flip over to the second
24 page right below and to the left of where the
25 signature line is there's a /GS, do you see that?

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1 A. Yes.

2 Q. Do you know who GS might be?

3 A. Might be my secretary.

4 Q. Did you have a secretary with those
5 initials?

6 A. Yes.

7 Q. Who was that?

8 A. I don't know, I really don't
9 remember the initials. I had several secretaries,
10 those initials don't mean anything to me. I had a
11 lot of secretaries, I didn't have a private one, I
12 used one in the group and they changed frequently.

13 Q. Do you have any recollection of
14 whether you ever had a secretary with the initials
15 GS?

16 A. No.

17 Q. Now on the copy of this letter that
18 we're looking at, it's hard to tell whether
19 there's a signature on this letter or not. Can
20 you identify the signature on this letter?

21 A. No. It doesn't look like there is
22 any, just some marks there.

23 Q. Was it your practice in 1965 when
24 you were doing letters to people outside the
25 company to prepare those letters on Monsanto

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1 letterhead?

2 A. Normally, as far as I recall.

3 Q. Now the letter that we're looking
4 at, Hodges 15 is not on letterhead, do you see
5 that?

6 A. Yes.

7 Q. Do you have any explanation as to
8 why there may exist a copy of a letter that
9 appears to be prepared by you that is not on
10 Monsanto letterhead?

11 A. No.

12 Q. Do you recall whether, for instance,
13 at this time period you were using carbon paper to
14 keep file copies of letters?

15 A. I'm sure there were.

16 Q. Do you know if the carbon paper at
17 times did not have the Monsanto letterhead on it?

18 A. I don't know.

19 Q. As you look at this letter sitting
20 here today, do you have any reason to believe that
21 this is not a letter that you prepared in December
22 of 1965?

23 A. No.

24 Q. There are a number of numbered
25 paragraphs on the first page of Hodges 15, do you

PAUL B. HODGES, 6/1/94

1 see that?

2 A. Yes.

3 Q. Let me go back, in the introductory
4 paragraph there's an indication that the
5 Engineering Department has reviewed the drawings
6 and specifications of the sewer and pumping
7 station as prepared by Horner & Shifrin, the
8 design looks good, generally. Do you see that?

9 A. Yes.

10 Q. Do you have any recollection of
11 reviewing the drawings and specifications with
12 respect to the subject matter of this letter?

13 A. No.

14 Q. Do you have any recollection of the
15 Monsanto Engineering Department reviewing those
16 specifications?

17 A. No.

18 Q. The Engineering Department referred
19 to in this letter would be Central Engineering.

20 A. Yes.

21 Q. That's the general offices.

22 A. Yes.

23 Q. Do you know if Mr. Kasky was still
24 in Central Engineering in 1965?

25 A. I don't remember.

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1 Q. How about Mr. Stutz?

2 A. I think -- I don't remember, it must
3 have been somewhere around the time that he left.

4 Q. Do you have any recollection of what
5 the Dead Creek Interceptor Sewer is, as referred
6 to in the subject line of this letter?

7 A. I don't recall, no.

8 Q. In the first numbered paragraph of
9 this letter, there is a discussion of concrete and
10 steel bar screen potentially suffering attack if
11 exposed to acidic waste for a considerable period
12 of time, do you see that?

13 A. Yes.

14 Q. Do you know what concrete and steel
15 bar screen you're discussing in this letter?

16 A. No.

17 Q. Do you know if Cerro's discharge to
18 the sewer at this point in time contained acidic
19 waste?

20 A. No.

21 Q. Do you know if Monsanto's discharge
22 to the Village Sewer System during this period of
23 time contained acidic waste?

24 A. Yes.

25 Q. And did it?

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1 A. Yes, it did.

2 Q. Was one of the sources of acidic
3 waste Department 246 -- one of the sources of
4 acidic waste into the Village, Department 246?

5 A. Yes.

6 Q. Do you know any other departments
7 that were putting acidic waste into the Village
8 Sewer System in 1965?

9 A. No. Chlorobenzenes, I know most of
10 that was recovered, but there certainly could have
11 been acidic waste from there, probably others, but
12 I can't recall.

13 Q. Benzylchloride?

14 A. Oh yes, Benzylchloride.

15 Q. Are you familiar with the department
16 phosphate esters?

17 A. No.

18 Q. In the second paragraph of this
19 letter you discussed that minimum head loss when
20 wastes are flowing south into Dead Creek is
21 desirable, do you see that?

22 A. Yes.

23 Q. Do know what the term head loss
24 refers to?

25 A. Yes, it's the losses that as the

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1 liquid passes through pipes or around turns it
2 requires a head to force it through. There's a
3 resistance in pipes and turns, so you need an
4 elevated head to make it go.

5 Q. There's a statement that the chamber
6 as designed will force the water to turn 90
7 degrees to flow out through the bar screens, do
8 you see that?

9 A. Yes.

10 Q. Would that type of turn result in a
11 head loss?

12 A. Yes.

13 Q. Do you know why Monsanto was
14 concerned with head loss of waste flowing south
15 into Dead Creek in December of 1965?

16 A. No, not specifically. Obviously it
17 was to reduce any flooding problems.

18 Q. Flooding at Monsanto?

19 A. Yes. But I don't know any specifics
20 on it.

21 Q. Do you recall whether Mr. Goldenberg
22 responded in any way to this letter?

23 A. I don't recall.

24 Q. Do you know if Horner & Shifrin ever
25 responded in any way to this letter?

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1 A. I don't recall.

2 Q. Mr. Hodges, I would like to go back
3 for a second to a document that we talked about
4 yesterday which is Hodges 123 and these are the
5 June 14th -- I've got it here. These are the June
6 14th, 1965 meeting minutes that you authored.

7 A. Uh-huh.

8 Q. Turn if you could to page two of the
9 document, and just review for a second the
10 numbered paragraph down at the bottom.

11 A. I see it.

12 Q. There's a reference in there to
13 Sauget's dump, do you see that?

14 A. Yes.

15 Q. Do you know what Sauget's dump is?

16 A. One operated by the Mayor of
17 Monsanto Village, and it was used by the
18 industries and maybe other people, too.

19 Q. Do you know where it was located?

20 A. I don't recall. It was some place
21 in the Village.

22 Q. Do you recall if it was near Dead
23 Creek?

24 A. I don't recall.

25 Q. Did Monsanto use Sauget's dump?

PAUL B. HODGES, 6/1/94

1 A. I assume that we did, but I don't
2 recall.

3 Q. Do you know if there was more than
4 one dump operated by Mr. Sauget in the Village?

5 A. I don't remember that, there could
6 very well have been.

7 Q. Do you know why Sauget's dump might
8 be relevant to a discussion of Dead Creek?

9 A. No.

10 Q. Mr. Hodges, let me show you a
11 document that's been marked as Hodges 16, for
12 identification purposes. This is a document that
13 was produced to us by the Village of Sauget, we've
14 given it Bates Number VS0541 and ask you to take a
15 look at that.

16 A. How much am I supposed to look at?

17 Q. I'll ask you a few questions and
18 then we can decide. Have you ever seen this
19 report before?

20 A. Not that I remember.

21 Q. Do you know who is Monsanto Biodize
22 Systems, Inc?

23 A. Monsanto set up a waste treatment
24 division called by Biodize.

25 Q. What was their business?

PAUL B. HODGES, 6/1/94

1 A. Designing waste treatment for
2 companies.

3 Q. Did they do work for municipalities,
4 as well?

5 A. I think so, yes.

6 Q. Were you aware that Monsanto Biodize
7 did any work for the Village of Sauget?

8 A. I don't recall it.

9 Q. In December of 1970, did you have
10 any responsibilities with respect to the Village
11 of Sauget Sewer System?

12 A. Not specific.

13 Q. You were at the general offices in
14 1970, is that correct?

15 A. Yes.

16 Q. You were, I take it, no longer the
17 liaison between the Krummrich facility and the
18 Village?

19 A. That's correct.

20 Q. Do you recall having any involvement
21 in the water pollution abatement program that's
22 the subject of this report?

23 A. Not in detail.

24 Q. Do you recall any involvement at
25 all? Would you have to look at the report more

PAUL B. HODGES, 6/1/94

1 closely to answer the question?

2 A. The specific thing, I remember
3 nothing about it, this is flow measurements and I
4 didn't have anything to do with it.

5 Q. Are you familiar with a company by
6 the name of Monsanto Envirochem Systems, Inc.?

7 A. Well, I'm sorry I thought that was
8 Biodize. I may be mistaken about it, but I
9 thought that Biodize was our environmental outfit
10 or maybe they changed the name, I don't know.

11 Q. Does the name Monsanto Envirochem
12 ring a bell with you?

13 A. About the same as Biodize, as I
14 recall, it must have been the same outfit. Okay.
15 I think I can clarify that. Biodize was some
16 system that we bought from, that the Envirochem
17 outfit bought from some outfit. My recollection
18 of it is, is that it was a black box deal which we
19 very quickly eliminated. It was an unfortunate
20 purchase by Monsanto. We thought we were getting
21 something good and we got nothing.

22 Q. So Envirochem was a company formed
23 by Monsanto?

24 A. That's right.

25 Q. They acquired Biodize and changed

PAUL B. HODGES, 6/1/94

1 the name to Monsanto Biodize.

2 A. Yes. It was not one of our better
3 ventures.

4 Q. Mr. Hodges in 1969 you were working
5 at the general offices, is that correct?

6 A. Correct.

7 Q. And if you could refresh my
8 recollection as to what your title was.

9 A. It was manager of Environmental
10 Products.

11 Q. I believe you testified yesterday
12 that in your role as Manager --

13 A. I'm sorry, for the Organic Division,
14 put it that way.

15 Q. Were there other divisions that also
16 had managers of environmental protection?

17 A. Yes, or something similar. Maybe it
18 had a different title.

19 Q. Yesterday you testified that in your
20 role as Manager of Environmental Protection you
21 had some involvement in the PCB reduction plan.

22 A. That's right.

23 Q. That was implemented at the
24 Krummrich facility, is that correct?

25 A. Yes.

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1 Q. Can you tell me why that program
2 began?

3 A. The history of it?

4 Q. Yes.

5 A. Okay. Out in California some
6 researcher found that bird eggs were soft, these
7 were wild birds of some sort, and he apparently
8 traced the problem down to PCBs that the birds
9 were getting from fish that they ate. To the best
10 of my knowledge, that's the first inkling that we
11 had that there was a problem.

12 Q. Do you know how that research came
13 to the attention of anyone at Monsanto?

14 A. No.

15 Q. Do you know --

16 A. That probably came through our
17 medical department.

18 Q. Do you know how it first came to
19 your attention?

20 A. I was told about it.

21 Q. What was the company's reaction to
22 that information?

23 A. At that time?

24 Q. Right.

25 A. We didn't believe it.

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1 Q. Did you take any steps in response
2 to this report?

3 A. Oh yes, they did.

4 Q. What steps were taken, just in
5 general terms?

6 A. Well, a little later this committee
7 was formed to deal with the problem as we saw it
8 developing. The first thing was to review the
9 analytical techniques because at that particular
10 time, ability to measure down in parts per billion
11 was still pretty fuzzy, and I think that we
12 probably got in and checked out the analytical
13 techniques that they used, and that took some
14 period of time.

15 Q. Were you involved in those efforts?

16 A. No, not specifically.

17 Q. Were you kept apprised of progress
18 that was being made in that regard?

19 A. In general, yes.

20 Q. What other steps did the company
21 take in response to this report?

22 A. Well, we, of course, we tried to
23 immediately -- well first of all, I think we
24 decided along, someplace along the line that it
25 was factual, then we sought to reduce any losses

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1 of PCBs to the environment, and to study the
2 affect of PCBs on the environment. Our previous
3 feeling was that PCBs were entirely inert.

4 Q. Why was that?

5 A. The nature of the PCBs, they are
6 inert.

7 Q. What do you mean by inert?

8 A. They don't degrade out in the
9 atmosphere, in general, this was why they were
10 good for their uses. They were very stable.

11 Q. Were you aware that a program was
12 implemented at the Krummrich facility for the
13 reduction of PCBs into the atmosphere?

14 A. Yes.

15 Q. Did you have any role or
16 responsibility in that program?

17 A. Yes.

18 Q. What was it in general terms?

19 A. I ordered it with our other PCB
20 producing facilities.

21 Q. Once you gave the order?

22 A. Maybe I should say I requested it.

23 Q. Once you made the request, did you
24 have any continuing involvement in the program?

25 A. Yes, I received progress reports.

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1 Q. Any hands-on involvement?

2 A. What?

3 Q. Hands-on involvement. Did you
4 review the progress reports and react to them?

5 A. I don't recall. I assume that I
6 did.

7 Q. Did you have to get approval from
8 any of your superiors before you ordered or
9 requested this PCB reduction program?

10 A. This was in line with the group that
11 was set up to handle the problem, and it included
12 my superiors and other people through the
13 organization.

14 (WHEREIN, Plaintiff's Deposition
15 Exhibit 17 was marked for identification by the
16 Court Reporter.)

17 Q. (By Mr. Ricci) Mr. Hodges, let me
18 show you a document that has been marked as Hodges
19 17 for identification purposes and ask you to take
20 a look at it.

21 A. Uh-huh.

22 Q. This is a document with Bates Number
23 CER 010901. Have you ever seen this document
24 before, Mr. Hodges?

25 A. Yes.

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1 Q. Is that your signature on the second
2 page of this document?

3 A. Yes.

4 Q. Is this a document that you reviewed
5 in preparation for your deposition here today?

6 A. I don't think so. It's a document
7 that I was involved in in another action that came
8 up. Frankly, I had completely forgotten this
9 whole mess, it was a loser for Monsanto and that
10 wasn't one of the things that I recall from my
11 working career but yes, I have seen that before.

12 Q. I take it your recollection has been
13 somewhat refreshed in this regard.

14 A. That's correct.

15 Q. In the first paragraph of this
16 memorandum that we've marked as Hodges 17 you
17 indicate that "we should begin to protect
18 ourselves", do you see that?

19 A. Yes.

20 Q. Do you know what you meant by that
21 protecting ourselves?

22 A. The problem had arisen and it looked
23 like it might have severe consequences for
24 Monsanto and we needed to take what actions we
25 could to handle it.

PAUL B. HODGES, 6/1/94

1 Q. What kind of consequences were you
2 concerned about?

3 A. Shut down of PCBs, bad publicity.

4 Q. Were PCBs a profitable product for
5 Monsanto?

6 A. I have no details on it, but I'm
7 sure that it was.

8 Q. You indicate that since the problem
9 is not yet defined, you're recommending only
10 action preparatory only to actual clean up, do you
11 see that?

12 A. That's right. Well any kind of
13 clean-up arrangements, you get the facts first so
14 you can define the problem.

15 Q. And so, at this stage you were still
16 trying to define the problem.

17 A. That's correct.

18 Q. In defining the problem, are you
19 referring to the problem created by PCBs in the
20 environment or the problem of Monsanto getting bad
21 publicity?

22 A. Neither one. It's the problem of
23 how much PCBs are there.

24 Q. How much PCBs are where?

25 A. From the effluent from the plant.

PAUL B. HODGES, 6/1/94

1 Q. When you say define the problem,
2 you're talking about the extent to which the
3 company is discharging PCBs?

4 A. Yes.

5 Q. Did you have any information on that
6 issue prior to this time?

7 A. No. I don't believe so. I don't
8 recall, but I don't think so.

9 Q. Do you know if any information had
10 been developed in that regard, for instance in
11 performing material balances?

12 A. I don't recall.

13 Q. PCBs were a valuable product to
14 Monsanto, weren't they?

15 A. Yeah, I think so.

16 Q. As part of maintaining an efficient
17 production operation, was it Monsanto's practice
18 to evaluate whether it was losing any of its
19 product to the atmosphere?

20 A. If we thought there was a problem.

21 Q. Do you know if any -- do you know if
22 any such evaluation was ever made with respect to
23 PCBs?

24 A. To the atmosphere?

25 Q. Right.

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PAUL B. HODGES, 6/1/94

1 A. No.

2 Q. During the time that you were
3 involved in production in Department 246, were you
4 ever involved in any material balance analyses of
5 production in that Department?

6 A. Well we calculated yields on raw
7 materials monthly, and it was part of my job to
8 see that those yields were up to standard or
9 better.

10 Q. Do you know what standard
11 performance was measured by?

12 A. What we should get from a given
13 amount of raw material.

14 Q. Did you view, was it your standard
15 that you should get a hundred percent yield from
16 the raw materials or did you allow some, for some
17 loss to the environment?

18 A. All of those processes, none of them
19 had 100 percent yields for the various reasons.

20 Q. Do you know how the yield figures or
21 the target yield figures were developed?

22 A. Probably by research initially and
23 then experience over a period of time.

24 Q. Do you know what the yield targets
25 were for Department 246?

PAUL B. HODGES, 6/1/94

1 A. I don't recall.

2 Q. Do you recall if Department 246 was
3 meeting it's yield targets during the time that
4 you were involved in production?

5 A. I don't recall that either. I
6 probably did or I would have been sharply brought
7 up on it.

8 Q. But you don't recall being sharply
9 brought up on it.

10 A. No, no.

11 Q. Do you know if in developing yield
12 or yield targets there was some allowance made for
13 discharges to the atmosphere or discharges to the
14 sewer?

15 A. I don't think it was calculated in
16 that way, it was calculated in what our experience
17 was in what we got out of the raw materials that
18 we used.

19 Q. So if production historically
20 involved loss of some product to the sewers those
21 losses would, in effect, be incorporated into the
22 calculation of the yields?

23 A. Yes, that's correct.

24 Q. Now yesterday, when we were talking
25 about the Phenol Reduction Program, you used the

PAUL B. HODGES, 6/1/94

1 phrase tightening up, which was just stopping
2 leaks, making sure your pump packings were in good
3 condition, things like that, is that correct?

4 A. Yes.

5 Q. At this point, though, you did not
6 even recommend tightening up in the PCB operation,
7 is that correct?

8 A. I did not recommend it, the two
9 operations were greatly different in that respect.

10 Q. How so?

11 A. If we had a pump pipe leaking in the
12 Arochlor Department it was promptly taken care of,
13 they were not so careful in the Phenol Department
14 where they had hundreds of pumps.

15 Q. They had more pumps in the Phenol
16 Department than they did in Arochlor.

17 A. Oh certainly, it was much more
18 complicated and much bigger.

19 Q. In the second paragraph under number
20 1 on the first page of Hodges 17 there's a
21 discussion of dropping spent Arochlor from P2S5
22 heat exchanger at W.G. Krummrich, do you see that?

23 A. Yes.

24 Q. Do you recall what that reference is
25 to?

PAUL B. HODGES, 6/1/94

1 A. No.

2 Q. Do you know what P2S5 is?

3 A. It's a sulfite of some kind, I don't
4 remember what it was.

5 Q. Sulfurous pesticide?

6 A. I believe so.

7 Q. Do you recall that was a product
8 being moved at Krummrich?

9 A. Yes.

10 Q. Do you recall there being a practice
11 in that Department to drop spent Arochlors from a
12 heat exchanger into the sewers?

13 A. I don't recall it. It's spelled out
14 here, but I do not recall it.

15 Q. Could you identify the location of
16 the P2S5 Department on any of the maps that I've
17 shown you during the course of this deposition?

18 A. Certainly not from memory.

19 Q. You don't recall the department
20 number?

21 A. No.

22 Q. So you don't have any recollection
23 at all of the sewerage of spent Arochlors from the
24 P2S5 heat exchanger?

25 A. Huh-uh.

PAUL B. HODGES, 6/1/94

1 Q. Now I note that this memo is
2 directed to Mr. Buckley at Krummrich, do you see
3 that?

4 A. Yes.

5 Q. Do you think he would be a good
6 person to talk to about spent off Arochlors for
7 the P2S5 heat exchangers.

8 A. If you wish, he's probably as
9 knowledgeable as anyone, he was essentially taking
10 over much of my duties. I guess Mike Pierle was
11 probably gone at that time, but I'm not sure.

12 Q. In paragraph number 2, you talk
13 about collecting samples and data points and then
14 say this information will help permit us to move
15 rapidly in case a crisis develops. Do you see
16 that?

17 A. Uh-huh.

18 Q. What kind of crises were you
19 anticipating in this memorandum?

20 A. There was a real crack down on PCBs,
21 suddenly.

22 Q. Government crack down?

23 A. Yes.

24 Q. On the second page of this memo in
25 paragraph number 3, there is a further discussion

PAUL B. HODGES, 6/1/94

1 of sewerage spent Arochlor from P2S5, do you see
2 that?

3 A. Yes.

4 Q. And then you talk about from
5 'standpoints of possible sewer pluggage plus gummy
6 hard-to-handle solids collected at the waste
7 treatment plant, present practice is poor." Do
8 you know whether the sewerage of spent Arochlors
9 in fact could contribute to sewer pluggage?

10 A. I don't recall. I made the
11 statement here, and I assume that it did at that
12 time.

13 Q. Do you know what the consistencies
14 of a spent heat exchanger, spent PCB heat exchange
15 fluid would be?

16 A. It would be, tend to be gummy.

17 Q. Thick?

18 A. Depending on what it was, I mean,
19 the Arochlors varied in their thickness all the
20 way from solid material to quite viscous
21 materials.

22 Q. Do you know where the heat exchanged
23 fluids fell on that continuum?

24 A. Perhaps. No, probably in the metal.

25 Q. Did spent heat exchange fluids have

PAUL B. HODGES, 6/1/94

1 different consistencies than new heat exchange
2 fluids?

3 A. I don't know, I doubt it.

4 Q. Do you know what happens to a heat
5 exchanged fluid to make it spent?

6 A. No.

7 Q. There were heat exchange fluids used
8 in the Department 246, weren't there?

9 A. I'm trying to recall and I'm not
10 sure that there were.

11 (WHEREIN, Plaintiff's Deposition
12 Exhibit 18 was marked for identification by the
13 Court Reporter.)

14 Q. (By Mr. Ricci) Mr. Hodges, let me
15 show you a document that's been marked as
16 Plaintiff's Exhibit 18 for identification
17 purposes, this is a document with Bates Number CER
18 011109. Can you review first the distribution
19 list for this memo?

20 A. Well, which part, all of it?

21 Q. I'm referring now to the people?

22 A. It's mostly internal to the
23 Krummrich plant.

24 Q. That was really my question.

25 A. Mostly. I'll check Molloy, well I

PAUL B. HODGES, 6/1/94

1 don't know where he was. And I don't think Jerry
2 Bratsch was, he may have been Plant Manager or
3 head of maintenance, I don't remember which. But
4 any way, it's essentially an internal document.
5 I'm the only one in the general offices that got
6 it.

7 Q. Everybody else on this memo is at
8 Krummrich, but yourself?

9 A. As far as I can see.

10 Q. There is a proposal in the middle of
11 the first page of this document with respect to
12 sampling sewers and outfalls and upstream and
13 downstream river waters and sludge from the river
14 and treatment plant, do you see that?

15 A. Yes.

16 Q. Did you have any involvement in the
17 development of these sampling locations?

18 A. No, not specifically. Just
19 compliance with my request for them to get the
20 facts.

21 Q. So you basically told them to get
22 the facts and left to them what they had to do to
23 comply with that?

24 A. Oh, yes.

25 Q. Do you know if you had any contacts

PAUL B. HODGES, 6/1/94

1 with Mr. Buckley to assist him in determining
2 where he should be sampling?

3 A. I don't recall. There may very well
4 have been some telephone conversations, but I
5 don't remember.

6 Q. Paragraph two talks about
7 discontinuing sewerage spent Arochlors within the
8 plant, do you see that?

9 A. Yes.

10 Q. That appears to be a reference to,
11 for instance, the sewerage of the heat exchanged
12 fluids from P2S5. Do you know whether there were
13 other departments at Krummrich that sewer spent
14 Arochlors?

15 A. I don't recall.

16 Q. Paragraph three appears to be some
17 of the tightening up kind of activities that we
18 discussed with respect to the Phenol reduction
19 program, is that a fair statement?

20 A. Yes.

21 Q. Did you approve those tightening up
22 activities at this time?

23 A. I don't recall. I assume that I
24 did.

25 (WHEREIN, Plaintiff's Deposition

PAUL B. HODGES, 6/1/94

1 Exhibit 19 was marked for identification by the
2 Court Reporter.)

3 Q. (By Mr. Ricci) Mr. Hodges, let me
4 show you a document that's been marked as Hodges
5 19, has Bates number CER 011119, and ask you to
6 take a look at that. I won't be asking you any
7 questions about Anniston, by the way.

8 A. Yes, I've looked at it.

9 Q. Is that your signature on the last
10 page of the document?

11 A. No.

12 Q. Do you know who ACD is?

13 A. No, apparently it is my secretary.

14 Q. On the first page of the document
15 you talk about not undertaking any expensive
16 projects until you know what levels of PCBs exist
17 in the receiving waters, do you see that?

18 A. Yes.

19 Q. What did you consider the receiving
20 waters for the Krummrich facility to be?

21 A. Sewers, I suppose the outfalls of
22 the river.

23 Q. Did you ever consider Dead Creek as
24 a potential receiving water of PCBs from the
25 Krummrich facility?

PAUL B. HODGES, 6/1/94

1 A. Not to my knowledge.

2 Q. Do you know why that was?

3 A. No, I don't really. I didn't think
4 it was very likely that the PCBs would move into
5 Dead Creek, that was an overflow thing, the PCBs
6 were heavier, it would tend to stay in the bottom
7 of the sewers.

8 Q. In the second paragraph on the first
9 page there's a reference to Dr. Tucker.

10 A. Yes.

11 Q. Who was that?

12 A. He was a research man in our
13 Research Department.

14 Q. General Offices?

15 A. Yes.

16 Q. Do you know what his involvement in
17 this endeavor was?

18 A. As spelled out he was called into
19 develop these techniques for measurement.

20 Q. There's a reference to manpower and
21 equipment priority problems, do you see that?

22 A. Yes.

23 Q. Do you know what those references
24 are about?

25 A. No.

PAUL B. HODGES, 6/1/94

1 Q. Do you know how, or who was
2 responsible for prioritizing allocation of
3 manpower and equipment to PCB reduction or PCB
4 investigation?

5 A. I don't know, it wouldn't have been
6 anybody, specifically. I think it may have been a
7 joint effort.

8 Q. Joint effort involving whom?

9 A. Of the laboratory people in the
10 plant, and the environmental people, and perhaps
11 even the business group.

12 Q. How high up the chain of command
13 would one have to go to resolve these kinds of
14 priority problems?

15 A. I don't recall.

16 Q. On the second page under paragraph
17 A-1, just take a look at that for a second. There
18 is a discussion of recent improvements in the
19 chlorinator off-gas cooling plus Brink mist
20 eliminators.

21 A. Yes.

22 Q. Do you know how recently those
23 improvements had been installed?

24 A. No.

25 Q. Do you have any recollection at all?

PAUL B. HODGES, 6/1/94

1 Was it five years? Was it twenty years?

2 A. No, it wasn't twenty years because
3 the Brink mist eliminators hadn't been around that
4 long.

5 Q. Do you know how long they had been
6 around?

7 A. No, but it certainly wasn't 20
8 years.

9 Q. Do you recall if, when you were
10 involved with production in Department 246 there
11 were Brink mist eliminators in that Department?

12 A. I don't remember.

13 Q. Do you know whether the off-gas from
14 Department 246 chlorinators was cooled during the
15 time that you were involved in production in
16 Department 246?

17 A. I don't remember that, no.

18 Q. Do you recall any devices that were
19 in place during the time that you were involved in
20 production in Department 246 that was designed to
21 remove organics from the HCl off-gas?

22 A. I don't recall.

23 Q. There's a statement in this memo
24 that, as a result of these recent improvements,
25 there's no longer any free Arochlor in the HCl

PAUL B. HODGES, 6/1/94

1 off-gas which comes out in catch pots?

2 A. Yes.

3 Q. Do you know what the catch pots are?

4 A. I don't remember, but I assume they
5 were in the off-gas line there, and probably a
6 place for material to drop out.

7 Q. Did you learn that the devices
8 discussed in this paragraph did not, in fact,
9 totally eliminate the Arochlors that were coming
10 off the chlorinator and the off-gas?

11 A. I don't recall, but it very
12 pointedly says that the catch pots never require
13 draining.

14 Q. What does that mean to you?

15 A. That means that the Brink mist
16 eliminators caught all the free material going in
17 the off-gas. They were, the Brink mist
18 eliminators were very efficient in that respect.

19 Q. I'm eliminating what's referred to
20 here as the free Arochlor, does that eliminate the
21 potential for any Arochlor being in the off-gas?

22 A. I don't know. It certainly, if
23 there's any dissolved in the off-gas, which I
24 question there would be, vapor pressure Arochlors
25 is very low, and it should not -- there shouldn't

PAUL B. HODGES, 6/1/94

1 be any significant amount in the off-gas.

2 Q. Do you recall having any problems
3 with Arochlors getting into the sewers through the
4 off-gas subsequent to the date of this memo which
5 is May 12, 1969?

6 A. No.

7 Q. You don't recall having any
8 problems?

9 A. No, I was not personally involved in
10 it.

11 Q. In your oversight of the PCB
12 reduction program, was there ever identified to
13 you PCBs getting into the sewers through the off-
14 gas subsequent to the date of this memo?

15 A. I don't recall.

16 Q. You state that there is no longer
17 any free Arochlor in the HCl off-gas which comes
18 out in the catch pots, and then you say, at one
19 time this was considerable, and you underline
20 considerable. Do you know how considerable the
21 free Arochlor in the HCl off-gas was prior to the
22 time these improvements were made?

23 A. No, I don't.

24 Q. Do you have any recollection of the
25 extent to which free Arochlors were discharged to

PAUL B. HODGES, 6/1/94

1 the sewers with the off-gas during the time you
2 were involved in production in Department 246?

3 A. I don't recall anything.

4 Q. Do you know why you underlined the
5 word considerable in this memo?

6 A. At that time I must have had some
7 knowledge that it was, I had been Department
8 Supervisor.

9 Q. The second paragraph opens with the
10 sentence, the only sewered source of loss of
11 significance is from leaks, spills, pump packing
12 glands, et cetera. Did you ever learn that that
13 was not in fact the case and that there were other
14 sources of significant PCB losses to the sewers?

15 A. Now we're talking about from the
16 Arochlors Production Department.

17 Q. Right.

18 A. I don't recall any such thing. I
19 might add it would have been very low amounts. We
20 had no techniques for measuring it at that time.

21 Q. How sensitive were the analytical
22 procedures at this time?

23 A. I don't recall, but throughout the
24 chemical industry we were really tightening down
25 on those analytical procedures with the

PAUL B. HODGES, 6/1/94

1 development of new equipment and so forth. We
2 went from being proud to measure parts per
3 million, to doing parts per billion, and that was
4 just part of the overall progress in the chemical
5 industry.

6 Q. And that process was evolving at
7 this time, in 1969?

8 A. Yes. It may still be evolving.

9 (WHEREIN, Plaintiff's Deposition
10 Exhibit 20-Hodges was marked for identification by
11 the Court Reporter.)

12 Q. (By Mr. Ricci) Mr. Hodges let me
13 show you a document that's been marked Plaintiff's
14 Exhibit 20, this is a document with Bates Number
15 CER 011292, and I would ask that you take a look
16 at it. Mr. Hodges, what was the Arochlor Ad Hoc
17 Committee?

18 A. A group, sort of informally set up
19 to handle the developing problem of PCBs.

20 Q. Were you a member of that committee?

21 A. Yes.

22 Q. Were the other individuals listed on
23 Hodges 20 members of that committee?

24 A. As I remember.

25 Q. Can you just go down the list and

PAUL B. HODGES, 6/1/94

1 identify those individuals for me?

2 A. Farrar was in the Research
3 Organization.

4 Q. When you say in the Research
5 Organization?

6 A. Yeah, of Monsanto.

7 Q. Organics Division?

8 A. No, I don't think we broke research
9 down by division. We may have, I don't think so.
10 I think he was just in the Research Department of
11 Monsanto.

12 Q. What was his first name?

13 A. What was the question?

14 Q. What was his first name?

15 A. I don't recall.

16 Q. Okay. The next one is yourself.

17 A. Yes. Next was Ed John and he had to
18 do with Public Relations.

19 Q. Was he also in the General Offices?

20 A. Yes.

21 Q. Okay. Next is?

22 A. And then Bill Richard. I think -- I
23 don't know, but I think he was research.

24 Q. How about --

25 A. Elmer Wheeler was in our medical

PAUL B. HODGES, 6/1/94

1 department.

2 Q. Was he a doctor?

3 A. I don't think so.

4 Q. Okay. Do you know if any of those
5 individuals are still with the company?

6 A. I don't know. Farrar and Wheeler
7 were somewhere around my age or older, so I'm sure
8 they're gone, I don't know about Ed John and Bill
9 Richard.

10 Q. I believe that earlier in the
11 deposition I had asked you about what approval, if
12 any, you needed to get in order or request a PCB
13 reduction program. Do you remember that?

14 A. Yes.

15 Q. And I believe in answering that
16 question you referred to a committee that was
17 formed, is that a fair statement?

18 A. I think so. I may have moved it.
19 I'm sure I moved ahead of the formation of this
20 committee.

21 Q. Let me --

22 A. Probably had one of my bosses okay
23 on it.

24 Q. None of these individuals on this
25 committee were your boss, is that right?

PAUL B. HODGES, 6/1/94

1 A. Right.

2 Q. Your boss was Mr. Hosmer.

3 A. That's right.

4 Q. Do you know if you had to get Mr.
5 Hosmer's approval to implement the PCB Reduction
6 Program?

7 A. I probably told him about it.

8 Q. For information or for approval?

9 A. Well, give him a chance to
10 disapprove.

11 Q. Do you know whether -- what was Mr.
12 Hosmer's title again, at this time?

13 A. I'm not certain. I think he was
14 technical production -- let's see, technical
15 Production Manager of the Organic Division. Now I
16 may be incorrect on that.

17 Q. Do you know who he reported to?

18 A. I don't remember who it was
19 specifically at that time, but he reported to, it
20 was production, I guess Production Manager of the
21 Organic Division, that was the title, and that
22 could have been Fred Holzapfel, and it could have
23 been Bob Zonden, those are the ones that I
24 remember.

25 Q. Do you know if any approvals were

PAUL B. HODGES, 6/1/94

1 required above Mr. Hosmer in order to implement
2 the PCB Reduction Program?

3 A. Well, on the individual projects
4 that came through, there was an orderly system for
5 approval. If the amount was large, I think it
6 went to somebody in the business group.

7 Q. Were you in the business group?

8 A. No.

9 Q. Was Mr. Hosmer in the business
10 group?

11 A. No.

12 Q. What was the business group?

13 A. These were people working with
14 specific chemical like Phenol, there was some
15 group that had Phenols as their responsibility,
16 another business group that dealt with PCBs,
17 people that were involved in sales and
18 administration, generally.

19 Q. They were the ones that had to
20 approve capital expenditures.

21 A. Of any consequence.

22 Q. Do you know what the upset figure
23 was for?

24 A. No.

25 Q. Capital expenditures going through

PAUL B. HODGES, 6/1/94

1 the business group?

2 A. No, no.

3 Q. Did the plant level people have
4 authority for any capital expenditures at any
5 level?

6 A. Small, I'm sure.

7 Q. But you can't --

8 A. But I don't know the figure.

9 Q. You can't define what small is or in
10 any way refine?

11 A. No, I don't remember.

12 Q. Do you know how high up in the chain
13 of command was made aware of this potential
14 problem with PCBs in the environment?

15 A. I don't recall, but I assume it got
16 to the top level management in Monsanto.

17 Q. Referring back to Hodges 20, there
18 are first listed some objectives of the committee.

19 A. Yes.

20 Q. Do you see that?

21 A. Right.

22 Q. The first objective is to permit the
23 continued sales and profit of Arochlors and
24 Terphenyls?

25 A. Yes.

PAUL B. HODGES, 6/1/94

1 Q. What are Terphenyls?

2 A. I don't recall. I think it's
3 perhaps a mixture of Arochlors and something else,
4 but I don't remember.

5 Q. The next objective is to permit the
6 continued development of uses and sales, is that
7 correct?

8 A. Correct.

9 Q. Can I understand from that, that at
10 this point in time Monsanto is still interested in
11 expanding its PCB business?

12 A. Apparently, I mean that's what it
13 says.

14 Q. Is that consistent with your
15 recollection of Monsanto's attitude at the time?

16 A. I think that's probably correct.
17 You understand we had not defined the problem at
18 that time.

19 Q. Was one of the objectives of this
20 committee to define the problem?

21 A. Oh, I'm sure it was a more specific
22 objective, but these overall objectives were it,
23 and defining a problem fitted in there.

24 Q. One of the objectives was to protect
25 the image of the Organic Division and of the

PAUL B. HODGES, 6/1/94

1 corporation?

2 A. Right.

3 Q. What steps were taken to further
4 that objective?

5 A. Well, over all, overall program was
6 designed to do that, find out what the facts were
7 and what we could do, and how much of a problem it
8 really was. We were -- did not appreciate having
9 Monsanto painted as environmentally irresponsible,
10 and we were not.

11 Q. In the background discussion of the
12 problem under paragraph one you state that
13 Arochlor 1242 has not yet been incriminated. Do
14 you know what you mean by that?

15 A. Apparently it has not been found in
16 any of these studies that were being done.

17 Q. The bird egg studies and things like
18 that?

19 A. I'm assuming that, yes.

20 Q. And then you list some possible
21 reasons why that is and one of the reasons is the
22 nature of the uses of 1242.

23 A. Yes.

24 Q. What were you referring to there?
25 What was the nature of the uses of 1242 that

PAUL B. HODGES, 6/1/94

1 minimized the environmental contamination?

2 A. I don't remember.

3 Q. Under paragraph B you state, it may
4 degrade biologically, do you see that?

5 A. Yes, we didn't know at that time.

6 Q. Why did you suspect that it might
7 degrade biologically?

8 A. Because it was lower chlorinated.

9 Q. The lower the chlorination the more
10 likely it would biodegrade.

11 A. That's reasonable.

12 Q. Do you know what it would biodegrade
13 into?

14 A. Nothing much, probably break down
15 into little salt, and some, perhaps, CO₂, and H₂O.

16 Q. Would it biodegrade from a higher
17 Arochlor into a lower Arochlor?

18 A. I don't know, I doubt it.

19 Q. The third possible reason for 1242
20 not yet being incriminated is that it could be
21 destroyed by oxygenation depending on the
22 analytical technique, what do you mean by that?

23 A. I don't remember the specifics of
24 it, but apparently there must have been some high
25 temperature handling in the analytical technique

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1 or oxidation by something. And 1242 logically can
2 be more easily destroyed by oxidation than the
3 higher Arochlors.

4 Q. On the second page under paragraph 6
5 there's a discussion of the Escambia River
6 problem, and some samples that had been taken from
7 river water and mud.

8 A. Uh-huh.

9 Q. Where is the Escambia River?

10 A. Down off of Pensacola, as I recall.

11 Q. Can I understand from this memo that
12 laboratory techniques had been developed by this
13 time to identify PCBs in environmental medium to
14 the parts per billion level?

15 A. I don't know. We didn't have it at
16 Monsanto and there were maybe independent
17 researchers out there that had a method or thought
18 they had a method.

19 Q. Do you know who was doing this
20 sampling?

21 A. No.

22 Q. At the Escambia River?

23 A. No.

24 Q. Did you take any steps to avail
25 yourselves of the sampling technique that had been

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1 employed in this particular sampling?

2 A. I don't recall, this would have been
3 up to the Research Department in developing this
4 method.

5 Q. Was there anybody in this ad hoc
6 committee who was responsible for interfacing with
7 the Research Department on sampling techniques?

8 A. They are Bill Richard or Farrar. I
9 don't recall which.

10 Q. On page three of the memo, the third
11 paragraph, there is a discussion of air pollution
12 reduction.

13 A. Yes.

14 Q. You did not believe PCB air
15 pollution was a significant problem at this point
16 in time.

17 A. That's correct.

18 Q. Did you ever discover that losses of
19 PCBs to the air did, in fact, occur?

20 A. I don't recall. I can assume that
21 we did check for it later.

22 Q. Do you recall whether any steps were
23 ever taken at Krummrich to reduce air discharges
24 of PCBs?

25 A. I don't recall. It shouldn't have

PAUL B. HODGES, 6/1/94

1 been very much because the vapor pressure was very
2 low.

3 Q. Under paragraph under number 8 the
4 second paragraph, there's a statement that the
5 rate of natural biodegradation of PCBs is very
6 low, and underlined, and very low is underlined,
7 do you see that?

8 A. Yes.

9 Q. Was that a fact that had been
10 confirmed by Monsanto as of September of 1969?

11 A. I don't recall, or whether we just
12 assumed it, I don't know. We entered, from other
13 correspondence I've seen, we entered into a lot of
14 degradation studies, and what the status was at
15 that time, I don't recall.

16 Q. Do you recall what the results of
17 these biodegradation studies were?

18 A. Not really.

19 Q. Do you know if they confirmed the
20 biodegradation of PCBs was very low?

21 A. I don't recall, but I think they
22 did.

23 (WHEREIN, Plaintiff's Deposition
24 Exhibit 21 was marked for identification by the
25 Court Reporter.)

PAUL B. HODGES, 6/1/94

1 Q. (By Mr. Ricci) Mr. Hodges, let me
2 show you Hodges 21 for identification, this is a
3 document with CER 010897, and I would ask you to
4 take a look at that. I don't have a lot of
5 questions on this document, so maybe I can just
6 ask you some questions and if you need to refer to
7 it to give me the answers you can. This was a
8 document that you apparently are copied on, is
9 that correct?

10 A. That's right.

11 Q. Who is Mr. Bigge?

12 MR. HEINEMAN: We covered that
13 yesterday.

14 THE WITNESS: I don't recall.

15 Q. (By Mr. Ricci) Did he recall
16 yesterday?

17 MR. HEINEMAN: No.

18 Q. (By Mr. Ricci) How about Mr.
19 McCutchan?

20 A. I don't recall that name either.

21 Q. There are some recommendations for
22 changes to be made in the Arochlor department in
23 this memo, and my question to you is whether you
24 had any involvement in the development of these
25 recommendations?

PAUL B. HODGES, 6/1/94

1 A. No, not specifically.

2 Q. This was just another example of
3 your giving a general order and these are the
4 plant people following through on it?

5 A. Yes.

6 Q. On the second page under the
7 signature line, it identifies Barton L. Bigge,
8 Mechanical Design Group, does that refresh your
9 recollection at all as to Mr. Bigge?

10 A. I don't know him.

11 Q. What was the Mechanical Design
12 Group?

13 A. I'm not sure, there were some
14 changes made in the overall setup in the way of
15 doing business over at the Krummrich Plant, and I
16 don't recall who this was, whether it was in the
17 Technical Services or in the Mechanical
18 Department, I don't know.

19 (WHEREIN, Plaintiff's Deposition
20 Exhibit 22 was marked for identification by the
21 Court Reporter.)

22 Q. (By Mr. Ricci) Mr. Hodges, let me
23 show you a document, Bates Number CER 011305,
24 Plaintiff's Exhibit 22, and ask you to take a look
25 at it. Do you recognize this document?

PAUL B. HODGES, 6/1/94

1 A. Only from having seen it a year ago.

2 Q. This was used in the deposition that
3 you gave a year ago?

4 A. Yes.

5 Q. Who was Mr. Bergen?

6 A. I believe he was head of the
7 business group that included PCBs.

8 Q. How about Mr. Springate?

9 A. In there some place.

10 Q. Also in the business group?

11 A. I think, yes.

12 Q. Do you have any recollection that
13 these are the individuals to whom the ad hoc
14 committee would be reporting?

15 A. Well it's logical, I have no
16 recollection of it.

17 Q. If you flip over to the second page
18 there is some handwriting at the top of the page,
19 is that your handwriting?

20 A. Not that I know of.

21 Q. It doesn't look like it to you.

22 MR. HEINEMAN: I'm not sure you two
23 are on the same page.

24 THE WITNESS: I'm sorry, I'm on the
25 second page.

PAUL B. HODGES, 6/1/94

1 MR. HEINEMAN: Here.

2 THE WITNESS: No, that's not mine,
3 it doesn't look like my writing.

4 Q. (By Mr. Ricci) And the handwriting
5 on the next page is also not your handwriting?

6 A. It doesn't appear to be.

7 Q. Do you know whose handwriting it is?

8 A. No.

9 Q. On the -- on page three of the
10 document under the heading recommendations, it
11 looks like this document is being edited by
12 somebody, is that a fair statement?

13 A. That's correct.

14 Q. Do you know who was doing the
15 editing here?

16 A. No, I don't even know who wrote it.

17 Q. Under the paragraph that was
18 originally numbered four and then is handwritten
19 number two, do you see that paragraph?

20 A. Yes. Yes, I see it.

21 Q. It was originally reduce losses of
22 Arochlors in liquid wastes from Monsanto plants to
23 absolute minimum and then absolute is struck, and
24 then originally it had goal zero to ten parts per
25 billion, and it's been inserted for 1254 and 1260,

PAUL B. HODGES, 6/1/94

1 the goal is zero, zero to less than 5 parts per
2 billion, do you see that?

3 A. Yes, I see, uh-huh.

4 Q. Do you know why these -- let me go
5 back. Do you have any recollection of the
6 committee's recommendations with respect to the
7 issues discussed in the paragraph that I just
8 quoted to you?

9 A. Are you referring to this number
10 two?

11 Q. Right, number two, previously number
12 4.

13 A. No, I don't know why the changes are
14 there.

15 Q. Do you know what the committee
16 ultimately recommended in this regard?

17 A. No.

18 Q. Under paragraph 6, there's a
19 reference to analyzing selected appropriate
20 samples from environment of Anniston and WGK
21 plants, do you see that?

22 A. Yes.

23 Q. Did the environment of the WGK
24 plant, which I assume is the Krummrich plant,
25 include any samples from Dead Creek?

PAUL B. HODGES, 6/1/94

1 A. I don't know.

2 Q. On page 11 of the memo there's a
3 discussion of budgetary considerations. Was it
4 the committee's view that expenditures on PCB
5 discharge reduction were justified in order to
6 protect the business?

7 A. That's what it says, yes.

8 Q. Do you have any recollection of that
9 being the committee's view?

10 A. Not specifically.

11 Q. Generally?

12 A. It's reasonable.

13 Q. Do you recall any other
14 justifications for expenditures on PCB reduction?

15 A. No.

16 (WHEREIN, Plaintiff's Deposition
17 Exhibit 23 was marked for identification by the
18 Court Reporter.)

19 Q. (By Mr. Ricci) Let me show you a
20 document marked as Hodges 23 for identification.
21 This is a document with Bates number CER 015685.
22 Is that your signature on the last page of the
23 document?

24 A. Yes, it appears to be.

25 Q. This is a memo from you to a Mr. W.

PAUL B. HODGES, 6/1/94

1 A. Kuhn, K-U-H-N?

2 A. Yes.

3 Q. Who is Mr. Kuhn?

4 A. I don't recall what his position
5 was, whether he was Superintendent of a group that
6 included Arochlors at the plant or whether he was
7 out of the General Office yet, I don't know.

8 Q. Do you recall that at various times
9 Mr. Kuhn worked at Krummrich and in the general
10 offices?

11 A. Yes.

12 Q. Do you recall what his position was
13 at Krummrich?

14 A. Not specifically. I think he came
15 up from probably being the Supervisor and was made
16 a Superintendent. He was never Plant Manager or
17 anything like that.

18 Q. From Krummrich he moved into General
19 Offices?

20 A. I assume.

21 Q. Do you know or --

22 A. No, I don't know, but I knew he was
23 in General Offices, he may have gone some place
24 else in the mean while.

25 Q. Can you tell by this memo whether

PAUL B. HODGES, 6/1/94

1 he's in the General Offices or at Krummrich?

2 A. No, wait I'm rather guessing that he
3 was still in the plant.

4 Q. There is -- after his name in the
5 top line of the memo, there is a number 4 in
6 parentheses.

7 A. Yes.

8 Q. Do you see that?

9 A. Yes.

10 Q. Do you know what that refers to?

11 A. I can assume that he got four copies
12 of this. On relooking at this, I could probably
13 assume that he was out at the General Offices.

14 Q. Why is that?

15 A. Well it wouldn't make much sense for
16 me to be writing somebody in the plant, the
17 Superintendent of the plant, it would be up to the
18 plant people to write their Superintendent. So I
19 don't know.

20 Q. On the second page of the document,
21 the first full paragraph, there's a discussion of
22 air sampling. Do you know whether an air sampling
23 program was ever developed?

24 A. I don't recall.

25 Q. Under the heading waste reduction,

PAUL B. HODGES, 6/1/94

1 there's a discussion of the proposal to install
2 sumps to eliminate sewerage of undissolved
3 Arochlors.

4 A. Correct.

5 Q. Do you know whether those sumps were
6 ever installed?

7 A. No, I don't.

8 Q. How would sumps eliminate the
9 discharge or the sewerage of undissolved
10 Arochlors?

11 A. They would trap any free Arochlors
12 by settling to the bottom of the sumps.

13 Q. Is it fair to state that by, that
14 Monsanto's consideration of installing these sumps
15 at this point suggests that undissolved Arochlors
16 were being discharged to the sewer at this time?

17 A. I think that's a fair statement,
18 otherwise we wouldn't be doing it.

19 Q. Do you know the extent to which
20 undissolved Arochlors were being discharged to the
21 sewers?

22 A. No.

23 (WHEREIN, Plaintiff's Deposition
24 Exhibit 24 was marked for identification by the
25 Court Reporter.)

PAUL B. HODGES, 6/1/94

1 Q. (By Mr. Ricci) Mr. Hodges, let me
2 show you a document that's been marked as Hodges
3 24, and ask you to take a look at it. This is a
4 document with Bates Number CER 010879. Who is Mr.
5 Tucker?

6 A. Research chemist.

7 Q. At Krummrich?

8 A. No. At -- it shows him at South
9 2nd.

10 Q. What's that?

11 A. Well that was the Old Queeny plant.

12 Q. In St. Louis?

13 A. Yes, I think these people were later
14 moved out to the general offices.

15 Q. This is to Mr. Pierle, who was at
16 Krummrich, correct?

17 A. That's right.

18 Q. And you were copied on this memo.

19 A. Yes.

20 Q. As well as the other members of the
21 ad hoc committee.

22 A. Correct.

23 Q. There's a discussion of some
24 sediment sampling that was undertaken with respect
25 to the Mississippi River sediments, is that

PAUL B. HODGES, 6/1/94

1 correct?

2 A. That's what it says, yes.

3 Q. He says in two cases significant
4 amounts of the heavier materials were present with
5 respect to the Arochlor 1242 content. Do you know
6 what that means?

7 A. No. Apparently there was more of
8 the higher Arochlors than there was 1242, that's
9 what it says.

10 Q. Now if you look at the sample
11 results that are listed in this memo under the
12 amount found column, it says reported as Arochlor
13 1242, do you see that?

14 A. Yes. I don't know what that means.

15 Q. My question was whether, in light of
16 the statement from above, regarding the heavier
17 Arochlors, whether the sample results listed under
18 that column that I just quoted to you are, in
19 fact, understating the total PCB content in the
20 samples?

21 A. I don't know how they converted it
22 to 1242.

23 Q. Did you have any reaction to these
24 sampling results when they were presented to you?

25 A. I don't recall.

PAUL B. HODGES, 6/1/94

1 Q. Do you recall whether -- do you
2 recall whether you viewed sediment samples showing
3 PCB contents in the parts per million range as
4 being serious?

5 A. I don't recall.

6 Q. Do you know where these sampling
7 locations were?

8 A. No.

9 Q. Do you know what the Monsanto
10 document is?

11 A. Vaguely, I mean it was out on the
12 river. I don't recall where.

13 Q. Do you know where it was in relation
14 to the, for instance, the Village of Sauget Sewage
15 Treatment Plant?

16 A. No, I do not.

17 Q. The Krummrich facility did about the
18 river, didn't it?

19 A. I don't remember. I don't think
20 that it did, but I'm not certain.

21 Q. Was any consideration given to
22 possible remedial measures that could be taken
23 with respect to the PCB contaminated sediments
24 identified in this memo?

25 A. Not that I recall.

PAUL B. HODGES, 6/1/94

1 (WHEREIN, Plaintiff's Deposition
2 Exhibit 25 was marked for identification by the
3 Court Reporter.)

4 Q. (By Mr. Ricci) Mr. Hodges, let me
5 show you a document that's been marked as Hodges
6 25, this is a document with Bates Number CER
7 013374. This is a memo from yourself to Mr.
8 Hosmer, and I would like to direct your attention
9 to the first paragraph. In the first paragraph
10 you talk about Phenol losses dropping from 1,431
11 pounds a day to dropping to 1622 pounds a day, do
12 you see that?

13 A. Yes.

14 Q. I believe yesterday, when we were
15 talking yesterday about the Phenol reduction
16 program you indicated that the goal was 1,000
17 pounds a day.

18 A. That's correct.

19 Q. Did you ever reach that goal?

20 A. I thought we did, but I don't
21 recall. I thought we got there, approximately. I
22 don't know why it was that high during that period
23 because I think these appear to been abnormally
24 high, as I recall.

25 Q. Uh-huh. You say in this memo, Phenol

PAUL B. HODGES, 6/1/94

1 in well water still high at 700 pounds a day. Did
2 you view that as a possible contributing factor to
3 the losses that you were seeing in the sewers?

4 A. Yes.

5 Q. Did the Krummrich facility use well
6 water?

7 A. Yes.

8 Q. Do you know how extensively? How
9 extensively you used well water?

10 A. A lot of it for our cooling.

11 Q. Was the well water ever tested for
12 PCBs?

13 A. Not to my knowledge.

14 Q. As part of the PCB reduction
15 program, did you ever do any evaluation of whether
16 well water was perhaps contributing to the PCBs
17 that were being released to the sewers?

18 A. Not to my knowledge.

19 Q. Do you know why that was not
20 considered?

21 A. No, I don't really know why we
22 didn't check it. We checked, I can say we checked
23 the Phenol in the well water because of an old,
24 old installation. I think even before Monsanto
25 owned the plant there had been a Phenol Department

PAUL B. HODGES, 6/1/94

1 there, and well water from that area had Phenols
2 in it. This is, you know 1910, 1920.

3 Q. How do you know that?

4 A. History, I mean I was the one that
5 found the, in my work there, I found the phenols
6 in the well water. In looking back, I discovered
7 that that was the site of a old, old plant.

8 Q. To some extent, the PCB reduction
9 program was modeled after the Phenol reduction
10 program, is that a fair statement?

11 A. I would say so, yes.

12 Q. But there was never any evaluation
13 of the well water as a possible source of PCB loss
14 in the sewer system.

15 A. I don't know.

16 Q. Did you ever recommend that that
17 evaluation take place?

18 A. No. There was, you might say a
19 retrospect, there was no reason to particularly,
20 it might have been done, but PCBs would not leech
21 out like phenols.

22 Q. Why is that?

23 A. Solubility is entirely different,
24 Phenol is much more soluble, PCBs are essentially
25 insoluble.

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1 Q. You didn't look at it that ground
2 water contamination could be contributing to the
3 PCB losses in the sewer?

4 A. In hindsight, that's right, but I
5 don't remember.

6 Q. So what you're saying, as you sit
7 here today, it's probably not likely that you
8 don't think it's likely that PCBs -- let me finish
9 and then you can answer.

10 A. Okay.

11 Q. As you sit here today, you don't
12 think it's likely that PCB contaminated ground
13 water was contributing to losses to the sewer, but
14 you don't know whether you considered it back
15 then?

16 A. That's a fair statement.

17 Q. But in any event, you don't believe
18 that you recommended ground water sampling as a
19 part of the PCB reduction program.

20 A. There's no evidence of it that I've
21 seen.

22 (WHEREIN, Plaintiff's Deposition
23 Exhibit 26 was marked for identification by the
24 Court Reporter.)

25 Q. (By Mr. Ricci) Mr. Hodges, let me

PAUL B. HODGES, 6/1/94

1 show you a document that's been marked as Hodges
2 26 and ask you to take a look at it. This is a
3 document with Bates Number CER 01209 -- I'm sorry,
4 yes, 909.

5 MR. HEINEMAN: Come again?

6 Q. (By Mr. Ricci) CER, 012909.

7 MR. HEINEMAN: Thank you.

8 Q. (By Mr. Ricci) This is a memo from
9 Mr. McCutchan to a Mr. Papageorge

10 A. Yes.

11 Q. You appear to have been copied on
12 this document, is that correct?

13 A. Yes.

14 Q. Who is Mr. Papageorge?

15 A. He was in one of the business
16 departments, and my recollection is that he was
17 placed in charge overall of the PCB problems.
18 This was later in the ad hoc committee, somewhat.

19 Q. Do you know, this document is dated
20 April 7th, 1970, correct?

21 A. Yes.

22 Q. Do you know whether the ad hoc
23 committee was still meeting at that point in time?

24 A. I don't remember.

25 Q. Do you know whether there was a time

PAUL B. HODGES, 6/1/94

1 when Mr. Papageorge was given responsibilities for
2 PCBs when the ad hoc committee was still meeting
3 and considering those issues, as well?

4 A. I don't remember whether it was at
5 the same time or later or whether he succeeded the
6 ad hoc committee, I don't know.

7 Q. Was Mr. Papageorge at this time
8 attached to the Organic Division of the company?

9 A. Yes.

10 Q. Do you know who it was that gave him
11 responsibilities for PCBs?

12 A. No.

13 Q. Was it Mr. Hosmer?

14 A. No, it would have been higher up
15 than that.

16 Q. Higher up than Mr. Hosmer?

17 A. Yes.

18 Q. Was Mr. Papageorge originally in the
19 Organics Division? When I say originally, I mean
20 prior.

21 A. He had been in it.

22 Q. Do you know if he had any background
23 or experience with respect to PCBs?

24 A. Not specific. He had been Plant
25 Manager, I believe of the Queeny Plant, and maybe

PAUL B. HODGES, 6/1/94

1 even of the Anniston Plant. I don't recall. But
2 he had had a number of management positions.

3 Q. Do you know if he is still with the
4 company?

5 A. I have no idea, I doubt it. That's
6 a long time ago.

7 Q. There's a discussion in this memo of
8 samples being taken at the water line of the
9 Mississippi River. Do you see that?

10 A. Yes.

11 Q. Can you tell whether those are
12 sediment samples or water samples?

13 A. I don't know what he means by water
14 line?

15 Q. And you don't know whether, what
16 media is being sampled here or what medium is
17 being sampled?

18 A. It may have been just samples taken
19 off of the top of the river, I don't know.

20 Q. There's a handwritten notation at
21 the top of this memo, wild life.

22 A. Yes.

23 Q. Is that your handwriting?

24 A. No.

25 Q. Was Mr. Papageorge given a title

PAUL B. HODGES, 6/1/94

1 when he was assigned responsibility for PCBs?

2 A. I don't know.

3 Q. Do you recall how long he was -- he
4 held that position?

5 A. No.

6 Q. Do you recall if he held any, do you
7 recall him holding any position other than having
8 responsibility for PCBs at this time?

9 A. I believe not.

10 Q. This was his full-time job?

11 A. Yes.

12 Q. Do you recall whether he moved onto
13 other positions subsequent to having this PCB
14 role?

15 A. I don't recall.

16 Q. Did you interact with Mr. Papageorge
17 on any kind of a regular basis while he was
18 responsible for PCBs?

19 A. I'm sure I did. I don't know if it
20 was a regular basis. Like a weekly or monthly
21 meeting, I doubt it, but I'm certain I reacted
22 with him.

23 Q. Did your role with respect to PCB
24 reduction change when Mr. Papageorge came on the
25 scene?

PAUL B. HODGES, 6/1/94

1 A. I don't recall.

2 Q. There's a discussion at the bottom
3 of page one of this memo of known losses to the
4 sewer in March, and references to Department 243
5 and Department 251. Do you know what those
6 departments are?

7 A. 243 was, I think a Little
8 Phosphorus, what we called the Little Phosphorus
9 area, and frankly, I don't remember why we would
10 have had Arochlor losses there. I don't remember
11 using Arochlor there. We may have. Department
12 251, I don't remember what that was.

13 Q. On the second page of this memo
14 there is a discussion, or there's a list of
15 current work numbers 1 through 5.

16 A. Uh-huh.

17 Q. Did you have any involvement in any
18 of these projects?

19 A. Not specific.

20 Q. Generally, did you have any
21 involvement?

22 A. Well, it would have been very
23 general. I mean I was kept informed. That was
24 about it, and had I been dissatisfied with the
25 progress I would have done something.

PAUL B. HODGES, 6/1/94

1 Q. Do you recall ever having to take
2 any actions with respect to any of these projects
3 because you were dissatisfied with what was being
4 done?

5 A. No.

6 Q. Do you remember having to take any
7 action with respect to any aspects of the PCB
8 reduction program because you were dissatisfied
9 with what was being done?

10 A. No.

11 Q. I'm sorry. My question could have
12 been clearer, is your answer no, you don't
13 remember or no, you never took any action?

14 A. No, I don't remember taking any
15 action. My general recollection is that I thought
16 the actions of the plant were very good.

17 Q. Do you recall the plant developing a
18 daily discharge goal of 10 parts per billion?

19 A. No.

20 Q. Or two point three pounds a day
21 discharge goal?

22 A. Not from memory.

23 Q. Do you know Mr. Engman?

24 A. Yes.

25 Q. Who was he?

PAUL B. HODGES, 6/1/94

1 A. Chemist.

2 Q. Was he at Krummrich?

3 A. Yes. He may have moved his general
4 offices later, I don't know.

5 Q. During this?

6 A. I think he was at Krummrich. And I
7 think he was in the laboratory.

8 Q. Do you recall his role, if any, in
9 the PCB reduction program?

10 A. No.

11 (WHEREIN, Plaintiff's Deposition
12 Exhibit 27 was marked for identification by the
13 Court Reporter.)

14 Q. (By Mr. Ricci) Mr. Hodges, let me
15 hand you a document that's been marked as Hodges
16 27. This is a document with Bates number CER
17 012879 and I'll ask you to take a look at that.
18 Mr. Hodges, who was Mr. Savage?

19 A. He was in the Business Group.

20 Q. PCB?

21 A. I don't know his title.

22 Q. PCB Business Group?

23 A. Perhaps others, as well.

24 Q. Was he above or below Mr. Bergen?

25 A. He reported to Harold Bergen who was

PAUL B. HODGES, 6/1/94

1 head of that business group.

2 Q. What other products were in that
3 business group besides PCBs?

4 A. I don't know.

5 Q. Do you know what Mr. Savage's role
6 was in the PCB Reduction Program?

7 A. No, I don't know, specifically. He
8 was in the business group and he was apparently
9 reporting to Bill Papageorge on what they had
10 done.

11 Q. Why was Mr. Savage reporting to Mr.
12 Papageorge on what was being done?

13 A. Well part of the progress made by
14 the department of the plant.

15 Q. The plant reported back to the
16 business group?

17 A. Yes. Well, in a manner yes, of
18 course.

19 Q. You're copied on this memo, is that
20 correct?

21 A. Appears to be, yes.

22 Q. On the first page of the memo with
23 respect to the Anniston Plant, there is a
24 statement that their Arochlor losses averaged
25 three pounds a day. Do you see that?

PAUL B. HODGES, 6/1/94

1 A. I see it.

2 Q. And that there were four high daily
3 values that account for 1.8 pounds a day.

4 A. Yes.

5 Q. If you flip over to the discussion
6 of Krummrich on the next page, there is a
7 statement that the Krummrich plant losses were
8 equivalent to 86 pounds a day. Do you see that?

9 A. That's from the treatment plant,
10 that isn't necessarily the Krummrich plant.

11 Q. Okay. That's losses to the
12 treatment plant?

13 A. That's right.

14 Q. Losses from the treatment plant to
15 the river?

16 A. That's right.

17 Q. Do you know whether during this time
18 period Anniston was experiencing lower PCB losses
19 than Krummrich?

20 A. I don't recall. Reading from this,
21 apparently there were, but I don't know.

22 Q. Why was that?

23 A. Perhaps different circumstances.

24 Q. Do you know?

25 A. I don't know the circumstances.

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1 (WHEREIN, Plaintiff's Deposition
2 Exhibit 28 was marked for identification by the
3 Court Reporter.)

4 Q. (By Mr. Ricci) Mr. Hodges, let me
5 show you Hodges 28, which is a document with Bates
6 Number CER 012916. Under paragraph A on the first
7 page there's a discussion of losses, Arochlor
8 losses from the Arochlor Department and losses
9 from the Sauget Village Treatment Plant. Do you
10 see that?

11 A. Yes.

12 Q. There is a rather significant
13 difference between the losses from the department
14 and the losses from the treatment plant, is that a
15 fair statement?

16 A. Yes.

17 Q. Do you know why there was such a
18 discrepancy at this point between the losses from
19 the Arochlor Department and the losses from the
20 treatment plant?

21 A. I don't know why, but it's pretty
22 obvious that there were other contributors.

23 Q. In fact, paragraph C under the
24 Krummrich Plant discusses sampling from other
25 industrial plants to determine whether they're

PAUL B. HODGES, 6/1/94

1 contributing to the losses of the treatment plant?

2 A. That's what it says.

3 Q. Do you recall that effort being
4 undertaken?

5 A. No.

6 Q. Do you recall whether you were ever
7 advised of the results of any of those efforts?

8 A. I don't recall. I may have been
9 sent some reports, but I don't remember.

10 Q. Let's see if we can find one and see
11 if that refreshes your recollection.

12 (WHEREIN, Plaintiff's Deposition
13 Exhibit 29 was marked for identification by the
14 Court Reporter.)

15 Q. (By Mr. Ricci) Mr. Hodges, let me
16 show you Hodges 29 which is a document with Bates
17 number CER 011220. This is a memo from Mr. Engman
18 to Mr. Savage, and if you look on the second page
19 you'll see that Mr. Engman is identified as being
20 attached to the Technical Services Department.
21 Does that refresh your recollection at all about
22 what Mr. Engman's role was in the PCB reduction
23 program?

24 A. Slightly, apparently he transferred
25 from the laboratory into tech services.

PAUL B. HODGES, 6/1/94

1 Q. Tech services was the department
2 that you worked in when you were the stream
3 pollution engineer, is that right?

4 A. Yes.

5 Q. That was also the department that
6 Mr. Pierle was in.

7 A. That's right.

8 Q. At the time he was involved in PCB
9 reduction.

10 A. Yes.

11 Q. Mr. Buckley was also in that
12 department when he was involved in PCB reduction.

13 A. Now, in 1971 I see Paul Heisler on
14 the distribution. He may have picked up the
15 environmental work.

16 Q. From --

17 A. As part of the safety work.

18 Q. Picked it up from Mr. Pierle?

19 A. Or Larry Buckley.

20 Q. Although Mr. Buckley is on the
21 distribution list.

22 A. Heisler, as I recall was a
23 Superintendent, and I think, perhaps the
24 environmental work was transferred to his
25 department. He had safety, fire, and

PAUL B. HODGES, 6/1/94

1 environmental.

2 Q. How about Mr. Foresman?

3 A. He was one of the fellows working in
4 the group.

5 Q. Mr. Hodges, does Hodges 29 refresh
6 your recollection at all as to PCB samples taken
7 with respect to other contributors to the Village
8 sewer system?

9 A. I don't recall it.

10 Q. Do you see the sampling results that
11 are set forth under paragraph I-C?

12 A. Yes.

13 Q. You don't recall reviewing those
14 results?

15 A. No, I don't recall it.

16 Q. There is a reference to a sample
17 being taken from Cerro Copper & Brass, do you see
18 that?

19 A. Yes.

20 Q. Do you know where that sample was
21 taken?

22 A. No.

23 Q. Do you know who would be a good
24 person to ask where that sample was taken?

25 A. Engman if he is still around.

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PAUL B. HODGES, 6/1/94

1 Q. Do you know if Mr. Engman was
2 actually doing the sampling or whether somebody
3 else was doing it?

4 A. I don't know.

5 Q. There's an indication that a sample
6 was taken from Dead Creek, do you see that?

7 A. Yes.

8 Q. Do you know where that sample was
9 taken?

10 A. No

11 Q. Do you know why they were sampling
12 from Dead Creek?

13 A. No.

14 Q. There's a statement that the only
15 significant quantity is the PCBs from the Village
16 Sewer. Do you see that?

17 A. Yes.

18 Q. And then Mr. Engman goes on to
19 attribute that to, as a probable source, Arochlor
20 trailer washes at Rogers Terminal.

21 A. Yes.

22 Q. Do you know what Rogers Terminal
23 was?

24 A. I don't really recall. Frankly, I
25 don't know where it was.

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1 Q. Do you know what it was?

2 A. I think it was a trucking company, I
3 believe. But I don't remember.

4 Q. Did Rogers do trucking for Monsanto?

5 A. I don't remember.

6 Q. How would Rogers come to have
7 Arochlors in his trailers?

8 A. I can only guess that they hauled
9 Arochlors.

10 Q. When you were involved in PCB
11 production, did you have any dealings with Rogers?

12 A. No.

13 Q. Did you have any dealings with any
14 trucking companies?

15 A. No.

16 Q. Who was responsible for dealing with
17 trucking companies? Was that out of a different
18 department than production?

19 A. Oh I'm sure, yes.

20 Q. Do you know if Arochlors were ever
21 hauled by truck?

22 A. I don't recall. Apparently they
23 must have been, judging from this.

24 (WHEREIN, Plaintiff's Deposition
25 Exhibit 30 was marked for identification by the

PAUL B. HODGES, 6/1/94

1 Court Reporter.)

2 Q. (By Mr. Ricci) Mr. Hodges, let me
3 show you Hodges-30, which is a document with Bates
4 Number CER 011664. This is a memo from Mr.
5 Papageorge to Mr. Savage and you appear to be
6 copied on this memo, is that correct?

7 A. That's correct.

8 Q. Can you just review the second
9 paragraph of this memo? There's a discussion of
10 high levels of PCBs being trapped in the soil and
11 sewer systems, do you see that?

12 A. Yes.

13 Q. Do you know what the basis was for
14 Mr. Papageorge's conclusion that there were high
15 levels of PCBs trapped in the soil and the sewers?

16 A. I don't know where he got that
17 information.

18 Q. Did you disagree with that
19 conclusion by Mr. Papageorge?

20 A. Now or then or what?

21 Q. Well we'll start with then.

22 A. No, I question -- I don't recall,
23 but I don't suppose that I did.

24 Q. What about now?

25 A. I would question about the PCBs

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1 trapped in the soil and if there is some in the
2 sewer system, I wouldn't question that.

3 Q. How would PCBs trapped in the sewers
4 be a source of continuing losses?

5 A. Gradually get flushed out.

6 Q. How would that occur?

7 A. Just flow, high flows over periods
8 of time.

9 Q. There's a statement that clean up of
10 these sources could be economically impractical.

11 A. That's what it says, yes.

12 Q. Do you understand that to mean that
13 it was too expensive?

14 A. That's what it says.

15 Q. If PCBs are insoluble in water how
16 would they be washed out of the sewers if they
17 were trapped in the sewers?

18 A. Just by the flows catching them up.

19 Q. Physically?

20 A. There might be, everything is very
21 slightly soluble, everything is, but they're
22 comparatively insoluble, but just the mechanical
23 action of flushing would tend to bring them out.

24 Q. In the course of that flushing would
25 the PCBs become mixed in with the water?

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1 A. Yes.

2 Q. The degree of the mixing would
3 depend on the degree of the agitation within the
4 pipe.

5 A. That's a fair statement, or in the
6 manholes.

7 Q. Or in the manholes?

8 A. Yes, I find it a little hard to
9 believe that there was much in the way of pipes,
10 in the pipes, because I think the flows were a
11 little high but the manholes could have been more
12 than something else.

13 Q. Probably more in the manholes than
14 something else?

15 A. I would believe.

16 Q. Is it fair to say that if heavy
17 flows were going in the manholes, the PCBs might
18 become agitated in the manholes?

19 A. That's correct.

20 Q. They might not necessarily stay at
21 the bottom of the manhole.

22 A. Not necessarily. This is something
23 that might take place over a long period of time.

24 Q. Could it also take place, for
25 instance during a heavy storm event?

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1 A. That would assist in it.

2 (WHEREIN, Plaintiff's Deposition
3 Exhibit 31 was marked for identification by the
4 Court Reporter.)

5 Q. (By Mr. Ricci) Do you know whether
6 Monsanto ever tested sediment from manholes at the
7 Krummrich plant?

8 A. Don't know.

9 Q. Let me show you a document that's
10 been marked as Hodges 31. It's Bates number CER
11 012876. You were copied on this document, is that
12 correct?

13 A. Yes.

14 Q. If you could flip over to page three
15 of the document, there's a discussion of cost
16 estimates for a project to clean the sewers, and
17 it's broken down into cleaning the sewers from the
18 chlorine department to the plant fence and
19 cleaning from the fence to the treatment plant.
20 Do you see that?

21 A. Yes.

22 Q. Can you identify those areas for me
23 on any of the maps that we've looked at

24 A. Probably could. I don't know. We
25 haven't looked at any from the fence to the

PAUL B. HODGES, 6/1/94

1 treatment plant. I haven't seen any.

2 Q. Let me show you the document, the
3 map that we marked as Hodges 1, which is the 1964
4 map, and I guess my initial question to you is, do
5 you know what Mr. Savage is referring to when he
6 talks about the plant fence?

7 A. I'll see if I can find --

8 MR. HEINEMAN: Wait a minute,
9 there's a question pending, Mr. Hodges.

10 Q. (By Mr. Ricci) The question pending
11 is do you know what Mr. Savage is referring to
12 when he refers to the plant fence?

13 A. Yes, it's pretty obvious.

14 Q. Okay. Why don't you take a look at
15 the map and try to identify the sewer cleaning
16 that he's referring to?

17 A. As I recall 232 is the Chlorine
18 Department. Now where their effluent goes, I'm
19 not real sure, but apparently, I mean this isn't
20 very clear where their effluent goes, but the only
21 line that I see is this, although there surely
22 must be others. I don't know, this map isn't very
23 clear in this respect.

24 Q. Do you know, can you point out for
25 me where the plant fence is that you think he is

PAUL B. HODGES, 6/1/94

1 referring to?

2 A. I'm sure he is talking about -- well
3 it isn't on this map, it's along route three.

4 Q. So it's west of the end of this map?

5 A. That's right.

6 Q. Can you take a stab at it on the map
7 that we've marked as Hodges 4?

8 A. Let's see where we are. Here's
9 Route 3, these are building numbers and not plant
10 numbers. But --

11 Q. If you look on the '64 map, I
12 believe there is a building number for the
13 department that you identified as being --

14 A. Is that C-A?

15 Q. Chlorine you said was 232.

16 A. I think so.

17 Q. CE on the 1964 map, and CE appears
18 to be right here.

19 A. CE. Yeah. I'm puzzled, I don't
20 know how this went, whether it went this way or
21 whether it went that way, I don't know.

22 Q. Okay. Where is the plant fence?

23 A. I'm sure what he was talking about
24 is at Route 3.

25 Q. So it's your understanding then that

PAUL B. HODGES, 6/1/94

1 he is talking about a cost estimate for cleaning
2 the sewers from the Chlorine Department to the
3 plant fence, however, that sewer ran, and I
4 understand that you can't tell from this map, is
5 that correct?

6 A. Yeah. It talks about the sewer, and
7 I don't know if he meant the 24, or the 36 or both
8 of them? I have no idea.

9 Q. Is it your understanding. Well let
10 me ask you this, do you know why he had identified
11 the Chlorine Department?

12 A. I'm puzzled by that, I don't know.

13 Q. The northern terminal of where the
14 cleaning was being considered?

15 A. I don't know why. I mean I'm
16 puzzled by it.

17 Q. Did the flows from the Chlorine
18 Department at some point join up with the flows
19 from Department 246 in the sewers?

20 A. I don't know. It could have. Not
21 necessarily. I mean, I don't know.

22 Q. On Exhibit 31, page 3, second
23 paragraph, there is a statement by Mr. Savage that
24 both main plant sewers appear contaminated with
25 PCBs and then (30W and 24W). Do you see that?

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1 A. Yes.

2 Q. Do you know what 30W and 24W refer
3 to?

4 A. Two main sewers that were running
5 along the south side of our plant. Although it
6 seems to be called 36 in someplaces, so I don't
7 know.

8 (WHEREIN, Plaintiff's Deposition
9 Exhibit 32 was marked for identification by the
10 Court Reporter.)

11 Q. (By Mr. Ricci) Mr. Hodges, let me
12 show you Exhibit Hodges-32, Bates Number CER
13 011206, and ask you to take a look at it. Mr.
14 Hodges, who is Mr. Stewart?

15 A. Ed Stewart, and I don't know what he
16 was doing at that time. Ed was a chemical
17 engineer, and I don't know whether he was working
18 at the Krummrich plant, whether he had been
19 temporarily in the Environmental Group, I don't
20 know.

21 Q. The signature page on the second
22 page of this memo suggests that he was with the
23 Technical Services Department.

24 A. Uh-huh.

25 Q. Do you recall him having any

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1 involvement in the PCB reduction program?

2 A. I frankly don't recall, but it's
3 here. I mean. I see it.

4 Q. Did you have any input as to who at
5 Krummrich would be involved in the PCB reduction
6 program?

7 A. No.

8 Q. Who made those discussions?

9 A. Krummrich Plant, probably, I think
10 it was Heisler or Jerry Bratsch by that time, but
11 I'm not sure.

12 Q. What was Mr. Bratsch's position?

13 A. He was Plant Manager.

14 Q. Under paragraph 1-A of Hodges 31,
15 there is a discussion of a 500 gallon loss to the
16 sewer.

17 A. Yes.

18 Q. Do you have any recollection of that
19 incident?

20 A. No.

21 Q. Under paragraph B there's a
22 discussion of total plant losses, do you see that?

23 A. Yes.

24 Q. Did you have a chance to read that
25 paragraph?

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1 A. Yes.

2 Q. There's a statement that the slug
3 flow loss from the Arochlor Department did not
4 appear of the same magnitude at the plant exit
5 sewer stream.

6 A. Yes.

7 Q. Do you know what Mr. Stewart means
8 by slug flow loss?

9 A. He's referring to this 500 gallon
10 loss, which happened essentially all at once or
11 over a very short period of time.

12 Q. So he is saying that that 500 gallon
13 loss did not reach the plant exit points all at
14 the same time?

15 A. They didn't measure it there. They
16 didn't -- they didn't detect that much at that
17 point.

18 Q. Do you know where the plant exit
19 losses were being measured at this point in time?

20 A. I'm not certain, but I assume it's
21 at the west fence of manholes.

22 Q. Are there any possible reasons why
23 the slug flow was not detected at the plant exit?

24 A. It could have been trapped in the
25 manholes. I don't know, but to me that is a very

PAUL B. HODGES, 6/1/94

1 logical explanation.

2 Q. That it would sink out in manholes?

3 A. Yes.

4 Q. Do you recall whether the
5 discrepancy between the losses that were being
6 measured from the Arochlor Department and the
7 losses that were coming from the Waste Treatment
8 Plant was ever resolved or explained?

9 A. No, I don't know. From some of the
10 things I've seen, the trucking company contributed
11 significant amounts, but beyond that I don't know.

12 Frankly, I was a little surprised at
13 that statement.

14 Q. Which statement?

15 A. Samples from other Sauget Village
16 industries reveal insignificant amounts of
17 Arochlors.

18 Q. Why were you surprised by that?

19 A. I think I've seen references to
20 considerable amounts from the trucking company.

21 Q. The reference to the trucking
22 company is related to truck washing though, is
23 that correct?

24 A. Yes, washing of trucks, and that
25 sort of thing.

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1 Q. Is it fair to say that that would
2 occur probably on a more sporadic basis than, for
3 instance, losses from a 24-hour a day production?

4 MR. HEINEMAN: Let me object to the
5 form of the question as calling for speculation on
6 the part of the witness. You can answer the
7 question, if you know.

8 THE WITNESS: Fair statement that I
9 don't know.

10 (WHEREIN, Plaintiff's Deposition
11 Exhibit 33 was marked for identification by the
12 Court Reporter.)

13 Q. (By Mr. Ricci) Mr. Hodges, let me
14 show you Hodges 33 and ask you to take a look at
15 it. This is a memo from Mr. Savage to Mr.
16 Papageorge, and you're copied on that memo, is
17 that correct?

18 A. Yes.

19 Q. Date of the memo is July 16, 1971.
20 Under paragraph 1(B) there's a discussion of the
21 total plant losses. Did you have a chance to look
22 at this?

23 A. I see it.

24 Q. He states that "the plant exit
25 losses as measured from the 24- and 36-inch plant

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1 sewers continue a downward trend. June average 16
2 pounds a day. However, treatment plant influent
3 figures are about 5 times greater. We are trying
4 to resolve this discrepancy."

5 Now we had just talked a little bit
6 about that same discrepancy or the discrepancy
7 between the company's losses and what was entering
8 into the Village Treatment Plant, and we had
9 talked about the fact that an earlier memo had
10 identified the trucking company, Rogers, as a
11 possible source. Do you recall that?

12 A. Yes.

13 Q. And just to refresh your
14 recollection, the memo that identified Rogers as a
15 possible source of additional losses to the sewer
16 is dated January 5, 1971, do you see that?

17 A. Yes.

18 Q. Now in July of 1971, Mr. Savage is
19 stating that he is still trying to resolve the
20 discrepancy between the low level of Monsanto's
21 losses and the high level coming into the sewage
22 treatment plant, is that correct?

23 A. That's what it says, uh-huh.

24 Q. Is it fair to say that Rogers was
25 not then the sole source of this discrepancy, at

PAUL B. HODGES, 6/1/94

1 least as of July 16, 1971?

2 MR. HEINEMAN: Object to the form of
3 the question as calling for speculation on the
4 part of the witness.

5 Q. (By Mr. Ricci) If you can answer
6 without speculating.

7 A. I have no idea on that.

8 Q. Is it fair to say that as of July
9 16, 1971, the discrepancy between what Monsanto
10 was losing and what was being identified as going
11 into the Village Treatment Plant was not resolved?

12 A. That's what it says.

13 Q. Do you know if Rogers was still
14 contributing PCBs to the sewer system in July of
15 1971?

16 A. I have no knowledge of that.

17 Q. Do you know if Monsanto implemented
18 a program to wash its own trucks as opposed to
19 letting Rogers wash -- let me withdraw that. Do
20 you know whether Monsanto implemented a program to
21 its self- washed trucks that transported its
22 Arochlors as opposed to letting Rogers wash them?

23 A. I don't know.

24 Q. You have no recollection of that?

25 A. No.

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1 (WHEREIN, Plaintiff's Deposition
2 Exhibit 34 was marked for identification by the
3 Court Reporter.)

4 Q. (By Mr. Ricci) Mr. Hodges, let me
5 show you a document that's been marked as Hodges
6 34 for identification. This is a document with
7 Bates number CER 015616, and I would ask you to
8 take a look at that. Mr. Hodges, this is a memo
9 from Mr. Savage to Mr. Papageorge dated October 8,
10 1971?

11 A. Yes.

12 Q. And you are copied on this memo.

13 A. Correct.

14 Q. Do you understand from this memo as
15 of October 8, 1971 the discrepancy between
16 Monsanto's losses and the amount of PCBs entering
17 the treatment plant had still not been resolved?

18 A. That's what it says, uh-huh.

19 Q. Under paragraph 1-B there's a
20 statement "grab samples and additional sampling
21 with a different type pump would indicate that
22 measured losses at the plant exit 24-inch and
23 36-inch sewers are in error, this discrepancy must
24 be resolved." Do you see that?

25 A. Yes.

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1 Q. Do you know what that reference is
2 to, or do you know what that is about?

3 A. No. I don't know, specifically, and
4 I don't know what the different type pumps were.
5 But -- I don't know. I just don't know.

6 Q. Do you recall there being --

7 A. For example, it might have been
8 taken off the bottom of the manhole. I don't
9 know.

10 Q. Do you know that an issue arose as
11 to what the proper sampling method was for
12 sampling the effluent in the sewers for PCBs?

13 A. I don't know that there was any
14 discussion of it. The sampling is difficult,
15 adequate sampling.

16 Q. Why is that?

17 A. Problems in mixing in the sewer, I
18 might explain that, as I recall the sampling
19 there, you put a line down in the manhole and let
20 it trail downstream from the manhole to get
21 maximum mixing before you pull the sample back up,
22 and then you pull the sample back up. Well that's
23 the best we knew how and was probably as good as
24 any sampling system in the world, but it isn't
25 perfect.

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1 Q. Were you involved in coming up with
2 the sampling protocol?

3 A. Protocol? What do you mean by that?

4 Q. The method of taking the sample, you
5 know, in this case?

6 A. I developed the early samplers, and
7 I don't know whether they were still being used at
8 that time. I think they probably were but maybe
9 they're talking about a different type sampler.

10 Q. The sampling method that you just
11 described, does that involve using any kind of a
12 pump?

13 A. Yes.

14 Q. Where does the pump come into play?

15 A. It pulls the material, pumps it back
16 up from a tube into a pump and discharges it into
17 your receiver.

18 Q. So you're not just sticking the
19 receiver down in the hole, sticking a jar down
20 there.

21 A. That's what a grab sample would be.

22 Q. Do you recall that in the course of
23 the PCB Reduction Program they changed the kind of
24 samplers that was used to take the samples in the
25 sewer?

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1 A. I don't recall. I see what it says
2 here, but I don't recall that.

3 (WHEREIN, Plaintiff's Deposition
4 Exhibit 35 was marked for identification by the
5 Court Reporter.)

6 Q. (By Mr. Ricci) Mr. Hodges, let me
7 show you Hodges 35 and ask you to take a look at
8 it, this is document Bates Number CER 014288. I
9 think my questions relate pretty much exclusively
10 to the first page, so let me just ask you, first
11 of all, this is a memo from Mr. Stewart to Mr.
12 Savage dated November 2, 1971, and you are copied
13 on this memo, correct?

14 A. Correct.

15 Q. Now under paragraph 1 (a) there's a
16 discussion of a discovery that the underground
17 sewer system and sewer boxes in the area are
18 leaking very badly, do you see that?

19 A. Yes.

20 Q. Mr. Stewart goes on to say that
21 cross flow from the sewer system and underground
22 water is possible. This may contribute to erratic
23 results when trying to find source of PCB into the
24 sewer system. What's the reference to sewer
25 boxes? What's a sewer box?

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1 A. Those are the manholes.

2 Q. Manhole?

3 A. Yes.

4 Q. Do know who it was that discovered
5 that the sewer and sewer boxes were leaking badly?

6 A. I don't know.

7 Q. How would cross flows between the
8 sewer system and the ground water contribute to
9 erratic results in trying to find the source of
10 PCBs into the sewers?

11 A. If we were having flows in and out
12 of the sewer boxes from ground water, that would
13 throw off, to some extent, the validity of your
14 results.

15 Q. How so?

16 A. What's that?

17 Q. How so?

18 A. If the flow was, for example, if
19 ground water was running into the sewer and we
20 were assuming that the flow was entirely out of
21 the department, then the loss would be higher than
22 the results we came up with. Conversely, if flows
23 were running out of the sewer system into the
24 ground water, it would be lower, is that clear?

25 Q. Let me ask you if you follow-up

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1 question?

2 A. Putting it another way you need
3 accurate flow data, you take your sample, get the
4 concentration, you multiply that by the flow. If
5 your flow data is incorrect, as perhaps shown here
6 why your results are somewhat incorrect, not a
7 great deal, but some.

8 Q. So if ground water is flowing into
9 the manhole, than your results are going to be
10 understated?

11 A. That's correct.

12 Q. Because --

13 A. Unless ground water --

14 Q. The concentration is actually
15 higher, the concentration from the Department is
16 higher than the concentration in the manhole?

17 A. That's correct.

18 Q. And that assumes that the ground
19 water is less contaminated than the water coming
20 out of production?

21 A. That's right.

22 Q. Now if the water is flowing out of
23 the manhole, how is that going to impact the
24 sampling results?

25 A. The flow will be, let's see. I have

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1 to think about that. It will be less flow,
2 actually, and it will again, let's see. It will
3 -- you'll overstate the amount of PCBs. If you're
4 taking a certain concentration times a flow, and
5 that flow is less, why you're going to come up
6 with a higher analytical result than it actually
7 is.

8 Q. Well I understand when the flow is
9 coming into the manhole, again, assuming that the
10 ground water is less contaminated than the process
11 water, than in effect you got pollution in the
12 manhole, it's lowering your concentration.

13 A. That's right.

14 Q. When you're computing the output,
15 you just take the concentration times the flow, so
16 if the concentration is artificially diluted, than
17 the total output is going to be reduced.

18 A. Yes.

19 Q. The measured total output.

20 A. Yes, because it will have shown
21 lower concentrations.

22 Q. Now when you've got flow going out
23 of the manhole, the water that's flowing out of
24 the manhole is not affecting the concentrations in
25 the manhole, is it?

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1 A. That's right.

2 Q. So that perhaps your flow data are
3 still wrong.

4 A. The flow data may be understated,
5 yes.

6 Q. But in that case the pound output of
7 PCBs is still going to be understated, isn't it?
8 Because you're going to be taking the same
9 concentration times a lower flow.

10 A. I would say that's correct, yes.

11 Q. When this discovery was made of the
12 leakage in the underground sewer system, did the
13 issue ever come up that you should determine what
14 the condition of the ground water was with respect
15 to PCB contamination?

16 A. Not that I recall.

17 Q. As you sit here today, albeit with
18 20/20 hindsight, would it have been a good idea to
19 determine what the condition of the ground water
20 was in that area in order to come up with an
21 accurate measure of PCB losses in the Department?

22 A. If there was a well or some place to
23 do it, I don't think it would have been justified
24 to dig a well to do that.

25 Q. Why is that?

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1 A. I think the likelihood is very, very
2 low.

3 Q. That ground water as contributing to
4 the contamination?

5 A. Because of the high insolubility of
6 Arochlors.

7 Q. I guess that would lead as well to
8 the conclusion that the water, any ground water
9 that was seeping into the manholes was probably in
10 fact diluting the concentrations as opposed to
11 adding to the concentrations.

12 A. Could be, yes.

13 Q. That would be the likely consequence
14 of the statement that you just made regarding the
15 solubility of PCBs?

16 A. Yes, I think that's right.

17 (WHEREIN, Plaintiff's Deposition
18 Exhibit 36 was marked for identification by the
19 Court Reporter.)

20 Q. (By Mr. Ricci) Mr. Hodges, let me
21 show you Hodges 36, which is a document with Bates
22 Number CER 014291 this is a memo from Mr. Stewart
23 to Mr. Savage dated December 2, 1971.

24 A. Okay.

25 Q. Mr. Hodges, in the first paragraph

PAUL B. HODGES, 6/1/94

1 there's a discussion of emergence of Arochlor 1221
2 as a sewer contaminant, do you see that?

3 A. Yes.

4 Q. Do you know why that was deemed to
5 be a significant development?

6 A. No.

7 Q. Was Arochlor 1221 a product of
8 Monsanto in 1971?

9 A. Not that I recall, it could have
10 been, but I don't recall.

11 Q. Do you recall it ever being a
12 product?

13 A. No, I don't know what this 1109 is
14 either, for that matter.

15 Q. You don't know why Mr. Stewart felt
16 the discovery of Arochlor 1221 was significant.

17 A. Well, it was showing up, and they
18 didn't know, apparently.

19 MR. HEINEMAN: I'm going to have to
20 object, do you know, he asked you do you know --

21 THE WITNESS: No.

22 Q. (By Mr. Ricci) Okay.

23 A. Okay, sorry.

24 Q. On the next page of the memo, there
25 is a discussion under paragraph 1 (B) in the last

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1 sentence of a known cross flow between the main
2 sewer. What is that cross flow?

3 A. I don't know.

4 Q. Do you know what the term cross flow
5 refers to?

6 A. Yes, it's between different sewers.

7 Q. But you don't know about this
8 particular cross flow.

9 A. No.

10 Q. Do you know if this is a cross flow
11 between the 24-inch and the 30-inch sewers?

12 A. I don't know. It would be fair to
13 assume that.

14 Q. Mr. Hodges, let me direct your
15 attention back to Exhibit 35 for a second and
16 specifically paragraph B at the bottom. There's a
17 reference in there to an isokinetic sampler.

18 A. Yes.

19 Q. My question is simply do you know
20 what an isokinetic sampler is?

21 A. Yes.

22 Q. What is that?

23 A. One that takes the samples in
24 proportion to the flow.

25 Q. What does that mean?

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1 A. For example, if the flow, normally
2 the samplers that I developed and we used took
3 flows at a certain rate and we had to assume there
4 was an average flow during that period. Well, the
5 standpoint of reality is flows will vary, and that
6 was pretty good, but I mean that way was pretty
7 good, but it wasn't perfect, it was the best we
8 had at that time, and isokinetics increases the
9 rate of sampling, increases it proportionately.

10 Q. They're both continuous?

11 A. And also the, it also means that the
12 sample was taken directly from the pointing into
13 the waste stream. I'm sorry. I think I was
14 incorrect on that first. The isokinetic means
15 that the sample is taken directly from the waste
16 stream, at the same rate that the stream is
17 flowing, that's a little hard to explain. The
18 sampler that I developed I think I explained that
19 we let the tube trail downstream.

20 Q. Right.

21 A. So it would not do as good a job as
22 we would like to have on solids. If the stream
23 were going faster than we were pulling the waste
24 into the sampler, we would tend to be a little low
25 on solids. That's the best technique we had in

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1 those times. The isokinetic and I don't know how
2 they did it, but isokinetic would mean that they
3 were taking the sample inlet at the same velocity
4 as the stream was flowing.

5 Q. So that the isokinetic sampler could
6 adjust the rate at which it was taking water in?

7 A. I'm not sure about that, or whether
8 it was just how they, how that sample entered the
9 system. For example, if you took the sample tube
10 and pointed it into the, into the stream, I think,
11 let's see, you would tend to be pulling it, I
12 think you would tend to be pulling in more solids
13 than was really represented.

14 By the same token, if you pointed it
15 downstream, the heavier solids were tending to go
16 by it rather than come back into it, it would tend
17 to be low, so isokinetic sampling tended to get
18 around it. Now I don't know how they did it.

19 My first statement was in error, I
20 was referring, I was thinking more in terms of
21 proportional to flow samplers.

22 Q. And that's yet another kind of
23 sampler?

24 A. That's right.

25 Q. Is it fair to say that the

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1 isokinetic sampler was more accurate in terms of
2 solids, at least in terms of the sampler that you
3 developed?

4 A. It should be.

5 Q. More accurate, it would pull a more
6 representative sample of what was flowing through?

7 A. It should, depending on how it was
8 set in there. One problem in connection with
9 isokinetics is you probably have to have it right
10 at the manhole, okay. How good is the mixing
11 error? We do the best we can on the sampling.

12 Q. You solve some problems and it
13 creates new ones?

14 A. That's right. It isn't perfect.

15 MR. RICCI: This is probably a good
16 time to break for lunch.

17 (WHEREIN, a lunch recess was taken.)

18 (WHEREIN, Plaintiff's Deposition
19 Exhibit 37 was marked for identification by the
20 Court Reporter.)

21 MR. RICCI: Let me go back on the
22 record while Mr. Hodges is looking at the
23 document.

24 Q. (By Mr. Ricci) Mr. Hodges, you've
25 been handed a document that's been marked as

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1 Hodges 37 for identification, it's a document with
2 Bates' Number CER 09817. This is a memo from
3 Chester Moore to a number of people including
4 yourself dated February 4, 1972, is that correct?

5 A. That's right.

6 Q. Who is Chester Moore?

7 A. I think he was in our Technical
8 Services Department. I don't remember his
9 connection with the pollution control effort.

10 Q. He was technical services,
11 Krummrich?

12 A. Yes.

13 Q. Are you familiar with the report
14 submitted to EPA that's an attachment to this
15 document?

16 A. No, I don't recall it at all.

17 Q. Do you know if you had any
18 involvement in preparation of this document?

19 A. I don't believe so.

20 Q. It appears from this memo that you
21 were provided with three copies of the document?

22 A. Yes.

23 Q. Would the review and evaluation of
24 this document have been part of your
25 responsibilities in the position that you held in

PAUL B. HODGES, 6/1/94

1 February of 1972?

2 A. Not specifically.

3 Q. Why were you provided a copy,
4 actually three copies?

5 MR. HEINEMAN: If you know. I
6 object to that as calling for speculation
7 unless you know. Do you have any idea why you got
8 a copy of it?

9 THE WITNESS: Because I had general
10 responsibilities toward pollution control
11 authorities, and that sort of thing.

12 Q. (By Mr. Ricci) Mr. Hodges, flip
13 over, if you could, to the document with Bates
14 Number Page CER 098179.

15 A. How far along is that?

16 Q. Oh about that far, the page is 167 I
17 want you to go to 179.

18 A. Where are these numbers that you're
19 referring to?

20 Q. These little ones right here and
21 they're in different pages.

22 A. What was the number?

23 Q. Let me look at the front page of
24 yours for a second? Can I take a look at this?

25 (WHEREIN, a brief discussion was

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1 held off the record.)

2 MR. RICCI: Back on the record. I
3 believe I may have misstated the Bates' number of
4 Hodges 37. It is, in fact, CER 082375, and it is
5 a multipage document with the last page as Bates
6 Number CER 082487.

7 MR. HEINEMAN: 487?

8 MR. RICCI: 407.

9 Q. (By Mr. Ricci) Mr. Hodges, let me
10 direct your attention to the page of this document
11 with Bates number CER 082387. This appears to be
12 a chart with some values for various constituents
13 of discharge from the Krummrich facility. Is that
14 a fair statement?

15 A. That's what it appears to be.

16 Q. Now up in the top there's a
17 discharge serial number box that's filled in 001.
18 Do you know what that discharge serial number
19 refers to?

20 A. No.

21 Q. If you go down the chart there's a
22 line for lead total, and the indication from this
23 chart is that the maximum concentration on lead is
24 4,700 and the maximum pounds per day per process
25 unit is 220. Do you see that?

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1 A. I see it.

2 Q. Were you aware prior to looking at
3 this document of any lead constituent in
4 Monsanto's discharge to the sewers?

5 A. No.

6 Q. Do you have any information as to
7 what the source of the lead indicated on this
8 document might be?

9 A. No.

10 Q. Did you ever do any investigation or
11 evaluation of lead constituents in Monsanto's
12 discharge from the Krummrich facility?

13 A. No.

14 Q. Do you know if lead or any compounds
15 containing lead were used in any of Monsantos
16 processes at Krummrich?

17 A. I can't think of any, I doubt it
18 very much.

19 Q. Why is that?

20 A. I'm just not aware of any.

21 Q. If you could flip over five pages
22 from where you are right now.

23 MR. HEINEMAN: Can I see this just a
24 moment, please?

25 THE WITNESS: Is it 91?

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1 MR. HEINEMAN: It's up more.

2 THE WITNESS: 92?

3 Q. (By Mr. Ricci) There you go.

4 A. I'm trying to recall where we used
5 lead.

6 Q. It doesn't ring a bell for you?

7 A. Huh-uh.

8 Q. On the page that we've just flipped
9 over to which is 082392, at the bottom there is a
10 box to describe waste abatement practices, do you
11 see that?

12 A. Yes.

13 Q. And there is an entry, all waste
14 streams discharge to the Sauget Village Waste
15 Treatment Plant for further treatment, do you see
16 that? Did you see that?

17 A. Yes.

18 Q. Now this document is dated, it was
19 provided to you on February 4, 1972. Do you know
20 what kind of treatment the Sauget Village waste
21 treatment plant was engaging in at or around
22 February of 1972?

23 A. I'm not certain. We had the primary
24 treatment at Sauget Village. My memory is that we
25 went onto an East St. Louis plant, but I'm fuzzy

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1 on that.

2 Q. On the date or the fact of that?

3 A. When we did it, and I vaguely
4 remember that the results from that plant weren't
5 very good because it wasn't well run. That's my
6 memory of it.

7 Q. Mr. Hodges, were you familiar with
8 an individual by the name of R.M. Blowers?

9 A. Who is that? Dick Blowers, he was
10 at the plant, I think he was in the laboratory.

11 Q. Do you know if he had any
12 involvement in the PCB Reduction Program?

13 A. I don't recall.

14 Q. Do you recall a meeting with the EPA
15 in Washington, in April of 1972 regarding PCBs?

16 A. I don't recall it.

17 (WHEREIN, Plaintiff's Deposition
18 Exhibit 38 was marked for identification by the
19 Court Reporter.)

20 Q. (By Mr. Ricci) Mr. Hodges. Let me
21 show you a document that's been marked as Hodges
22 38, this document has Bates number CER 013072.

23 Mr. Hodges, this document appears to
24 be minutes of a meeting that occurred in April of
25 1972 that you attended, this document is a number

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1 of attendees at this meeting, who is F. J.
2 Holzapfel?

3 A. At that time he was the Director of
4 Manufacturing for the Organic Division, as I
5 recall.

6 Q. Who was the next above Mr. Holzapfel
7 in the management chain?

8 A. Head of the Organic Division, and
9 I'm trying to remember his name, I don't know who
10 that was.

11 Q. Does he have a title or was he a
12 corporate V.P.?

13 A. He was probably a Vice-President,
14 but I don't remember who it was at that time.

15 Q. And who was Mr. Carder at this time?

16 A. He was in the business group.

17 Q. Which business group?

18 A. I don't know. Savage and Carder
19 with both in the business groups and I assume they
20 were different business groups.

21 Q. Were they relatively the same level?

22 A. I would say so, I think.

23 Q. There was yourself and then your
24 boss, Mr. Hosmer?

25 A. That's right. Hosmer reported to

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1 Holzapfel.

2 Q. In paragraph one of this document
3 there's a discussion of "large quantities of
4 presently wasted HCl are being drowned to the
5 sewer from several operations The HCl is mostly
6 from chlorination of organics."

7 Do you know first of all, does this
8 document refer to the Krummrich plant?

9 A. I'm sure it does. Yes, it's in the
10 title.

11 Q. Do you know which departments were
12 being addressed in paragraph one of this document?

13 A. There were a number of them, and I
14 don't recall all of them. PCB is one,
15 Benzylchloride was one, chlorobenzenes was
16 another, and there were probably others.

17 Q. Chlorophenol?

18 A. Yeah, chlorophenol.

19 Q. He states the HCl is mostly from
20 chlorination of organics and is saturated (at
21 least) with the organics.

22 A. Uh-huh.

23 Q. Do you know what he means when he
24 says saturated at least with the organics?

25 A. What he meant there was that, okay,

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1 there is some dissolved in just sort of part of
2 the HCl, and the at least refers to any that went
3 along just by way of entrainment.

4 Q. So that would have been more or less
5 droplets of organics?

6 A. Mist, perhaps, or something.

7 Q. And then he states the organics go
8 to the river, is that by way of the sewers?

9 A. Yes.

10 Q. Flip over to the next page. In
11 paragraph 5, there is a recommended course of
12 action with respect to collecting and selling all
13 of the muriatic acid which I assume is another
14 name for HCl, possibly, and to sewer only
15 thoroughly cleaned-up HCl.

16 A. Yes.

17 Q. Do you know if any steps were taken
18 to further that goal or that recommendation?

19 A. I don't remember.

20 Q. Do you recall if any kind of central
21 absorption facility was ever installed at the
22 Krummrich facility?

23 A. Central what?

24 Q. Absorption?

25 A. Not that I know of.

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1 Q. At the bottom of page two in
2 paragraph three there's a reference to a process
3 called adiabatic absorption, or an adiabatic
4 absorber system.

5 A. I see it.

6 Q. Do you know what that is?

7 A. I don't know what it means.

8 Q. Do you know if any such system was
9 ever put in place at Krummrich?

10 A. No, I don't know.

11 Q. On page three under the heading
12 actions planned, there is a statement that
13 Arochlor production will be tied to CS, and I
14 believe CS stands for chlorosulfonic acid usage,
15 so that no HCl will be sewerred in the Arochlor
16 area. Do you know if that action was ever
17 implemented?

18 A. I don't know.

19 Q. Under paragraph two there are some
20 actions that Homer Carter will undertake with
21 respect to HCl collection and clean up, do you
22 know if any of those actions were ever actually
23 undertaken?

24 A. That, I don't know.

25 (WHEREIN, Plaintiff's Deposition

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1 Exhibit 39 was marked for identification by the
2 Court Reporter.)

3 Q. (By Mr. Ricci) Mr. Hodges, I'm
4 handing you a document which has been marked as
5 Hodges 39, the document has Bates Number CER
6 099648, and I would ask you to take a look at
7 that.

8 A. Do I need to look at the whole
9 thing?

10 Q. No, let me key on what we're looking
11 for here. First of all, this is a document dated
12 June 20, 1972, from a Mr. S. McWilliams. Do you
13 know who Mr. McWilliams is?

14 A. I didn't know him. He's apparently
15 Tech Services Department.

16 Q. At Krummrich?

17 A. Yes.

18 Q. Is that your handwriting at the top
19 of this document, the first page?

20 A. No.

21 Q. The document enclosed is a copy of a
22 presentation given on June 9, 1972 concerning
23 Krummrich HCl recovery plans. Did you attend that
24 meeting, do you know?

25 A. I don't remember.

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1 Q. You were copied on this memo, is
2 that correct?

3 A. Yes.

4 Q. If you flip over to page two of the
5 memo, I'm sorry, page two Bates Number 099650.
6 There is a list under the heading Results to Date.
7 Do you know if each of the departments included in
8 that list were departments which had a potential
9 to discharge HCl and Organics to the sewer?

10 A. I recognize some of these.

11 Q. Okay. 233 is what?

12 A. That was chlorobenzenes.

13 Q. I believe you testified earlier that
14 chlorobenzenes did present the potential to
15 discharge HCl with organics to the sewers?

16 A. Yes.

17 Q. And 246 we've talked about, and I
18 believe you testified previously that you're not
19 familiar with 248.

20 A. That's right.

21 Q. What about 236/7?

22 A. That was the Chlorophenol
23 Department, as I recall.

24 Q. They would also have a potential to
25 discharge HCl to the sewers?

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1 A. Yes.

2 Q. What about 239?

3 A. I don't remember what that was.

4 Q. 217?

5 A. That was the Chlorosulfonic Acid
6 Department.

7 Q. And then there is another reference
8 to Adiabatic Absorber, that doesn't refresh your
9 recollection as to what that was?

10 A. No.

11 Q. Or as to whether it was ever
12 installed?

13 A. No.

14 Q. What about Department 218?

15 A. I don't know what that was. Except
16 it says this food grade muriatic acid. I don't
17 know, well, I don't know what that is.

18 Q. Do you have any recollection of any
19 of the issues discussed in this memo in terms of
20 HCl, reduction of HCl discharges through the
21 sewers?

22 A. I don't think so. I just don't
23 remember this plan at all.

24 (WHEREIN, Plaintiff's Deposition
25 Exhibit 40 was marked for identification by the

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1 Court Reporter.)

2 Q. (By Mr. Ricci) Let me show you a
3 document that's marked as Hodges 40 for
4 identification, this is a document with Bates
5 Number CER 014340 and ask that you take a look at
6 it. My question specifically will refer to just
7 the first page of the document.

8 A. Okay.

9 Q. Mr. Hodges in paragraph 1 (C) on the
10 first -- let me go back for a second, this is a
11 memo from Mr. Stewart to Mr. Savage dated October
12 2, 1972, and you're copied on this document, is
13 that correct?

14 A. Yes.

15 Q. On the first page, paragraph 1 (C)
16 there's a statement, "September rains were above
17 normal and probably was a factor in PCB flow to
18 Waste Treatment Plant as PCBs from ground are
19 leached with rain water", do you see that.

20 A. Yes.

21 Q. Do you agree with the statement that
22 PCBs from the ground are leached with rain water?

23 A. As I read it, I doubt if there was
24 any factual basis for it.

25 Q. Why is that?

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1 A. Because PCBs are insoluble, or to
2 say the least, I think the amounts would be very,
3 very small.

4 Q. Would the statement be more accurate
5 if instead of using the word leached it used the
6 word washed or picked up into the sewers from the
7 rain water? Do you understand what I'm asking
8 you?

9 A. That might be a better statement.
10 Again, I don't think there were any facts on it.

11 Q. Do you have any idea as to what
12 affect, if any, rains would have on the flow of
13 PCBs in the sewer system?

14 A. Only in that they might tend to
15 flush out a little more of the PCBs which might be
16 lying in manholes.

17 (WHEREIN, Plaintiff's Deposition
18 Exhibit 41 was marked for identification by the
19 Court Reporter.)

20 Q. (By Mr. Ricci) Mr. Hodges, let me
21 show you a document that's been marked as Hodges
22 41 and ask you to take a look at it. This is a
23 document with Bates Number CER 015077

24 A. All right.

25 Q. Mr. Hodges, this is a document dated

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1 September 24, 1983 from yourself to Mr. Heisler
2 and Mr. Hippe.

3 A. Yes.

4 Q. Is that your signature on the second
5 page of the document?

6 A. Yes.

7 Q. What position did Mr. Hippe hold in
8 September of 1973?

9 A. I think he was the head of the Tech
10 Services Department or at least a group of the
11 Tech Services Department.

12 Q. At Krummrich?

13 A. Yes.

14 Q. In the last paragraph on the first
15 page you state near elimination of the background
16 loss will be very difficult, technically, and may
17 be very expensive to accomplish once we know where
18 it originates and what to do about it. Do you see
19 that?

20 A. Yes.

21 Q. What are you referring to when you
22 say background loss?

23 A. Wherever these PCBs were coming from
24 that we didn't know the source, it was obviously
25 not our processes.

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1 Q. Background references, back to the
2 discrepancy of what you were showing coming off on
3 your production and what was going into the
4 Village Treatment Plant?

5 A. That's correct.

6 Q. Do you know what steps, if any, were
7 taken at the plant level as a result of this memo?

8 A. I don't remember.

9 Q. Do you know whether Monsanto was
10 ever able to identify the source of the
11 discrepancy?

12 A. I don't know. I don't remember.

13 (WHEREIN, Plaintiff's Deposition
14 Exhibit 42 was marked for identification by the
15 Court Reporter.)

16 Q. (By Mr. Ricci) Mr. Hodges, let me
17 show you a document that's been marked as Hodges
18 42. This a document with Bates Number CER 014618?

19 A. What did you want me to look at?

20 Q. Just the first four pages. Actually
21 I can ask you a couple questions and shortcut it.
22 This is a document dated February 21, 1974 from
23 Mr. Stewart to Mr. Heisler, and you're copied on
24 this document, is that correct?

25 A. Yes.

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1 Q. If you look at the bottom of the
2 second page of the document, there is a table 1,
3 which identified monitoring locations and
4 discharge levels.

5 A. Yes.

6 Q. I believe that's discharge levels of
7 Arochlors at the various locations.

8 A. It doesn't say, but I would assume
9 that it is.

10 Q. Well, the heading of that page of
11 the document is PCB Loss Control Data.

12 A. That's reasonable to assume.

13 Q. The table contains across the top
14 various years starting with 1969 and then each
15 line references a different sampling location. In
16 the first column for 1969 under the line for the
17 Sauget Waste Treatment Plant influent there is an
18 indication of between 1100 and 600 pounds per day.
19 Do you see that?

20 A. Yes.

21 Q. Now there's no data on this chart
22 for years prior to 1969, is there?

23 A. That's correct.

24 Q. Is it fair to say that prior to 1969
25 the amount of PCBs going to the Sauget Waste

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PAUL B. HODGES, 6/1/94

1 Treatment Plant would be at or around the levels
2 indicated in 1969?

3 A. I don't know, it's a reasonable
4 assumption, but I don't know.

5 Q. As far as you know, Monsanto had
6 taken no steps to reduce the amount of Arochlors
7 going into the sewers prior to 1969, had they?

8 A. I don't know. I'm sure we were
9 interested in maximum yields, to say the least,
10 and there may have been steps to improve those
11 yields, but I don't know.

12 Q. You're not aware of any such steps?

13 A. No.

14 Q. On page three of this document under
15 paragraph 2(B) there's a reference to Department
16 236 off-gas, do you know what Department 236 is?

17 A. I believe that's the Chlorophenols.

18 Q. Okay. I asked you that, I
19 apologize. On the next page there's a map, it's
20 referred to or described on page 3 in the first
21 paragraph, and then the map itself is on the next
22 page. Are you able to interpret this map?

23 A. To some degree, I'm not sure what
24 the significance of this all is. It looks like a
25 very abbreviated sewer map.

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HARTOLDMON0007494

PAUL B. HODGES, 6/1/94

1 Q. Can you identify on this map the 24-
2 and the 30-inch sewer line?

3 A. I don't recall, I think the -- no, I
4 can't really, it could be either one of those two
5 lines.

6 MR. RICCI: If we can take a short
7 break, I'm pretty close to being done.

8 (WHEREIN, a short recess was taken.)

9 MR. RICCI: I have a couple
10 follow-up questions.

11 Q. (By Mr. Ricci) Mr. Hodges, are you
12 aware of a decision by Monsanto sometime in the
13 1970s to discontinue production of PCBs for
14 certain applications?

15 A. I'm aware that we stopped production
16 of it. I don't know the details. I'm guessing I
17 was in Belgium at the time.

18 Q. You're aware that you stopped
19 production totally.

20 A. As far as I know.

21 Q. I'm trying to go back in time. Are
22 you aware of a point, prior to the time that all
23 PCB production was terminated, to a decision by
24 Monsanto to stop producing PCBs other than for
25 transformer and capacitor uses?

PAUL B. HODGES, 6/1/94

1 A. I don't recall.

2 Q. When were you in Belgium?

3 A. I went there in 1975.

4 Q. And how long were you over there?

5 A. Three and a half years.

6 Q. Do you recall when in 1975?

7 A. It was fairly late. I think it was
8 October.

9 Q. So you were, you had no involvement
10 in PCB reduction or PCB controls or in fact,
11 anything PCB during the time that you were in
12 Belgium?

13 A. That's right.

14 Q. When you came back from Belgium,
15 what position did you take?

16 A. A very fine position. I was
17 retired.

18 MR. RICCI: I have no further
19 questions.

20 MR. HEINEMAN: We'll read.

21

22

23

24

25

PAUL B. HODGES, 6/1/94

1 STATE OF MISSOURI)
2 COUNTY OF ST. LOUIS)

3 I, PAUL B. HODGES, do hereby certify:

4 That I have read the foregoing deposition;

5 That I have made such changes in form and/or
6 substance to the within deposition as might be
7 necessary to render the same true and correct;

8 That having made such changes thereon, I
9 hereby subscribe my name to the deposition.

10 I declare under penalty of perjury that the
11 foregoing is true and correct.

12
13 Executed this { } day of { },
14 1994, at { }, Missouri.

15
16
17 _____
PAUL B. HODGES

18 IN WITNESS WHEREOF, I have hereunto
19 set my hand and seal this { } day of { },
20 1994.

21 My commission expires:

22
23 _____
24 (Notary Public)
25

PAUL B. HODGES, 6/1/94

NOTARIAL CERTIFICATE

STATE OF MISSOURI)
COUNTY OF JEFFERSON)

I, KELLY L. WILLIS, a shorthand reporter and a duly commissioned Notary Public within and for the State of Missouri, do hereby certify that there came before me at the offices of COBURN, CROFT, One Mercantile Center, Suite 2900, St. Louis, MO 63101,

PAUL B. HODGES

who was by me first duly sworn to testify to the truth and nothing but the truth of all knowledge touching and concerning the matters in controversy in this cause; that the witness was thereupon carefully examined under oath and said examination was reduced to writing by me; and that this deposition is a true and correct record of the testimony given by the witness.

I further certify that I am neither attorney nor counsel for nor related nor employed by any of the parties to the action in which this deposition is taken; further that I am not a relative or employee of any attorney or counsel employed by the parties hereto or financially interested in this action.

IN WITNESS WHEREOF, I have hereunto set my hand and seal this 26th day of July, 1994.

My commission expires January 2nd, 1998.

(Notary Public)

PAUL B. HODGES, 6/1/94

1 STATE OF MISSOURI)

2 COUNTY OF ST. LOUIS)

COPY

3 I, PAUL B. HODGES, do hereby certify:

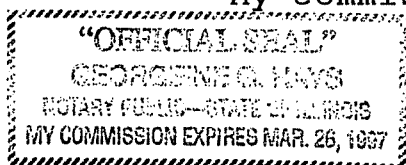
4 That I have read the foregoing deposition;

5 That I have made such changes in form and/or
6 substance to the within deposition as might be
7 necessary to render the same true and correct;8 That having made such changes thereon, I
9 hereby subscribe my name to the deposition.10 I declare under penalty of perjury that the
11 foregoing is true and correct.12
13 Executed this {2ND} day of {SEPTEMBER},
14 1994, at {Collinsville}, ~~Missouri~~ Illinois15
16 Paul B. Hodges

17 PAUL B. HODGES

18
19 IN WITNESS WHEREOF, I have hereunto
20 set my hand and seal this {2} day of {SEPTEMBER},
1994.

21 My commission expires: MARCH 26, 1997


 22
23 Georgine G. Hays
24 (Notary Public)
25

ORIGINAL

DEPOSITION CORRECTION SHEET

NAME OF

WITNESS: Paul B. Hodges

IN RE: Deposition 6/1/94

Upon reading the deposition and before subscribing thereto, the deponent indicated the following changes should be made:

Page 8 Line 15 Should read Cassidy or _____
Reason assigned for change: misspelled

Page 9 Line 23 Should read gradient - - - - -
Reason assigned for change: misspelled

Page 23 Line 10 Should read Protection
Reason assigned for change: error

Page 24 Line 9 Should read environment, in general, - - - - -
Reason assigned for change: wrong word used

Page 36 Line 24 Should read No, probably in the middle
Reason assigned for change: wrong word

Page 65 Line 7 Should read out at the - - - - -
Reason assigned for change: wrong word

Page 81 Line 3 Should read yes. He may have moved to general
Reason assigned for change: wrong word

Page 86 Line 18 Should read Or Clarrie Buckley
Reason assigned for change: wrong word

Page 126 Line 1 Should read dissolved in the ~~the~~ (delete rest of line)
Reason assigned for change: doesn't make sense

Page _____ Line _____ Should read _____
Reason assigned for change: _____

Page _____ Line _____ Should read _____
Reason assigned for change: _____

SIGNATURE OF DEPONENT: Paul B. Hodges