

1 In Re:

2 Solutia, et al.,

3
4 vs. Case No. CV-03-PWG-134-E

5
6 McWane, et al.,

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12 April 28, 2005

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14 30(b) (6) Deposition of SOLUTIA, INC.

15 (Witness: ROBERT GEORGE KALEY, II
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1 In the United States District Court
2 For the Northern District of Alabama
3 Magistrate Judge Green
4

5 Solutia, et al.,
6 Plaintiffs
7

8 vs. Case No. CV-03-PWG-134-E.
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10 McWane, et al.,
11 Defendants.
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16 30(b) (6) Deposition of SOLUTIA, INC. (Witness: ROBERT
17 GEORGE KALEY, II), taken on behalf of the Defendants,
18 at the offices of Husch & Eppenberger, LLC, 190
19 Carondelet Plaza, Suite 600, in the County of
20 St. Louis, State of Missouri, between the hours of
21 9:14 A.M. and 2:11 P.M. on the 28th day of April,
22 2004, before J. Bryan Jordan, Certified Court Reporter
23 No. 00532 and Notary Public, State of Missouri.

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1 ROBERT KALEY II,

2 of lawful age, having been first duly sworn to testify
3 the truth, the whole truth, and nothing but the truth
4 in the case aforesaid, deposes and says in reply to
5 oral interrogatories propounded as follows, to-wit:

6 EXAMINATION

7 QUESTIONS BY MR. LANGLAIS:

8 Q. Would you, please, state your full name for
9 the record?

10 A. Robert George Kaley II.

11 Q. Mr. Kaley, my name is Jim Langlais, and I
12 represent United States Pipe & Foundry Company and
13 Walter Industries, Inc. This is Bart Turner. Bart
14 Turner represents several different clients.

15 MR. TURNER: Yes, FMC, United Defense,
16 McWane, and Ransom.

17 BY MR. LANGLAIS:

18 Q. Now, you are--you have been designated by
19 Solutia as a corporate representative to speak about
20 certain matters in this deposition; is that correct?

21 A. It's my understanding, yes.

22 Q. And I guess the first one, you are here to
23 speak about the history and description of operations,
24 chemical manufacturing processes, products, periods of
25 production, byproducts and waste at the Anniston

1 facility, specifically involving PCBs; is that
2 correct?

3 A. I think parts of that. I'm not sure it was
4 all of that.

5 MR. NASSIF: He's here to talk about the
6 PCB--the history of PCB production in terms of what
7 conjurers and what Aroclors were made over a period of
8 time at the Anniston Plant. Jerry Brown is going to
9 do more of the actual process information of all the
10 products and all the processes at Anniston over an
11 historical period.

12 MS. RUTLEDGE: Excuse me, but I can barely
13 hear you.

14 MS. LAVEY: This is Wendy. I really
15 couldn't hear anything, either, although I could hear
16 Joe just now pretty clearly.

17 MR. LANGLAIS: We'll try to speak louder.

18 MR. KOZIK: This is Tim Kozik here. Same
19 thing: Can't hear very well.

20 MR. LANGLAIS: Joe, I just want to make sure
21 I'm clear. In that topic 1, I thought he was, he was
22 going to speak not about, obviously, all the other
23 processes but the PCB, all of that information
24 relating to the PCB products at the plant. Now, was
25 that not what he's--

1 MR. NASSIF: He's going to speak about--he's
2 not going to speak about the PCB process in terms of
3 how it worked and all that, all that elements, Jim.
4 What he's going to speak about is all the products
5 that were made over what period of time, the different
6 PCB products that were made at the Anniston plant over
7 what period of time.

8 MR. LANGLAIS: So he's not going to talk
9 about byproducts and waste associated with those?

10 MR. NASSIF: No, Jerry Brown is going to do
11 that because he has the--he was actually there at the
12 manufacturing of the plant, has all that background
13 information.

14 MR. LANGLAIS: So he's only going to--just
15 so I'm clear, he's only going to say things like
16 Aroclor 1268 was manufactured from this period of time
17 to this period of time?

18 MR. NASSIF: Right. Right.

19 MR. LANGLAIS: And that's it.

20 MR. NASSIF: Yeah, and basically,
21 information relating to when they started, what they
22 were used for, particular Aroclors were used for, and
23 that kind of thing.

24 MR. LANGLAIS: But if I ask him about--to
25 describe the process, he's not going to be able to

1 tell me?

2 MR. NASSIF: Well, he has information on it,
3 but he's not the 30(b) (6) witness for that. Jerry
4 Brown, who actually was the process chemist for the
5 process, is going to do all that.

6 MR. LANGLAIS: Okay, I think I misunderstood
7 that part of it. He is here to speak about the lead
8 pot process.

9 MR. NASSIF: Yes, he is.

10 MR. LANGLAIS: And there is a litany of
11 things, A through K, involving the lead pot process.
12 Everything listed in that number 4 on our notice--

13 MR. NASSIF: I'll take a look at that.

14 MR. TURNER: That's obviously going to bleed
15 over into the process.

16 MR. NASSIF: Right, and to that extent,
17 Jerry Brown, who has all the background information,
18 was assigned to the process for a number of years, is
19 going to talk about that.

20 MR. TURNER: Okay.

21 MR. NASSIF: But Bob is going to talk about
22 the lead pot process. The lead pot process actually
23 stopped before Jerry Brown started at the plant. Bob
24 is going to talk about the lead pot process because he
25 actually did a study associated with that.

1 MR. TURNER: Okay.

2 MR. NASSIF: Not a study where he wrote a
3 paper or anything, but he actually looked into it and
4 got information on that. That's how we divided it up.

5 MR. TURNER: Okay.

6 MR. NASSIF: Okay? Let me look at Number 4.
7 This one here.

8 MR. LANGLAIS: Yeah.

9 MR. NASSIF: Under Exhibit A, Jim?

10 MR. LANGLAIS: Yeah. Instead of reading it,
11 reading it out, it's a matter of record. I mean, we
12 can just--

13 MR. NASSIF: He will talk about--to the
14 extent the lead pot process is involved in all of
15 these A through K, Bob will talk about it.

16 MR. LANGLAIS: Okay.

17 MR. NASSIF: Okay.

18 BY MR. LANGLAIS:

19 Q. Mr. Kaley, this is your first deposition as
20 a corporate witness; is that correct?

21 A. First in this case or first ever?

22 Q. First, first ever.

23 A. No, that's not correct.

24 Q. Okay. On how many occasions have you
25 testified as a corporate witness before?

1 A. At least once.

2 Q. Okay.

3 A. Once that I can recall.

4 Q. And was that for Solutia?

5 A. I believe it was for Monsanto at the time.

6 Q. Okay.

7 A. If you are using those, I mean if you are
8 using those interchangeably, as I think we agreed last
9 time--

10 Q. Yeah.

11 A. Yes, it was for Monsanto/Solutia.

12 Q. Yeah, and that was the point I was going to
13 make, that throughout the course of this deposition,
14 if I refer to Monsanto, I mean the, what you all refer
15 to as the "old Monsanto," the company that, that
16 became--that spun off the Solutia Company and the
17 Pharmacia Company. I'm not talking about the new
18 entity. That's agreeable with you?

19 A. That's fine, yes.

20 Q. Okay. Do you recall when you testified for
21 Monsanto in the past?

22 A. As a corporate representative.

23 Q. Yes.

24 A. Um, I would say it's seven to ten years ago.

25 Q. Do you recall what kind of case that was in?

1 A. It was a personal injury case under which
2 Monsanto had been third partied.

3 Q. What kinds of topics were you testifying
4 about?

5 A. Basically, health and safety warnings of
6 Monsanto products. PCBs, not all of Monsanto
7 products.

8 Q. Did it involve someone--did it involve the
9 injury of an employee of Monsanto?

10 A. No.

11 Q. Okay. What, what--who was injured in that
12 case?

13 A. Some employees of a junior college in New
14 Jersey.

15 Q. Okay, do you recall how, how they were
16 injured?

17 MR. NASSIF: Allegedly injured.

18 A. Allegedly injured? It had to do with the
19 use of PCBs as a plasticizer and in some ceiling tiles
20 in that building.

21 BY MR. LANGLAIS:

22 Q. Okay. You've been deposed several times
23 before, not just as a corporate witness but as in your
24 individual capacity; correct?

25 A. That's correct.

1 Q. So you kind of know the, what's going to
2 happen here, today, with the court reporter and my
3 asking you questions?

4 A. Yes, I do.

5 Q. Okay. In fact, do you remember me? I
6 deposed you as part of your testimony as a fact
7 witness in this case.

8 A. I do remember you, yes.

9 Q. Okay. I don't know if that's good or bad,
10 but you remember me; that's good. Would you prefer
11 that I refer to you as "Dr. Kaley" or is "Mr. Kaley"
12 okay?

13 A. "Bob" is fine.

14 Q. Okay. If I ask you a question and you don't
15 understand it, please tell me, because if you answer
16 it, I'm going to assume that you've understood the
17 question that I've asked. Is that agreeable?

18 A. That's fine.

19 Q. Before you begin, I recall last time, you
20 don't work for Solutia anymore; is that correct?

21 A. That's correct.

22 Q. But you do consulting work for Solutia.

23 A. That's correct.

24 Q. You also do consulting work for Pharmacia?

25 A. That's correct.

1 Q. And how about the new Monsanto, the new
2 entity?

3 A. Only to the extent that, you know--well, the
4 answer is no, I do not do consulting work for the
5 agricultural business, the new Monsanto.

6 Q. And am I correct that you are paid a set
7 monthly fee, regardless of whether you perform
8 consulting services for any of those entities we just
9 mentioned?

10 A. That's correct.

11 Q. And what is--how much is that?

12 A. \$13,500 a month.

13 Q. Okay, has that changed since the last time
14 we talked at--

15 A. No, it--

16 Q. --your last depo?

17 A. I'm sorry. No, it has not.

18 Q. Let's talk about the biphenyl production and
19 the lead pot process. How did you prepare for your
20 testimony here, today, concerning the lead pot
21 process?

22 A. I reviewed my previous deposition, and I
23 reviewed the documents that were submitted in response
24 to EPA's, I think it's 104(e) request on, on
25 Monsanto's use of lead in the Anniston facility.

1 Q. Did you look at any other documents?

2 A. No.

3 Q. Did you request any other documents?

4 A. No.

5 Q. Okay. Who did you speak with in preparation
6 for your testimony today?

7 A. I spoke briefly with Jerry Brown and then
8 attorneys.

9 Q. Were the attorneys present when you spoke to
10 Jerry Brown?

11 A. No.

12 Q. Do you recall what, specifically, you and
13 Jerry discussed?

14 A. Just to be sure that the information I
15 provided in my previous deposition was, was correct
16 according to both Jerry's memory and with regard to
17 his conversations with former employees.

18 Q. In reviewing your deposition, did you--and
19 speaking with Jerry, did you encounter anything in
20 your deposition that is incorrect, as far as you can
21 tell?

22 A. There were a couple of minor points that I
23 don't know that it was incorrect. I said I didn't
24 know a couple of things, and now I think I do know
25 those things.

1 Q. Do you recall what points those were?

2 A. Yes. I think there was some discussion of
3 whether Monsanto used the lead pot process to produce
4 biphenyl at any other facility, and I believe I said I
5 don't know. I know now that they did, there was one
6 lead pot unit at the Newport, Wales facility, and I
7 believe there was also a question as to whether
8 Monsanto used the lead pot process at any other plants
9 for any other purpose besides producing biphenyl, and
10 I now know that Monsanto did use the lead pot process
11 or a lead pot process at the Texas, Texas City
12 facility to--as part of a petroleum cracking
13 operation.

14 Q. Now, was any other process at the Anniston
15 facility, did any other process at the Anniston
16 facility use the lead pot process or some similar
17 process?

18 A. No, just the biphenyl.

19 Q. Just for the biphenyl?

20 A. That's correct.

21 Q. And you said that the Newport facility in
22 the United Kingdom had, had one unit?

23 A. That's correct.

24 Q. And we'll get into the details later, but
25 that one unit consists of the three lead pots, right?

1 A. You are correct.

2 Q. You've got the two preheater pots and then
3 the converter pot?

4 A. That's correct.

5 Q. Okay. Did you see that in any documents or
6 did you--were you told that by Jerry Brown?

7 A. I believe I saw it in documents.

8 Q. And are those documents in the stack that
9 you provided to us here today?

10 A. Yes.

11 Q. Were there any other points that you saw in
12 your testimony that, that you feel now you have more
13 accurate information?

14 A. No.

15 Q. Did you speak with any other former Monsanto
16 employees about the lead pot process?

17 A. Not personally, no.

18 Q. Have you ever?

19 A. No.

20 Q. Just your discussions have involved just
21 discussions with Jerry Brown; is that right?

22 A. That's correct.

23 Q. Do you know who Jerry Brown spoke with?

24 A. I know, I believe, a couple of the names,
25 yes.

1 Q. Okay, and what are their names?

2 A. I think there was Gene Arnette and Thomas
3 Lackey, and there may have been another, but I don't
4 recall the name.

5 Q. Now, is it your recollection that those two
6 individuals were employed at the facility during the
7 time the lead pot process was being utilized?

8 A. Yes.

9 Q. Do you know if either of these gentlemen
10 actually was involved in the lead pot process? The
11 biphenyl production?

12 A. I don't recall. I don't think so. I don't
13 recall specifically.

14 Q. Have you--have--has Monsanto identified
15 anybody who was actually part of the lead pot process
16 to produce biphenyls?

17 A. My understanding is that Jerry Brown
18 contacted those people who he thought could best
19 answer those questions, and those were the names that
20 he came up with and that he spoke to, so to the extent
21 that he didn't identify any other names, I believe
22 there are not people available.

23 Q. After learning that the Newport facility
24 utilized the lead pot process to manufacture
25 biphenyls, did you make any--first of all, is the UK

1 facility still in existence?

2 A. The facility, itself, is. They, obviously,
3 no longer make PCBs there.

4 Q. Right. Did you make any inquiry of the
5 Newport facility to determine if they had any
6 documents relating to their use of a lead pot process
7 to produce biphenyl?

8 A. No.

9 Q. Do you, in fact, know if, if the United
10 Kingdom has documents relating to the lead pot
11 process--

12 A. No.

13 Q. --to manufacture biphenyl?

14 A. No, I don't know.

15 Q. Do you know if Jerry Brown spoke to anyone
16 in the UK about the biphenyl lead pot process?

17 A. Not to my knowledge.

18 Q. Do you know why you were selected to speak
19 about the lead pot process, as opposed to Jerry Brown?

20 MR. NASSIF: Wait a minute, Bob. I'll
21 object on the basis that's privileged information.

22 MR. LANGLAIS: You are going to instruct him
23 not to answer?

24 MR. NASSIF: Yes. Now, if you want to ask
25 him if he had any prior experience about the lead pot

1 process or any of that, but I think the selection of a
2 witness as a 30(b) (6) deposition involves attorney
3 work product.

4 MR. LANGLAIS: Okay, let me ask it this way.

5 BY MR. LANGLAIS:

6 Q. How long have you known about the lead pot
7 process? When did you first learn of that?

8 A. Sometime prior to a letter I wrote to the
9 Alabama Department of Environmental Management in the
10 year 2000. Summer of 2000 would be my best estimate.

11 Q. Do you know when Jerry Brown acquired his
12 knowledge about the lead pot process?

13 A. I assume soon after he joined the plant in
14 1967.

15 Q. Do you feel you are more qualified to speak
16 about the lead pot process than Jerry Brown?

17 A. As I sit here today, yes.

18 Q. So is it your, is it your testimony that you
19 believe that all the information that Jerry Brown has
20 about the lead pot process, he's downloaded to you?

21 A. I believe that, yes.

22 Q. And that information you believe is
23 accurate?

24 A. I do, yes.

25 Q. When were you first notified about being the

1 corporate witness for the 30--for the lead pot
2 process?

3 A. I don't recall specific date. Maybe two
4 months ago is my best guess.

5 Q. And in connection with the lead pot process,
6 how long did you prepare for the testimony you are
7 giving here today?

8 A. Well, I, I mean that's a difficult question
9 to answer. I spent much time in 2000 reviewing SMPs
10 and documents to prepare for that letter. Subsequent
11 to that, specifically for today, a day or so.

12 Q. And we'll come back to the letters, or the
13 letter sent to ADEM that you are referring to later in
14 this depo. So am I correct that in addition to Jerry
15 Brown, you relied upon the standard manufacturing
16 procedures and the standard operating instructions for
17 the lead pot process in preparing for your depo here
18 today?

19 A. Primarily, yes.

20 Q. And what other, what other documents--I'm
21 going to look through those documents during a break,
22 but what other documents do you recall looking at in
23 preparing for your depo?

24 A. That's primarily it. There were some that I
25 wouldn't--there were process descriptions which

1 weren't officially process, you know, standard
2 operating procedures, but they fall largely into
3 that--contain that same information and largely into a
4 that same category.

5 Q. Am I correct that the lead pot process at
6 Anniston operated from approximately 1928 through
7 1964?

8 A. Yes, although in the last three years from
9 1961 to 1964, it operated only sporadically.

10 Q. What do you mean by "sporadic"?

11 A. I don't know specifically, but I know that
12 there is information that it was pretty much shut down
13 in 1962 and that it may have been reinstituted for
14 short periods up to 1964 if there were need, but I
15 don't know specifically how often or to what extent.

16 Q. Are you able to tell me what the production
17 levels were for biphenyl over the history of the lead
18 pot process?

19 A. Not in any great detail, although there
20 are--there is information in those documents, numbers
21 like ten to twenty million pounds a year in high
22 production years.

23 Q. And do you recall--you said that the
24 operation was sporadic from '64--'61 to '64. Do you
25 know how much the production level dropped off during

1 that time?

2 A. Well, the production level for biphenyl
3 didn't drop off--

4 Q. Right.

5 A. --because they went to a different process.
6 I don't know the split between what would have been
7 manufactured by the updated process and the
8 biphenyl--and the lead pot process.

9 Q. You didn't encounter any documents that show
10 what the production levels were during that time
11 period, the '61-to-'64 time period?

12 A. Not splitting out the information of--for
13 the lead pot process specifically, no.

14 Q. So you might see a number for biphenyl in
15 '62, but that doesn't necessarily mean that that
16 amount was produced through the lead pot process, it
17 was either through the lead pot process or--how did
18 they refer to the process after the lead pot process?

19 A. Tubular process.

20 Q. Right. Does the, does the Solutia facility
21 still produce biphenyl?

22 A. It does.

23 Q. And do they still use the tubular process
24 that you just referred to?

25 A. Yes, I believe they do, yes.

1 Q. Now, biphenyl is, over the history of its
2 manufacture, biphenyl was a raw material for PCBs,
3 correct?

4 A. That was one of its uses, yes.

5 Q. But it was also sold as a product?

6 A. That's correct.

7 Q. And it was sold to, to other Monsanto
8 plants?

9 A. Well, certainly.

10 Q. Or transferred, however you want to define
11 it?

12 A. Yes. Yes, it was.

13 Q. And those other plants would make PCB
14 products from that biphenyl?

15 A. Well, a single plant, the Sauget plant in
16 Illinois, used biphenyl for that purpose, yes.

17 Q. Do you know who the UK plant was selling
18 their biphenyl to?

19 A. My understanding is that it was all used
20 internally to manufacture PCBs.

21 Q. Okay. Now, biphenyl was also a product,
22 itself, that was sold to non-Monsanto companies,
23 correct?

24 A. That's correct.

25 Q. Do you know what, what those companies used

1 it for?

2 A. There were several uses. The largest use
3 and the use today is as a heat transfer fluid. It was
4 also used as a fungistat on--for packing citrus
5 fruits. Those are the two that I know for sure.

6 Q. Are you aware of any other companies that
7 made PCBs from that biphenyl?

8 A. No.

9 Q. In your--the documents that you produced, do
10 you have any maps that show the location of where the
11 lead pot process occurred?

12 A. I believe there is one, yes.

13 MR. LANGLAIS: Okay, can we, maybe, go off
14 the record for that while he looks for that map?

15 MR. NASSIF: Do you want to go find it or
16 can you find it?

17 THE WITNESS: Yeah, I think so. It's in
18 there.

19 MR. NASSIF: Why don't you hand him that
20 binder there?

21 MR. TURNER: This is the top one.

22 THE WITNESS: I don't know which binder it's
23 in.

24 MR. NASSIF: Okay.

25 THE WITNESS: I don't think it's the top

1 one, but it might have been.

2 MR. TURNER: I tell you what: I'll grab,
3 look through--

4 THE WITNESS: It's attached to Craig
5 Branchfield's letter to ADEM.

6 MR. TURNER: Okay.

7 THE WITNESS: It's going to be a short
8 document.

9 MR. TURNER: In 2000?

10 THE WITNESS: Yeah, would have been Spring
11 of 2001.

12 MR. LANGLAIS: Let's go off the record until
13 we locate that.

14 (Discussion of the
15 record.)

16 MR. LANGLAIS: Let's get back on the record.

17 (Defendant's Deposition
18 Exhibit Solutia 1 mark'd
19 for identification.)

20 BY MR. LANGLAIS:

21 Q. Mr. Kaley, I'm going to hand you what we'll
22 mark as Solutia Exhibit 1, and it's DSW 044183 and
23 appears to be a layout of the Monsanto facility.
24 Would you agree with that? The date on there is 1993.

25 A. Um, yes, I would.

1 Q. Okay. Now, were you able--I'll hand you my
2 pen--are you able to mark on there the location of
3 where the lead pot process occurred--

4 A. Roughly.

5 Q. --at the facility? Okay.

6 A. It's roughly within this blue circled area.

7 Q. And would you just put, just put "Lead pot"
8 next to that?

9 A. Obviously, in 1993, it was not there,--

10 Q. Sure.

11 A. --but it was in that same general area where
12 biphenyl is manufactured today.

13 Q. Now, there are structures there now, right?

14 A. Yes.

15 Q. And what's manufactured there now?

16 A. Biphenyl.

17 Q. Okay. Do you recall whether, whether the
18 lead pot process was anywhere else at this facility,
19 any other location?

20 A. My understanding is that it was not. That
21 was the location where the lead pot process resided.

22 Q. We'll leave this out because it may help.
23 I'm going to hand you six, six aerial photographs that
24 were produced to us by Monsanto in this case, and for
25 the sake of the people on the phone, I'll go ahead and

1 read out the Bates numbers. ADAD7-000040;
2 ADAD7-000041; same, same general Bates number, the
3 next one is, ends in 65. The next one is 77. The
4 next one is 83, and the last one is 157, and we'll
5 just, we'll just keep these together as Solutia
6 Exhibit Number 2.

7 (Defendant's Deposition
8 Exhibit Solutia 2 mark'd
9 for identification.)

10 BY MR. LANGLAIS:

11 Q. What I'd like you to do is to look through
12 these aerial photographs and to the extent you can,
13 circle and put "LP" next in the area that you believe
14 the lead pot process occurred.

15 (Witness complies.)

16 Q. (Continuing) Now, in Exhibit 1, this here
17 (Indicating), is this Highway 202?

18 A. Yes, it is.

19 MR. LANGLAIS: For the sake of the people on
20 the phone, in Solutia Exhibit 1, he has marked a
21 location that borders Highway 202.

22 (Witness peruses and marks
23 on photographs comprising
24 Solutia Exhibit 2.)

25 A. On 41, I don't believe that the process is

1 shown, so I'm going to put an "NS"--

2 BY MR. LANGLAIS:

3 Q. Okay.

4 A. --on the bottom of that one. As I orient
5 myself, I can't locate it.

6 (Witness continues to
7 peruse photographs.)

8 A. (Continuing) On 65, I don't believe
9 there's--I can't--it's a more close-up shot, and I
10 don't have good reference point. Highway 202 is my
11 reference point. I'm going to circle an area and put
12 a question mark by it. I'll put "LP" question mark.

13 Q. Does the train spur shown on that photo help
14 you at all?

15 A. Yeah, to some extent. I mean I'm, I'm
16 fairly sure where it is, because of the curving
17 railroad spur, but I'm just--I don't want to say I'm
18 totally positive, and I don't know the year of that
19 map. Again, I'm assuming that these maps are from
20 years in which the lead pot process was operating.
21 I'm basically circling where the biphenyl operation
22 is, so depending on which year this map is, then
23 that's going to--

24 Q. Sure.

25 A. --adjust my answer.

(Witness continues to
peruse photographs.)

A. (Continuing) Okay, I've completed marking
the aerials.

Q. Now, can you describe for me the, the
structure that the biphenyl process took place in?

A. My understanding has been that it was, it
was basically an, an open area, and that is pretty
much confirmed--well, it looks, here, that there is
some sort of building associated with, with,
certainly, the biphenyl PCB process area, and I'm not
sure exactly whether the lead pots were in the
building or not. I believe they were because
certainly, a concrete floor is described in the lead
pot process area in some of the documents, and so I
believe it was in the front part of this building.
I'm looking at 77 now.

Q. And that's, that's dated, what appears to be
dated 3:30:53?

A. That's correct. So my, my clearest answer
is that the lead pot process was in the bottommost
portion of the building shown in the circled area.

Q. Okay, and your--I know you've looked at the
photo, but in your review of documents, was there any
description of the building where the, where the

1 process was performed?

2 A. I don't recall.

3 Q. Now, am I correct that I believe you
4 testified last time that it was a building that had a
5 roof but no walls?

6 A. That was my assumption, and I don't--this--I
7 mean, if I look at this building, it clearly has
8 walls, and I also believe in the documents, it does
9 talk about ventilators in the roof, so it must have
10 been a building. I recall concrete floors, and there
11 were ventilators in the roof, so it must be this
12 building, and it apparently does have walls, so that's
13 really the best I can do at this point.

14 Q. Do you know if the phenyl--

15 A. And I'm sorry, let me correct one more
16 thing. When I was talking about that open-air process
17 with no walls, I believe I was talking more about PCBs
18 than the lead pot process. I don't recall exactly
19 where that was, but that doesn't really change the
20 answer I've just given today, which is my best
21 understanding as I sit here today.

22 Q. Do you recall what kind of structure was in
23 place when, when Swan Chemical Company first started
24 to manufacture biphenyl using the lead pot process in
25 1929?

1 A. I've not seen any information to--that would
2 give me any specific information whether it changed
3 prior to this 1953 document.

4 Q. Do you know if the floor has always been
5 concrete?

6 A. That's my understanding.

7 Q. Now, do you know if there were ever any
8 buildings at the facility that had, had dirt floors?

9 A. I don't know.

10 Q. Now, I think you testified last time that at
11 one point, there was curbing installed around the
12 structure where the lead pot process occurred?

13 A. I don't recall that. Again, my recollection
14 would be that would have been the PCB process, but
15 that's just my recollection as I sit here. I don't
16 recall that specific piece of information.

17 Q. Do you know if any portion of the, the
18 biphenyl production building was dismantled at any
19 time?

20 A. I don't.

21 Q. You don't--you can't testify as to how that
22 building might have changed over the years?

23 A. I cannot.

24 Q. In your discussions with Jerry Brown, did he
25 have any indication as to how the biphenyl process was

1 housed?

2 A. That wasn't an area we discussed.

3 Q. Do you recall any of the companies that
4 Monsanto sold the biphenyl to other than Monsanto?

5 A. No, I didn't look into specific company
6 names.

7 Q. Let's get into the details of the process,
8 itself. Now, liquid benzene would arrive at the
9 Anniston facility by tank car; is that correct?

10 A. That's my understanding, yes.

11 Q. And then that liquid benzene would be
12 siphoned to storage tanks?

13 A. That's correct.

14 Q. Okay, and then at some point, isopropyl
15 alcohol was added to the liquid benzene?

16 A. At some, for some part of the process.
17 Also, acetone was used during some years. I believe
18 that was the mid 1950's.

19 Q. What was the purpose of the isopropyl
20 alcohol?

21 A. It was called a promoter. It acted in a
22 way, apparently, according to the documents, that
23 people didn't understand, but somehow, it facilitated
24 the conversion of benzene to biphenyl in the reactor,
25 so it was, in some sense, a catalyst.

1 Q. How--

2 A. Go ahead.

3 Q. And was the acetone also a promoter?

4 A. Yes. It was used in--as a substitute for
5 isopropyl alcohol later in the years.

6 Q. Do you know why isopropyl alcohol was
7 substituted with acetone?

8 A. I think it was a cost and safety
9 considerations, but I don't recall specifically.

10 Q. What were the safety considerations with
11 using the alcohol?

12 A. I don't remember. I just seem to recall
13 that was one of the justifications for the change.

14 Q. Now, did you come across any documents to
15 indicate how the lead was brought into the Anniston
16 facility?

17 A. Other than ingots, other than that it was
18 brought in ingots, no, I don't know.

19 Q. Do you know where the lead ingots were
20 stored?

21 A. I don't.

22 Q. You didn't come across any documents to
23 indicate where they were stored?

24 A. No.

25 Q. Jerry Brown didn't have any information?

1 A. I don't believe we discussed that
2 specifically.

3 Q. You think that that may have been something
4 that was stored outside?

5 A. I would have to speculate. I have no idea.

6 Q. And who did Monsanto purchase lead from over
7 the years?

8 A. I'm sorry, there was a company mentioned in
9 the documents. I don't remember which company it was,
10 and I don't know whether that was the sole supplier.
11 All I do is I remember, I do remember one company.

12 Q. Does National Lead Company ring a bell?

13 A. No, but you asked me about that in the
14 previous deposition, and it was not National Lead
15 because when I saw the name, I recalled your question
16 before. It was not National Lead.

17 Q. Was it St. Joseph?

18 A. That does sound familiar, frankly, yes.

19 Q. Okay, can you tell me about the, the amounts
20 of lead that the Anniston facility purchased?

21 A. No. No information on that kind of purchase
22 records or anything like that.

23 Q. Did you search purchase records for lead
24 purchases?

25 A. Frankly, the purchase records from that time

1 frame don't exist within Monsanto anymore. We've
2 looked at them for other issues around PCBs and they
3 do not, they don't exist.

4 Q. So for the time frame of 1929 through 1964,
5 there are no purchase records reflecting purchases of
6 lead?

7 A. None that I know of, no.

8 Q. Do you know who undertook the effort to make
9 that determination?

10 A. Would have been the attorneys in various
11 litigation.

12 Q. Do you know who the Newport plant purchased
13 lead from?

14 A. No, I do not.

15 Q. So out of these, these storage tanks, the
16 liquid benzene would be drawn through a pipe coil
17 vaporizer; is that right?

18 A. Yes. Pumped through, yes.

19 Q. And that's located in a flue gas exhaust
20 stack?

21 A. I believe that's correct, yes.

22 Q. Okay, and what is the purpose of that part
23 of the process?

24 A. It's primarily just to get benzene into
25 the--from the liquid state into the vapor state.

1 Q. And then the benzene is then bubbled through
2 the bottom of, of the molten lead pots? I mean, I'm
3 sorry, the lead spots?

4 A. That's correct.

5 Q. Now, each biphenyl unit consists of three
6 pots; correct?

7 A. That's correct.

8 Q. Now, there's two preheater pots and there's
9 a converter pot?

10 A. You are correct.

11 Q. Are you able to tell me how many of those
12 units the Anniston facility had over the course of, of
13 the lead pot process from 1929 to 1964?

14 A. The maximum--my understanding is that the
15 maximum number of units in use at any--at any time
16 would have been 12. There were actually 13 units, but
17 for whatever reason, the, the number one unit
18 apparently was not used, so really, the number of
19 maximum production was 12 units. I don't know that
20 they were, all 12 were used at all times, but that was
21 the maximum number.

22 Q. Can you describe for me how the--how the
23 molten lead was--how that setup occurred? Now, they
24 obviously take the ingots from some location at the
25 Anniston facility and they, they melt, they melt those

1 ingots. Can you describe for me how that occurred?

2 A. My understanding is that they put them in
3 the, the pots that the process occurred in and turned
4 on the heat and the lead melted in those pots.

5 Q. Okay, so they didn't, they didn't melt them
6 in another location and then ladle them into those
7 lead pots?

8 A. That's correct. It is correct that they did
9 not do that. They were melted in the pots.

10 Q. And over time, additional lead had to be
11 added into those lead spots; is that right?

12 A. That's my understanding, yes.

13 Q. And those were steel pots?

14 A. Yes.

15 Q. Do you know what the life, lifespan of those
16 steel pots were in the early, in the early, the
17 1930's, 1940's?

18 A. In the earlier years, I don't know the
19 answer to that.

20 Q. Was it in any of the documents that you
21 looked at?

22 A. Not for the early years.

23 Q. Okay, what--did you recall any discussion of
24 a lifespan of the steel pots?

25 A. Yes.

1 Q. Okay, and for what years do you recall that
2 discussion?

3 A. I believe it was in the 1950 time frame.

4 Q. Okay, in the 1950 time frame, what was the,
5 what was the useful life of those steel pots?

6 A. About two years.

7 Q. Okay, do you know what was done with those
8 steel pots when they were no longer useful?

9 A. I believe they were cleaned and sold for
10 salvage, but I, I'm not real specific on that.

11 Q. They were cleaned at the Monsanto facility?

12 A. Yes.

13 Q. They were sold to some salvage company?

14 A. That was my understanding.

15 Q. Do you recall the names of any, any salvage
16 companies?

17 A. No. In fact, I think some of the pots were
18 repaired, so it wasn't--I mean when a pot, quote,
19 "reached the end of its useful life," I believe in the
20 documents, it does say that some of them could be
21 repaired and they were, but the ones that weren't, I
22 believe, were salvaged.

23 Q. Now, the--this unit of three pots, it sounds
24 like the purpose of, of the first two pots was to ramp
25 up the temperature of the molten--of the molten lead?

1 A. Well--

2 Q. What was the purpose of those two initial
3 preheaters?

4 A. To ramp up the temperature of the benzene.

5 Q. Okay, ramp up the temperature of the
6 benzene, so by the time it reached the third pot, it
7 was at the correct temperature?

8 A. For conversion, that's correct.

9 Q. Okay, what temperature was that?

10 A. I believe was around 750 to 850--to 800
11 degrees Centigrade.

12 Q. Do you know lead, at what point lead
13 vaporizes?

14 A. I believe about 1,700 degrees Centigrade.

15 Q. There was also high pressure in these
16 systems; is that right?

17 A. They were somewhat pressurized, yes.

18 Q. So these were, these were covered pots, they
19 were pressurized?

20 A. (Nods head in affirmative manner).

21 Q. Now, I saw several discussions of lead
22 vapors from these pots. Is that, is that--were there
23 lead vapors that came off these pots?

24 A. I don't recall seeing those discussions.

25 I--I mean, I don't know what a lead vapor would look

1 like. I mean, I'm sure there was in some of the pots,
2 there was probably some evaporated lead in the head
3 space in the pots, but as far as lead vapor coming off
4 those pots, I don't recall that.

5 Q. Okay, why would there--now, what--you said
6 the temperature was 800 degrees?

7 A. Yes.

8 Q. And you said that lead becomes a vapor at
9 1,700?

10 A. Well, that's the boiling point.

11 Q. Okay.

12 A. I mean, lead will become a vapor throughout
13 the temperature range.

14 Q. Right.

15 A. I mean, just like water, water will become a
16 vapor throughout the temperature range. It's just
17 when it starts boiling is when it is undergoing that,
18 that phase conversion completely.

19 Q. Okay, so just because you don't get to 1,700
20 doesn't mean that there aren't--that lead vapors can't
21 form. Like you said, it's throughout the entire range
22 of the boiling that lead vapors can form?

23 A. Yes.

24 Q. Now, after leaving the converter pot, the
25 benzene vapor--and there are conversion products that

1 then pass through a lead trap; is that right?

2 A. That's correct.

3 Q. Now, describe for me--the documents refer to
4 conversion products. Describe for me what those are.

5 A. Biphenyl and other higher chlor--or higher
6 polymerized biphenyls.

7 Q. Orthodiphenyl benzene?

8 A. That would be one, yes.

9 Q. Metadiphenyl benzene?

10 A. Yes.

11 Q. Paradiphenyl benzene?

12 A. Yes.

13 Q. Tetraphenyl?

14 A. Terphenyls, I guess, tetraphenyl may, I
15 would know what a tetraphenyl would be. I have not
16 seen that term, but--

17 Q. Terphenyl tars?

18 A. Presumably there might be some low amounts
19 in there, yes.

20 Q. And carbon?

21 A. Yes, my understanding is carbon was formed.

22 Q. Do you recall any others?

23 A. No, I don't.

24 Q. How about Santowax? Is Santowax, would that
25 be one of the, one of the chemical names I've just

described?

A. Santowax would include--Santowax is primarily made up of the terphenyls which, in what you just read me, were the, were the dibenzobenzenes or polydiphenyl benzene is the same as terphenyl, so that's primarily Santowax was that, was that cut.

Q. Now, Santowax, is that a trade name?

A. Yes.

Q. Okay, that's like the--like Monsanto had the trade name "Aroclor" to describe the PCBs.

A. Yes.

Q. It would have the "Santowax" to describe the mixture that you just described?

A. Well, yes, the Santowax--Santowax, there were a number of Sanatowaxes.

Q. Okay.

A. Okay? The first Santowax that came out of the process was the distillation bottoms from distillation of the crude biphenyl to form pure biphenyl.

Q. Okay, and we'll get to that. Now, this lead vapor and these conversion products, as they, they pass--obviously, they're passing through a lead trap. That must mean they contain some amount of lead, right?

1 A. That's correct.

2 Q. Did you see anywhere in the documents to
3 discuss what those lead levels were?

4 A. I did not.

5 Q. Did you see any discussion of any kind of
6 testing that Monsanto did to determine what the lead
7 levels were?

8 A. In the lead trap?

9 Q. In the benzene vapor and the conversion
10 products that passed through the lead trap.

11 A. I did see one analysis of a crude biphenyl,
12 which would have been what you were referring to as
13 the conversion mixture.

14 Q. Do you recall what the lead concentration
15 was?

16 A. The lead concentration was reported as a
17 fraction of, of a, of a percent of the ash that was
18 remaining after the crude materials had been burned in
19 a laboratory to do the metals analysis.

20 Q. And was that in the documents that you
21 looked at in preparing?

22 A. Yes.

23 Q. Do you believe that was in one of the SMPs,
24 the standard manufacturing procedures?

25 A. My recollection of it is that it was not.

1 Q. Okay.

2 A. That it was in a, it was in some sort of a
3 process review or something. That's my recollection.

4 Q. Where was the lead captured in the lead
5 trap? Where was that lead disposed of?

6 A. It was put back into the pots.

7 Q. And you--where did you get that information?

8 A. It's in those documents. I don't--I believe
9 it's in either one of the process descriptions or in
10 the SMP. I believe it's in one of the process
11 descriptions and from, from people that, that Jerry
12 Brown talked to, they also--that was their
13 recollection of what happened to that lead.

14 Q. Now, does the, does the lead trap--did the
15 lead trap capture all of the lead that remained in
16 these--in the, in the--these conversion products, the
17 biphenyl and the other, the other phenyl products that
18 we discussed?

19 A. Well, I mean judging from the fact that
20 trace levels were detected in the crude biphenyl which
21 I, I am assuming was captured after the lead trap, I
22 would say it captured all but some very trace levels.

23 Q. Now, is it safe to say that the--that all of
24 these, all of these conversion products had trace
25 levels of lead in them after, after they went through

1 the distillation process?

2 A. Well, no.

3 Q. Okay. Did--I mean, you just said that there
4 would be trace levels of lead in the crude, in the
5 crude bottoms, right?

6 A. In the crude biphenyl, the crude conversion
7 product is the one, the one analysis that I did see
8 was for crude biphenyl.

9 Q. Do you know, did Monsanto test these
10 conversion products, including the biphenyl, for lead
11 content?

12 A. Well, that was the only analysis I saw.

13 Q. Okay.

14 A. And you know, the levels were so trace that
15 I would assume that they did not, but I don't know
16 that for sure.

17 Q. Based upon, based upon what you've seen in
18 these documents, is it your belief that these
19 conversion products contained no lead?

20 A. Well, we need to be more specific about what
21 you are talking about as conversion products.

22 Q. Okay.

23 A. I mean, what you originally described as a
24 conversion product was the output of the--which is
25 basically what I'm calling crude biphenyl, prior to

1 any future refining.

2 Q. Okay.

3 A. Obviously, that crude biphenyl did contain
4 trace levels of lead.

5 Q. That's probably a good point. Let's--so
6 these--this crude biphenyl, then, goes to the bottom
7 of a fractionating column, right?

8 A. Yes.

9 Q. And as part of--and that fractionating
10 column causes the different, the different converter
11 products, converted products, to separate out based
12 upon, based upon boiling point?

13 A. That's correct.

14 Q. And do you know how those were--how that
15 material was collected?

16 A. Not specifically. I do know, I do recall
17 seeing that there were four fractions collected: A,
18 a heads, basically, which was the remaining benzene,
19 was collected first, then there was a, I think
20 basically a mix of biphenyl and benzene was collected,
21 then the main biphenyl cut, and finally, the still
22 bottoms, but specifically how they were removed from
23 the column, into what kind of receptacle they were
24 collected, I don't know that, although it may be
25 reflected, my guess is it's reflected in those

1 documents, in the process documents, but I don't have
2 a specific recollection.

3 MR. LANGLAIS: Okay, I'm going to--why don't
4 we take a five-minute break. I'm going to introduce
5 some documents. It will give me a chance to get those
6 together, give you a chance to grab a cup of coffee or
7 whatever.

8 THE WITNESS: Okay.

9 MR. NASSIF: That's fine.

10 MR. LANGLAIS: Okay.

11 (Recess.)

12 (Defendant's Deposition

13 Exhibits Solutia 3 and 4

14 mark'd for

15 identification.)

16 BY MR. LANGLAIS:

17 Q. Dr. Kaley, I'm going to actually hand you
18 two exhibits, one that's been marked Solutia Exhibit
19 3, and it's Bates labeled ADA 000632 through ADA
20 000905. Solutia Exhibit 4 is DSW 462477 through DSW
21 462620. Would you, please, for now, just look at
22 Solutia Exhibit 3?

23 (Witness peruses said

24 document.)

25 Q. (Continuing) And feel free to look through

1 it. I'm going to ask you some--point to you certain
2 locations and ask you some questions.

3 A. Okay.

4 Q. This Exhibit 3 is entitled "Diphenyl and
5 Chlorinated Diphenyl Derivatives, June 1935." Is that
6 correct?

7 A. That's correct.

8 Q. Now, this appears to be, in my search, this
9 was the first SMP for the biphenyl process; is that
10 correct? The lead pot process?

11 A. Okay, I do not believe it's correct to
12 specifically call this an SMP.

13 Q. Okay.

14 A. It's what I would call a description of the
15 process,--

16 Q. Okay.

17 A. --but I don't believe it's an SMP. It would
18 be labeled as such.

19 Q. And just so the record is clear, diphenyl
20 and biphenyl are the same, those are just used
21 interchangeably; right?

22 A. That's correct.

23 Q. What's the purpose, in your mind, of this
24 document? You said it's not--you wouldn't describe it
25 as an SMP, or standard manufacturing procedure, just a

1 description. What's the purpose of it?

2 A. My understanding of this document is that it
3 was prepared by the Anniston facility to describe the
4 process preparatory to installation of a biphenyl
5 process at the Sauget plant, what's now called the
6 Sauget plant in Illinois.

7 Q. It looks like--it's difficult to read the
8 name, but on the second page of this, it--there is a,
9 not a signature but a--looks like a signature block.
10 It says, "E. M. Buford." Do you see that?

11 A. I see what you are referring to, yes.

12 Q. Have you ever seen that name before?

13 A. Other than on this document, no.

14 Q. Okay, that name hasn't come up in your
15 review of other documents?

16 A. No.

17 Q. Do you know who prepared this?

18 A. The whole document?

19 Q. Yeah.

20 A. Other than that name, no.

21 Q. Was this produced as part of your, your
22 2000, October 2000 letter to--you said it was to ADEM?

23 A. Yes.

24 Q. Okay, this particular SMP was an exhibit to
25 that?

1 A. I believe not.

2 Q. Okay, what was this an exhibit to--

3 A. I believe it was an Exhibit to the 104(e)
4 request.

5 Q. And is 104(e) request was dated October
6 2004?

7 A. You know, I don't know the answer to that.

8 Q. We'll get to that. Was this attached to
9 Monsanto's Solutia 104(e) response?

10 A. I believe it was, yes.

11 Q. And in that response, this is the earliest
12 document that describes the lead pot process that you
13 are aware of?

14 A. I don't know that for sure, but
15 I'll--assuming you've looked at all those, I'll take
16 your word for it. I don't know that for sure.

17 Q. Is it the first? It's dated 1935.

18 A. It's--I cannot point to you an earlier
19 document.

20 Q. Okay, that's my point. If you would turn to
21 ADA 000639 for me--

22 A. I'm there.

23 Q. Okay, the second full paragraph, it
24 discusses carbon form. It says, "Carbon form tends to
25 float on the lead surface or be carried out to a

1 conveniently located trap rather than to plug the
2 apparatus." Are they referring, based upon your
3 review of these documents, are they referring to the
4 carbon trap that's located at the bottom of the
5 fractionating column?

6 A. I believe that's correct. I would have to
7 look at the description to be sure, but--the diagram,
8 but I believe that is correct, yes.

9 Q. Am I correct that throughout this process,
10 there was what's called carbon formation occurring in
11 the various pipes and in different locations
12 throughout this--the equipment in this process?

13 A. My understanding was that it was the carbon
14 was formed in the, in the conversion process, itself,
15 but that it, in fact, did deposit in some of those
16 various pipes throughout the process.

17 Q. All right, and am I correct that it
18 deposited, this carbon deposited itself between the
19 converter and the lead trap? The piping between those
20 two?

21 A. I believe some of it did, yes.

22 Q. And that carbon contained lead; is that
23 correct?

24 A. I believe it is, yes.

25 Q. And then, of course, there are--am I correct

1 that carbon would also form in the lead trap, itself?

2 A. It would be collected in there some. I
3 don't think it would form--

4 Q. It would adhere.

5 A. --in there.

6 Q. Right. I guess I'm using the wrong--the
7 carbon would adhere within the lead trap, itself?

8 A. I believe some did, yes.

9 Q. And that carbon would contain lead?

10 A. Some amount, yes.

11 Q. And then from the lead trap, it would--there
12 would be piping from the lead trap to the distillation
13 column or the fractionating column; is that correct?

14 A. Yes.

15 Q. And carbon would adhere on the piping
16 between the lead trap and the fractionating column, as
17 well; correct?

18 A. I believe that's correct.

19 Q. And isn't it true that that carbon also
20 contained lead?

21 A. I don't know. If it did, it would be very
22 small amounts. I don't know.

23 Q. It's not your testimony that the lead trap
24 captured all of the, all of the lead, is it?

25 A. I would think it could capture a significant

1 amount. I don't know that it captured every molecule,
2 but--or every atom.

3 Q. Would the carbon also adhere within the
4 fractionating column, itself?

5 A. I don't recall seeing that. I don't know.

6 Q. At the bottom of the fractionating column
7 was, was the carbon trap.

8 A. Yes.

9 Q. Between the column and the, and the--well,
10 strike that. Why would there be a carbon trap at the
11 bottom of the column, fractionating column?

12 A. Well, because presumably, the carbon was a
13 solid, and the fractionating column was basically
14 operating under a gaseous phase, so solids are going
15 to go to the bottom.

16 Q. Okay, so that would--so do you still think
17 that there was no carbon formed in the fractionating
18 column?

19 A. I don't think it was formed in there. I
20 think there may have been some entrained carbon that
21 was being removed during the distillation process.

22 Q. Do you know if that carbon contained lead?

23 A. I've never seen results one way or the other
24 on that. I would think if it did, it was very, very
25 small amounts.

1 Q. What do you consider small amounts?

2 A. I don't know.

3 Q. You don't--you can't quantify--

4 A. I'm just going based on, you know, like I
5 said, the one analysis I've seen that would suggest
6 that the lead levels in the crude biphenyl were very
7 low, so that the levels any place after that
8 pro--after that lead trap, the levels would be very,
9 very low.

10 Q. What were the lead levels in the crude
11 biphenyl?

12 A. I think it's, you know, like tens of parts
13 per million.

14 Q. Okay, and that--now, what if you
15 produce--how much crude biphenyl did the facility
16 produce per year?

17 A. I don't know. I mean, I--the numbers are,
18 you know, twenty million pounds a month, so I don't
19 know. I mean, I haven't done the calculation.
20 Presumably it could be, you know, guesstimated.

21 Q. Would you agree with me that even a small
22 amount of lead, if you are producing a lot of the
23 material, then you could get some significant amount
24 of lead out of that material if you are producing, you
25 said how much? Twenty, twenty million?

1 A. I believe that's the numbers, 20 million
2 pounds a month.

3 Q. Per month, and they produced this from 1929
4 till 1964?

5 A. Well, till 1961, but I don't know that that
6 amount was produced every year. I'm saying I know it
7 was not. The levels in the early years were much
8 lower. Those were pretty much levels, as I recall,
9 during the Sixties.

10 Q. So you would have produced more as time went
11 on?

12 A. Yes, around the 20 million, we produced less
13 in earlier times.

14 Q. But even--would you agree with me that even
15 a small amount, even in small parts per million in the
16 crude biphenyl, if you are producing a lot of it, if
17 you do a simple calculation and take the total amount
18 of biphenyl produced and you multiply it by the lead
19 concentration, you can come up with a pretty
20 significant amount of lead? Would you agree?

21 A. You will get a number. I mean, what's--

22 Q. You might not consider it significant, but--

23 A. Your number and my definition of
24 "significant"--

25 Q. Sure.

1 A. --may not agree. You will get a number,--

2 Q. But that's how--

3 A. --certainly.

4 Q. That's how--I mean, you are a chemist.
5 That's how you would calculate how much, how much
6 total lead was in all the production of crude
7 biphenyl.

8 A. That's how I would make a crude estimate,
9 yes.

10 Q. Mm-hmm, because you know the concentration,
11 know the amount produced, and--

12 A. Sure.

13 Q. Basic algebra, right?

14 A. It's probably not even that; it's probably
15 arithmetic.

16 Q. Sure.

17 (Laughter.)

18 Q. (Continuing) And in 1935, how much of these
19 biphenyl units did the Anniston facility have?

20 A. I don't, I don't recall that specifically.

21 Q. How--what was the integrity of the steel pot
22 to the lead pots, the steel pots that contain the
23 molten lead, what was the integrity of those pots,
24 based upon your review of this 1935 document?

25 A. Can you point to me to the same thing you

1 are looking at? I mean, an integrity is basically
2 the--all I can tell you is what my understanding of
3 the integrity of the pots is is how well they were
4 holding up.

5 Q. Right, and that's, that's what I'm saying.
6 Did they leak?

7 A. Occasionally.

8 Q. Did the joints leak?

9 A. Occasionally.

10 Q. Now, what leaked out of there?

11 A. Presumably whatever is in there. Benzene,
12 probably some small amounts of lead.

13 Q. Lead vapors?

14 A. Um, presumably, some small amounts, sure.

15 Q. Some liquid lead?

16 A. Sometimes.

17 Q. And you said small amounts would leak out.
18 I mean, that's just your--is that an educated guess,
19 or did you see anything to indicate how much lead
20 vapor would come out of these leaking pots?

21 A. Well, I've never seen any numbers, but
22 clearly, in the documents, it talks about the fact
23 that if there were leaks, the benzene would catch fire
24 and it would have to be put out almost immediately
25 because it was a fire danger and the leaks would be

1 fixed, so, you know, there would be very small amounts
2 of benzene because they stopped that and the lead
3 would be less than the benzene, so that's the basis of
4 my characterization of small amounts of lead. I have
5 not seen numerical analyses of how much lead may have
6 been released during any particular leak.

7 Q. Now, there would be times when, when
8 the--when these lead pots would have to be opened. Is
9 that right?

10 A. That's correct.

11 Q. And during that time, would you expect there
12 to be some lead vapor loss?

13 A. There, there would probably be some, sure.

14 Q. And you haven't seen anything that
15 quantifies that?

16 A. No, I have not.

17 Q. And based upon your review of the documents,
18 does it seem that Monsanto--that was even something
19 that Monsanto looked at? Was Monsanto--did they make
20 any effort to determine lead vapor losses during
21 instances where you would open up these lead vats?

22 A. Not that I'm aware of, no.

23 Q. Now, there were also times when, when the
24 pots had to be cleaned; right?

25 A. That's my understanding, yes.

1 Q. And there were times when they would have to
2 go in and they would have to clean out this carbon
3 that adhered to the piping and the trap--in the traps;
4 is that right?

5 A. That's my understanding, yes.

6 Q. And do you know what they would do with that
7 carbon material?

8 A. My understanding is that it went to the
9 landfill.

10 Q. And we had discussed earlier that the carbon
11 material likely contained amounts of, certain amounts
12 of lead?

13 A. Some amount, depending on where the carbon
14 came from in the process, but it certainly would have
15 contained possibly some amount.

16 Q. Sure, and if it came--if there was carbon
17 that adhered between the converter pot and the lead
18 trap, you would expect to find higher amounts of lead
19 in that carbon versus the carbon that had adhered in
20 the piping from the lead trap to the fractionating
21 column, right?

22 A. I believe that's correct.

23 Q. Because that was the whole purpose of the
24 lead trap, itself.

25 A. That is, I believe, a correct conclusion.

1 Q. So as you go further through the process,
2 would you agree with me that it was likely that, that
3 the, that the level of lead in each of the adhered
4 carbon would decrease throughout the process?

5 A. Well, until at some point in the process
6 where it got so low, you couldn't machine it at all.

7 Q. But that ultimately, some of it would end up
8 in the crude biphenyl?

9 A. Well, in the crude biphenyl yes, I believe
10 that is true.

11 Q. And that crude biphenyl is, when we refer to
12 crude biphenyl, we're talking about the material prior
13 to putting it up on the distillation column?

14 A. That's correct.

15 Q. Once those, once those, the different, the
16 different products came off that distillation column
17 and they were put in the various containers--and we'll
18 get into that in a moment--did Monsanto look at
19 whether there was any lead contained in those
20 distillation products?

21 A. I've not seen measurements of that, no.

22 Q. So there were no measurements--did
23 Monsanto--I'm going to jump ahead a little bit.
24 Did--and then those distillation products, you would
25 have biphenyl in one of those distillation products,

1 right?

2 A. Yes.

3 Q. And that biphenyl would be chlorinated to
4 create polychlorinated biphenyls.

5 A. Some of it, yes.

6 Q. Right. The material that wasn't sold to
7 Monsanto or these other companies that we discussed
8 would, would be used at that facility to make PCBs?

9 A. Yes.

10 Q. Did Monsanto, did you see any documents that
11 indicated whether Monsanto did any testing of the PCB
12 products to determine lead levels?

13 A. I've not seen anything.

14 Q. So you can't testify today that there were
15 no lead in the PCB products, right?

16 A. I can't testify that there was not a single
17 molecule. If there were lead in there, it was in
18 very, very low amounts based upon the amounts in the
19 crude biphenyl and knowing that the purification
20 stages that biphenyl went to before it ever became
21 PCBs, so--

22 Q. And you and I probably have different
23 meanings on what's significant and what's
24 insignificant, but, but certainly, you can't say there
25 wasn't lead in those PCB products because Monsanto

1 didn't test.

2 A. I can say that based on the chemistry
3 and--of lead, and PCBs, and biphenyl, and distillation
4 processes, all that, if it was there, it was probably
5 at nondetectable levels.

6 Q. Would lead have affected the performance of
7 the PCBs, or do you know?

8 A. I don't know specifically.

9 Q. What is, what is a product called Santocel?

10 A. Santocel?

11 Q. Yes.

12 A. I don't know. I mean, I've seen the name.
13 It was, it was a product manufactured in one of our
14 New Jersey plants. I don't know specifically what its
15 use was.

16 Q. It was never manufactured at Anniston?

17 A. No.

18 Q. Now, Anniston, there was some testing of
19 soils at Anniston; is that right?

20 A. Correct.

21 Q. And I recall that there was a discussion
22 there was some levels where it exceeded a hundred ppm,
23 and I think in one of the documents, it said it went
24 as high as 200, 250 ppm. Do you recall that?

25 A. Yes, I do.

1 Q. And how long has the--was there a facility
2 at this location prior to Monsanto?

3 A. A facility?

4 Q. Well, I guess before Swan, what was at this
5 location?

6 A. Well, there were other, there was a facility
7 also owned by Swan that had different names.

8 Q. Okay, and do you know how long that
9 facility--that there was a company operating where the
10 Solutia plant currently is now?

11 A. My recollection is it was, like, 1917 or
12 something like that.

13 Q. Where do you believe--well, strike that.
14 Can you tell me what--if I tell you--if I ask you what
15 background lead levels are, do you know what I'm
16 talking about?

17 A. Yes.

18 Q. Okay, what is the typical background lead
19 level in Anniston?

20 A. I don't know Anniston specifically. In the
21 country, you see numbers, I think one document that we
22 found says the levels range from a few parts per
23 million to 700 parts per million.

24 Q. You think that 700 parts per million is
25 background?

1 A. I believe that document documents that, yes.
2 It's a U.S. Geological Survey document that talks
3 about 700 parts per million as being within the
4 background range.

5 Q. Why did--what's the cleanup level for lead
6 in Anniston?

7 A. The action level for the time-critical
8 removal is 400 parts per million.

9 Q. Where do you think the 250 ppm that was--of
10 lead that was detected at the Anniston Plant came
11 from? Do you think that's background?

12 A. Could very well be, yes. I believe it is.

13 Q. Could it be from the lead pot process?

14 A. If it were--you know, I don't know. If it's
15 within background, you really can't talk about where
16 it came from because you don't have a reference point.

17 Q. We're going to go back to this document
18 later. Before I move on, I want to, I want to show
19 you one thing. Turn to ADA 000699.

20 (Witness peruses said
21 document.)

22 A. Okay, I'm there.

23 Q. Okay. If you look in that, it's the first
24 paragraph, it's not a full paragraph?

25 A. Okay.

1 Q. But let me see: One, two--second full
2 sentence down, "When the potentiometer indicates that
3 the boiling point of diphenyl has been reached, the
4 delivery pipe is swung to another pan." Do you see
5 that sentence right there?

6 A. I do.

7 Q. Why don't you go ahead and read, read that
8 entire sentence and let me know when you are finished.

9 (Witness peruses said
10 document.)

11 A. Okay, now, I believe what they are referring
12 to, here, is this is part of the distillation process,
13 and what they're saying--and you may have to go back a
14 little--what they are saying is that as each, as each
15 distillate comes off the fractionating column, the
16 product is--a delivery pipe puts that material into a
17 pan, and as the next distillate product comes off the
18 fractionating column, they swing that pipe over and
19 put it in another pan, and they keep moving it until
20 they remove the different distillate fractions.

21 A. Um--

22 Q. Is that what that appears to be?

23 A. Yes, but I think after the one described
24 here, there is probably not another pan after that,
25 because then what's left after the diphenyl is the

1 still bottoms, so you wouldn't--I mean, they would be
2 left in the still.

3 Q. Sure.

4 A. So what's described here is the last--is the
5 actual collection of the purified diphenyl, so they're
6 collecting prefractions and then they swing it to
7 another pan to collect the diphenyl, and then--you
8 know, your question I heard is presuming there would
9 be other swingings to other pans. I don't believe
10 that was the case.

11 Q. Right, but I guess my only point is it was
12 more than just the biphenyl fraction that they were,
13 that they were collecting. What they were doing, they
14 were taking the different fractions off and putting it
15 in pans in order to get to that, that biphenyl that
16 they were looking for. Is that right?

17 A. Yes.

18 Q. Jump ahead to page ADA 000703. I'm going to
19 go ahead and mark this as--this picture as a separate
20 exhibit. I'm going to mark this as Exhibit 5.

21 (Defendant's Deposition

22 Exhibit Solutia 5 mark'd

23 for identification.)

24 BY MR. LANGLAIS:

25 Q. And this appears to be--it's a very crude

1 picture, but you can see, you can see that there are
2 four, there are four of these pans that were described
3 in that paragraph, and in the second pan, it looks
4 like there's material coming out of that swing pipe
5 that they refer to?

6 A. Yes.

7 Q. Now, it looks to me like that's--they just
8 simply--it's kind of like filling champagne glasses;
9 they're simply, as the--as they reach the next
10 distillate, they simply swing the arm over into the
11 next pan. Is that what appears to you?

12 A. It does.

13 Q. Now, these pans, these pans, you can see
14 there are gaps, there are gaps between these pans,
15 right?

16 A. Yes.

17 Q. And so I don't--I didn't see any reference
18 in there to them stopping the, the distillation
19 process in order to make sure that no material got
20 down between these pans. I mean, this doesn't look
21 like a very clean process to me.

22 MR. NASSIF: I'll object to the form of the
23 question.

24 MR. LANGLAIS: That's fine.

25 BY MR. LANGLAIS:

1 Q. (Continuing) I mean, would you, would you
2 agree that there's gaps between these, between these
3 pans?

4 A. There appear to be.

5 Q. And did you see any reference in there that
6 they actually stopped, they actually stopped the
7 removal of the distillates as they transferred the arm
8 from one to another?

9 A. No.

10 Q. So it appears appeared what they did is they
11 simply, they simply moved it along and as they got to
12 the next distillate level, they swung it over to the
13 next pan?

14 A. That--

15 MR. NASSIF: Objection. That calls for
16 speculation.

17 MR. LANGLAIS: Well, I don't want him to
18 speculate. It says, "When the boiling point of the
19 diphenyl has been reached, the delivery pipe is swung
20 to another pan."

21 MR. NASSIF: Okay.

22 MR. LANGLAIS: I would expect that if they
23 had shut off the process or turned a nozzle off to
24 make sure none of the product, none of the distillate
25 comes out, they would have mentioned that in the

1 instructions.

2 MR. NASSIF: Calls for speculation: Same
3 objection.

4 BY MR. LANGLAIS:

5 Q. (Continuing) But they don't mention that in
6 the instructions, do they?

7 A. There's no mention of that, no.

8 Q. Okay, so would you agree with me that it's
9 conceivable that if they are swinging this arm with
10 product coming--with these distillate fractions coming
11 out of it, it was likely some of that material dropped
12 between these pans?

13 MR. NASSIF: Same objection: Calls for
14 speculation.

15 A. It's conceivable.

16 BY MR. LANGLAIS:

17 Q. If you would look at what's been marked
18 Exhibit 4, which I believe is right here, this
19 document, which is Exhibit 4, has been--this document
20 is entitled "Revision of Phosphate Division
21 Engineering Department Report Number 117 on 12-unit
22 biphenyl plant at Anniston, Alabama," and it's dated
23 December 23rd, 1948.

24 A. Yes.

25 Q. Now, is this--would you consider this one of

1 these instructive-type reports, as opposed to an SMP?

2 A. Um, yes.

3 Q. Was this a document that you reviewed
4 previously?

5 A. I don't believe so.

6 Q. You don't believe that this was--do you want
7 to look at the response that you sent to ADEM in 2004
8 and see if this was one of the, one of the documents
9 that was provided to them?

10 A. I'm sure it was not one of the attachments.

11 Q. Okay. Would you agree that this document
12 discusses the, the biphenyl process, although it uses
13 the term "diphenyl," we've already established that
14 those words are interchangeable?

15 A. Yes.

16 Q. And at least at this time, at least in 1948,
17 there were 12 biphenyl units?

18 A. That's correct.

19 Q. And there would be, there would be a total
20 of 36 of these lead pots, because we discussed earlier
21 that there were three, three pots per unit; is that
22 correct?

23 A. Yes. Let me--could I clarify that last
24 answer?

25 Q. Sure.

1 A. Because--and it does mention this in here,
2 and I just didn't know what the timing was. On page
3 462481, they talk about the fact that two of the units
4 differed from the rest in that they had, instead of
5 one of the preheater pots, they had a heat exchanger.

6 Q. Okay.

7 A. So at least two of the units only had two
8 lead pots; maybe not a big issue, but I did want to
9 clarify that.

10 Q. No, I appreciate that. So there were 34 of
11 these lead pots, and the heat exchangers were--did the
12 same thing as the--really, it's just preheating the
13 benzene; correct?

14 A. That's correct.

15 Q. If you'd look for me on, on page 462481, I
16 believe the page you are on, at the top, it discusses
17 carbon formation fouling the tubes.

18 A. Yes.

19 Q. Okay. Now, I want to go down to--

20 A. I mean--and again, that's with reference to
21 the use of the heat exchanger specifically.

22 Q. Right.

23 A. So apparently, apparently, it didn't foul
24 the tubes in the non-heat-exchanger units--

25 Q. Okay. Well--

1 A. --because it says the use of the heat
2 exchanger--I mean, the sentence says, "The heat
3 exchanger effected gas savings but it proved
4 impractical due to carbon formation fouling the tubes
5 and the idea was abandoned on subsequent units," so
6 that's why they went back to the lead pots because the
7 heat exchangers were causing carbon buildup.

8 Q. Right, but there's also carbon buildup in
9 the three-unit biphenyl, biphenyl unit, right? The
10 three, the three-tank or the three-lead-pot biphenyl
11 unit? There's carbon formation after--once you leave
12 the converter; correct?

13 A. There is carbon formation in the conversion
14 process. One of the byproducts of this conversion of
15 benzene to biphenyl is carbon. It's an unwanted
16 byproduct and it did occur, but I would say that it
17 didn't occur in these units as much as it did with
18 the--in the three-pot units as much as did with the
19 two because they didn't have the problem of fouling
20 the tubes and went back to the three, but I'm not
21 arguing the fact that there was carbon formation in
22 the process.

23 Q. Right. There would be--would you agree with
24 me that there's, there's piping between each of the
25 pots, correct? That's how, that's how the transfer is

1 made.

2 A. That's correct.

3 Q. There was carbon formation--let's, let's not
4 discuss those units with a heat exchanger. Let's
5 focus on the, the majority of the units that had the
6 three pots. Between, between the two preheater pots,
7 there was piping.

8 A. Yes.

9 Q. Correct?

10 A. Yes.

11 Q. And there would be carbon that would adhere
12 in that piping.

13 A. To some extent or another, yes.

14 Q. And that carbon would contain lead?

15 A. To some extent or another, yes.

16 Q. And then between the second preheater and
17 the converter, there would be piping, and again, there
18 would be carbon formation that would contain lead in
19 the piping between those two units; is that right?

20 A. Same answer. Some formation--some
21 collection of carbon which contained some level of
22 lead.

23 Q. Because it says, if you look down at the
24 third paragraph, it says in the second sentence, "A
25 considerable amount of carbon adheres to the pipes

1 between the converter and the lead trap and the lead
2 trap and the fractionating column, necessitating
3 removal and cleaning of the pipes every one to six
4 months."

5 A. That is what that says, yes.

6 Q. Did you see--now, that seems pretty broad,
7 to me, that there's such a wide range of when these
8 pipes were cleaned. Would you expect that carbon
9 formation to be any different throughout the course of
10 the biphenyl process, throughout its history? I mean,
11 was there anything done differently that would
12 decrease carbon formation?

13 A. Other than using lead pots instead of heat
14 exchangers, I didn't see anything specific, no.

15 Q. Right, but, but there was--there was a
16 problem, here, with, with carbon adhering in the, the
17 non-heat-exchanger units.

18 A. Well, I don't know that it was a problem.
19 It was an integral part of the process that carbon was
20 formed and did collect in certain parts of the
21 process, yes.

22 Q. And we discussed that that material was,
23 that material was tossed into the landfill.

24 A. That's my understanding, it was collected
25 and put in the landfill.

1 Q. Just for a point of reference, could you
2 look back at this first exhibit and identify where the
3 landfills were in relation to the lead pot--the
4 biphenyl production area where the lead pot process
5 occurred?

6 A. Well, the west, what is now called the west
7 landfill was used up till about 1960, so for
8 essentially the whole life of the lead pot process,
9 the west landfill was used.

10 Q. Okay, and where, where is that? Can you put
11 "WL" where that is on this Exhibit 1?

12 A. Um, I mean I know generally where it is.
13 It's generally up in this blank area here
14 (Indicating).

15 Q. Okay. At some point, did Highway 2002, was
16 it constructed through that landfill?

17 A. No. Highway 202 was constructed through
18 what's called the south landfill or the Cold Water
19 Mountain landfill. It was not constructed through the
20 west landfill.

21 Q. Can you tell me where the, where the--let's
22 call it the south landfill--where that was located in
23 relation to the lead pot process?

24 A. It's across Highway 2002, basically where
25 WMA-1 is located on this map and then extending

1 further east.

2 Q. I'll just go ahead and circle that and put
3 an arrow.

4 A. Fine.

5 Q. Now, that, this south landfill, what was the
6 operation history of this south landfill?

7 A. My understanding is it began to be used as a
8 landfill in about 1960, when the west landfill was,
9 was closed, and continued to be a landfill until about
10 the late 1980's, when it was RCRA closed, R-C-R-A
11 closed.

12 Q. So the south landfill was still in existence
13 when the lead pot process was, was occurring. Is that
14 right?

15 A. Just, just barely.

16 Q. Right. Well--

17 A. I mean, maybe for a year.

18 Q. And then, and then--but it was still, from
19 '61 to '64, you said although it decreased, the lead
20 pot process was still occurring?

21 A. But very minimally. I mean, there is a
22 document which talks about shutting down the lead pots
23 in 1962, so, you know, I don't know, I don't have any
24 information that they were ever used after 1962. I
25 don't think they were dismantled till 1964. They may

1 or may not have been; I don't know, but my assumption
2 is that they specifically shut them down in '62, they
3 were used for, you know, '61 and '62, that would have
4 been the only two years during the operation of the
5 south landfill.

6 Q. When did the tubular--what do you call the,
7 the process that came after the lead pot process?

8 A. "Tubular" is fine.

9 Q. The tubular, when did the tubular process
10 come on-line?

11 A. The first unit was put in in 1961.

12 Q. Okay, and although there was, there was
13 still some production through the lead pot process, it
14 was less because you had these new, this new tubular
15 process coming on-line?

16 A. That's correct.

17 Q. With what part of the--now, montars are
18 formed as part of the production of biphenyl; is that
19 correct?

20 A. Some montars are.

21 Q. Okay, and where, at what point--were the
22 montars formed during the fractionating portion, when
23 you are fractionating out the distillates?

24 A. Yes.

25 Q. And those are the heavier, the heavier ends?

1 A. Well, they're what's called the still
2 bottoms. They're, they're really not--I mean, "ends"
3 suggests that they were still part of the collective
4 fraction. They weren't. They were the still bottoms.

5 Q. Okay, those still bottoms were sold, were
6 they not?

7 A. Some amounts were.

8 Q. And do you know what percentage of the
9 montars that were produced were sold?

10 A. I don't know specifically.

11 Q. Does 10 percent sound, sound correct?

12 A. I wouldn't--I would be speculating to even
13 give you a number or agree with a number you gave me.

14 Q. The montars that weren't sold were
15 landfilled; correct?

16 A. Some of them were landfilled--well, and some
17 of them were actually later used to convert to another
18 product.

19 Q. Okay, and what, what were the montars used
20 in that instance, to convert to another product?

21 A. They were used to make a product called
22 what's now called HB-40.

23 Q. And what is HB-40?

24 A. It's a hydrogenated polyphenyl product.

25 Q. And what is that used for?

1 A. Heat transfer system primarily, somewhat,
2 somewhat used as plasticizer.

3 Q. And those contained PCBs?

4 A. No.

5 Q. No? What is, what is--have you seen any
6 documents that show, like, MSDS sheets for HB-40 and
7 what the different constituents are?

8 A. I haven't seen them. I'm sure they do.

9 Q. Is that a product that's still produced?

10 A. Yes.

11 Q. And have you seen more recent--by that, I
12 mean in the 1990's, 2000--more recent MSDS sheets for
13 HB-40?

14 A. No.

15 Q. Presumably, they exist.

16 A. Yes. They surely exist.

17 Q. Do you know if Monsanto, at any point during
18 the production of this HB-40, tested, tested this
19 material for lead content?

20 A. Not that I'm aware of.

21 Q. Now, there was some, some material, some of
22 these products and benzene vapors condensed in the
23 fractionating column; is that right? It doesn't
24 actually, it doesn't actually come off as a distillate
25 fraction?

1 A. I, I don't know what you are referring to,
2 no.

3 MR. LANGLAIS: Can we take a five-minute
4 break?

5 MR. NASSIF: Fine.

6 (Recess.)

7 (Mr. Richard P. Jacobs
8 attends the deposition.)

9 (Defendant's Deposition
10 Exhibits Solutia 6 and 7
11 mark'd for
12 identification.)

13 BY MR. LANGLAIS:

14 Q. Okay, if you would, let's go back to Solutia
15 Exhibit 3 for a moment, the 1935 diphenyl instruction
16 or report. Can you look at page ADA 000643 for a
17 moment? 643.

18 A. Oh.

19 Q. Go ahead, and why don't you read the first
20 paragraph to yourself, because that's the one I want
21 to talk to.

22 (Witness peruses said
23 document.)

24 A. Okay.

25 Q. Okay. Now, I guess the first thing, it

1 references technical diphenyl. Now, that's the
2 distilled diphenyl or biphenyl phenyl product, as
3 opposed to the crude biphenyl you were referring to.
4 Is that right?

5 A. No, technical is usually the nondistilled.

6 Q. Okay, technical is the nondistilled.

7 A. Correct.

8 Q. Okay, so it looks like this is referring to
9 a biphenyl unit producing 8,000 pounds of technical
10 diphenyl per day, so that's basically 8,000 pounds of
11 the crude biphenyl?

12 A. That's my reading, yes.

13 Q. And is there a way, do you know a percentage
14 of how much of that, that crude biphenyl, how much
15 distilled biphenyl is produced from that crude
16 biphenyl?

17 MR. JACOBS: Objection. It's vague. Can
18 you--do you understand his question?

19 THE WITNESS: I think so.

20 BY MR. LANGLAIS:

21 Q. I can rephrase it. The technical diphenyl
22 or the crude diphenyl, that later goes on to be, to be
23 distilled?

24 A. That's correct.

25 Q. To create, to create that, the finished

1 product, the finished biphenyl product; right?

2 A. Yes.

3 Q. Now, if--do you know what percentage of the
4 crude biphenyl becomes the finished product biphenyl,
5 the distilled biphenyl?

6 A. Well, the next sentence says 78 percent.

7 Q. Okay, so we could, we could take these
8 numbers and 78 percent of 8,000, whatever that,
9 whatever that happens to come out to, will give me the
10 amount of distilled diphenyl produced per day per
11 unit.

12 A. Give or take some losses in the distillation
13 unit or something, yes, but approximately correct,
14 yes.

15 (Mr. Nassif leaves the deposition.)

16 Q. And now, am I correct that the--assuming
17 there were no shutdowns, this is a 24-hour-a-day
18 operation, this biphenyl operation?

19 A. That's my understanding, yes.

20 Q. In the lead pot process?

21 MR. JACOBS: Objection. Are you referring
22 to a specific year or all years of operation?

23 BY MR. LANGLAIS:

24 Q. Well, was it, was it a 24-hour-a-day--did
25 you find anything to indicate that it wasn't 24 hours

1 a day that this process occurred during the entire
2 course of the lead pot process?

3 A. No.

4 Q. And presumably, if there is no shutdowns, it
5 would be every day of the year, including Sundays,
6 that, that this lead pot process would be taking
7 place, right?

8 MR. JACOBS: Objection, vague. You said
9 "presumably." Are you asking him to assume something?

10 MR. LANGLAIS: What I'm asking him to do
11 is--yeah, I'm asking him to assuming there are no
12 shutdowns--

13 BY MR. LANGLAIS:

14 Q. (Continuing) I mean, was this Monsanto
15 plant operating seven days a week? Were there workers
16 there on Sunday?

17 A. That's my understanding, yes.

18 Q. And the biphenyl would have been operated on
19 the weekends in addition to the weekdays.

20 A. That's my understanding, yes.

21 MR. LANGLAIS: That's all I was getting at.
22 I just want to make, I want to make clear on the
23 record that this wasn't a nine-to-five production
24 process five days a week.

25 MR. JACOBS: And the source of my objection

1 was once you get into "presumably," then I'm concerned
2 you are asking him an expert type of opinion question.

3 BY MR. LANGLAIS:

4 Q. So to calculate best case, best case
5 scenario would be that there would be 8,000 pounds of
6 this distilled, this--I mean, this crude biphenyl per
7 unit, and there were 12 units, so it would be 8,000
8 times 12, that would give me the number per day of
9 crude biphenyl; correct?

10 MR. JACOBS: Objection. "Best guess" is
11 vague and ambiguous.

12 BY MR. LANGLAIS:

13 Q. (Continuing) I think the document, I think
14 the document says enough. I can calculate, I can
15 calculate a rough estimate of how much crude biphenyl
16 was produced per day, based upon these numbers. Would
17 you agree with that?

18 A. You could do that. I'm not sure that would
19 be the best estimate.

20 BY MR. LANGLAIS:

21 Q. Do you know of a better way for me to
22 calculate, based upon the documents you've reviewed,
23 how much crude biphenyl was produced per day, per
24 unit, at the--at this facility?

25 A. Yes, there are documents in that set, there,

1 that talk about how much was produced on a yearly
2 basis, so I would, I would use those numbers because
3 those are actual production numbers.

4 Q. Okay, but I guess what I'm talking about is
5 capacity. You understand the difference between
6 actual production and capacity?

7 A. Yes.

8 Q. And so I can--the capacity of this, these
9 biphenyl units is 8,000 per, per biphenyl unit--and
10 there's 12--per day, and we've already, we've already
11 said this biphenyl process has the capacity to operate
12 24 hours a day, seven days a week; correct?

13 A. Yes.

14 MS. LAVEY: Jim, this is Wendy Lavey. I'm
15 only--I guess I'm interjecting because I'm concerned
16 whether, when you read that typewritten number and you
17 are calling it 8,000 pounds, I'm wondering whether
18 your copy is different than my copy and whether you
19 can really read that as an "8" and not, say, maybe a
20 "3."

21 BY MR. LANGLAIS:

22 Q. Would you look, would you look at that and
23 tell me what it looks like to you?

24 A. Well, I think she has a good point.

25 MS. LAVEY: It's perhaps--

1 A. (Continuing) I'll tell you why, because I
2 think the "78" in the fourth line is a much clearer
3 "8" and it looks different.

4 BY MR. LANGLAIS:

5 Q. Okay.

6 A. And I think it--you know, I appreciate that
7 because I--it looks more like a "3" or a "5" to me.

8 Q. Okay. I'm not trying to mislead anybody.

9 A. I know.

10 Q. You've got better eyes than I do.

11 MS. LAVEY: Jim, maybe if I could direct you
12 ultimately to ADA 000700?

13 MR. LANGLAIS: Yeah, I'm going there next.

14 MS. LAVEY: And the 90,000-per-month number,
15 that gets you to what the digit is supposed to be.

16 MR. LANGLAIS: Yeah.

17 BY MR. LANGLAIS:

18 Q. If you would look at the, the very last part
19 of that page 700?

20 A. Yes.

21 Q. It's--on the very last sentence, it's got a
22 heading "Capacity," and the diphenyl unit has a
23 capacity of 90,000 pounds technical diphenyl per
24 month.

25 MR. JACOBS: I'm sorry, just to be clear,

1 ADA 700?

2 MR. LANGLAIS: ADA 000700. Very last
3 paragraph.

4 MR. JACOBS: Okay.

5 A. Yes, I see it.

6 BY MR. LANGLAIS:

7 Q. Okay, so that right there has given me the
8 amount of one of the 12 biphenyl units, it will
9 produce 90,000 pounds of the crude biphenyl each
10 month?

11 A. No, I would say that by "diphenyl unit," I
12 think that's the whole operation. My understanding
13 would be that 90,000 pounds a month is for all units
14 operating.

15 Q. You think that means all 12?

16 A. Yeah, I think by the "diphenyl unit,"
17 they're talking about the whole department. Without
18 going back and checking a bunch of stuff, that would
19 be my reading.

20 MR. JACOBS: Also, objection to the extent
21 it's not clear that that's a "9," but it's hard to
22 tell exactly what that number is, 90,000 or some other
23 number.

24 BY MR. LANGLAIS:

25 Q. My read of these documents, a unit is--now,

1 it described that there were 12, there were 12 units
2 and a unit consisted of the three tanks, so it is what
3 it is. I'm telling you that my take on it is that a
4 unit is--there are 12 units which consist of, in most
5 cases, three tanks, with the exception of numbers 4
6 and 5, which consist of the heat exchanger, but I
7 think the documents are clear on that, and if you
8 disagree with me, that's fine. We can move on.

9 MR. JACOBS: Are you asking him a question
10 or just--

11 BY MR. LANGLAIS:

12 Q. Yeah, do you still think, when it says,
13 "Diphenyl unit," it's referring to all of the 12?

14 A. What was that page reference, the previous
15 one? Do you know what the previous one was where we
16 got into the discussion about whether it's 3,000 or
17 8,000? I'm sorry.

18 Q. That's okay.

19 MS. LAVEY: 000643.

20 THE WITNESS: 643? Thank you.

21 A. So--okay, I--can I clarify my answer?

22 BY MR. LANGLAIS:

23 Q. Sure.

24 A. All right, and I'm just going to say what I
25 think these documents say, and it's basically agreeing

1 with you, and it says a unit produces, and I'm going
2 to say that's 3,000 pounds a day.

3 Q. Sure.

4 A. If you've got 30 days in a month, that's
5 90,000 pounds a month, so I think there's internal
6 consistency with that reading.

7 Q. Sure, and how about--

8 A. But I would go back to my previous answer
9 and say if you really want to know what was being
10 produced, go to the production numbers and divide by
11 the number of days in a year.

12 Q. Right, but do you still feel that when they
13 say "unit," they're talking about the entire process?

14 A. Well, based on what I just told you, no. I
15 think that is "a" unit, not "the" unit.

16 Q. Okay. Okay.

17 A. But I think there is some ambiguity there.

18 Q. Could you look at page 000698, just a couple
19 of pages before that?

20 A. Okay.

21 Q. There is a discussion of three stills. It's
22 actually 698 and crosses over on 699, there's a, looks
23 like a benzol still, a diphenyl still.

24 MR. JACOBS: Are you looking at the bottom?
25 Which part of that page are you looking at?

1 MR. LANGLAIS: These two pages identify
2 three stills under the headings.

3 MR. JACOBS: Okay.

4 MR. LANGLAIS: There's been--looks like
5 benzol still, the diphenyl still, and high boiler
6 still.

7 BY MR. LANGLAIS:

8 Q. Do you see those?

9 A. Yes, I do.

10 Q. Are these part of the fractionating column,
11 or are these stills after the fractionating column?

12 A. The diphenyl, my understanding is the
13 diphenyl still is the fractionating column.

14 Q. Okay. Now, how does the benzol still fit
15 into--where does the benzol still fit into
16 the--this--what I'm going to do is I'm going to hand
17 you this flow diagram, and I've marked a couple of
18 other exhibits which I haven't shown you, but I'm
19 going to mark this one Solutia Exhibit 8, and it's DSW
20 462578.

21 (Defendant's Deposition
22 Exhibit Solutia 8 mark'd
23 for identification.)

24 Q. (Continuing) That's part of the, part of
25 one of the documents. I just give you that. What I

1 want to try to understand is where these three stills
2 come into play on this flow diagram, if at all.

3 MR. JACOBS: Object to form, just to the
4 extent it's not clear the source, the source of this
5 document isn't clear.

6 BY MR. LANGLAIS:

7 Q. What's the number on that again?

8 A. I'm sorry?

9 Q. What's the--let me see that for a second.

10 A. Yeah, I don't see a Bates number.

11 Q. We can do it this way. Let me hand you
12 what's marked "Biphenyl Flow Sheet." Would you take a
13 look at that? Does that, in your opinion, depict the
14 process flow diagram for the production of biphenyl
15 using the lead pot process?

16 A. Well, that's what it purports to document,
17 yes.

18 Q. And am I correct that the lead pot process
19 with, with some exceptions, which, which I'll clarify,
20 remain relatively the same throughout the course of
21 its history?

22 MR. JACOBS: Objection, vague.

23 BY MR. LANGLAIS:

24 Q. (Continuing) The basic process--

25 A. I understand.

1 Q. --stayed the same; is that right?

2 A. Yes. Yes.

3 THE WITNESS: Is there a question pending?

4 MR. JACOBS: Is there a question pending?

5 BY MR. LANGLAIS:

6 Q. Yeah. I want to know how these three stills
7 that are discussed on 000698 and 000699, how they play
8 into the process flow diagram, how they play into the
9 lead pot process. I'm not sure if this is, if this is
10 before, or after--

11 MR. JACOBS: When you say "this," you mean
12 Solutia Exhibit 8?

13 MR. LANGLAIS: No, these three stills.

14 MR. JACOBS: Do you understand his--

15 THE WITNESS: Yes, I understand his
16 question.

17 MR. JACOBS: Do you--

18 A. And I would, frankly, to give the straight
19 answer, I probably would need to spend some more time
20 with some other documents. Let me tell you what I
21 think.

22 BY MR. LANGLAIS:

23 Q. Okay.

24 A. I think the Solutia 8, the biphenyl flow
25 sheet, is a more or less simplified diagram, and I

1 believe that the document eighty--whatever it is,
2 Exhibit 3, page 698, describes three separate stills,
3 but I believe at least two of them are basically the
4 same as the fractionating column here, that there is
5 a, that there is a--one part of the still removes the
6 benzene, which there's still a high percentage of
7 benzene in the conversion products. The second still
8 removes the biphenyl, and a third still, which is
9 probably not shown on the flow sheet, is used to
10 distill the still bottoms to produce the Santowax, the
11 high boilers.

12 Q. Okay.

13 A. That's my understanding, so my--what's shown
14 on column on your flow sheet is probably actually a
15 combination of three separate stills. That's my
16 reading, subject to different times, you know, whether
17 one of them is more representative of one time frame
18 versus another, but that's my understanding as I sit
19 here right now looking at those.

20 Q. I understand that if the documents say
21 something different, then obviously, you would defer
22 to what the document says.

23 A. Right.

24 Q. Stay on page 699. At the very top, it
25 refers to, it refers to--remember the pans we

1 discussed earlier?

2 A. Yes, I do.

3 Q. It refers to those pans being made of
4 galvanized iron. Do you know what the iron pans were
5 galvanized with?

6 A. No.

7 Q. I've got some additional photographs. I'm
8 just--before we go to lunch, I'm just going back to
9 some of the things we discussed earlier. I'm going to
10 produce what's been marked Solutia Exhibit 7, and they
11 contain aerial photographs and they're Bates labeled
12 ADAD7-000278 through 283. I've got copies for you.

13 A. Okay.

14 MR. JACOBS: Are you done with Exhibit 3?

15 MR. LANGLAIS: Yes, for now, yeah.

16 BY MR. LANGLAIS:

17 Q. Have you seen--of course, take an
18 opportunity to look at them, but have you seen these
19 before?

20 MR. JACOBS: Is your question has he seen
21 each one?

22 MR. LANGLAIS: Yes.

23 A. I have not seen all of these. I may have
24 seen one or two of them. I've seen something similar,
25 but I don't know that I've seen all of these. I think

1 I have not.

2 BY MR. LANGLAIS:

3 Q. Now, there are labels for, for several of
4 the buildings throughout the, what's been marked
5 Exhibit 7. Do you know who had signed those labels to
6 these aerial photographs?

7 A. No.

8 Q. Would you go through each of those, and if
9 it's on the picture, would you mark where the lead pot
10 process occurred during the relevant time period of
11 1929 through, through '64?

12 MR. JACOBS: Okay. I still have your other
13 one.

14 MR. LANGLAIS: Okay.

15 A. Do you want me to talk you through it as I'm
16 going--

17 BY MR. LANGLAIS:

18 Q. Yeah, why don't you--

19 A. --so the record is clear, or--

20 Q. Let's first look at the one that's labeled
21 ADAD-7000278, and it appears to be, it's labeled "1938
22 through 1947."

23 A. Right, and I'm going to circle the topmost
24 part of where there's, there's a label that says
25 "Aroclor Unit" in the top left of the photograph, and

1 on the top side of that, it would be where the lead
2 pot process was, the biphenyl process was in basically
3 the same building, and just in front of the, the
4 Aroclor process.

5 Q. So it was just--so it was just south of the
6 Aroclor unit, correct?

7 A. That's correct.

8 Q. Let's look now at the picture labeled
9 "1953."

10 A. Okay, and this document--this--yes, 279, in
11 this page, it's going to be in the center of the
12 document, just below center is the Aroclor unit, and
13 in this case, it's going to be the bottom section of
14 that building or series of buildings; again, the
15 south, southmost side.

16 Q. Sure, and then the next one is 1957 through
17 1960?

18 A. Yeah, it's a similar picture.

19 Q. Same photograph?

20 A. Yes.

21 Q. Just different time frame?

22 A. Right.

23 Q. Nothing--do you know--I don't, I don't
24 really--and I know obviously, you can't sit and
25 analyze this photograph, but I don't see that there's

1 much difference between the '53 and the 1957.

2 MR. JACOBS: Are you asking him a question?

3 MR. LANGLAIS: Yeah.

4 A. The only difference I really see is the
5 organic residue incinerator.

6 BY MR. LANGLAIS:

7 Q. Sure, and I was just focused on the location
8 where the lead pot process--

9 A. No. No.

10 Q. And in fact, if you look at the next one,
11 which is 1960 to 1962, it actually has "Lead pot area"
12 identified.

13 A. Correct.

14 Q. Now, the next one is 1967, and by that time,
15 the lead pot process was no longer used.

16 A. Correct, but biphenyl manufacture was still
17 going on in the same area.

18 Q. What is--if you look down, I guess it is
19 just below the Aroclor unit in the polyphenyl unit,--

20 A. Yes?

21 Q. --what was, what was made there?

22 A. Well, higher polymers of benzene.

23 Q. Okay, that's got nothing to do with the lead
24 pot process.

25 A. Well, when--

1 Q. Well,--

2 A. When, when the lead pots were being used,
3 the polyphenyls were the high boilers--

4 Q. Right.

5 A. --from the biphenyl process.

6 Q. Okay.

7 A. So--

8 Q. Okay.

9 A. --in 1967, it didn't have anything to do
10 with it.

11 Q. Right, and if you look at--it's kind of cut
12 off, but I think it's 1975, the very next one, which
13 is the last one, can you locate on here where the, the
14 lead pot process occurred?

15 MR. JACOBS: In 1975?

16 MR. LANGLAIS: No, I understand it didn't
17 occur in 1975, but just circle on here where
18 historically it had occurred.

19 (Witness complies.)

20 A. Okay, I've circled basically a bare area and
21 labeled it "Former LP."

22 Q. Can I look at that one for a second? So it
23 appears that by 1975, the, the structures where the
24 lead pot process were manufactured had been razed?

25 A. Yes. That was part of the removal of the

1 Aroclor process.

2 Q. And what's, what's in the place--what's in
3 place of that now, or is it a grassy area?

4 A. It's a chatted area, stone, stone area.
5 There's nothing there, there's no buildings there,
6 it's--

7 Q. Okay, nothing else has been put in its
8 place?

9 MR. JACOBS: When you--objection. Do you
10 mean now? Do you mean right now, or--

11 MR. LANGLAIS: Yeah, like today.

12 MR. JACOBS: --or in the photo?

13 MR. LANGLAIS: Today, because in the photo,
14 it's clear that the, it's clear that the building
15 where the lead pot process took place had been razed.
16 I want to know--

17 MR. JACOBS: I'm just clarifying what he's,
18 what he's--

19 A. And I want to clarify my answer. I think
20 it's an asphalt cover.

21 MR. LANGLAIS: Okay.

22 BY MR. LANGLAIS:

23 Q. Do you know when they put that asphalt cover
24 on there?

25 A. My recollection is it was as soon as the

1 plant was--the Aroclor plant was removed.

2 MR. JACOBS: Are you done with these photos?

3 MR. LANGLAIS: Yeah.

4 (Pause.)

5 MR. LANGLAIS: I want to make sure I already
6 produced that to you.

7 BY MR. LANGLAIS:

8 Q. If you would turn to Exhibit 4, DSW 462481.

9 MR. JACOBS: 462481?

10 MR. LANGLAIS: Yeah.

11 BY MR. LANGLAIS:

12 Q. At the top, I think if you read that partial
13 paragraph--let me know when you are finished; I want
14 to follow up on something that we covered earlier.

15 MR. JACOBS: At the very top?

16 MR. LANGLAIS: Yeah, beginning with
17 "However." You can read it to yourself.

18 A. Yeah, I recall reading it.

19 BY MR. LANGLAIS:

20 Q. Okay. Now, after reading this, does this
21 kind of confirm what we discussed earlier, that when
22 they refer to a biphenyl unit, they are referring to
23 not the whole process but a unit of the three pots, or
24 in the case of numbers 4 and 5, a heat exchanger and
25 two pots.

1 MR. JACOBS: Object to form. Go ahead.

2 A. Okay, in this context, there's no question
3 that your interpretation is correct.

4 BY MR. LANGLAIS:

5 Q. Okay.

6 A. I'm not sure about the context of the other
7 one, but as we discussed earlier, I think things are
8 consistent with your, with your description.

9 Q. If you would turn to page DSW, in this same
10 exhibit, Exhibit 4, DSW 462484,--

11 A. Yes.

12 Q. --particularly in that first paragraph, it
13 says, "The carbon formed in the diphenyl units partly
14 deposits in the pipe after the converter units,
15 through the lead trap, in the pipe after the lead
16 trap, and in the fractionating column." Do you see
17 that?

18 A. I do.

19 Q. Remember I had asked you earlier, you said
20 you were uncertain whether or not there was carbon
21 adherence in the fractionating column, itself? Do you
22 recall that?

23 A. Yes.

24 Q. This seems to indicate that there was. Do
25 you agree with that?

1 A. Some amount or another, yes.

2 Q. And it says, "These pipes plugged with
3 carbon and must be dismantled and cleaned every one to
4 six months."

5 A. That's correct.

6 Q. Okay, and then below that, then, the very
7 next sentence says, "The lead trap and fractionating
8 column are cleaned out at more frequent intervals."

9 A. "More infrequent."

10 Q. I'm sorry, "more infrequent intervals. This
11 so-called"--"This so-called carbon deposit analyzes as
12 follows," and it says, "Lead, 56.5 percent." Do you
13 see that?

14 A. Yes.

15 Q. Now, after seeing--had you seen this, this
16 before, this 56.5 percent lead concentration before?

17 A. No.

18 Q. Okay, does this in any way change your
19 opinion about whether or not this material contained,
20 as you put it, low levels of lead?

21 MR. JACOBS: Object to form.

22 A. Um, it's a number higher than I would have
23 expected.

24 BY MR. LANGLAIS:

25 Q. And again, just to clear up something we

1 were discussing earlier about capacity, the very last
2 paragraph of this says "The diphenyl units produce
3 crude diphenyl by continuous process with a
4 24-hour-a-day operation."

5 A. That, you read that correctly.

6 Q. And that, that fits in line with what I was
7 saying before about capacity. You agree with that?
8 The capacity of the unit is 24--the unit conceivably
9 can operate 24 hours a day?

10 A. Subject to the possibility of shutdowns,
11 that is correct.

12 Q. Okay, and I think that's what you said
13 earlier; I just wanted to, I just wanted to make
14 clear. Okay, if you go to Exhibit 6--

15 A. I don't think you've given me that.

16 Q. I'm going to hand you what's been marked
17 Solutia Exhibit 6. It's entitled "Process for the
18 Manufacture of Diphenyl and Santowax" and is dated
19 November 1950. Have you seen this document before?

20 A. Yes.

21 Q. And was this document part of the documents
22 that that Monsanto produced as part of its 2004 CERCLA
23 104(e) response, if you recall?

24 A. Yes, I believe it was.

25 Q. And this was one of the documents that you

1 relied upon in preparing for your testimony here,
2 today, about the lead pot process?

3 A. I did review it, yes.

4 Q. If you would look for me at DSW 462152, and
5 if you would read what's marked there, what's marked
6 number 7, "Lead Trap," there are, there are two
7 paragraphs to that. If you go ahead and make yourself
8 familiar with that, I want to ask you a few questions.

9 (Witness peruses said
10 document.)

11 A. I've read those two paragraphs.

12 Q. Okay, the first one I thing I want to focus
13 on, it looks like at some point, new biphenyl units
14 were put on line that had larger lead traps. Do you
15 see that in the second sentence of the second
16 paragraph?

17 A. Yes, it says that.

18 Q. Okay, and we were discussing earlier, this
19 is one of the instances where although the basic
20 process of biphenyl stayed the same, this is one
21 instance where, where there was a change as time went
22 on, and this appears to be in 1950, so at least by
23 1950, there was--they increased the size of the lead,
24 of the lead traps. Do you see that?

25 MR. JACOBS: Object to the form.

1 A. Yes.

2 BY MR. LANGLAIS:

3 Q. Do you know why that was done?

4 A. No, not specifically.

5 Q. If you look at the second-to-the-last
6 sentence, it says, "In a trap." Do you see that
7 sentence that starts there?

8 A. Yes.

9 Q. "In a trap seen November '50," which I
10 think--"Nov/50," which I think is November 1950, "the
11 layer of entrained lead was 14 inches deep and there
12 was considerable solid debris as well." Do you see
13 that?

14 A. Yes.

15 Q. Do you know what they're--they're saying
16 that the layer of entrained lead in the lead trap was
17 14 inches deep? Is that what they are saying there?

18 A. That would be my reading, yes.

19 Q. Now, the last, the last section is a note on
20 emptying the lead trap. Would you go ahead and
21 read--I think it jumps over, it jumps over a page, but
22 go ahead and read the one, two, the three paragraphs
23 associated with that section and let me know when you
24 are finished.

25 (Witness peruses said

1 document.)

2 A. Okay.

3 Q. Okay, it appears what, what happens is once
4 this, this lead trap becomes entrained with the lead,
5 the--in order to empty or clean out this, this
6 entrained lead, they literally have to use flames to
7 melt the lead inside that trap? Is that how you read
8 this?

9 A. Yes, I do.

10 Q. Do you see where it says "They use flames of
11 natural gas played on the pot until the lead runs out
12 onto the table and down into a lead melting pot"?

13 A. Yes.

14 Q. Now, had you ever--had you seen any other
15 documents where, where this is discussed? I'm trying
16 to figure out what they're referring to when they,
17 they have a table set up just for this, or--

18 MR. JACOBS: Object to form.

19 A. Well, if you refer to the page you've
20 skipped, which is the diagram--

21 BY MR. LANGLAIS:

22 Q. That might help.

23 A. It shows the lead--it shows the heating
24 table and leading to the melting pot. I mean, I think
25 it's diagrammed fairly clearly there.

1 Q. Do you know how the lead that was on the
2 table--well, do you know if any lead remained on the
3 table after this process?

4 A. I don't know.

5 Q. And do you know if there was an opportunity
6 for any lead to leak out of this, of this table?

7 A. Presumably not, but I don't know
8 specifically.

9 Q. And do you know what happened to this, this
10 lead after it was--does this document say what
11 happened to this lead after it entered the melting
12 pot?

13 A. Yes.

14 Q. And what does it say?

15 A. It said, back on 462154, the top sentence,
16 it says it "... runs out under the table into the lead
17 melting pot from which it can be run off at
18 convenience into molds like those used to empty the
19 pots."

20 Q. Okay, so what they would do is they would
21 take this, this melted lead and put it into molds and
22 make those ingots--

23 A. Yes.

24 Q. --that we discussed?

25 A. Yes.

1 Q. Is there any discussion here on how--strike
2 that. I'm just trying to clean up a few things before
3 we break for lunch. Exhibit 3, which I think your
4 attorney put to the side--

5 MR. JACOBS: The June 1935?

6 MR. LANGLAIS: Yeah.

7 BY MR. LANGLAIS:

8 Q. Turn to page ADA 000700.

9 A. Okay.

10 Q. Okay, there is--the paragraph above the
11 section labeled "Capacity", it discusses still
12 residues in the second sentence, consisting
13 principally of tars and carbon is drawn out and
14 discarded?

15 A. Yes.

16 Q. Is this referring to what I've seen some
17 documents call montars or Montar 9?

18 MR. JACOBS: Object to form.

19 BY MR. LANGLAIS:

20 Q. The tars that are referred to there--

21 A. I'm just trying--

22 Q. Yeah.

23 A. --I'm just trying to be sure before I answer
24 your question, it's talking specifically about the
25 still bottoms, the high boilers from the high boiler

1 still, and that would be, my understanding would be
2 one of the montars. I believe 9 is correct in this
3 case.

4 Q. How many--do you recall how many montars the
5 facility, the facility would, would manufacture? Like
6 how many--there was one reference to Montar 9 in some
7 of the documents. Do you recall that?

8 MR. JACOBS: Objection. We're getting a
9 little bit off now.

10 MR. LANGLAIS: No, this is one of the
11 fractions in the lead pot process.

12 BY MR. LANGLAIS:

13 Q. Am I right, montar is a fraction as part of
14 the lead pot process, the distillate?

15 A. Montar 9 is, yes.

16 Q. Okay. Are there other montars that the
17 company refers to that aren't part of the lead pot
18 process?

19 A. Yes.

20 Q. Okay, is Montar 9 the only montar connected
21 with the lead pot process that you've seen?

22 A. Well, let me, let me--in a way, they're all
23 connected with the lead pot process.

24 Q. Okay.

25 A. Montars 9 and 10 are connected with the

1 nonchlorinated polyphenyl manufacture, which is, of
2 course, directly related to the lead pot process.

3 Q. Sure.

4 A. The montars 1 through--they're, they're 1
5 through 8, but I'm not sure every number is
6 represented--are from the chlorinated biphenyl
7 process, so they're only indirectly related.

8 Q. The Montars 1 through 8 are not a distillate
9 in the lead pot process?

10 A. That is--

11 MR. JACOBS: Object to form, but go ahead.

12 A. (Continuing) Well, none of them are
13 distillates. They're still bottoms. They are not
14 still bottoms from the lead pot process, that is
15 correct.

16 BY MR. LANGLAIS:

17 Q. If you would, turn in Exhibit 6 to page DSW
18 462072.

19 A. I'm sorry, could you repeat the page number
20 again?

21 Q. It's DSW 462072.

22 A. Okay.

23 Q. You see the reference in the one, two three,
24 four, five--the sixth paragraph.

25 MR. JACOBS: The biggest paragraph?

1 MR. LANGLAIS: The sixth paragraph. It's
2 the paragraph that begins, "The converter rooms"?

3 A. Yes.

4 BY MR. LANGLAIS:

5 Q. You see the second sentence, "It is not at
6 all unusual to have escaping vapors burning around the
7 cover of the converter pot, especially now some of the
8 converters are being run at over 20 psig"? Do you see
9 that?

10 A. I see that.

11 Q. What vapors are they referring to? Do you
12 know?

13 A. Benzene.

14 Q. Now, if benzene vapors are escaping from the
15 pot, would you agree with me that there is a strong
16 likelihood that lead vapors are also escaping from the
17 pot?

18 MR. JACOBS: Object to form. We're getting
19 into expert areas.

20 BY MR. LANGLAIS:

21 Q. (Continuing) If you know.

22 A. Some small amount.

23 MR. LANGLAIS: This is probably a good time
24 to break for lunch, if you want to.

25 MR. JACOBS: Okay.

1 MR. LANGLAIS: What time is it now?

2 MR. TURNER: Twenty after.

3 MR. JACOBS: We're off the record now?

4 MR. LANGLAIS: Yeah, we can go off the
5 record.

6 (Luncheon recess.)

7 AFTERNOON SESSION

8 MR. LANGLAIS: For those on the phone, I'm
9 going to go ahead and get started. Is anybody there?

10 MS. LAVEY: This is Wendy. I'm here.

11 MR. KOZIK: This is Tim. I'm here.

12 MS. McADAM: This is Allison. I'm here.

13 MS. O'NEAL: This is Lynne. I'm here.

14 MR. LANGLAIS: Hey, Lynne. How is your
15 daughter?

16 MS. O'NEAL: Much better, thanks. She's
17 just not pleased with her appearance.

18 (Discussion off the record.)

19 BY MR. LANGLAIS:

20 Q. Mr. Kaley, could you look at Exhibit 3 for
21 me again? Some final questions on Exhibit 3 and then
22 we can put it aside. If you'd look at page 000712--

23 A. I'm there.

24 Q. Okay, in that last paragraph, in the last
25 sentence before it continues over on to the next page,

1 it discusses "blow back of lead." Do you see that?

2 A. I see that.

3 Q. Okay, do you know what they mean by, by
4 "blow back of lead"?

5 A. Can I read--

6 Q. Oh, yeah. Yeah.

7 A. Let me see what the whole paragraph says.

8 Q. I understand.

9 (Witness peruses said
10 document.)

11 A. Yes. I mean, this, it's basically telling
12 you the order in which to release the--this is a
13 pressurized system, and all three are pressurized, and
14 it's telling you the order in which you depressurize
15 the lead pots, saying do the converter first, and the
16 second--and the preheater second because if you did it
17 in the opposite order, the pressure in the, in the
18 converter would blow the lead back from the converter
19 pot into the lines, into the second preheater pot.

20 Q. Okay. Now, if you go a couple of pages
21 ahead to DS--I'm sorry, ADA 000714--

22 A. Okay.

23 Q. Now, there are several things mentioned in
24 the first four paragraphs, and I'll tell you, you can
25 go ahead and read, read those and then I want to talk

1 to you about them.

2 A. Okay.

3 Q. Now, the first thing that's mentioned in the
4 first--I guess it's the--it depends on how you look at
5 it, I guess. It's the first paragraph discusses pipe
6 breakage.

7 A. Yes.

8 Q. Do you know what pipes, are they referring
9 to the pipes that connect, that connect the preheater
10 pots to each other and to the converter pot? Do you
11 know what piping they are referring to?

12 A. Well, I think it's in the distributor
13 system, which is the distribution of the benzene into
14 the lead pot system, so I think it's the benzene
15 delivery system.

16 Q. Okay, and how about where it says,
17 "Thermocouple well failure"? It says "Thermocouple
18 well failure due to vibration and indicated by leakage
19 around the connection at the top of the pot."

20 MR. JACOBS: And what, what's your question?

21 BY MR. LANGLAIS:

22 Q. (Continuing) Do you know what thermocouple
23 well failure they're referring to? Do you know--

24 A. Well, the thermocouple is--the temperature
25 measuring devices are inserted into wells, depressions

1 in the covers of the pots.

2 Q. In each of the three, the three lead pots?

3 A. I would believe that's correct, yes.

4 Q. Now, if there was a thermocouple failure, is
5 it "well" or "wall"? Can you see that?

6 A. I think it's "well."

7 Q. Okay.

8 A. Well, I don't know.

9 Q. It looks like an "e," but--

10 A. It looks like an "e" to me, too, and I
11 believe they are actually in the, in the--in little
12 depressions, like I said,--

13 Q. It discusses--

14 A. --so I think it is.

15 Q. I'm sorry. It discusses leakage around the
16 connection at the top of the pot. Now, what would
17 leak out?

18 A. Primarily, benzene.

19 Q. Would you also have some, some lead vapors
20 leak out?

21 MR. JACOBS: Objection: Getting into expert
22 area.

23 A. I mean, to whatever extent there is--

24 MR. LANGLAIS: Well, he knew--I guess my
25 only point is he's familiar with this process, and

1 this is a highly technical process, so I think, and
2 we're--we identified this to discuss the potential for
3 lead losses, and what I'm asking him is if he knows if
4 there--I mean, he knew there would be--he speculated
5 there would be benzene vapor losses. He didn't have a
6 problem with that.

7 MR. JACOBS: So what is your question?

8 BY MR. LANGLAIS:

9 Q. I want to know if there is benzene vapor
10 losses, would you also expect there to be some loss of
11 lead vapors through that thermocouple?

12 MR. JACOBS: Objection. Are you asking him
13 if he knows or if he's--you are asking him to opine if
14 there would be lead losses?

15 MR. LANGLAIS: I'm asking him if it's
16 likely. You can call it what you want, opine or--

17 MR. JACOBS: No, you are asking the
18 question.

19 MR. LANGLAIS: Really, everything he's
20 talking about here today, he's opining. He wasn't
21 there to do the lead pot process. Would you agree? I
22 mean, he's not--I'm asking Monsanto. I'm asking
23 Monsanto, and so he really is taking on the knowledge
24 of everyone that's ever done this process and everyone
25 that is involved with this.

1 MR. JACOBS: I'm not going to argue over
2 exactly--

3 MR. LANGLAIS: Okay.

4 MR. JACOBS: --what he's required to do--

5 MR. LANGLAIS: Okay.

6 MR. JACOBS: --in a 30(b) (6), but I'm just,
7 I'm just making sure he--

8 MR. LANGLAIS: Okay.

9 MR. JACOBS: --your question is clear so he
10 understands--

11 MR. JACOBS: --what he's got to answer.

12 BY MR. LANGLAIS:

13 Q. Would you also think there would be at least
14 some loss of lead vapor through that thermocouple
15 failure, or the leak created by that?

16 MR. JACOBS: Same objection. You can go
17 ahead and answer.

18 A. To the extent there are lead vapors in the
19 benzene, there's potential for some lead loss.

20 BY MR. LANGLAIS:

21 Q. Okay, and then the next one, it says, "Pot
22 failure indicated by lead running out of the fire box
23 door."

24 A. Yes.

25 Q. Do you see that?

1 A. I see that.

2 Q. Have you noticed that reference about pot
3 failures in any of the documents that you reviewed?

4 A. There are discussions of, of a variety of
5 pot failures in other documents, yes.

6 Q. Was pot failure in connection with the, with
7 the lead pot process a recurring problem over the
8 history of the lead pot process?

9 A. It was an occurrence that was--you know, I
10 don't see the frequency, but it clearly happened.

11 Q. Do you know--have you seen any indication of
12 what the company did with that lead that ran out of
13 the fire box door?

14 A. Well, I think there is some documentation,
15 and I think in discussing with Jerry, the people that
16 observed it was that when it hit the floor, it would
17 solidify, and then it was chipped off and put back in
18 the pots or collected and put back in the bottoms.

19 Q. In the next section, it says "Whenever a pot
20 is opened, it is essential that the lead be measured
21 and any necessary makeup added." Right?

22 A. That's what it says.

23 Q. Now, that goes back to our discussion that
24 although this--this was a process that required
25 Monsanto to add lead as time went on, right? To these

1 lead pots? Because the amount of molten lead would
2 decrease over time.

3 A. Yes.

4 Q. And in your review of documents, you weren't
5 able to get any indication of how much lead Monsanto
6 was purchasing?

7 A. I don't recall seeing that.

8 A. No, I don't.

9 Q. Now, if you would look at--

10 MR. JACOBS: Are you done with this exhibit?

11 MR. LANGLAIS: Yeah, I'm done with that one.
12 I'm sorry.

13 BY MR. LANGLAIS:

14 Q. Solutia Exhibit 6.

15 A. Okay.

16 Q. Page DSW 462071.

17 A. Okay.

18 Q. Under the section that says, "Health"--

19 A. Yes, sir.

20 Q. --in the last sentence, it says, "We are
21 warned that lead vapours may be evolved during the
22 burning out of lead traps and carbon traps."

23 A. Yes.

24 Q. So that, that seems to indicate
25 that--remember the, remember the burning out of the

1 lead trap that we discussed earlier, where the lead
2 would be burned out on that table?

3 A. Yes.

4 Q. And then the tier would flow down into the,
5 into the melting pot?

6 A. Yes.

7 Q. There would be at least some lead vapor loss
8 associated with that process?

9 A. Well, I mean they're certainly warning of
10 that potential. I mean, they do use the word "may,"
11 so--

12 Q. Sure. If you would look at DSW 462073, in
13 the section heading "Fire," and it looks like it says,
14 "Fire, continued," the very last paragraph of that
15 refers to blowing out of gaskets on the converter
16 cover.

17 MR. JACOBS: Is there a question?

18 MR. LANGLAIS: Yeah. I want--I'm just
19 directing him to that paragraph, and then I'll ask the
20 question.

21 A. Yes, I see that paragraph.

22 BY MR. LANGLAIS:

23 Q. Now, the converter, the converter pot, the
24 converter cover that they're referring to is the cover
25 on the, the last of the lead pots in the biphenyl

1 process, right?

2 A. That's correct.

3 Q. During--when--now it says, it says, here,
4 that there's a greater risk of blowing out the gasket
5 on the converter. Have you seen any documentation to
6 show that gasket blowouts were a problem or occurred
7 with, with any frequency as part of this biphenyl
8 process?

9 MR. JACOBS: Object to form.

10 A. I've not seen any further discussion of that
11 issue.

12 BY MR. LANGLAIS:

13 Q. But this is similar to the last point, that
14 they're just advising them that if the pressure gets
15 too high, a gasket could blow out?

16 A. Yes.

17 Q. Is that how you read this?

18 A. That is how I read it, yes.

19 Q. Now, when we refer--when we've been
20 referring to lead vapor throughout the course of this
21 deposition, is lead vapor, in your mind, the same as
22 lead oxide?

23 A. Certainly not.

24 Q. Okay, how is, how is--what is lead oxide?

25 A. Lead is a molec--lead oxide is a molecule,

1 is a compound of lead made up of lead atoms and oxygen
2 atoms. It's--iron oxide is rust. As iron plus oxygen
3 go together to make rust, lead oxide is the same
4 physical combination. You've changed lead from a
5 metallic lead into a combined form with oxygen, so in
6 a sense, it's lead rust.

7 Q. Okay, so it's a solid, it's a solid
8 material, as opposed to a gaseous?

9 A. Yes.

10 Q. Could you look at page DSW 462078?

11 A. Okay.

12 Q. It says, "Lead is known to escape sometimes
13 through the cover joints on the pots at Anniston. It
14 may form lead oxide outside the pot, and this lead
15 oxide may attack the outer surfaces of the pot." Do
16 you see that?

17 A. You've read that, yes, correctly.

18 Q. Have you seen any indication on how the
19 Anniston facility would deal with addressing the lead
20 oxide that forms on the outside of pots occasionally?

21 MR. JACOBS: Object to form.

22 A. No, I've not.

23 BY MR. LANGLAIS:

24 Q. DSW 462095?

25 A. Okay.

1 Q. In the second-the-last paragraph, there's a
2 reference to dumping the ingots. The second-to-last
3 paragraph. Yeah, there you go.

4 A. Oh, okay, yes.

5 Q. These are lead ingots they're referring to?

6 A. Yes.

7 Q. Do you--did you find any reference in any of
8 the other documents on where these lead ingots were
9 placed, where were they dumped?

10 A. No, I did not. No, I don't know
11 specifically--well--

12 (Witness continues to
13 peruse said document.)

14 A. "A few yards away," well, I would be
15 speculating. It says a few yards away.

16 Q. Right.

17 A. I suppose that could get you out of the
18 building, rather than still in the building. I don't
19 really--I'm speculating. I don't know.

20 Q. You don't know whether it's inside or
21 outside the building that they are referring to when
22 they say this?

23 A. Not--no, I don't.

24 Q. And I don't want you to, I don't want you to
25 guess. If you don't know, that's fine. If you would

1 look at DSW 462098, particularly the second-to-last
2 paragraph,--

3 A. Okay.

4 Q. --it references splashing of the lead onto
5 the walls. Do you see that reference?

6 A. Yes.

7 Q. What walls--are they referring to the, the
8 pot walls?

9 A. The inside walls of the pot, yes.

10 (Defendant's Deposition

11 Exhibit Solutia 9 mark'd

12 for identification.)

13 BY MR. LANGLAIS:

14 Q. I hand you what's been marked Solutia
15 Exhibit 9.

16 MR. LANGLAIS: For those on the phone, it's
17 Bates labeled ADA 001050 through 001090, and this is
18 a, what purports to be a standard manufacturing
19 process for biphenyl, dated 1957, September 17th,
20 1957.

21 (Witness peruses said

22 document.)

23 Q. (Continuing) Have you seen this document
24 before?

25 A. Yes.

1 Q. Okay, was this, was this a document that you
2 relied upon in preparing for your deposition here,
3 today?

4 A. I believe there was one included in the
5 104(e) production, yes.

6 Q. The only thing I want to talk to you about
7 on this, in this document is on page ADA 001081.

8 A. I'm on that page.

9 Q. Okay, in particular, there is a--the section
10 labeled "Lead Dross."

11 A. Yes.

12 Q. How was--are you familiar with what lead
13 dross is in connection with the biphenyl process?

14 A. Yes, I believe so, yes.

15 Q. Where would the lead dross be formed? In
16 what step of the biphenyl process?

17 A. Well, it would be formed during the
18 conversion of benzene in the lead pots.

19 Q. So it would be--it's actually the material
20 that floats to the top of the molten lead?

21 A. Yes.

22 Q. And in your mind, is that material--is that
23 the impurities in the lead coming out of solution?

24 A. No, I don't think it's computers in lead, I
25 think it's byproducts of the reaction of lead with the

1 materials--

2 Q. Okay.

3 A. --in the reaction, that there's going to be
4 a little bit of oxygen in there even though it's
5 supposed to be excluded, so there's going to be some
6 metallic reaction products.

7 Q. Now, this refers to when this--it says "When
8 this contamination occurs, the lead in the top of the
9 pot is dipped out and fresh lead added." Do you know
10 what the facility did with that lead dross that was
11 dipped out of the lead pots?

12 A. My understanding is it was landfilled.

13 Q. And did that lead dross contain lead as one
14 of the components?

15 A. I'm sure it did, yes.

16 MR. JACOBS: Are you done with this one?

17 MR. LANGLAIS: Yeah.

18 BY MR. LANGLAIS:

19 Q. Are you familiar with lead being present in
20 the furnaces as part of the lead pot process?

21 MR. JACOBS: Object to form.

22 A. I'm not sure what you are referring to.

23 BY MR. LANGLAIS:

24 Q. Okay. If you would--I hate to do this to
25 you--go back to Exhibit 6.

1 A. I've got it.

2 Q. Okay, look on page DSW 462078.

3 A. Okay.

4 Q. The very last sentence says, "There is no
5 point in trying to detect lead in the stack gases
6 because there is always some lead lying about in the
7 furnaces."

8 A. Okay.

9 Q. Is this the first time you've seen that
10 reference to lead being in the furnaces?

11 A. I mean, I've read this paragraph before. I
12 didn't recall it specifically.

13 Q. Does this refresh your memory?

14 A. Well, the furnaces are what is used to heat
15 the lead pots.

16 Q. Sure. Do you know if the facility cleaned
17 out those, those furnaces?

18 A. I, I don't recall seeing a reference to that
19 specifically.

20 Q. Of that same exhibit, a few pages back, DSW
21 462075--

22 A. Okay.

23 Q. In the very last sentence, it references
24 molten lead being baled about on the operating floor.

25 A. Yes.

1 Q. Do you know what they are referring to in
2 that statement?

3 MR. JACOBS: Object to form.

4 A. I don't specifically, no, I don't know that.

5 BY MR. LANGLAIS:

6 Q. Is this the first time you had seen any
7 reference to molten lead being baled out into the
8 operating floor?

9 A. I had read that paragraph before, and I
10 didn't understand what it meant at the time.

11 Q. Now, these lead pots would have to be
12 cleaned out occasionally.

13 MR. JACOBS: Object to form.

14 BY MR. LANGLAIS:

15 Q. Would these lead pots ever be cleaned out?

16 A. Yes, they would.

17 Q. Do you know what, what Anniston did with any
18 of the contents of these lead pots?

19 A. To the extent that it was lead in them,
20 they, they took it out of the pots and put it in
21 ingots and put it back in the pots for reuse.

22 Q. And you base that upon discussions with
23 Jerry Brown?

24 A. Well, I mean it's in this document,--

25 Q. Okay.

1 A. --I think. I mean, it talks, talks about
2 taking the lead out of the pots and putting it in
3 molds and filling the, the ingot molds. Yeah. I
4 mean, I'm on page 097. "The lead ingots usually leave
5 the molds easily, they're stacked near the end of the
6 unit until a new pot is in place, then they are
7 packed, on end, in the pot, and melted down, and any
8 lead needed for make-up is added," and there's that,
9 in the paragraph before that is that "bale out" term
10 again. It's still not totally clear, although it may
11 just mean removing lead from the ingots, what they're
12 calling "bale out."

13 Q. Well, you would be guessing on that point,
14 right?

15 A. Well, it's not a total guess because it says
16 the usual procedure if the pot is moved--yeah, the
17 usual--"the lead would be allowed to solidify before
18 the pot was moved. The usual procedure is to bail out
19 the lead as described above," which is what is
20 described above is scooping out the lead and putting
21 it in the ingots, so it's more than an assumption; I
22 think it's a logical conclusion from usage.

23 Q. Now, you had testified earlier that they
24 detected lead in the crude biphenyl.

25 A. Yes, that's true.

1 Q. Now, did--is there anything in the process
2 to indicate--did Monsanto take any steps to try to
3 remove that lead from the crude biphenyl before
4 proceeding with its--before proceeding in distilling
5 that product?

6 A. No.

7 (Defendant's Deposition
8 Exhibit Solutia 10
9 mark'd for
10 identification.)

11 BY MR. LANGLAIS:

12 Q. I'm going to hand you what's been marked
13 Solutia Exhibit 10.

14 For those on the phone, this is a
15 single-page document and it's Bates labeled ADA
16 002352.

17 You can go ahead and read that and let me
18 know when you are, when you are finished.

19 (Witness peruses said
20 document.)

21 A. There you go. I'm finished.

22 Q. Okay, in there, it references the use of old
23 acid tanks that were torn down and the lead linings
24 from those tanks were reclaimed?

25 A. Yes.

1 Q. Are they referring to lead acid tanks at the
2 Anniston Plant?

3 A. Yes.

4 Q. Okay, and--so do you know what those, those
5 old acid tanks were used for? I mean, I know they
6 stored--did they store acid, and if so, for what
7 process?

8 A. I believe the phosphoric acid process.

9 Q. Was it--have you come across any other
10 documents to indicate that something other than the
11 high-grade pig lead that they reference in there was
12 used as part of the lead pot process?

13 MR. JACOBS: Are you in the first paragraph?
14 Okay.

15 MR. JACOBS: I object to form. I'm sorry.
16 Go on.

17 A. I was going to say, this is the only
18 specific reference I recall.

19 BY MR. LANGLAIS:

20 Q. Do you recall having seen this before?

21 A. I have seen this document, yes.

22 Q. Was this one of the documents you reviewed
23 in preparing for your depo today?

24 A. Anniston 104(e) set, yes.

25 Q. And this was--yes, this was part of the

1 104(e) that you sent in 2004?

2 A. Well--

3 Q. 104(e) response?

4 A. Yes.

5 Q. Do you know if any kind of process water was
6 associated with the biphenyl production process, the
7 lead pot process?

8 A. The only water that I know associated with
9 it is in the, in the cooling condensers for the
10 stills.

11 Q. It would be noncontact water?

12 A. Non-contact water, yes.

13 Q. Do you know if they may have--did you see
14 any indication that the Anniston Plant cooled the lead
15 ingots with water to increase the rate at which they
16 solidified?

17 A. I've not seen that.

18 Q. This goes back to the, the discussion we
19 just had about the acid tanks, the led-lined acid
20 tanks that were used. It's my understanding that
21 there were also lead pipes at the Anniston Plant. Do
22 you know if those lead paps were melted and used as
23 part of the, the biphenyl process?

24 A. My understanding from Jerry Brown is that
25 they were landfilled, they were not melted and put

1 into the process. I believe that demolition actually
2 occurred after the lead pot process had been shut
3 down.

4 Q. Okay, that's what I thought. I just, I
5 wanted to make clear.

6 MR. JACOBS: Do you want to break a couple
7 of minutes, let you guys talk?

8 MR. LANGLAIS: Yeah, why don't we do that?

9 MR. JACOBS: All right, we'll excuse
10 ourselves for about five minutes.

11 (Recess.)

12 (Defendant's Deposition

13 Exhibit Solutia 11

14 mark'd for

15 identification.)

16 BY MR. LANGLAIS:

17 Q. I'm going to hand you what's been marked
18 Solutia Exhibit 11. It's a single page. It's marked
19 ADA 002337, and it's entitled "Montar/Santotar 9 waste
20 Production 1936 to 1964." Have you seen that
21 particular document before?

22 A. I believe I've seen it, yes.

23 Q. Do you know, did you help prepare that
24 document?

25 A. No.

1 Q. Do you know who did?

2 A. No.

3 Q. Was that document produced as part of
4 CERCLA's 104(e) response, if you recall?

5 A. I believe it was. That would have been
6 where I would have seen it, I believe.

7 Q. Is Santotar 9, is that name, Santotar, the
8 same as Montar 9?

9 A. Yes.

10 Q. It's just a different name?

11 A. Yes.

12 Q. And that document purports to show pounds of
13 biphenyl production. I presume that when they say
14 "biphenyl production," they are referring to the
15 distilled biphenyl?

16 A. That's correct.

17 Q. And then in the next column is pounds of
18 Santowax produced?

19 A. Santowax C.

20 Q. Santowax C.

21 A. Yes.

22 Q. What is the "C," what--does the "C" mean
23 anything as part of that?

24 A. Well, I could speculate as to what it means.

25 Q. If you don't know--

1 A. It's just a name. You know, I mean, I think
2 it means crude.

3 Q. And that's one of the distillate fractions
4 that comes off as part of the biphenyl process?

5 MR. JACOBS: Objection as to form.

6 A. That's the still bottoms of the distillate--
7 BY MR. LANGLAIS:

8 Q. The still bottoms,--

9 A. --for the production--

10 Q. --okay.

11 A. --of biphenyl, yes.

12 Q. And that last section is the pounds of the
13 Montar 9 produced?

14 A. Yes.

15 Q. Why is it--am I to read--the title of that
16 says, "Montar/Santotar 9 Waste Production." Am I to
17 read that as to conclude that this last column wasn't
18 product that was sold? It was, in fact, waste, waste
19 of--waste produced?

20 MR. JACOBS: Object to form.

21 A. The, the Montar/Santotar materials were
22 still bottoms which were waste up until the point
23 someone found another use for them.

24 BY MR. LANGLAIS:

25 Q. I understand. They were wastes until you

1 could--until you found another use for it, or
2 potential buyer?

3 A. Some of them ended up as wastes and were
4 landfilled. Some of them were recovered and used for
5 other processes.

6 Q. In your review of documents, are you able to
7 tell me at what point that other use came to light?

8 MR. JACOBS: Objection.

9 BY MR. LANGLAIS:

10 Q. When this stuff went from being a waste to
11 finding this, this possible use, do you know when that
12 occurred?

13 A. I don't think there was a when. It was a
14 sometime yes, sometime no thing. I think we talked
15 earlier this morning about the production of HB-40,
16 when they went into production, more of it became a
17 raw material for the production of HB-40 versus a
18 waste.

19 Q. Okay. In reviewing documents, did you come
20 across anything that showed how often lead had to be
21 replenished into the, the preheater or the converter
22 lead pots?

23 A. No, other than the reference we talked about
24 earlier that measured--I didn't see any recommendation
25 on frequency or designation of frequency.

1 Q. In reviewing the documents, did you come
2 across anything that would tell me the frequency of
3 pot failures, lead pot failures?

4 A. I don't recall anything specific, no.

5 Q. The furnaces that, that heat up these pots
6 of molten lead, was there, based upon your review of
7 documents, was there a stack that came off of those
8 filters?

9 MR. JACOBS: Object to form.

10 BY MR. LANGLAIS:

11 Q. (Continuing) Do you understand my question?

12 MR. JACOBS: Do you understand his question?

13 A. Well, I think you mis--you mean off the
14 furnaces?

15 BY MR. LANGLAIS:

16 Q. Yeah.

17 A. Not off the filters? I don't recall.

18 Q. So in your review, does it--I guess what I'm
19 trying, I'm trying to picture these furnaces. Is this
20 like an open-pit fireplace?

21 A. My understanding from the documents is that
22 early on, they were direct-fired brick furnaces.
23 Later on, I believe, they were heated with a heat
24 transfer system, so a heating fluid would have been
25 pumped around coils around the pots to heat them.

1 Q. At the time that these furnaces were still
2 used, these flame furnaces--strike that. We discussed
3 earlier that there was some reference to lead being in
4 the furnace, these furnaces.

5 A. I remember that reference, yes.

6 Q. Now, is there any--was there anything to
7 indicate that, that the lead was being burned up and
8 vaporized as part of, as part of the, the use of these
9 furnaces?

10 A. No, I saw nothing to reflect that.

11 Q. All right, let's move on to the second topic
12 that you were presented for. Now, it's my
13 understanding that you were--you have been presented
14 to testify about the, the products at the Anniston
15 facility that contained PCBs and the, the time periods
16 of each of those products; is that correct.

17 MR. JACOBS: Your Exhibit A, number 1,
18 "Identification of specific PCB conjurers and Aroclors
19 in periods of production."

20 MR. LANGLAIS: Right.

21 BY MR. LANGLAIS:

22 Q. A conjurer is just--I'll use an example.
23 1242 versus 1254, those are two different PCB
24 conjurers, are they not?

25 A. No, that is incorrect.

1 Q. Okay, what is a conjuner?

2 A. A conjuner, in the common scientific usage,
3 is one of the 209 individual separate chemicals that
4 comprise the set of PCBs, polychlorinated biphenyls.

5 Q. Okay. Are you able to, to tell me what the
6 first, what the first PCB or PCB conjuner that the
7 Anniston Plant produced?

8 A. Well, the Anniston Plant did not produce PCB
9 conjuners.

10 Q. Okay.

11 A. It produced products which were mixtures of
12 various PCB conjuners.

13 Q. Okay.

14 A. We never--and by that, I don't mean we made
15 this conjuner, and that conjuner, and that conjuner,
16 and mixed them together.

17 Q. Right.

18 A. We chlorinated biphenyl, which resulted in a
19 mixture of conjuners, and that's what we manufactured
20 as products.

21 Q. So just as an example, I know that Monsanto
22 produced Aroclor 1254; is that correct?

23 A. That's correct.

24 Q. And so that would be, that "54" designates
25 the average percentage of chlorination in that, in

1 that product; is that correct?

2 A. That's correct.

3 Q. So it wasn't--it's not--it wasn't--it's not
4 saying that, that 54 percent of the, of the carbons
5 are chlorinated, it's saying the mixture consists of
6 what? 54 percent what?

7 A. Chlorine.

8 Q. Okay. On average?

9 A. On average, right.

10 Q. Okay, can you tell me what the first--well,
11 let's talk about what, just generally tell me what
12 PCB-containing products the Anniston Plant produced.

13 A. Well, it produced the whole series of
14 PCB-containing products, beginning with Aroclor 1221,
15 which was 21 percent chlorinated, through Aroclor
16 1268, which was 68 percent chlorinated, then there
17 were various products in between there, 42, 54, 60,
18 and others.

19 Q. Is there a document in the documents that
20 you reviewed in preparation for your deposition here,
21 today, that lists all the, all the Aroclor products
22 that the facility produced and the time frames?

23 A. Frankly, I didn't review any documents in
24 preparation for the PCB questions. I'm relying on my
25 institutional knowledge. I mean, I could list them

1 for you if you want them listed.

2 Q. The Monsanto plant produced Aroclor 1221?

3 A. Correct.

4 Q. Do you know from what, what time frame the
5 plant produced that material?

6 A. My understanding is it was produced from
7 early on in the process, beginning about 1929, through
8 1971, when the Anniston Plant quit making PCBs.

9 Q. And if I was to go and list other Aroclors,
10 would that be the same answer?

11 A. Yes.

12 Q. Now, there's Aroclor 1232 they produced?

13 A. Probably little of that. Most of that was
14 produced at Krummrich, frankly, actually.

15 Q. Aroclor 1242?

16 A. Correct.

17 Q. Aroclor 1248?

18 A. Correct.

19 Q. Aroclor 1254?

20 A. Correct.

21 MR. JACOBS: Just to be clear, are you
22 saying he's these were produced at the plant? Is that
23 your question which he's answering?

24 MR. LANGLAIS: Yeah.

25 MR. JACOBS: Okay.

1 MR. LANGLAIS: He was, he was put up to be
2 someone who could tell us--

3 MR. JACOBS: Yeah, I know. It was a little
4 vague as to what was being asked.

5 MR. LANGLAIS: Okay.

6 BY MR. LANGLAIS:

7 Q. Aroclor 1254?

8 A. Yes.

9 Q. Aroclor 1260?

10 A. Yes.

11 Q. Aroclor 1262?

12 A. Correct.

13 Q. What other Aroclors were produced at the, at
14 the Anniston facility?

15 A. There was Aroclor 1268.

16 Q. Mm-hmm?

17 A. I believe Aroclor, Aroclors 1269, 70, and 71
18 were investigated as products but probably never
19 produced with any volume, represented volume at all,
20 and those were the PCB products, okay? There were
21 also a variety of polychlorinated terphenyl products
22 produced that had the Aroclor trade name, and there
23 were some products that were mixtures of PCBs and
24 PCTs, which are the polychlorinated terphenyls.

25 Q. Is there an Aroclor, is there an Aroclor

1 series that starts with 54?

2 A. Yes.

3 Q. And what is that?

4 A. Those are polychlorinated terphenyls.

5 Q. Okay, so although they're called Aroclors,
6 they're not the PCB products?

7 A. Right. Aroclor was the trade name for
8 polychlorinated polyphenyls.

9 Q. Okay.

10 A. Not just PC---not just biphenyls.

11 Q. What's Therminol? What's Therminol?

12 A. Therminol is a Monsanto trade name for heat
13 transfer fluids.

14 Q. And those heat transfer fluids contained
15 PCBs?

16 A. Some of them did.

17 Q. Can you tell me the names of the Therminol
18 products that contained PCBs?

19 A. Yes, any product that says "Therminol FR"
20 followed by a number contained PCBs.

21 Q. What's the "F" stand for, if you know?

22 A. "FR" stands for flame retardant,
23 fire-resistant.

24 Q. And how about Pydraul?

25 A. Pydrauls were--was the Monsanto trade name

1 for fire retardant hydraulic fluids.

2 Q. We've already discussed Montars 9 and 10.

3 A. Which were not chlorinated.

4 Q. They're not chlorinated?

5 A. Correct.

6 Q. Okay. Sanatowaxs R is not chlorinated.

7 A. That's correct.

8 Q. How long were the--was the Pydraul
9 manufactured? What's the, what's the operating time
10 for that, for that?

11 A. Okay, Pydraul was never, quote,
12 "manufactured." Pydraul is a blend--

13 Q. Okay.

14 A. --of, in some cases, PCBs with other fluids.

15 Q. Okay.

16 A. In some cases, no PCBs, and it was not
17 blended at Anniston.

18 Q. Where was it blended?

19 A. Primarily, either at the Krummrich Plant or
20 the Queeny Plant here in St. Louis.

21 MR. JACOBS: Objection. You shouldn't make
22 that comparison. That's okay, go ahead.

23 BY MR. LANGLAIS:

24 Q. Well, I see the name "Pydraul" show up, and
25 I just want to--and what you are telling me is Pydraul

1 is not an Anniston product.

2 MR. JACOBS: Yeah. I didn't tell him not to
3 answer, but go ahead.

4 MR. LANGLAIS: Okay.

5 A. That, that is correct.

6 BY MR. LANGLAIS:

7 Q. Okay.

8 A. Now, again, I would clarify that some of the
9 PCBs that went into Pydrauls were Anniston products,
10 but--

11 Q. Right.

12 A. --that, that packaged and--

13 Q. The blending wasn't done, the blending of
14 that product wasn't done at Anniston,--

15 A. That is correct.

16 Q. --that was done at another plant?

17 A. That is correct.

18 Q. Therminol VP-1, what does that contain PCBs?

19 A. No.

20 Q. How about Therminol 75?

21 A. No.

22 Q. 59?

23 A. None of the Therminols contained PCBs unless
24 they had the FR designation with the exception of
25 Therminol 77 had trace amounts of PCBs in it from the

1 manufacturing process.

2 Q. And Therminols were manufactured, as opposed
3 to being blended, or--

4 A. Largely, that's true. I mean, the Therminol
5 FR series was just PCBs with a Therminol name on it.

6 Q. Are there any other Aroclor series, and by
7 that, I mean, you know, a starting number like the
8 Aroclor 12 series, is there another Aroclor series
9 that contained PCBs?

10 A. Yes.

11 Q. What series would that be?

12 A. Well, there is an Aroclor 1100 series, which
13 were the crude materials that were distilled to make
14 the Aroclor 1200 series.

15 Q. So Aroclor 1142 was distilled to make
16 Aroclor 1242, so you'll see that designation. The
17 same with the terphenyls; there was an Aroclor 5000 or
18 Aroclor 50 series was the crude chlorinated terphenyls
19 that were distilled to make the product Aroclor 5400
20 series. Okay? There were two others. There was an
21 Aroclor 2500 series and an Aroclor 4400 series which
22 were mixtures of polychlorinated biphenyls and
23 polychlorinated terphenyls.

24 Q. How long were the 2500 and--how long was the
25 2500 Aroclor series manufactured or blended?

1 A. I believe that was--I believe that was
2 blended pretty much through the whole '29 to '71 time
3 frame. I could be mistaken on that, but--

4 Q. And how about the--I'm sorry, go ahead.

5 A. I was going to say the same would be true of
6 the 4400 series; they were very minor products, and I
7 don't know that production history, as well.

8 Q. How about the Aroclor 1100 series?

9 A. Well, that was always made--

10 Q. Okay.

11 A. --because that's how you got to 1200.

12 Q. Right, and is there--am I--I thought I saw
13 something of an Aroclor 1000 series?

14 A. Okay, Aroclor 1016 is a unique product that
15 was manufactured only at the Krummrich Plant, and it
16 was manufactured very late, after 1971.

17 Q. Okay. Now, Aroclor 1221, am I correct that
18 it was the only Aroclor product formulated with PCBs
19 at the Anniston Plant?

20 A. That question doesn't make any sense to me.

21 Q. Okay, it says here--let me just go ahead and
22 hand you this document. I'm going to mark this as
23 Solutia Exhibit 12.

24 (Defendant's Deposition

25 Exhibit Solutia 12 mark'd

1 for identification.)

2 MR. JACOBS: What part do you want him to
3 read?

4 MR. LANGLAIS: It is ADA 000271.

5 (Witness peruses said
6 document.)

7 A. Okay.

8 BY MR. LANGLAIS:

9 Q. It's page 5 of this document. On the very
10 bottom, there's a double asterisk.

11 A. Yes.

12 Q. And it says Aroclor 1221 was the only
13 Aroclor product formulated with PCBs manufactured at
14 the Anniston Plant in 1971.

15 A. I see that.

16 Q. Okay, so, so would the other ones, is that
17 just saying that the others were terminated prior to
18 1971?

19 A. Yes.

20 Q. And that that was the final, that was the
21 final product, the final Aroclor that contained PCBs
22 that was manufactured at Anniston?

23 A. That is correct.

24 Q. Now, are there any other, any other
25 PCB-containing products either manufactured or blended

1 at the Anniston Plant that we haven't mentioned?

2 A. No. Well, yeah, let me correct, in that
3 there were some--we manufactured some PCB products
4 that we put General Electric and/or Westinghouse's
5 trade name on, but they were the same as our Aroclor
6 materials.

7 Q. So you basically took one of your Aroclors
8 and you just put on another trade name. Do you recall
9 what those trade names were?

10 A. Well, General Electric is Pyranol,
11 P-y-r-a-n-o-l. Westinghouse is Inerteen,
12 I-n-e-r-t-e-e-n, and most of those were blends of PCBs
13 with other materials, and sometimes we did the
14 blending ourselves.

15 Q. Do you recall any other instances where,
16 where you would take a Anniston PCB product and put
17 someone else's trade name on it other than those two
18 that you mentioned?

19 A. No, I have no--do not believe that occurred.

20 Q. Does the product called Sterox contain PCBs?

21 A. No--well, it was manufactured at Anniston.
22 No, it does not.

23 MR. LANGLAIS: I think that's all, that's
24 all you guys are putting him up for, is to do what
25 what he's just done, he's identified all the--

1 MR. JACOBS: Well, basically after the last
2 comma on your paragraph 1, Exhibit A.

3 MR. LANGLAIS: Okay.

4 MR. JACOBS: Did you guys want to talk over,
5 see if anybody else has any--

6 MR. TURNER: Why don't we just take a few
7 minutes.

8 MR. JACOBS: Five minutes?

9 MR. TURNER: Yeah, I think we can just clean
10 up there and see what--

11 MR. JACOBS: See if you have any final
12 questions; maybe they have some questions.

13 MR. TURNER: I think that's probably more of
14 a coordinated effort that way, so it makes sense.

15 MR. JACOBS: Okay, we'll be back in five.

16 (Recess.)

17 BY MR. LANGLAIS:

18 Q. There is an Aroclor 1800 series, and I'll
19 just show you, this is part of the 1935 document. One
20 is Aroclor 1819, and one is Aroclor 1848. We don't
21 need to make these exhibits, but I'll go ahead and
22 read the--it's ADA 000884 and 885.

23 MR. JACOBS: And what's your question?

24 MR. LANGLAIS: Just this is a product that
25 we didn't mention this series, and I was just curious

1 about--

2 MR. JACOBS: Are you asking if he's familiar
3 with these products?

4 MR. LANGLAIS: I want him to look at it
5 first and then I'll ask him, or you can ask him.
6 Either way.

7 MR. JACOBS: That's all right, thanks.

8 A. I'm not familiar with these products other
9 than the way they're described on the, on the
10 specification.

11 BY MR. LANGLAIS:

12 Q. So these--

13 A. I haven't seen reference to them before, so
14 as far as I know, they were never significantly
15 marketed but they're, they're out of the, the
16 biphenyl--I mean the chlorinated biphenyl process, so
17 it says 1848 is a middle cut from the distillation of
18 Aroclor 1148, so it's, it's similar to 1248, and 1819
19 is a mixture of para and orthochlorodiphenyl, which
20 means it's very low chlorinated, so other than that,
21 I, frankly, don't know anything more about them.

22 Q. The only other thing I want to ask you is it
23 looks like there's a reference--do you see that? I
24 don't want to mispronounce it. Comatook (Phonetic)
25 and Wescott? Do you know what that might be?

1 A. Well, I would read it as Comstock.

2 Q. Comstock: Okay. I'm reading it upside
3 down. I didn't know if maybe--

4 A. You know, I think that's the quality
5 control, I think that goes on to be the control test.
6 I think it's somehow how it's tested.

7 Q. Okay, so maybe--

8 A. The grade is based on this Comstock and
9 Wescott C control test,--

10 Q. Okay.

11 A. --but I don't know that specifically.

12 Q. Okay, and the last question, that 1935
13 document has a list of schedule of drawings, beginning
14 at page ADA 000894 through 896, and I don't think--you
15 can just glance at that. What I'm curious about is
16 have you seen the drawings that are referenced in this
17 1935 document?

18 A. No.

19 MR. LANGLAIS: Okay.

20 MR. TURNER: I don't have anything else.

21 MR. LANGLAIS: Anyone on the the phone have
22 any questions?

23 MS. O'NEAL: This is Lynne. None for me.

24 MR. JACOBS: I assume by nobody else
25 speaking, nobody else has questions. I don't have any

1 questions.

2 MR. LANGLAIS: All right. Thank you for
3 your time.

4 THE WITNESS: You are welcome.

5 MR. JACOBS: Okay. See you guys later.
6 Bye-bye.

7 MR. LANGLAIS: Bye-bye.

8 (Whereupon, at 2:11 P.M., the
9 deposition was concluded.)

1 State of Missouri.)

2) SS.

3 City of St. Louis)

4 I, J. Bryan Jordan, a Notary Public in
5 and for the State of Missouri, duly commissioned,
6 qualified and authorized to administer oaths and to
7 certify to depositions, do hereby certify that
8 pursuant to Notice in the civil cause now pending and
9 undetermined in the United States District Court for
10 the Northern District of Alabama
11 ,Magistrate Judge Green, to be used in the trial of
12 said cause in said court, I was attended at the
13 offices of Husch & Eppenberger, LLC, in the County of
14 St. Louis, State of Missouri, by the aforesaid witness
15 and by the aforesaid attorneys, on the 28th day of
16 April, 2005.

17 The said witness, being of sound mind
18 and being by me first carefully examined and duly
19 cautioned and sworn to testify the truth, the whole
20 truth, and nothing but the truth in the case
21 aforesaid, thereupon testified as is shown in the
22 foregoing transcript, said testimony being by me
23 reported in shorthand and caused to be transcribed
24 into typewriting, and that the foregoing pages
25 correctly set forth the testimony of the

1 aforementioned witness, together with the questions
2 propounded by counsel and remarks and objections of
3 counsel thereto, and is in all respects a full, true,
4 correct and complete transcript of the questions
5 propounded to and the answers given by said witness;
6 that signature of the deponent was not waived by
7 agreement of counsel.

8 I further certify that I am not of
9 counsel or attorney for either of the parties to said
10 suit, not related to nor interested in any of the
11 parties or their attorneys.

12 Witness my hand and notarial seal at
13 St. Louis, Missouri, this 10th day of May, 2005.

14
15
16 J. Bryan Jordan

17 Certified Court Reporter

18 State of Missouri

19 My License expires: January 1, 2006
20
21
22
23
24

1 Gore Perry Gateway & Lipa Reporting

2

3

4 Joseph G. Nassif, Esq.

5 Husch & Eppenberger, L.L.C.

6 190 Carondelet Plaza, Suite 600

7 St. Louis, MO 63105-3441

8

9 Enclosed please find the Original Signature pages

10 and errata sheets for the deposition of:

11 ROBERT G. KALEY, III taken 4/28/2005 in the case of:

12 Solutia, et al., vs. McWane, et al.

13 Please read your copy of the transcript, noting

14 any corrections on the enclosed erratta sheets,

15 and return all pages for filing in court to:

16 James A. Langlais, Esq.

17 Alston & Bird, LLP

18 1201 West Peachtree Street

19 Atlanta, GA 30309-3424

20

21 Your prompt cooperation will be appreciated.

22 Sincerely,

23

24 Gore Perry Gateway & Lipa Reporting

25

1 Page Line Should Read:
2 Reason for change:
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22 Page Line Should Read:
23 Reason for change:

1 Comes now the witness, ROBERT G. KALEY, III,
2 and having read the the foregoing transcript
3 of the deposition taken on the 4/28/2005,
4 acknowledges by signature hereto that it is a
5 true and accurate transcript of the testimony given
6 on the date hereinabove mentioned.

7

8

9

10 _____
10 ROBERT G. KALEY, III

11

12 Subscribed and sworn to me before this

13 _____ day of _____, 2005.

14 My Commission expires

15

16

17

18 _____
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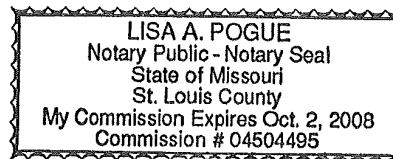
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10 ROBERT G. KALEY, ~~III~~ II ~~per se~~

11
12 Subscribed and sworn to me before this

13 16th day of June, 2005.

14 My Commission expires



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1 *COVER & TOP OF PAGES*
2 Page Line Should Read: *III SHOULD BE II*
3 Reason for change: *TYPOGRAPHICAL ERROR*
4 Page *9* Line *7* Should Read: *CONGENERS*
5 Reason for change: *spelling*
6 Page *14* Line *18* Should Read: *DELETE QUESTION MARK*
7 Reason for change: *TRANSCRIPTION*
8 Page *39* Line *3* Should Read: *lead pots*
9 Reason for change: *TRANSCRIPTION*
10 Page *45* Line *5* Should Read: *diphenyl benzene*
11 Reason for change: *MISSPOKE OR TRANSCRIPTION*
12 Page *45* Line *15* Should Read: *Santowaxes*
13 Reason for change: *TRANSCRIPTION*
14 Page *63* Line *6* Should Read: *couldn't measure it*
15 Reason for change: *TRANSCRIPTION*
16 Page *128* Line *24* Should Read: *it's impurities in lead*
17 Reason for change: *TRANSCRIPTION*

1 Page 132 Line 18 Should Read: bale out

2 Reason for change: SPELLING

3

4 Page 141 Line 22 Should Read: congener

5 Reason for change: SPELLING

6

7 Page 142 Line 1, 2, 6, 9, 12, 15 19
^ Should Read: congener(s)

8 Reason for change: SPELLING

9

10 Page 149 Line 15 Should Read: A:

11 Reason for change: TRANSCRIPTION

12

13 Page 150 Line 7 Should Read: DELETE COMMA

14 Reason for change: TRANSCRIPTION

15

16 Page 162 Line 2, 10 Should Read: II

17 Reason for change: TRANSCRIPTION

18

19 Page Line Should Read:

20 Reason for change:

21

22 Page Line Should Read:

23 Reason for change:

24

25

1 COURT MEMO

2 .

3 4

5 Solutia, et al., vs. McWane, et al.

6 CV-03-PWG-134-E

7

8 CERTIFICATE OF OFFICER AND

9 STATEMENT OF DEPOSITION CHARGES

10

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12 TAKEN ON BEHALF OF THE DEFENDANT

13 4/28/2005

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