

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF WISCONSIN
GREEN BAY DIVISION

APPLETON PAPERS INC. and
NCR CORPORATION,
Plaintiffs,

vs. Case No. 08-CV-16-WCG

GEORGE A. WHITING PAPER
COMPANY, et al.,

Defendants.

NCR CORPORATION,

Plaintiff,

vs. Case No. 08-CV-0895-WCG

KIMBERLY-CLARK CORPORATION,
et al.,

Defendants.

Video Deposition of HERBERT A. VODDEN

Tuesday, August 25, 2009

9:43 a.m.

at

Chester Grosvenor Hotel

Eastgate CH1 1LT

Chester, England

Reported by Julie A. Poenitsch, RPR/RDR/CRR
Gramann Reporting, Ltd. (414) 272-7878
Video Deposition of HERBERT A. VODDEN, 8/25/09

1 Deposition of HERBERT A. VODDEN, a
2 witness in the above-entitled action, was taken at the
3 instance of the Defendants Georgia-Pacific Consumer
4 Products LP, Georgia-Pacific LLC, Fort James Operating
5 Company, and Fort James Corporation, under and pursuant
6 to the Federal Rules of Civil Procedure, and pursuant to
7 Notice, before me, JULIE A. POENITSCH, RPR/RDR,
8 Certified Realtime Reporter, and Notary Public in and
9 for the State of Wisconsin, at the Chester Grosvenor
10 Hotel, Eastgate CH1 1LT, Chester, England, on the 25th
11 day of August, 2009, commencing at 9:43 a.m. and
12 concluding at 12:39 p.m.

13
14
15 A P P E A R A N C E S

16 HERMES LAW, LTD., by
17 Mr. Michael L. Hermes
333 Main Street, Suite 601
Green Bay, Wisconsin 54301
18 appeared on behalf of the Plaintiff
Appleton Papers Inc.

19
20 SIDLEY AUSTIN LLP, by
Mr. Charles K. Schafer
One South Dearborn
21 Chicago, Illinois 60603
22 appeared on behalf of the Plaintiff
NCR Corporation.

23
24
25 Gramann Reporting, Ltd. (414) 272-7878
Video Deposition of HERBERT A. VODDEN, 8/25/09

A P P E A R A N C E S C O N T I N U E D

LATHAM & WATKINS LLP, by
Mr. Karl S. Lytz
505 Montgomery Street, Suite 2000
San Francisco, California 94111-6538
appeared on behalf of the Defendants
Georgia-Pacific Consumer Products LP,
Georgia-Pacific LLC, Fort James
Operating Company, and Fort James
Corporation.

GEORGIA-PACIFIC, by
Mr. John Burgess, Senior Counsel
133 Peachtree Street, N.E.
Atlanta, Georgia 30303
appeared on behalf of the Defendants
Georgia-Pacific Consumer Products LP,
Georgia-Pacific LLC, Fort James
Operating Company, and Fort James
Corporation.

HUNSUCKER GOODSTEIN & NELSON, PC, by
Mr. Erik S. Mroz
21800 Oxnard Street, Suite 780
Woodland Hills, California 91367
appeared telephonically on behalf of the
Defendant and Third-Party Plaintiff
Menasha Corporation.

HUSCH BLACKWELL SANDERS LLP, by
Mr. Thomas M. Carney
190 Carondelet Plaza, Suite 600
St. Louis, Missouri 63105
appeared on behalf of Monsanto
and the Witness.

ALSO PRESENT:
Mr. Simon Addinsell, Videographer.

I N D E X

EXAMINATION BY	PAGE
Mr. Lytz	9
Mr. Hermes	69
Mr. Lytz	113
Mr. Hermes	116

E X H I B I T S

NO.	DESCRIPTION	PAGE IDENTIFIED
No. 947	10/30/69 memo to a number of people from J.W. Barrett (MONSFOX00097049 to -050)	17
No. 948	1/13/70 memo to a number of people from J.D. Humphrey (MONSFOX00056852 to -856)	29
No. 949	Document entitled "Report of a Meeting with NCR and Wiggins Teape in London, 26th January, 1970" (PHGNCR-2001880 to -883)	35
No. 950	Document entitled "Report of Meeting with Ministry of Agriculture, Fisheries and Food, Fisheries Laboratory, Burnham-On-Crouch, in London on 27th January, 1970" (MONSFOX00034541 to -543)	40
No. 951	Document entitled "Report of Meeting with NCR and Wiggins Teape in London, 19th February, 1970" (PHGNCR-2001875 to -879)	43
No. 952	Document entitled "Aroclors Pollution - Visits to Wiggins Teape, Treforest & Nivelles" (PHGNCR-2005015 to -020)	47
No. 953	Document entitled "Aroclor - Environmental Contamination, Status Report of European Studies, 2nd March, 1970" (GPFOX00030966 to -968)	50

EXHIBITS CONTINUED

NO.	DESCRIPTION	PAGE IDENTIFIED
No. 954	Document entitled "Report of Meeting with Ministry of Agriculture, Fisheries and Food, at Monsanto House, London, 10th March, 1970" (MONSFOX00034524 to -529)	53
No. 955	Document entitled "Report of Meeting with Wiggins Teape at Beaconsfield, Bucks on 16th April, 1970" (MONSFOX00031834 to -836)	55
No. 956	Document entitled "Report of Meeting with the Ministry of Agriculture, Fisheries and Food, Fisheries Laboratory, Remembrance Avenue, Burnham-On-Crouch, Essex, on 17th April, 1970" (MONSFOX00034522 to -523)	60
No. 957	Document entitled "Report on Telephone Conversation with C. Capps, Wiggins Teape, April 28th, 1970" (MONSFOX00031837 to -838)	63
No. 958	12/15/70 memo to H.A. Vodden from W.B. Papageorge (PHGNCR-2001014)	64
No. 959	5/11/70 progress report entitled "Environmental Contamination by PCBs" (MONSFOX00059700 to -719)	66
No. 960	Document entitled "Monsanto Chemicals Limited, Product Toxicology - Aroclors" (GPFOX00037466 to -475)	91
No. 961	12/2/69 telegram type message to D.S. Cameron from D.A. Olson (PHGNCR-2001977)	95
No. 962	Customer letter dated February 1970 (NCR-FOX-517877 to -878)	98
No. 963	Monsanto Chemicals Limited Research and Development Report dated February 1970 (GPFOX00054039 to -064)	99
No. 964	7/17/70 memo by W.B. Papageorge (GPFOX00034528 to -530)	102
No. 965	3/1/71 monthly report to R.A. Baxter and W.B. Papageorge from H.A. Vodden (PHGNCR-2003433)	104
No. 966	11/2/71 memo to W.R. Richard from R.A. Baxter (PHGNCR-2003454 to -455)	106
No. 967	Paper entitled "PCBs - The Environmental Problem" by R.A. Lidgett and H.A. Vodden (GPFOX00039135 to -142)	108

Vodden, Herbert in APPLETON

TOWOLDMON0050071

E X H I B I T S C O N T I N U E D

NO.	DESCRIPTION	PAGE IDENTIFIED
No. 968	10/6/71 memo to W.R. Richard from H.A. Vodden (PHGNCR-2001738)	111
No. 969	2/10/67 correspondence to D. Wood from R. Emmet Kelly (GPFOX00054149 to -150)	114
No. 970	2/27/67 letter to M.J. Thomas from R. Emmet Kelly with attachments (NCR-FOX-517847 to -873)	115

(Original exhibits were attached to original transcript;
copies to transcript copies.)

(No previously marked exhibits referenced.)

R E Q U E S T S

(No requests were made.)

TRANSCRIPT OF PROCEEDINGS

THE VIDEOGRAPHER: This is the beginning of Tape 1 in Volume 1 of the deposition of Herbert Vodden in the matter of Appleton Papers, Incorporated, and NCR Corporation, plaintiffs, versus George A. Whitney Paper Company, et al., defendants.

This matter is before the United States District Court for the Eastern District of Wisconsin, Green Bay Division, and the case number is 08-CV-16-WCG.

Today's date is the 25th of August, and the time is 9:43 a.m.

And I've just noticed the recording equipment says p.m. Are you -- can I leave that on the -- or should I adjust it after the --

MR. LYTZ: You have p.m. instead of a.m. for the time? That's fine. We'll figure it out.

THE VIDEOGRAPHER: I'll adjust that on the first break.

The court reporter is Julie Poenitsch from Gramann Reporting. The videographer is Simon Addinsell on behalf of Gramann Reporting.

The deposition is taking place at the Chester Grosvenor Hotel in Chester, England.

1 Could counsel please first put themselves
2 on the record.

3 MR. LYTZ: Good morning, Dr. Vodden. My
4 name is Karl Lytz. I represent Georgia-Pacific in
5 this action.

6
7 MR. BURGESS: My name is John Burgess. I
8 also represent Georgia-Pacific.

9 MR. HERMES: I'm Mike Hermes. I
10 represent Appleton Papers.

11 MR. SCHAFER: And Charles Schafer on
12 behalf of the NCR Corporation.

13 MR. CARNEY: And Tom Carney. I represent
14 Monsanto and the witness.

15 THE VIDEOGRAPHER: Could the court
16 reporter please swear in the witness.

17 THE REPORTER: Raise your right hand.

18 HERBERT A. VODDEN, called as a witness
19 herein by the Defendants, Georgia-Pacific Consumer
20 Products LP, Georgia-Pacific LLC, Fort James
21 Operating Company, and Fort James Corporation,
22 after having been first duly sworn, was examined
23 and testified as follows:

24 THE VIDEOGRAPHER: It's 9:44. Please
25 begin.

EXAMINATION

BY MR. LYTZ:

Q Good morning, Dr. Vodden. I appreciate your being here today. And could I ask you to state your full name for the record, please.

A Herbert Alfred Vodden.

Q And your current residence?

A 44 Elizabeth Crescent, Chester CH4 7AZ.

Q Are you represented here today by counsel?

A Yes.

Q By Mr. Carney, who's sitting to your right there?

A Right.

Q Okay. Thank you.

I think I heard you say at the outset that this is the first lucky occasion of your life in which you're going to have your deposition taken.

A That's correct, yes.

Q I will not -- I'll give you just a few instructions, if I may, about the process. You've probably talked to Mr. Carney about them, so I will try to be brief.

Despite the relative informality of the situation, you have taken an oath to tell the truth, the whole truth, so help you God.

1 A Yes.

2 Q You understand that --

3 A Yes.

4 Q -- obligates you to give full and truthful answers
5 to my questions.

6 A Yes, I do.

7 Q The second thing is we are making a record of
8 everything that is being done in transcribed form,
9 and it will facilitate the clarity of that record
10 if you will let me finish asking a question before
11 you begin to answer it. And I'll do vice versa.
12 Do you understand that?

13 A Right.

14 Q Please be sure that you understand the questions
15 that I ask. If there is any confusion in your mind
16 about any terms I use or you just don't understand
17 it, please just say so, and I'll try to ask a
18 question that you can understand and provide a
19 truthful answer to. Do you understand that?

20 A Right.

21 Q Objections may be posed by other attorneys during
22 the course of our examination. Typically those
23 will be to the style of the question or they're
24 preserving a record that they might ask a judge to
25 consider whether or not the testimony and the

1 answer that you've given should be admitted.

2 For today's purposes, however, pay no
3 attention yourself to the objections unless your
4 counsel, Mr. Carney, instructs you not to answer a
5 question. If an objection is made and you
6 understand the question, you are to answer it. Do
7 you understand that, sir?

8 A Right.

9 Q Finally, it's not an endurance contest. I hope
10 that we're done here relatively quickly today. If
11 for any reason at any time you would like to take a
12 break, please don't hesitate to say so.

13 A Good. Um-hum.

14 Q What was the highest degree that you obtained?

15 A A first-class honors degree in physics.

16 Q Where did you get that from?

17 A The University College of Wales at Cardiff.

18 Q What year was that?

19 A 1947.

20 Q When did you start -- you were formerly employed by
21 Monsanto, correct?

22 A That's right, yes.

23 Q When did you begin your employment?

24 A With Monsanto in 1947, September 1947.

25 Q You had been employed elsewhere before then?

1 A Before that, I had worked for the Ministry of
2 Aircraft Production at Malvern on radar research.

3 Q What did you do when you first started to work for
4 Monsanto?

5 A I was employed as a research physicist, and my
6 initial work was concerned with working out tests
7 for chemicals used in the rubber industry.

8 Q And your job changed over time, I presume?

9 A Very much so, yes.

10 Q Was there a point in time that you became involved
11 in working with PCBs?

12 A Yes, there was a point in time.

13 Previous to my involvement with PCBs, I'd
14 been working on -- in the field of silicon -- in
15 silicon device development, including other
16 compounds of an electronic nature, similar to the
17 3-5 compounds are called.

18 Up until 1969, that was my main
19 preoccupation in the previous few years, but in
20 1969, I was made responsible for the electrical
21 applications of Aroclors from a PCB, and at that
22 time I was asked to include not only the electrical
23 applications, but also the environmental aspects of
24 PCBs, which were beginning to come to the fore.
25 This transfer of responsibility occurred in

1 October, I think, 1969.

2 Q Where were you working at the time?

3 A This was at Monsanto Research Laboratories at
4 Ruabon in North Wales.

5 Q As part of your new duties in 1969, did you gain an
6 understanding about the chemical composition of
7 PCBs?

8 A Right, yes, um-hum.

9 Q They're also referred to as Aroclors? Are those
10 interchangeable terms?

11 A Well, Aroclors were the Monsanto trade name for the
12 group of compounds which we now refer to as PCBs or
13 polychlorinated biphenyls.

14 Q If we use either term during the course of the day,
15 you'll understand that to mean PCBs?

16 A Exactly, yes, um-hum.

17 Q Did you become familiar as a part of those duties
18 with the composition of Aroclor 1242?

19 A I did through work which had been done by our
20 analytical department on assessing what the range
21 of PCB homologues with different chlorine levels
22 were included in the products, both for Aroclor
23 1242 and the higher Aroclors, like 1254 and 1260.

24 Q You used the word "homologues." What does that
25 mean?

1 A Well, the homologue is an identical chemical
2 composition but a different arrangement of the
3 atoms in the molecule.

4 So that, for example, in PCB, you have
5 two -- two benzene rings linked together to form a
6 biphenyl, and then chlorines can be inserted in ten
7 different positions around the rings, so that you
8 have, in effect, a number of combinations of
9 chlorines.

10 With one chlorine, you have three
11 different positions. With two chlorines, you have,
12 I think, six -- I forget the exact numbers now, but
13 as you go up in chlorines, so you raise the number
14 of homologues of that type.

15 Q What was Aroclor 1242 composed of?

16 A Aroclor 1242 was homed in on a trichlor or
17 three-chlorine homologue, but in point of fact, it
18 did contain all the homologues up to and including
19 the hexachlor and the six chlorine ones.

20 Now, altogether, in any of the Aroclors,
21 there were about 200 different components of
22 different chlorine levels, including not only the
23 level of chlorine, but also the different
24 arrangement of the chlorine atoms around the
25 molecule.

1 Q So Aroclor 1242 was actually a mixture of varied --

2 A It was a mixture of all these different chlorine
3 compounds.

4 Q And included in that mixture would have been a
5 five-chlorine --

6 A Exactly, yes. Yes, it would.

7 Q -- and a six-chlorine ring?

8 A Yes, um-hum.

9 Q Those are penta and hexa?

10 A That's right, yes.

11 Q Referred to as that?

12 A Um-hum.

13 Q Are those sometimes referred to as Aroclor 1242,
14 Aroclor 1260, that type of terminology?

15 A That's right. The number refers to the percentage
16 of chlorine in the product. So 42 percent chlorine
17 is called Aroclor 1242; 54 percent is Aroclor 1254;
18 60 percent Aroclor is 1260. Now, that's how the
19 numerals came about.

20 But in point of fact, these were only
21 average levels. And in point of fact, you had a
22 whole range of the actual compounds existing in the
23 product.

24 Q So, for example, Aroclor 1242 would also contain
25 what could be called Aroclor 1254; is that correct?

1 A It would certainly contain some of the components
2 that were in that product, yes.

3 Q And the same for Aroclor 1260?

4 A Right, yes.

5 Q Was there a fairly consistent formula for the
6 Aroclors over the years?

7 A I'm sorry. What was the question?

8 Q The 12 -- more specifically, did the composition of
9 Aroclor 1242 change in any material way over the
10 years?

11 A Not very significantly. One point I might make
12 here is that there were some minor differences
13 between the product manufactured in Europe compared
14 with that manufactured in the States.

15 This was because of a slightly different
16 process used at the plant in Newport in the U.K.
17 compared with that at Anniston in United States.

18 The differences were not too significant
19 but -- in fact, I can't recall exactly what the
20 difference -- exact differences were. But I know
21 there was some difference because part of the
22 processing included some fractionation of the
23 product at the end, and this had to -- and as a
24 result of this, one needed to have slightly
25 different fractionating columns at the two plants

1 concerned with the separations.

2 But the differences were relatively
3 insignificant. They had no function or
4 significance. And one might argue that they could
5 have an environmental significance, but it would be
6 very small and scarcely significant.

7 Q What types of arguments might one make about
8 environmental significance in the differences
9 between U.S. and U.K. Aroclors?

10 MR. SCHAFER: Objection to form.

11 THE WITNESS: Sorry.

12 BY MR. LYTZ:

13 Q You mentioned that there were -- there could have
14 been some argument about the environmental
15 significance that the changes -- that the
16 differences between U.S. and U.K. Aroclors had.

17 A Yes. Well, hypothetically, one might make an
18 argument there was a difference, but in practice, I
19 know of no significant different effect that this
20 would have.

21 (There was discussion off the record.)

22 (Exhibit 947 marked for identification.)

23 THE WITNESS: Is this for me?

24 MR. LYTZ: Yes, this is for you.

25 Q While you're getting your glasses on, let me state

1 for the record, Dr. Vodden, that I've handed to you
2 what has been marked as Exhibit 947 to your
3 deposition, a two-page document appearing to be a
4 memorandum written by a J.W. Barrett, addressed to
5 a wide variety of people, among them yourself,
6 entitled "Polychlorinated Biphenyls," bearing the
7 Bates range numbers MONSFOX00097049 through -050.

8 Could I ask you to take a moment to
9 examine this document and tell me if it's something
10 that you recognize.

11 A Yes, I certainly recognize the document. It was,
12 in fact, the time, which I had already mentioned,
13 that I was given responsibility for not only the
14 electrical applications of the Aroclors, but also
15 the environmental aspects.

16 This had been highlighted by the recent
17 paper of Jensen in Sweden which indicated that
18 polychlorinated biphenyls were accumulating in
19 wildlife.

20 Q This document refers in the first paragraph to
21 something called the "PCB content in dead birds in
22 the Irish Sea" -- accentuates, I think that is.

23 A Yes.

24 Q Do you see that?

25 A Right, yes.

1 Q Do you know what is being referred to there?

2 A Yes. This was an incident in the Irish Sea where a
3 number of dead sea birds were found, and these were
4 analyzed and found to contain PCBs.

5 So there was at first an attempt to
6 correlate the existence of PCBs in the birds with
7 their deaths.

8 In fact, in subsequent investigations, it
9 was found -- or at least it was hypothesized there
10 were a number of different explanations for the
11 deaths of these birds and that the PCBs may or may
12 not have had any significant contributing factor to
13 this.

14 But this was one of the number of
15 incidents that were occurring around about that
16 time, which tended to emphasize the results that
17 Jensen had found in Sweden, the fact that PCBs were
18 being found in wildlife.

19 Q Does it sound correct to you that Dr. Jensen's work
20 was done in late 1966?

21 A That's when the work was done, yes. And subsequent
22 to that, we, amongst a number of other
23 organizations, undertook work to verify and confirm
24 the results which Jensen had found.

25 And by the time we had confirmed this

1 work, and a number of instances such as this Irish
2 Sea one, Monsanto began to recognize that there
3 could be a significant problem in relation to PCBs
4 in the environment.

5 Q You were tasked in this memo to undertake a number
6 of efforts in relationship to identifying the
7 issues associated with PCBs in the U.K.
8 environment.

9 A Right, yes, um-hum.

10 Q Item No. 1 on the first page indicates that you
11 would be responsible for coordinating all of the
12 work that was being done on biodegradation.

13 A Right, yes.

14 Q Did you, in fact, do that?

15 A Yes, um-hum.

16 Q What was the purpose of the biodegradation studies
17 that were being undertaken by Monsanto?

18 MR. SCHAFER: Objection to foundation.

19 BY MR. LYTZ:

20 Q You may answer.

21 A The purpose of this work was to establish to what
22 extent biodegradation could occur in the Aroclor
23 group of products.

24 When we started the work, we didn't know
25 whether we could find significant degradation, but

1 in point of fact, we did find significant
2 degradation occurred through micro-organisms and
3 other types of biological activity.

4 Q Did degradation occur for all Aroclors?

5 A To some extent, although mostly in the lower
6 chlorinated species.

7 Q How about Aroclor 1242?

8 A With Aroclor 1242, it became very clear from the
9 work which we did at Ruabon that the lower
10 chlorinated components would degrade very
11 significantly, but the higher ones, above about
12 four chlorines, say the fives and the sixes, would
13 not degrade too very significantly with the
14 micro-organisms that we were using.

15 But, again, one has to look at the
16 different sequence of events when it occurs through
17 enzyme degradation in a particular animal, bird, or
18 whatever.

19 But we did find that all the lower
20 chlorinated species, up to the tetrachlor PCB, did
21 degrade almost completely in a relatively short
22 time span.

23 Q So those with the four chlorine rings --

24 A Right.

25 Q -- would not degrade as readily as the lower

1 chlorinated.

2 A That's right. We did, in fact, do some work on
3 establishing what the rates of degradation would be
4 for the monochlor, the one chlorine, the two
5 chlorines, three, and the four chlorines.

6 And we did establish some rate
7 information there, which indicated that indeed, as
8 you suggest, that the rate of degradation went up
9 as you declined the number of chlorine atoms, so
10 that the tetrachlor would degrade much less rapidly
11 than the monochlor, the dichlor, and the trichlor.

12 You're using the numbers for the rates of
13 degradation that we appeared to get from these. We
14 could then do a sort of simulation of what might
15 happen to a product like Aroclor 1242.

16 Indeed, if you do this, you find that you
17 end up with a product which looks very much like
18 Aroclor 1254, which was the product that people
19 were claiming that they had found in the
20 environment.

21 So this work seemed to indicate there was
22 a pattern here that although Aroclor 1254 could be
23 the source of contamination, there was no question
24 that Aroclor 1242 could also provide some of this
25 environmental contamination due to the residues of

1 the higher homologues of PCBs that would occur
2 after the degradation.

3 Q And is that one of the conclusions that you
4 reached, that 1242 was, in fact, a substance that
5 had been released into the environment, that what
6 was being observed from environmental samples were
7 its residues?

8 A Right, yes.

9 MR. SCHAFER: Objection to form.

10 BY MR. LYTZ:

11 Q Your second task that is reflected here on
12 Exhibit 947 was a responsibility to collect
13 information about PC disposal of waste at the
14 Newport plant.

15 A Right, yes.

16 Q Now, is that referring -- what's the Newport plant?
17 That's a plant in the United Kingdom, isn't it?

18 A That's right. Newport in United Kingdom in South
19 Wales. And the plant that the -- manufacturing
20 Aroclor was sited at that plant, which is by the
21 Severn estuary, quite close to the coast, in fact,
22 of the -- what's called the tepted (phonetic) up
23 point. It's the Bristol Channel, but it is the
24 estuary of the river Severn. So that the plant is
25 right on the banks of that estuary.

1 Q And did Monsanto, in fact, conduct investigations
2 at that plant for Aroclor releases?

3 A We did, yes.

4 Q Did you discover any?

5 A Yes.

6 Q Did you do anything about it?

7 A Yes. We tightened up the disposal of the -- of the
8 residues from the plant. Most of the contamination
9 occurred due to the release of what were called the
10 bottoms of the plant residues from the -- from the
11 process.

12 And these contain mainly of the
13 chlorinated terphenyls, and products of that sort,
14 to finally being three benzene rings rather than
15 two, as in biphenyl.

16 And part of the contamination arose from
17 the fact that this -- this was deposited at the
18 site in a -- in a landfill. But otherwise, there
19 were leakages due to poor housekeeping and that
20 sort of thing, so that we tightened up on the
21 housekeeping and tried to make sure there wouldn't
22 be -- certainly no unintentional leakage of
23 material from that point on.

24 And then the other -- when we -- we then
25 started to dispose of our residues through a waste

1 disposal organization, who used a quarry at a place
2 called Brofyskin in South Wales, where they would
3 drum -- put this material into drums and then store
4 it in a dry quarry or a landfill with -- with no
5 watercourses going through it.

6 So in this way, we hoped that we would at
7 least contain the situation until such time as a
8 different method of disposal could be worked out.

9 We then investigated incineration as
10 another method of dealing with the waste from the
11 plant, and this eventually was the process that we
12 adopted.

13 Q The third obligation that was assigned to you in
14 this Exhibit 947 was to collect information
15 relevant to PCB disposal to waste at major
16 customers.

17 A Right.

18 Q What did you do in that regard?

19 A Well, we made visits to all of -- most of our major
20 customers, which were mainly in numbers in the
21 electrical field, capacitor manufacturers and
22 transform -- transformer manufacturers, and advised
23 them of the problems relating to spillages and
24 unintentional disposal of the products.

25 We advised them to dispose of waste

1 capacitors into landfill -- dry landfill, and
2 eventually we advised incineration, but that hadn't
3 yet been developed, of course, in that time.

4 Q Did you also contact anybody at NCR?

5 A We contacted Wiggins Teape and NCR at the same time
6 to advise them of our concerns about the use of
7 Aroclors in what we called open-ended applications.

8 Q And you contacted -- did you contact NCR in the
9 latter part of 1969?

10 A That's right, yes.

11 Q Who did you contact?

12 A Well, in Europe, it was Martin Kelly that I met.

13 Q Martin Kelly was an employee of NCR?

14 A That's right, NCR at Borehamwood.

15 Q And Borehamwood was what?

16 A That was the plant where the emulsion was
17 manufactured, which was then sold on to Wiggins
18 Teape for paper coating.

19 Q Did you meet with Mr. Kelly in 1969?

20 A As far as I can remember, I met him then, yes.

21 Q Did you talk to him about your concerns about the
22 releases of PCBs into the environment?

23 A I did, yes.

24 Q Did you talk to him about Aroclor 1242 in
25 particular?

1 A Yes, um-hum.

2 Q Did you explain that Aroclor 1242, or components of
3 it, were a persistent substance that would
4 bioaccumulate?

5 A Yes.

6 MR. SCHAFER: Objection. Form.

7 MR. HERMES: Objection. Form.

8 THE WITNESS: We certainly pointed this
9 out, that even though Aroclor 1242 was not
10 identified as an environmental contaminate --
11 contaminant, there was no doubt that -- that
12 degradation of this product would eventually appear
13 as a residue in the environment.

14 BY MR. LYTZ:

15 Q And did you explain your concern that releases of
16 1242 posed those problems?

17 A Yes.

18 MR. HERMES: Object as to form.

19 BY MR. LYTZ:

20 Q Did you tell Mr. Kelly in the end of 1969 that
21 Monsanto was going to terminate its sales of
22 Aroclor 1242 to those applications that were opened
23 and uncontrolled?

24 A We had by then formulated this policy, and we would
25 have pointed that out to him, yes.

1 Q So your recollection is is that you did tell
2 Mr. Kelly at the end of 1969 that you would be
3 terminating the sale of Aroclor 1242 for use in the
4 production of making NCR paper.

5 A Right, yes.

6 Q Was there anybody else present at your meeting with
7 Mr. Kelly?

8 A I think -- I think it was a joint meeting with NCR
9 and Wiggins Teape, so I think the Wiggins Teape
10 representative was also there. I can't remember
11 exactly who that was. I've tried to recall the
12 name of this -- the Wiggins Teape person, but I
13 fail to remember his name.

14 But certainly we spoke to Wiggins Teape
15 and NCR jointly at that time because both were
16 involved in the problem.

17 Q Did you talk about -- do you know what broke is?

18 A Yes, um-hum.

19 Q What does that mean to you?

20 A Well, broke is the wastepaper which arises from the
21 production and the sort of things like off-cuts and
22 whatever that you've got from the process.

23 Q During your discussions with -- joint discussions
24 with NCR and Wiggins Teape, did you discuss
25 potential risk associated with the recycling of

1 broke?

2 A Not at that time. I think this came up later when
3 we were finding that there was more evidence that
4 the -- that the recycling of carbonless paper was
5 posing a problem.

6 Q It did become an issue at some point.

7 A Yep.

8 MR. LYTZ: Next in sequence, please.

9 (Exhibit 948 marked for identification.)

10 BY MR. LYTZ:

11 Q Dr. Vodden, I've handed to you what's been marked
12 as Exhibit 949 to your deposition.

13 Let me state for the record --

14 Let me now hand to you what has been
15 marked as Exhibit 949.

16 MR. BURGESS: Is it 948?

17 THE REPORTER: It's 948.

18 MR. LYTZ: 948 to your --

19 Thank you. Okay. Let's get back on page
20 here.

21 Q I have just handed to you, Dr. Vodden, what has
22 been marked as Exhibit 948 to your deposition, and
23 I'll note for the record that this may have been
24 previously marked as Exhibit 755-M.

25 This appears to be a January 13th, 1970,

1 memorandum, multiple pages in length. It has the
2 subject matter of "Aroclor Effluent - Visit to NCR
3 Boreham Wood."

4 You appear as a recipient of this --

5 A Right, yes.

6 Q -- memorandum. Do you see that?

7 A Yes.

8 Q And let me state for the record that this has the
9 Bates Stamp Nos. MONSFOX00056852 through -56856,
10 inclusive.

11 Do you remember receiving a copy of this,
12 Dr. Vodden?

13 A I remember the incident. This was an incident of a
14 spillage of the Aroclor on arrival at Borehamwood,
15 which was somewhat different from the actual
16 product use.

17 And this was handled by the Newport plant
18 personnel, who visited Borehamwood to advise on how
19 to clean up the spillage and minimize the risks of
20 the Aroclor itself getting into the waterways.

21 Q Had NCR called -- excuse me.

22 Had NCR called Monsanto and requested
23 their assistance?

24 A I assume they had. I don't know for certain. This
25 was something they would have dealt with with

1 the -- through the -- one of the Newport plant
2 delivery systems.

3 Q Do you know a J.D. Humphrey? His name -- he
4 appears to be the author of this report. His name
5 appears on the second page.

6 A Well, yes. He's one of the technical services
7 department people at Newport.

8 Q What was the technical services department?

9 A Technical services department at a plant were a
10 group of people who were there to handle any
11 technical problems which arise during plant
12 production. And part of their responsibility
13 included handling on -- on problems which arose
14 from product which left the plant and had been
15 delivered.

16 Q This document states that there was a visit made to
17 the plant on January -- or 8th January, 1970.

18 If you look in the middle of the first
19 page, there's a subheading "Summary."

20 A Um-hum.

21 Q And immediately below that in the first paragraph,
22 there is the statement that this visit was made on
23 8th January, 1970, in the company of a Mr. Dibbs,
24 marketing, and discussions were held with the NCR
25 plant manager, Mr. Powell, and the NCR chief

1 chemist.

2 Do you see that?

3 A That's right, yep, um-hum.

4 Q Did you talk to Mr. Humphrey about the visit that
5 he made?

6 A I can't remember whether I talked to him
7 specifically about this, but I was certainly
8 informed about it at the time, and I can't remember
9 exactly what conversations we had.

10 Q You were a recipient of this memo?

11 A That's right.

12 Q And you recognize this as a document you received?

13 A Yep. Yes, um-hum.

14 Q Let me ask you to turn to the second page. And if
15 you would, please --

16 Well, let me just read it. These are
17 sort of small.

18 At the top, there's a paragraph that
19 says, "A line of enquiry to be investigated further
20 was the report that, at the paper coating plant
21 where the NCR emulsion is used, up to 20 percent of
22 the paper, or 10,000 tons per annum, ends up as
23 off-cuts, which are sent for repulping in a South
24 Wales location, during which it is endeavored to
25 wash out the emulsion."

1 Do you see that?

2 A Yes, um-hum.

3 Q Earlier, we were talking about recycling of broke,
4 and you were uncertain when that issue had first
5 been raised.

6 A Right, um-hum.

7 Q Does this refresh your recollection that at least
8 by early January of 1970 --

9 A Right. I think this may well be the trigger point
10 that we knew about at the time.

11 As I say, I wouldn't say I remembered
12 exactly the timings of these events, but that
13 probably confirms that this is what happened.

14 Q It appears --

15 Let me ask you to turn to the fourth page
16 of the exhibit. It has at the bottom -- it's the
17 next-to-last page, and it has at the bottom the
18 Bates stamp number ending with -855. Yes, one more
19 page.

20 A Yeah, um-hum.

21 Q You will see in the middle of this page, there
22 looks to be a flow chart of Aroclor 1242, and then
23 at the bottom of the page, a series of samples and
24 some analysis percent PCBs.

25 Do you see that?

1 A Right, yes, um-hum. Okay. Right, um-hum.

2 Q Do you know whether the samples that were reflected
3 there were work that was performed for NCR by
4 Monsanto?

5 MR. SCHAFER: Objection to form.

6 THE WITNESS: This was Monsanto work,
7 yes, this.

8 BY MR. LYTZ:

9 Q And just -- so this was Monsanto work, correct?

10 A I don't --

11 MR. HERMES: Object as to foundation.

12 THE WITNESS: Let me think about this.

13 No. The analysis would have been done by
14 Monsanto, but the actual calculations back toward
15 this were NCR's responsibility.

16 BY MR. LYTZ:

17 Q Did Monsanto report these analytic results to NCR?

18 MR. SCHAFER: Objection to foundation.

19 THE WITNESS: Well, we reported them so
20 they could then work out what was happening.

21 BY MR. LYTZ:

22 Q So you took -- they at NCR have taken samples at
23 various points in their manufacturing process; is
24 that correct, and provided them to Monsanto for
25 analysis?

1 A As far as I can remember, yes.

2 Q And then when Monsanto obtained an analytic result,
3 it would report that result back to NCR.

4 A Yes.

5 MR. SCHAFER: Objection to form and
6 foundation.

7 BY MR. LYTZ:

8 Q Is that "yes"?

9 A Yes.

10 (Exhibit 949 marked for identification.)

11 BY MR. LYTZ:

12 Q Dr. Vodden, I am handing to you what has been
13 marked as Exhibit 949 to your deposition. And this
14 is entitled a "Report of Meeting with Ministry of
15 Agriculture" --

16 Let's see. I'm sorry. May I see this?
17 Excuse me. I was the one confused.

18 This is a report entitled "Report of a
19 Meeting with NCR and Wiggins Teape in London, 26th
20 January, 1970."

21 It's a multiple-page memorandum that
22 bears the Bates stamp range of PHGNCR-2001880
23 through -1883.

24 Could I ask you to take a moment, examine
25 the exhibit, and tell me if you recognize it.

1 A Yes, um-hum. Right, um-hum.

2 Q This appears to have been a joint meeting that you
3 attended in January in London with both NCR and
4 Wiggins Teape.

5 Do you remember that?

6 A I certainly remember meeting them. Whether I
7 remember this specific date and everything is
8 another matter. I would imagine this is the one I
9 do remember, yes.

10 Q Let me ask you to look on the first page in the
11 summary of the meeting, where the author wrote,
12 "Both NCR and Wiggins Teape are very concerned
13 about the developing PCB residue situation, even
14 though it is the higher chlorinated compounds that
15 are currently being found in nature. They asked
16 that we did not identify NCR paper as a major
17 outlet for Aroclor at our forthcoming meeting with
18 the Ministry of Agriculture, although they realized
19 that this information would become knowledge
20 eventually and that we had our own interests and
21 integrity to protect. A few weeks of delay would
22 give them time to check" their own housekeeping --
23 "to check that their own housekeeping was as it
24 should be."

25 Do you see that?

1 A Right, yes, um-hum.

2 Q Do you remember conversations to that effect during
3 this meeting on the 26th of January?

4 A I certainly remember this kind of discussion going
5 on. Whether it was at this meeting or at some
6 other, I'm not too sure, but certainly that would
7 have been about the right timing for it.

8 Q And you recall NCR and Wiggins Teape asking
9 Monsanto not to reveal to British governmental
10 authorities at this time --

11 A Right.

12 Q -- their use of Aroclor 1242.

13 A Yes, um-hum.

14 Q Could I ask you to turn to the third page of the
15 exhibit. It has the -- ends in the Bates Stamp
16 No. -1882, the ending numbers, and is labeled
17 page 3 up at the top.

18 A Yep. Got it. Yes, um-hum.

19 Q If you would for a moment read to yourself, if you
20 would, please, the paragraphs numbered 3 and 4.

21 A Right. Okay.

22 Q You discussed here in the presence of both Wiggins
23 Teape and NCR the fact that you would be
24 undertaking visits at Wiggins Teape's operations.
25 Do you see that in Paragraph 3?

1 A Right, yes.

2 MR. HERMES: Object as to form.

3 BY MR. LYTZ:

4 Q Do you recall whether Monsanto in fact followed
5 through and visited the Treforest and -- is it
6 Nivelles, do you pronounce that?

7 A Nivelles, yes. It's in Belgium, yes.

8 This visit would have been made by the
9 representative to the technical services department
10 from Newport. Insofar as I am aware, they made
11 this visit. I can't recall whether I saw the
12 report on this, but I assume that at the time I
13 would have done.

14 Q The fourth paragraph, again, talks about 20 percent
15 of broke arising from production. And then there's
16 a discussion that Mr. Capps -- do you know
17 Mr. Capps?

18 A I knew of him, yes, at the time, yes.

19 Q Was he an employee at Wiggins Teape?

20 A He was the Wiggins -- he was the -- I think he was
21 the manager of one of their departments; I forget
22 which now.

23 Q Do you remember discussing with him the -- any
24 concerns about the recycling of broke?

25 A Well, this would have come up as a general concern

1 in any case because we were concerned about the
2 disposal of PCBs in any form into the environment.
3 So this would have been a clear case of disposal
4 into the environment.

5 Q As a result of recycling.

6 A Right, yes.

7 Q The very last paragraph on this page -- or No. 7
8 down there, states that "Wiggins Teape and NCR want
9 to develop a story to support their position."

10 Do you see that?

11 A That's right, yes.

12 Q Do you know what that's about?

13 A I don't remember what happened at that time with
14 their story. I know they wanted to minimize the
15 damage that might be caused by -- by the concerns,
16 and they wanted to delay as far as they could the
17 widespread knowledge about this use in carbonless
18 paper until they could get their new -- the new
19 solvent into use, which at that time had been
20 agreed that they would do.

21 Again, this is almost at the time when
22 they were changing over to use HB-40 rather than
23 Aroclor as their solvent.

24 Q So in January of 1970, you were already in
25 discussion -- you Monsanto and you personally were

1 already in discussions with Wiggins Teape and NCR
2 about a replacement for Aroclor 1242.

3 A Exactly, yes, because that was almost the first
4 thing we did in the discussions.

5 Q And the reason for the replacement of the product
6 was because of the environmental concerns --

7 A Exactly.

8 Q -- you had about 1242.

9 A Yes, um-hum.

10 (Exhibit 950 marked for identification.)

11 BY MR. LYTZ:

12 Q Dr. Vodden, I've handed to you what has been marked
13 as Exhibit 950 to your deposition. This is a
14 document entitled "Report of Meeting with the
15 Ministry of Agriculture, Fisheries and Food,
16 Fisheries Laboratory, Burnham-On-Crouch, in London,
17 27th January, 1970," a multiple-page document
18 bearing the Bates range MONSFOX00034541 through
19 -34543, inclusive.

20 And I ask you to take a moment to examine
21 the document and tell me if you recognize it.

22 A Yes, yes, um-hum.

23 Q This document reflects that you were a participant
24 in the meeting with this agency. This appears to
25 be the day after the meeting you just had with

1 Monsanto and NCR.

2 A Right, yes, um-hum.

3 Q Was part of the purpose of your meeting the day
4 before with Monsanto and NCR to prepare for this
5 meeting with the government?

6 A Not specifically. It was part of an ongoing series
7 of meetings we were having at the time. It's
8 probably coincidental that the two meetings
9 occurred one day after the other, but probably
10 mainly for my convenience to shuffle down to London
11 to do both meetings one day after the other.

12 But we wanted to clear with Wiggins Teape
13 and NCR exactly what they would wish us to say to
14 any ministry meeting. So it worked out quite
15 fortuitous that that's the way round it was.

16 Q And they had asked you to make --

17 A To withhold --

18 Q -- no mention --

19 A -- any information at this meeting.

20 Q Could I ask you to turn to the last page of the
21 exhibit.

22 On the -- there's a Paragraph 6 there.

23 A Right.

24 Q Which I believe confirms what you just testified.

25 It states at the end of that paragraph

1 that "No mention was made of NCR, but it will
2 become increasingly difficult to maintain this
3 position."

4 A Right.

5 Q Do you see that?

6 A Yes, um-hum. That's true, yes.

7 Q But you made no mention of NCR or Wiggins Teape's
8 use --

9 A Not at that meeting, certainly not, no.

10 Q And that was at their request.

11 A At Wiggins Teape and NCR's request, yes.

12 Q Could I ask you to turn to the second page and
13 focus your attention on Paragraph 2 under the
14 section "Detail." It begins, "It is invariably the
15 higher chlorinated compounds."

16 Do you see that?

17 A Yes, um-hum.

18 Q Could I ask you to take a moment and read that to
19 yourself.

20 A Right, yeah, um-hum.

21 Q It's reported here that in 1969, Aroclor 1242
22 accounted for 70, or maybe 78 percent -- I can't
23 quite read the number --

24 A 78 percent, I think it is.

25 Q -- 78 percent of the total U.K. Aroclor sales.

1 Was NCR the largest customer for PCBs
2 that Monsanto had in the United Kingdom?

3 A I'm sorry. I didn't quite get the question.

4 Q Was NCR the largest company -- customer that
5 Monsanto had for the sale of PCBs in the United
6 Kingdom?

7 MR. SCHAFER: Objection to foundation.

8 THE WITNESS: Right, yes, um-hum. Yes,
9 they -- Aroclor 1242 was sold for capacitors in the
10 electrical industry and for carbonless paper.
11 Those were the two applications. And they -- NCR
12 paper was certainly larger than the capacitor so --

13 (Exhibit 951 marked for identification.)

14 BY MR. LYTZ:

15 Q Dr. Vodden, I've handed to you what has been marked
16 as Exhibit 951 to your deposition. This is a
17 document entitled "Report of Meeting with NCR and
18 Wiggins Teape in London, 19th February, 1970."
19 It's a multiple-page document with a Bates range
20 PHGNCR-2001875 through 2001878 -- whoops, no, I
21 take it back -- through 2001879, inclusive.

22 Could I ask you to take a look at this
23 document and tell me if it's something that you
24 recognize.

25 A Yes, I recognize the document, yes, um-hum.

1 Q You were indicated as being a recipient of it.

2 A Exactly, yes.

3 Q As you can see it in the first paragraph, the first
4 paragraph under the "Summary" section states that
5 this was a meeting called at the request of Wiggins
6 Teape, who wish to exchange views of the PCB
7 problem at a top management level.

8 A Yes, um-hum.

9 Q It appears that you were not personally in
10 attendance at this meeting.

11 A I wasn't at the meeting, no. No, this was a high
12 level meeting that included the -- from the
13 Monsanto side, the managing director of Monsanto
14 U.K., the --

15 Q Was that Dahlstrom?

16 A No, that was Garrels.

17 Q Garrels?

18 A And Dahlstrom was the business group director based
19 in Brussels.

20 Now, Cameron was the marketing man who
21 also visit -- who just attended as well. But
22 basically, it was a noticeably high level meeting.

23 Q You do remember this meeting having occurred?

24 A I remember the occasion, yes.

25 Q Did you talk to anybody who attended it about what

1 happened at the meeting?

2 A I probably talked to Cameron, but I can't recall
3 exactly, you know, what the discussion would have
4 been at that time.

5 Q Could I ask you to turn to the next-to-last page of
6 the exhibit. This has the Bates No. 2001878 at the
7 bottom.

8 A Right, um-hum.

9 Q Up towards the top, there's a Paragraph 7. Could I
10 ask you to take a moment and read that to yourself.

11 A Right, um-hum.

12 Q Do you remember having received this report that
13 the -- that there were eight to ten board mills in
14 the United Kingdom that were handling NCR broke?

15 MR. HERMES: Object as to foundation.

16 THE WITNESS: I recall the sort of -- the
17 problem being raised. Whether I remember exactly
18 reading this paper, I can't be sure, but I'm sure I
19 did, and I would have been aware of this particular
20 thing.

21 BY MR. LYTZ:

22 Q The first sentence in that paragraph states that
23 "Wiggins Teape have calculated an Aroclor mass
24 balance, copy attached."

25 A Um-hum.

1 Q Could I ask you to turn the page and -- to the last
2 page of the exhibit.

3 A Right.

4 Q This, to your knowledge, was a document that was
5 prepared by Wiggins Teape?

6 A That's right, yes.

7 Q And it traces out Wiggins Teape's estimate of the
8 fate of Aroclor 1242 that was delivered to its
9 Treforest and Nivelles plant.

10 MR. HERMES: Object as to form.

11 THE WITNESS: Nivelles plant. That's
12 right, yes.

13 Certainly I was aware that quite a high
14 proportion of the Aroclor would eventually end up
15 in rivers. That's one of the reasons why our
16 concerns were really high about the carbonless
17 paper application.

18 BY MR. LYTZ:

19 Q Right. Including the recycling of broke.

20 A That's right, yes, um-hum.

21 Q And this was a meeting that NCR attended, as well
22 as Wiggins Teape, correct?

23 A Yes, um-hum, that's right, yes.

24 Q Let me suggest we do one more document, take a
25 short break, and I'll also let you know that

1 we're -- I will be done in the not-too-distant
2 future here.

3 MR. HERMES: Famous last words.

4 MR. BURGESS: He may mean it.

5 (Exhibit 952 marked for identification.)

6 BY MR. LYTZ:

7 Q Dr. Vodden, I've handed what has been -- to you
8 what has been marked as Exhibit 952 to your
9 deposition. This is a multiple-page document,
10 progress report from the technical services
11 department dated 3rd March, 1970, entitled
12 "Aroclors Pollution - Visits to Wiggins Teape,
13 Treforest & Nivelles" plant.

14 A Yes. This was the TSD visit following the
15 recommendation to be made.

16 Q TSD, standing for technical services department?

17 A That's right, yes.

18 Q Let me just state for the record that this is a
19 multiple-page document bearing the Bates range
20 PHGNCR-2005015 through -5020, inclusive.

21 On the second page of the document, this
22 appears to address the details of the visits to --
23 the visit to Wiggins Teape Limited, Treforest. Is
24 it Treforest or Treforest? How do you pronounce
25 that?

1 A Treforest.

2 Q The Treforest plant.

3 Underneath the attendance list, there's a
4 statement that -- as follows: "The problems of
5 water contamination by plant effluent were
6 discussed. Wiggins Teape management were very
7 aware of the seriousness of the problem and were
8 anxious to maintain tight security regarding its
9 nature so as not to cause unnecessary alarm among
10 their employees."

11 Do you see that?

12 A Yep, um-hum.

13 Q Was this a reference to effluents containing PCBs
14 coming out of the Treforest plant?

15 A That's right, yeah.

16 MR. HERMES: Object as to foundation.

17 BY MR. LYTZ:

18 Q This document reflects that Monsanto, in fact,
19 carried through on its commitment to do sampling
20 at --

21 A Yes.

22 Q -- Wiggins Teape's plants, correct?

23 A That's right, yes.

24 Q And so as was the case with the investigations done
25 at Borehamwood on behalf of NCR, so, too, did

1 Monsanto do for Wiggins Teape and their operations.

2 A That's right, both with Treforest and at Nivelles.

3 Q You are reflected as a recipient of this meeting --

4 of this. You were still in constant

5 communications, were you not, with both Wiggins

6 Teape and NCR --

7 A Right.

8 Q -- about this investigation?

9 A Yes, um-hum.

10 MR. SCHAFFER: Objection to form.

11 BY MR. LYTZ:

12 Q And did you share with one another the results of

13 the investigations? For example, did you share the

14 results of the investigation reported here of

15 Wiggins Teape's facility with NCR?

16 MR. HERMES: Object as to form.

17 THE WITNESS: I can't recall whether we

18 discussed this specifically with Kelly, but

19 certainly we discussed it with Wiggins Teape.

20 BY MR. LYTZ:

21 Q Was your typical pattern of conduct during the

22 course of this investigation to share information

23 equally with both Wiggins Teape and NCR?

24 MR. SCHAFFER: Objection to form.

25 MR. HERMES: Objection to form.

1 THE WITNESS: I think so, but clearly it
2 would depend to some extent on who one was speaking
3 to at the time.

4 MR. LYTZ: Let's take a ten-minute break
5 or so.

6 THE VIDEOGRAPHER: This is the end of
7 Tape 1 and Volume 1 of the deposition of Herbert
8 Vodden.

9 We're going off the record at 10:40,
10 which is time stamped as 10:40 p.m., which is, of
11 course, 10:40 a.m.

12 (A recess was taken.)

13 (Exhibit 953 marked for identification.)

14 THE VIDEOGRAPHER: This is the beginning
15 of Tape 2 in Volume 1 of the deposition of Herbert
16 Vodden.

17 We're back on the record at 10:55 a.m.

18 BY MR. LYTZ:

19 Q Dr. Vodden, I'm handing to you what has been marked
20 as Exhibit 953 to your deposition. This is a
21 document entitled "Monsanto Chemicals Limited
22 Research and Development Department." That's the
23 letterhead. I apologize.

24 The title of the document is "Aroclor -
25 Environmental Contamination, Status Report of

1 European Studies, 2nd March, 1970," a multiple-page
2 document with a Bates range GPFOX00030966 through
3 -30968, inclusive, apparently authored by you.

4 Could I ask you to take a moment, examine
5 the document, and tell me if you recognize it.

6 A Yes, um-hum. Right, um-hum.

7 Q Is this a document that you authored on or about --
8 well, what date was this?

9 A 2nd of March.

10 Q 9th March I see.

11 A 2nd of March, 1970, yes.

12 Q So it looks like on the back page, it's the 9th of
13 March, 1970? Look to the -- do you see that?

14 A That's right, yeah. Why did it say the 2nd at
15 the -- on the front, I wonder. Never mind. I
16 suppose somebody new got it. Okay. Right, um-hum.

17 Q But this is a status report that you wrote, is it
18 not?

19 A That's right, yeah.

20 Q Let me ask you to turn your attention to the third
21 page -- the last page of the document.

22 A Right.

23 Q And up at the top, there's a Paragraph 5 entitled
24 "PCB Disposal at Customer Plants."

25 Please take a moment and read that to

1 yourself.

2 A Right, um-hum.

3 Q You can see in the first paragraph there that
4 you're reporting the technical discussions with NCR
5 and Wiggins Teape --

6 A Right.

7 Q -- have resulted in some agreed-upon actions and
8 exchange of -- and exchange of information.

9 Do you see that?

10 A Yes, um-hum.

11 Q Does this refresh your recollection that the three
12 companies were working together, Monsanto, NCR, and
13 Wiggins Teape --

14 A That's right.

15 Q -- and exchanging the information that was being
16 developed?

17 A Yes, um-hum.

18 MR. SCHAFER: Objection to form.

19 MR. HERMES: Objection to form.

20 BY MR. LYTZ:

21 Q That's correct, yes?

22 A That's correct, yes.

23 (Exhibit 954 marked for identification.)

24 BY MR. LYTZ:

25 Q Dr. Vodden, I'm handing to you what has been marked

1 as Exhibit 954. This is a multiple-page document
2 entitled "Report of Meeting with Ministry of
3 Agriculture, Fisheries and Food, at Monsanto House,
4 London, 10th March, 1970," a multiple-page document
5 with a Bates range MONSFOX00034524 through -34529,
6 inclusive.

7 Could I ask you to take a moment and
8 examine the document and tell me if you recognize
9 it.

10 A Yes, um-hum. Right, um-hum.

11 Q This appears to be a report of a meeting with the
12 Ministry of Fisheries and Food that you attended.

13 A That's right, yes, um-hum.

14 Q Together with Mr. Cameron and Mr. Lidgett?

15 A That's correct, yes.

16 Q And present for the government were, among others,
17 a Mr. S. Bailey from Infestation Control
18 Laboratory.

19 A That's right, yes, um-hum.

20 Q If you could turn to the top of the second page,
21 the first full paragraph there begins,
22 "Accordingly, we did not name any customers, nor
23 did we disclose the NCR paper application."

24 Do you see that?

25 A That's right, yep, um-hum.

1 Q Were you still doing this at this time at the
2 request of NCR and Wiggins Teape?

3 A Yes, um-hum.

4 Q Could I ask you to turn to the fourth -- well, the
5 Arabic No. 4. It's the -- has the Bates No. -34527
6 at the bottom.

7 A Right, um-hum.

8 Q Are you with me? There's a Paragraph 7 in the
9 middle of the page talking about PCB residues being
10 found.

11 Could I ask you to take a moment and read
12 that to yourself, please.

13 A Right, yes, um-hum. Right, yes.

14 Okay. If I can just comment there on the
15 Bailey regarded Aroclor 1242 as trichlorodiphenyl
16 rather than calling it Aroclor 1242.

17 Q That's what I was -- my first question.

18 A It's not as simple as it sounds. Trichlorodiphenyl
19 wouldn't be a product that we would have available
20 anyway. It would have to be the mixture.

21 Q Do you think that -- so, in short, was Mr. Bailey
22 talking about 1242 -- Aroclor 1242 here?

23 MR. SCHAFER: Objection to foundation and
24 form.

25 THE WITNESS: Basically, yes, um-hum.

1 BY MR. LYTZ:

2 Q Do you remember having discussions with Mr. Bailey
3 at this meeting concerning Aroclor 1242 as a
4 potential source for the --

5 A I do, yes, for the -- yes.

6 Q -- for the chemicals being observed in the
7 environment?

8 A Right, yes, um-hum.

9 Yes. We agreed with his explanation for
10 the presence of the -- of this product.

11 (Exhibit 955 marked for identification.)

12 BY MR. LYTZ:

13 Q Dr. Vodden, I'm now handing to you what has been
14 marked as Exhibit 955 to your deposition. This is
15 a multiple-page document entitled, "Report of
16 Meeting with Wiggins Teape at Beaconsfield, Bucks
17 on 16th April, 1970," a multiple-page document with
18 a Bates range MONSFOX00031834 through -31836,
19 inclusive.

20 A Right.

21 Q Would you please take a moment, examine the
22 document, and tell me if you recognize it.

23 A Yes, yes, um-hum, yep.

24 Q You are reflected as a recipient of this document.
25 Do you recall having received it sometime in April

1 of 1970?

2 A Right, yes, um-hum.

3 Q On the first page in the first paragraph, under

4 "Summary," there is a statement that says,

5 "Following the detection of what seemed to be a

6 lower chlorinated PCB in a cardboard carton by

7 Bailey of the Ministry of Agriculture and

8 Infestation Control Laboratory, Tolworth, Wiggins

9 Teape decided that, in their own self-defense, they

10 could remain silent no longer about their usage of

11 Aroclor 1242."

12 Do you see that?

13 A Yes.

14 MR. CARNEY: Objection. I think you said

15 "self-defense." I think it says "self-interest."

16 MR. LYTZ: Self-interest. Thank you,

17 Mr. Carney.

18 Q Do you recall this cardboard box incident?

19 A I do, yes.

20 Q Could you tell me what that was?

21 A Well, this -- Mr. Bailey was an analytical expert

22 at the ministry, and I forget the exact position

23 that he was going through, but he found he was

24 using -- there were Little John boxes, they were

25 called. These were packages for some -- some

1 materials they were using in their analysis work.

2 And he found, because he was checking
3 back to see where contamination might come from, he
4 found that these boxes or packages did contain
5 traces of Aroclor 1242, rather than the higher
6 homologues that were normally found. And this, he
7 reckoned, was due to the fact that this cardboard
8 was processed from recycled paper of some sort.

9 Q Could I ask you to turn to this -- I'm sorry. I
10 don't mean to interrupt. Please continue.

11 A No. Well, I was just going on to say, I don't
12 think he knew at that time that this would have
13 been carbonless paper, but he did realize that it
14 was due to recycled paper of some sort.

15 Q May I ask you to turn to the second page of the
16 exhibit and focus your attention on Paragraph 3, if
17 you would, please.

18 A Right. Well, now, that confirms what we were just
19 saying earlier, that that cardboard had been
20 manufactured using the broke from Treforest.

21 Q So does this refresh your recollection that, in
22 fact, at the time that this report was written,
23 that people had reached the con -- that Wiggins
24 Teape itself had reported that the Little John
25 carton was likely made from recycled broke?

1 A Right, exactly. Yep, um-hum.

2 Q And what were Little John cartons used for?

3 A Well, they were --

4 Q Do you know?

5 A They were used for packaging -- I can't remember
6 exactly now, but they were packaging for equipment
7 of some sort that were used in analytical
8 procedures.

9 Q If you look at the rest of Paragraph 3, it states
10 that "These branded, quote, 'Little John,' close
11 quote, cartons are fairly widely used for various
12 foodstuffs" --

13 A That's right.

14 Q -- "spices, herbs, cheeses, medicines and pills,
15 salt and confectionery."

16 A Yes, they were used for a lot of things, but this
17 particular one that Bailey picked up was because he
18 was -- it was packaging things that he was checking
19 for to see if it could be a source of contamination
20 in his analytical work.

21 Q I see. Okay. So this was -- he was just picking
22 what was handy.

23 A Yep, um-hum.

24 Q Do you recall there being any episodes in the
25 United Kingdom where there were instances of PCB

1 contamination of food as a result of exposure to
2 Little John packaging and Little John --

3 A As far as I'm aware, there were no reported cases.
4 Again, PCBs generally were fairly ubiquitous, of
5 course, but specifically Aroclor 1242 I don't think
6 was picked up in foodstuffs.

7 Q Apart from this one instance, do you recall any
8 other instances of -- that were reported in the
9 press about food contamination by PCBs?

10 A I can't recall any in the U.K.

11 Q Do you remember -- let me -- do you remember an
12 article reporting the contamination of cashew nuts
13 as a result of packaging in Little John drums?

14 A I think -- you reminded me. That is something I
15 probably remember, but I would like to think I
16 remember that without your reminding me. See what
17 I mean?

18 Q Let me ask you to take a look at Paragraph 4 of
19 Exhibit 955 and ask you, if you would, to read it
20 to yourself.

21 A Right, um-hum.

22 Q So you see, it sounds like Mr. Capps, a Wiggins
23 Teape employee, had gone out and purchased
24 different products from Little John containers in
25 a --

1 A That's right, yep, um-hum.

2 Q -- local supermarket.

3 A Yes, um-hum.

4 Q And that your laboratory was going to do some work
5 on those food articles. Do you see that?

6 A We were testing the containers. It's the
7 containers that were tested, not the articles of
8 food. Right, um-hum.

9 Q And did you complete that work?

10 A I think so, yes, um-hum.

11 Q Do you remember what the results were?

12 A Well, I'm pretty sure we confirmed that, yes, you
13 know, Little John packaging did contain PCBs.

14 Q And was that information you would have shared with
15 NCR as well?

16 MR. SCHAFER: Objection to form.

17 THE WITNESS: I can't remember whether we
18 shared it with NCR. We certainly shared it with
19 Wiggins Teape.

20 (Exhibit 956 marked for identification.)

21 BY MR. LYTZ:

22 Q Dr. Vodden, I have handed to you what has been
23 marked as Exhibit 956, a two-page document entitled
24 "Report of Meeting with the Ministry of
25 Agriculture, Fisheries and Food, Fisheries

1 Laboratory, Remembrance Avenue, Burnham-On-Crouch,
2 Essex, on 17th April, 1970." Bates range of
3 MONSFOX00034522 through -34523.

4 Could you take a moment, examine the
5 document, and tell me if you recognize it.

6 A Right, yes, um-hum.

7 Q This is quite a -- quite an address, Remembrance
8 Avenue. I must congratulate the British on the
9 naming of streets.

10 You can see in the first paragraph this
11 was a document that was written by D.S. Cameron.

12 A That's right, yep.

13 Q And he stated in the summary of his meeting with
14 this agency that, "I disclosed, in confidence, the
15 usage of Aroclor 1242 in NCR paper and explained
16 the relationship between NCR and Wiggins Teape and
17 their respective roles in the production of this
18 specialty paper."

19 A Right, um-hum.

20 Q Do you see that?

21 A Yep, um-hum, that's correct, yeah.

22 Q Do you know what Mr. Cameron meant when he says he
23 disclosed that usage in confidence?

24 MR. HERMES: Object as to form,
25 foundation.

1 THE WITNESS: What's your question about,
2 the "in confidence" or the what --

3 BY MR. LYTZ:

4 Q Let me start with a foundational question first
5 then.

6 Did you discuss this meeting with
7 Mr. Cameron?

8 A I probably didn't discuss it in detail. I read his
9 report and took it --

10 Q Did you have any understanding of what he meant
11 when he wrote that he disclosed this usage of 1242
12 by NCR and Wiggins Teape in confidence?

13 MR. HERMES: Same objections.

14 THE WITNESS: Well, it's the "in
15 confidence" that I think your query is.

16 BY MR. LYTZ:

17 Q That's correct.

18 A What he meant by that.

19 Q I was just wondering if you personally had any
20 understanding of what that meant.

21 MR. HERMES: Same objection.

22 THE WITNESS: No more than that he
23 probably asked them not to disclose it to anybody.
24 But why he should do that, I'm not too sure,
25 because that was really the -- if he's disclosing

1 it to the ministry, was really what Wiggins Teape
2 were wanting him to do.

3 No, I don't know exactly what that means.

4 (Exhibit 957 marked for identification.)

5 BY MR. LYTZ:

6 Q Dr. Vodden, I'm handing to you what's been marked
7 as Exhibit 957, a two-page document entitled,
8 "Report on Telephone Conversation with C. Capps,
9 Wiggins Teape, April 28th, 1970, Bates range
10 MONSFOX00031837 through -31838.

11 Would you please examine the document and
12 tell me if you recognize it. You appear to have
13 been a recipient.

14 A I was copied in, yes, um-hum, right, um-hum.

15 Q And can I ask you just to focus your attention on
16 the first page. The last full paragraph has three
17 enumerated items beneath it.

18 Could you take a moment and review that
19 paragraph to yourself, please.

20 A Right, um-hum.

21 Q Was it your understanding that Wiggins Teape had
22 ceased selling its broke for recycling?

23 A Right, yes, um-hum.

24 MR. HERMES: Object as to foundation.

1 BY MR. LYTZ:

2 Q Could you repeat your answer, please.

3 A Right, yes, um-hum.

4 Q Yes, it was your understanding that Wiggins Teape
5 had ceased by April of 1970 recycling --

6 A Yes, um-hum.

7 Q -- broke?

8 A Yes, um-hum.

9 Q Do you know if that information was made known to
10 NCR?

11 MR. SCHAFER: Objection to foundation.

12 THE WITNESS: I don't know about that.

13 (Exhibit 958 marked for identification.)

14 BY MR. LYTZ:

15 Q Dr. Vodden, I'm handing to you what's been marked
16 as Exhibit 958 to your deposition. This is a
17 single page, bearing the Bates Stamp No.
18 PHGNCR-2001014. This appears to be a
19 December 15th, 1970, memorandum from W.B.
20 Papageorge to you.

21 A Right, um-hum.

22 Q Could I ask you to take a moment and review this
23 document to yourself. And once you've had a chance
24 to do so, tell me if you recognize it.

25 A Right, um-hum.

1 Q Do you remember receiving this?

2 A I remember being asked to see if we could persuade
3 Bailey to delay publication, but I think in the
4 event, that didn't prove to be very -- very easy to
5 do.

6 Q Did you try to do so?

7 A We did have sort of conversations with Bailey about
8 it, but I don't remember him agreeing to delay
9 publication.

10 Q Do you know why Mr. Papageorge was asking you to do
11 that, to try --

12 A Well, to give them more time to get the new solvent
13 into -- into production in the States.

14 Q By this time, Wiggins Teape had already replaced
15 Aroclor 1242 with HB-40; is that correct?

16 A They were replacing certainly by then, yes.

17 Q But the same thing had not happened yet in the
18 United States?

19 A No.

20 Q And there was a desire to delay further publicity
21 so that the conversion in the United States could
22 occur before additional adverse publicity.

23 A That's right, yes, um-hum.

24 (Exhibit 959 marked for identification.)

25

1 BY MR. LYTZ:

2 Q Dr. Vodden, I'm handing to you Exhibit 959 to your
3 deposition, a multiple-page progress report dated
4 11 May, 1970, entitled "Environmental Contamination
5 by PCBs," addressed to you, among others, bearing
6 the Bates range of MONSFOX00059700 through -59719.

7 Could I ask you to take a moment and
8 examine the contents of this document.

9 A Right, um-hum.

10 Q Do you recognize Exhibit 959?

11 A Right, yep, um-hum.

12 Q This appears to be reporting on a variety of things
13 that were presented at a meeting held in Newport on
14 the 4th of May, 1970.

15 A Yes, um-hum, right, yes.

16 Q Was this sort of a summing-up meeting?

17 MR. HERMES: Object to foundation.

18 BY MR. LYTZ:

19 Q Status of investigations to date?

20 A This was a meeting mainly organized by the
21 technical services department at Newport to
22 summarize what -- what their involvement had been
23 in the PCB environmental problem.

24 I was not at the meeting for some reason,
25 I can't remember why, although I was copied in,

1 obviously, on the report.

2 But it was largely to do with TSD work
3 and getting samples, both of the environment close
4 to the Newport plant and also near to the plants of
5 Wiggins Teape and NCR in Europe.

6 Q Yes, correct. And those results are reported
7 towards --

8 A That's right, yes.

9 Q -- the end of this.

10 A Yes.

11 Q Dr. Vodden, did you ever withhold any information
12 from NCR about environmental contamination issues
13 associated with Aroclor 1242?

14 MR. SCHAFER: Objection to form.

15 MR. HERMES: Objection to form.

16 THE WITNESS: I certainly don't think we
17 did. I can't remember withholding any information
18 from them. I was concerned with passing on the
19 information to both Wiggins Teape and NCR as early
20 as possible.

21 BY MR. LYTZ:

22 Q And you believe you did so fully?

23 A Yes, um-hum.

24 Q Did you ever tell NCR that Aroclor 1242 wasn't a
25 potential problem for the environment?

1 A Yes, um-hum.

2 MR. HERMES: Objection to form.

3 BY MR. LYTZ:

4 Q You did tell them that it was a potential problem?

5 A Right, yes. And that was the reason why we wanted
6 to change solvents.

7 Q Okay. I think we have some double negatives going
8 on there, so let me ask the question one more time.

9 Did you ever tell NCR that Aroclor 1242
10 was not a potential environmental problem?

11 A Oh, sorry.

12 MR. SCHAFER: Objection to form.

13 THE WITNESS: No, we didn't tell them
14 that, no. Sorry. I didn't -- I missed that, the
15 double.

16 BY MR. LYTZ:

17 Q Missed the "not."

18 Did you tell NCR that Monsanto was
19 stopping the sales of 1242 for open applications,
20 such as carbonless paper?

21 A Yes.

22 Q And did you tell them that the reason that you were
23 doing that was because of environmental concerns?

24 A Yes.

25 Q Did you ever tell them anything to the contrary?

1 A No.

2 Q And you told them that the components of -- or at
3 least certain components of Aroclor 1242 were
4 persistent, nondegradable, and would accumulate in
5 the environment.

6 A That's right, yes, um-hum.

7 MR. SCHAFER: Object to form.

8 THE WITNESS: Yes, um-hum.

9 MR. LYTZ: I have no further questions
10 for you at this time. My colleagues might. We
11 should change positions.

12 THE VIDEOGRAPHER: Can we go off the
13 record?

14 MR. SCHAFER: Yes.

15 THE VIDEOGRAPHER: Going off the record
16 at 11:24.

17 (There was discussion off the record.)

18 THE VIDEOGRAPHER: We're back on the
19 record at 11:26.

20 EXAMINATION

21 BY MR. HERMES:

22 Q And, Dr. Vodden, again, I'm Mike Hermes, counsel
23 for Appleton Papers in this case. I just have a
24 few questions to follow up on what you've been
25 asked earlier this morning, okay?

1 A Right, yes, um-hum.

2 Q Okay. One of the questions that counsel asked you
3 was whether Aroclor 1242 contained Aroclors 1254
4 and Aroclors 1260.

5 Do you recall that question earlier this
6 morning?

7 A I remember a question of that sort, yes.

8 Q Yes. Aroclor is a trade name of Monsanto, correct?

9 A That's correct.

10 Q And the 42, the 54, and the 60 represent the
11 percent of chlorine in that particular mixture,
12 correct?

13 A That's right, yes, um-hum.

14 Q And so it wouldn't be correct to say that Aroclor
15 1242 contained Aroclor 1254. It would be more
16 correct to say it contained some of the homologues
17 that were contained in 1254.

18 A That's correct, yes, um-hum.

19 Q And what percent of the homologues in 1242 are
20 comprised of the five- and six-chlorine homologues?

21 A It's about 5 percent.

22 Q So the higher chlorinated, as we've been using that
23 term today --

24 A Yes.

25 Q -- higher chlorinated PCBs would be -- would

1 comprise about 5 percent of 1242?

2 A That's correct, yes, um-hum.

3 Q Are these the exhibits from earlier?

4 A That's right, yes.

5 Q Sir, let's go back to Exhibit 947. And you were
6 asked some questions about that one this morning.

7 A Right, yes, um-hum.

8 Q And I'll draw your attention to the first
9 paragraph.

10 A Right, yes.

11 Q The second sentence reads, "Clearly it is important
12 that we establish all factual information relevant
13 to the problem and at the same time maintain full
14 control of distribution of all or part of this
15 information."

16 Did I read that correctly?

17 A Yes, um-hum.

18 Q And that was the intent of Monsanto at the time
19 this was drafted in October of 1969; is that
20 correct?

21 A That's right, yes, um-hum.

22 Q And then counsel asked you a question about whether
23 you were coordinating all of the work on
24 degradation of PCBs. And I'll draw your attention
25 then to Paragraph No. 1.

1 A Right, yes, um-hum.

2 Q And it reads, "Coordination of all the Ruabon work
3 on degradation of PCBs including analytical work."

4 Did I read that correctly?

5 A That's correct, yes, um-hum.

6 Q Was there other degradation work occurring at
7 Monsanto in other locations?

8 A I think there was a small amount of work being done
9 in the States, but I don't -- I'm not aware -- I
10 can't remember exactly what that was. So the main
11 work on this -- in this field was done at the
12 Ruabon works.

13 Q And you were coordinating just the Ruabon work,
14 correct?

15 A That's right, yes, at that time.

16 Q The work that you did regarding degradation, you
17 were asked if you communicated that to NCR and
18 Wiggins Teape.

19 Did you communicate that to any NCR
20 employees in the United States that you recall?

21 A I didn't myself pass this through to the NCR people
22 in the States. I had no dealings with them, in
23 fact.

24 And what we did discuss with NCR Europe
25 was the fact that Aroclor 1242 did contain

1 components that would not degrade very readily.

2 That was a result of our work, actually.

3 Q In the United States, one of the companies used by
4 NCR to coat the paper was a company named Appleton
5 Coated Paper Company.

6 A Right.

7 Q Do you recognize that name at all?

8 A Yes, yes.

9 Q Did you ever have any communication with the
10 Appleton Coated Paper Company about your work on
11 PCB degradation?

12 A No.

13 Q Let's turn back to 948, please, sir. And I'll
14 direct your attention to page 2, where you were
15 asked some questions regarding the top paragraph.

16 And, again, this was a Monsanto technical
17 services department --

18 A That's right, yes.

19 Q -- report? This one, 948?

20 A Yes, um-hum.

21 Q And the top paragraph says, "A line of enquiry to
22 be investigated further was the report that," and
23 it goes on to state what it was.

24 This was a line of enquiry being done by
25 Monsanto, correct?

1 A Yes, um-hum.

2 Q Do you know whether that line of enquiry was ever
3 communicated -- well, let me back up.

4 This report is dated January 1970,
5 correct?

6 A Yes, um-hum.

7 Q And so this line of enquiry was going to begin
8 sometime after January 1970, correct?

9 A That's right, yes, um-hum.

10 Q And do you know when the results of that enquiry
11 may have been communicated to anyone at NCR?

12 A Again, I can't remember specifically whether this
13 particular result was discussed with them. I think
14 this was a, if you like, a discussion enquiry
15 really as to how much broke and that sort of thing
16 was involved. And this was carried out with
17 Wiggins Teape at subsequent meetings.

18 I don't -- certainly don't recall
19 explaining to NC -- to NCR that this was a problem.

20 Q Okay. Then let's turn to Document 949. And you
21 were asked questions about this one earlier this
22 morning as well.

23 The date on here is 26th of January,
24 1970; is that correct?

25 A Right, yes, um-hum.

1 Q And this is a report of a meeting with NCR and
2 Wiggins Teape; is that correct?

3 A Yes, um-hum.

4 Q And you were present on behalf of Monsanto,
5 correct?

6 A That's right, yes, um-hum.

7 Q And you recognize this document?

8 A Yes, um-hum.

9 Q The very first sentence states, "Both NCR and
10 Wiggins Teape are very concerned about the
11 developing PCB residue situation, even though it is
12 the higher chlorinated compounds that are currently
13 being found in nature."

14 Is that sentence consistent with your
15 understanding of events as they were occurring in
16 January 1970?

17 A That's right, yes, um-hum.

18 Q And you were discussing -- you testified earlier
19 this morning that when you communicated the
20 environmental contamination issue to NCR, you
21 believe you did so in 1969.

22 Could it have been at this meeting in
23 January of 1970 when you first discussed --

24 MR. LYTZ: Objection. Asked and
25 answered.

1 BY MR. HERMES:

2 Q Could it be at this meeting in 1970, sir, where you
3 first discussed environmental contamination issues
4 with NCR?

5 A No, it was certainly before that. I would have --
6 I'm very certain that I first discussed this with
7 Wiggins Teape and NCR late in 1969.

8 Q Sometime between October, when you received --

9 A That's right, yes, um-hum.

10 Q -- this task and January of this meeting?

11 A That's right, yes, um-hum.

12 Q Turn to the top of page 2 then. And this is a
13 continuation of the summary.

14 A Um-hum.

15 Q It reads, "If, in the long run, NCR paper is
16 considered a pollution source, they foresee no
17 effective method for controlling disposal of used
18 paper. For this reason, they must find an
19 alternative to Aroclor which could be introduced if
20 the Aroclor system was deemed undesirable. They
21 intend to complete this contingency plan as quickly
22 as possible."

23 Is this paragraph consistent with your
24 understanding of the events as they occurred in
25 January 1970?

1 A Right, yes, um-hum.

2 Q And at that time, is it true, sir, that it was not
3 definite that NCR paper was a pollution source?

4 A Well, it was -- it was fairly definite that NCR
5 could be -- potentially your paper could be a
6 pollution source because it was certainly the
7 largest use of Aroclor at that time, including in
8 capacitors and transformers. The amount used in
9 the carbonless paper industry was far greater.

10 Q And so your testimony is that it could have been,
11 but there was no definite research that it was a
12 pollution source at that time; is that true?

13 MR. LYTZ: Objection to form.

14 THE WITNESS: Well, the evidence is there
15 in that 5 percent of Aroclor 1242 contains the
16 homologues which are persistent; and, therefore, if
17 you have a very large output of Aroclor 1242 into
18 the environment, it's going to contain 5 percent of
19 the persistent components. So, therefore, it must
20 be considered as a source of environmental
21 contamination. And that was clear at the time.

22 BY MR. HERMES:

23 Q When you started your research -- well, when you
24 were given the task in October of 1969 --

25 A Right.

1 Q -- to start this research project, how long did it
2 take for you to -- or your group to come up with
3 the analysis that the higher chlorinated homologues
4 present in 1242 were persistent in the environment?

5 A I can't remember the exact timetable for that, but
6 certainly by the middle of 1970, we had this
7 information available.

8 Q And it wasn't until you had that information
9 available that you would have communicated it to
10 anyone at NCR; is that correct?

11 A That's right, um-hum. But we were -- we were
12 concerned about PCBs in general to advise them --
13 we wanted to change the solvent. And, in fact,
14 HB-40 was considered to be an acceptable solvent in
15 use in Europe fairly quite soon after that.

16 Q Was HB-40, to your knowledge, acceptable in the
17 United States application?

18 A No, it wasn't.

19 Q Do you know why?

20 A Partly because the active -- the paper coating for
21 the receiver sheet in the NCR system in the States
22 was a resin, whereas in Europe, it was an activated
23 clay.

24 Now, the activated clay was able to react
25 with the dye stuff fairly readily, whereas in the

1 resin case, the resin had to be partially dissolved
2 before the reaction could take place.

3 And with HB-40, the solubility factor for
4 the resin in HB-40 was not good enough to give a
5 fairly immediate response. Whereas, in the
6 activated clay, it didn't have this problem. And
7 that's basically the reason why it didn't -- wasn't
8 acceptable in the United States.

9 There were tricks to get around that
10 problem, but it involved using co-solvents, but
11 still, something needed to be developed.

12 Q And it took some time to research that, those
13 applications, correct?

14 A It took some time to get the new solvent available
15 for the American system.

16 Q And by taking some time to get available, do you
17 mean on the part of Monsanto?

18 A That's right, get the production up and running.

19 Q And why was that?

20 A Well, it was a new solvent, as far as this was
21 concerned. Monsanto had to organize a process and
22 develop the plan to do it and that sort of thing.
23 So it was likely to take several months to do that.

24 Whereas, HB-40 was available almost
25 immediately; admittedly, in not enough quantity to

1 satisfy all the needs, but that was fairly
2 quickly -- the plan was fairly quickly expanded to
3 give -- to supply Wiggins Teape needs anyway.

4 Q Let's turn next to Document No. 950.

5 A Thank you.

6 Q And, again, Exhibit 950 is a report of a meeting
7 with the Ministry of Agriculture, Fisheries and
8 Food on 27th January, 1970.

9 A Right, yes.

10 Q And you attended that meeting on behalf of
11 Monsanto, correct?

12 A That's right, yes, um-hum.

13 Q And you recognize this document as an accurate
14 summary of that meeting?

15 A Yes, um-hum.

16 Q Turn then to page 2, please. I'll draw your
17 attention to Paragraph 2. You were directed by
18 counsel to the second half of the paragraph, but
19 let's start in the first half of Paragraph 2 where
20 it reads, "It is invariably the higher chlorinated
21 compounds, 5 and 6 chlorines, that are found and
22 they therefore assume, incorrectly, that these are
23 the commercial grades most widely used."

24 That was the understanding of the
25 British --

1 A The ministry.

2 Q -- ministry at the time, correct?

3 A That's right, yep, um-hum.

4 Q And it was consistent with your understanding that
5 it was the higher chlorinated compounds being found
6 in the environment at the time, correct?

7 A That's right, yep, um-hum.

8 Q And let's jump down then to Paragraph 4.

9 The first sentence reads, "They confirmed
10 there was apparently no acute toxicity problem."

11 Did I read that correctly?

12 A That's right, yes, um-hum.

13 Q And is that consistent with your understanding of
14 PCBs at the time?

15 A Yes, um-hum.

16 Q If there was no acute toxicity problem then, what
17 was the problem with PCBs in the environment?

18 A Basically, the fact that they were there and
19 accumulating. They showed a high degree of
20 bioaccumulation, which meant that you're starting
21 with a very low level indeed in, say, the marine
22 environment. You could build up to very
23 significant levels when you got to the higher
24 mammals, like birds and so on.

25 Now, again, although the evidence that

1 these were harmful was quite low, the supposition
2 was that if we don't know what is likely to happen,
3 then we better play safe and try to withdraw from
4 that field.

5 It was not -- it wasn't driven by
6 toxicity so much as by uncertainty as to what might
7 happen if you allowed this to go unchecked.

8 Q And so is it consistent with your understanding at
9 the time, 1970, that whether PCBs would have a
10 harmful effect on humans or creatures in the
11 environment was uncertain?

12 MR. LYTZ: Objection to form.

13 THE WITNESS: That's right, um-hum.

14 BY MR. HERMES:

15 Q And so the decision on behalf of Monsanto to stop
16 selling PCBs in open-ended applications, including
17 Aroclor 1242, was not driven by toxicity as much as
18 just uncertainty about what would happen in the
19 environment.

20 A It was driven by persistence and bioaccumulation.
21 That was the -- that was the driving force. We
22 never accepted that toxicologically PCBs are a
23 hazard. It's simply the fact that they do
24 accumulate, and if you have a high accumulation,
25 you really don't know what can happen.

1 One must bear in mind also that the -- by
2 this time, the various health authorities
3 throughout the world were beginning to set limits
4 on acceptable levels of PCBs, which again would
5 cause -- these environmental regulations would
6 cause a withdrawal in any case.

7 Q Let's turn then, sir, to Exhibit 951.

8 You were asked questions about this
9 earlier. First, let's turn to the last page and
10 start there.

11 A This is a diagram on the back?

12 Q That's correct.

13 A Yep, um-hum.

14 Q And I believe you testified this was prepared, to
15 your knowledge, by Wiggins Teape, correct?

16 A That's right, yes, um-hum.

17 Q And did you ever undertake any verification as to
18 whether the information contained in here was
19 correct?

20 A Well, no. We wouldn't have had access to the
21 numbers they had for doing this flow chart.

22 Q Okay. Then let's turn back to what would be
23 page 3. And let me direct your attention to
24 Paragraph 5.

25 A Right, um-hum.

1 Q It states, "Both Wiggins Teape and NCR agreed we
2 should identify the NCR paper application for
3 Aroclor at our next meeting with the Ministry of
4 Agriculture as a constructive and positive step.
5 Parentheses, Orde subsequently re-checked with
6 Dayton to confirm this position, close paren. All
7 agreed cooperation with the Ministry was necessary
8 and any attempt to hide this application would have
9 undesirable effects, even though the lower
10 chlorinated compounds are not presently indicated."

11 Did I read that correctly, sir?

12 A That's right, yep, um-hum.

13 Q And as of February 19, 1970, was this consistent
14 with your understanding of how both Wiggins Teape
15 and NCR were operating at the time?

16 A Yes, um-hum.

17 Q And was it also consistent with your understanding
18 as to whether the lower chlorinated compounds were
19 not indicated, as stated here in Paragraph 5?

20 A That's correct, yes, um-hum.

21 Q Let's skip ahead to Exhibit 954.

22 And, again, 954 is another report of a
23 meeting with the Ministry of Agriculture, Fisheries
24 and Food dated 10 March, 1970, correct?

25 A That's right, yes, um-hum.

1 Q And you were present at this meeting on behalf of
2 Monsanto?

3 A That's correct, yep, um-hum.

4 Q And let's turn then to what would be page 4,
5 Paragraph No. 7.

6 A All right.

7 Q Paragraph 7 reads, "PCB residues being found still
8 more closely resemble pentachlorodiphenyl than any
9 of the other commercially available grades.
10 However, Bailey observed that these residues may be
11 partially degraded trichlorodiphenyl rather than,
12 for example, a 1254 residue. Alternatively, they
13 may be penta residues arising from the greater use
14 of this grade by the electrical industry some years
15 ago than is the case today."

16 Did I read that correctly?

17 A That's right, yep, um-hum.

18 Q And does this Paragraph 7 accurately summarize the
19 discussion had with the British ministry during the
20 meeting March 10, 1970?

21 A That's right, yes. I think the one -- one comment
22 perhaps to make here is that Bailey's use of the
23 term "trichlorodiphenyl," he really was referring
24 to Aroclor 1242 rather than the specific compound
25 that he mentions.

1 Q And that was what you testified to earlier this
2 morning, correct?

3 A Yes, um-hum.

4 Q And so at this point, is it consistent with your
5 understanding that it wasn't yet determined whether
6 the presence of PCBs in the environment was the
7 result of degraded 1242 or residues arising from
8 the greater use of the electrical PCB grades?

9 A By this time, we were convinced that it was due to
10 a mixture of both, that it was partly the use of
11 capacitors, transformers, but also because of the
12 large amount of Aroclor 1242 in use for other
13 applications, like the paper applications, then the
14 residues from that could be significant.

15 Q What percent of 1254 would contain homologues with
16 five or greater chlorines?

17 A Quite a high percentage. In the order of 80 to
18 90 percent.

19 Q And what about 1260? What percent would contain 5
20 or 6 chlorine homologues?

21 A Well, more than 90 percent of that, yes, um-hum.

22 Q And so is it fair to say that in terms of the
23 degradation analysis you did, those homologues
24 would not break down much at all in the
25 environment?

1 A That's right. They were very resistant to
2 degradation biologically.

3 Q Does it make a difference whether the homologue is
4 part of a mixture, versus standing alone, as to
5 whether it will biodegrade?

6 A It does make a difference in some cases. You can
7 certainly find some compounds which will not
8 degrade very readily if they're on their own, but
9 do seem to degrade very readily when mixed in with
10 other compounds, with lesser or greater chlorine
11 levels. But even when you do that, the homologues
12 containing five or more chlorines are very
13 resistant to degradation.

14 Q Let's skip ahead then to Exhibit 958, please.

15 A Okay.

16 Q And I believe you were asked questions about this
17 earlier, but this was a communication from
18 Mr. Papageorge to you; is that correct?

19 A That's correct, yes, um-hum.

20 Q And this was dated December 15, 1970, correct?

21 A Right.

22 Q And who is Mr. Papageorge?

23 A Well, Mr. Papageorge was responsible for -- in
24 PCBs, particularly the environmental aspects of
25 PCBs in the United States.

1 Q And he was working for Monsanto at the time.

2 A He was a Monsanto employee, yes.

3 Q And so let's turn your attention to the second
4 paragraph of this document.

5 A Right. Yep.

6 Q It states, "I am concerned that the resulting
7 widespread knowledge that Aroclor 1242 is involved
8 in significant quantities in this paper application
9 will seriously affect our situation with NCR-U.S."

10 A Right.

11 Q This was Mr. Papageorge's concern, correct?

12 A That's exactly right, yes.

13 Q And he was communicating that -- his concern to
14 you; is that correct?

15 A Yes, um-hum.

16 Q And then he was the one asking you to impose on
17 Bailey and Bunyan to delay publication, correct?

18 A That's the one, yes, um-hum.

19 Q Let's turn your attention then to the last
20 paragraph of this document.

21 A Yes, um-hum.

22 Q It states, "As you know, NCR-U.S. is seriously
23 considering monoisopropyl biphenyl as an
24 alternative to Aroclor 1242. Some technological
25 difficulties have caused delays, but it appears now

1 that we can proceed more rapidly and should have
2 MIPB fully replacing Aroclor 1242 by the first
3 quarter 1971."

4 Did I read that correctly?

5 A That's right, yes, um-hum.

6 Q And is it consistent with your understanding that
7 his discussion here refers to the problems that
8 were surfacing with HB-40, as opposed to MIPB, in
9 the United States?

10 A That's right. The delay in the States was largely
11 due to the fact that HB-40 was not an acceptable
12 solvent on the system used by NCR in America.

13 But the -- so, you know, the development
14 of the MIPB process and so on obviously took time.
15 That's why it brought up to the first quarter of
16 '71 before that was ready for use.

17 But it was in Europe. We had HB-40
18 scaled up very much earlier than that.

19 Q Did -- did Monsanto have a business interest in not
20 having competitors of Monsanto learn of the use of
21 Aroclor 1242 in NCR paper applications?

22 A Well, only to the extent that the other
23 manufacturers, if we withdrew from the market, then
24 they would come in. And, in point of fact, I'm
25 sure they did know about the application long

1 before this. But we were anxious that they would
2 not start supplying the industry when we withdrew.

3 But I'm not sure that we were
4 particularly worried about our competitors finding
5 out. We were more concerned with the fact that
6 they might start supplying when we withdrew.

7 Q And you mean supplying PCBs.

8 A That's right, yeah, um-hum.

9 Q And so --

10 A Because HB-40 would not have been a competitive
11 product had PCBs still been allowed in the process.

12 Q And there were other manufacturers of PCBs besides
13 Monsanto at the time, correct?

14 A That's right. Bayer in German and Rhone-Poulenc in
15 France. In Japan there were manufacturers. I
16 don't think there are any others in the United
17 States other than Monsanto but --

18 Q Okay.

19 (Exhibit 960 marked for identification.)

20 MR. CARNEY: Do you have an extra copy?

21 MR. HERMES: Can you share with him? I'm
22 sorry. I don't have -- I didn't bring three; I
23 only brought two.

24 Q And, sir, I've just handed you what the court
25 reporter has marked as Exhibit 960. It's a

1 document with the multiple pages Bates range

2 GPFOX00037466 --

3 A Right.

4 Q -- through -37475. I'll ask you to take a look at
5 this document and let me know if you recognize it.

6 A This is -- yes, I know the document, yes, um-hum.

7 Q If you turn to the very last page, it appears to be
8 prepared by Mr. Hardy --

9 A That's right, yes.

10 Q -- and the date, if I'm reading that correctly,
11 would be May 6th, 1969?

12 A That's right, yes, um-hum.

13 Q And on the front page, you are listed as being a
14 recipient of this.

15 A Yes, um-hum.

16 Q Let's turn then to what is page 4, and there's a
17 summary. And if you could read to yourself
18 Paragraph 1 there under the summary.

19 A Right, um-hum.

20 Q And it refers to traces of PCBs being found in
21 wildlife, fish, and certain items in human diet,
22 correct?

23 A Yes. That's it, yep, um-hum.

24 Q Paragraph 2 states, "There is little evidence to
25 show how serious this minor contamination will

1 prove to be, but what evidence there is is
2 reassuring."

3 Did I read that correctly?

4 A Yes, I think that's correct, yep, um-hum.

5 Q And is that consistent with your understanding of
6 Monsanto's view as of at least May 1969?

7 A Well, this was the view prior to our -- doing our
8 own analytical work on the problem. We then did
9 quite a lot of analytical work to confirm -- this
10 was a follow-up from Jensen's paper in 1966,
11 basically. And we then more or less confirmed that
12 these results were basically correct.

13 And at that point, probably around about
14 this time, we began to think that this was a
15 significant problem for environmental
16 contamination.

17 Q Other than Jensen's work and some follow-up, are
18 you aware of any other reports that have been --
19 that were communicated to NCR or any of Monsanto's
20 customers regarding this problem?

21 A Certainly not prior to this, no.

22 Q And as far as the biodegradation research that you
23 did, are you aware of any published reports
24 regarding biodegradation of PCBs before the work
25 that you conducted?

1 A No, uh-uh.

2 Q Did you ever publish the results of your work, sir?

3 A Yes. Yes, we did that.

4 Q Do you recall the title at all of the work as it
5 was published?

6 A Yes, I'm sorry, I meant to dig out this
7 publication, but I haven't found it in the -- my
8 own files. No, I'm sorry, I can't recall that.

9 Q That's okay. I did some research, and I found a
10 publication titled "The Degradation of PCBs by
11 Micro-Organisms" published in --

12 A That would be it, yes.

13 Q Science of the Total Environment?

14 A That's it, yes.

15 Q And did you do the work with others, Baxter --

16 A Baxter, Lidgett, Mainprize, and one other, I think.

17 Q Is there a Guybert?

18 A Gilbert, G-I-L --

19 Q Gilbert?

20 A Gilbert, that's right, Gilbert.

21 Q The date I found was 1975. Does that seem about
22 right?

23 A That's when it was published, I think, by the time
24 we got around to that.

25 Q And as far as you understand, was that the first

1 work published regarding biodegradation of PCBs?

2 A There may have been some -- some other studies, but
3 I think that was the first more significant paper.

4 But, of course, internally we had the
5 results of that study much earlier than that. And
6 the preliminary results were coming through in the
7 early 1970s, which led us to our conclusion that
8 the lower homologues would degrade readily, whereas
9 the higher ones didn't.

10 Q Okay. Then let's turn back to what was marked as
11 960. And go down to Paragraph 4 of that page that
12 we were on.

13 A Sorry.

14 Q I'm sorry. Yep, page 4.

15 "A considerable Monsanto effort will be
16 necessary to obtain the necessary analytical and
17 toxicological information for dealing with this
18 threat to our commercial operations."

19 Did I read that correctly?

20 A I'm not sure. I guess, um-hum.

21 Q And that accurately reflects Monsanto's position at
22 the time this was written in May of 1969?

23 A Yes, um-hum.

24 Q And that considerable effort that was undertaken,
25 that's partly your work, correct?

1 A That's right, yes, because I was given the job of
2 coordinating this activity.

3 MR. HERMES: Now would be time to change?

4 THE VIDEOGRAPHER: Yep.

5 MR. HERMES: Okay.

6 THE VIDEOGRAPHER: I'm just going to --
7 We're going off the record at one minute
8 past twelve.

9 (A recess was taken.)

10 (Exhibit 961 marked for identification.)

11 THE VIDEOGRAPHER: We're back on the
12 record at four minutes past twelve.

13 BY MR. HERMES:

14 Q All right, sir. The court reporter -- or excuse
15 me. I've just handed you what's been marked by the
16 court reporter as Exhibit 961.

17 A Right, um-hum. Yes, um-hum.

18 Q This appears to be a telegram-type message dated
19 December 2, 1969; is that correct?

20 A Yes, um-hum.

21 Q Do you recall receiving documents of this nature in
22 your capacity at the Ruabon facility?

23 A Yes, I remember a thing -- this type of message
24 arriving. Whether this specific one comes to mind,
25 I'm not too sure. But generally I remember the

1 type of thing that's coming, yes.

2 Q And I see on the cc listed here, your name is
3 listed as a --

4 A That's right.

5 Q -- as a copy.

6 A Yes. Yes, I would have received a copy.

7 Q Do you recall receiving this specific communique?

8 A Yes. And one thing that this highlights is the
9 fact that the sale of Aroclors to the -- to NCR and
10 Wiggins Teape was part of the plasticizer division
11 and not the division that I was employed in. That
12 was a slight complication in the commercial
13 division. But it didn't affect the fact that we by
14 then had constant consultation with Wiggins Teape
15 and NCR.

16 Q And when you say the plasticizer division, you mean
17 the plasticizer division of Monsanto?

18 A That's right, yeah, um-hum.

19 Q And this particular communique is from a D.A. Olson
20 in St. Louis?

21 A I think he was the director of the plasticizer
22 division.

23 Q And it was to D.S. Cameron in Brussels?

24 A That's right. He was the marketing manager for --
25 for the Aroclors.

1 Q And Mr. Cameron is the individual who accompanied
2 you, at least on one of the trips --

3 A He went on quite a number of visits with me, yes.

4 Q Visits to the Ministry of Agriculture?

5 A That's right, as well as -- yeah, um-hum.

6 Q Let's take a look at the first paragraph of this
7 communique. The second sentence says -- well,
8 let's start with the first sentence. "If possible,
9 suggest you limit application disclosures to
10 Ministry of Agriculture to those listed in previous
11 releases."

12 This was coming from St. Louis, correct?

13 A That's right, yes, um-hum.

14 Q "Another approach would be to discuss only
15 applications for 1254 and 1260, since these are the
16 products being found."

17 Did I read that correctly?

18 A Well, that's what he was suggesting, yes.
19 Certainly he was suggesting that we only mention
20 the Aroclors in capacitors and transformers because
21 these would have been the Aroclor 1254 and so on.

22 Q And this was coming from Mr. Olson in St. Louis.

23 A That's right, um-hum.

24 Q And then the next paragraph down says,
25 "Plasticizers do not want you to disclose NCR

1 application without prior discussion here with
2 NCR."

3 A That's right.

4 Q Did I read that correctly?

5 A Yes, um-hum.

6 Q And this again is coming from Mr. Olson in
7 St. Louis.

8 A Yes, um-hum.

9 (Exhibit 962 marked for identification.)

10 MR. HERMES: My apologies. I only have
11 one extra copy of this particular document, which
12 we're going to mark as an exhibit, actually.

13 MR. LYTZ: Mike, what is the description
14 of it? Maybe we have it.

15 MR. HERMES: It is a Monsanto customer
16 letter, February 1970, NCR-FOX-51787 (sic) and
17 5178 -- I'm sorry, 517878.

18 BY MR. HERMES:

19 Q And, sir, I've just handed you what the court
20 reporter has just marked Exhibit 962.

21 Again, for the record, it has been
22 produced in this litigation. It is Bates labeled
23 NCR-FOX-517877 and 517878. And, again, my
24 apologies to counsel. I don't -- I only had one
25 copy of this this morning.

1 Have you seen such a customer letter
2 before, sir?

3 A No, I must admit I have not seen this one. No,
4 this, again, was from the plasticizer division.

5 Q And all I want to do is just draw your attention to
6 the first page.

7 A Right.

8 Q Fourth paragraph down, right above the numbers, it
9 states, "We would like to point out the following
10 additional facts."

11 And then Paragraph No. 2, "PCBs with a
12 chlorine content of less than 54 percent have not
13 been found in the environment and appear to present
14 no potential problem to the environment."

15 Did I read that correctly?

16 A Well, that's what they were saying at the time,
17 yes, um-hum.

18 Q Okay.

19 (Exhibit 963 marked for identification.)

20 BY MR. HERMES:

21 Q Sir, if I can hand you now what's been marked as
22 963. And do you recognize this document as a
23 Monsanto Chemicals Limited --

24 A Right, yes.

25 Q -- Research and Development Report?

1 A Yes, um-hum.

2 Q Multipage document GPFOX00054039 through -54064. I
3 see you listed here as being on the distribution
4 list --

5 A That's correct, yeah.

6 Q -- is that correct?

7 A That's right, yes.

8 Q Is this the type of document you would have
9 received in your capacity at the Ruabon facility?

10 A Yes, this was part of our biodegradation study.

11 Q Do you recognize this particular document?

12 A Yes, um-hum.

13 Q The date on the top is February 1970; is that
14 correct?

15 A Yes, um-hum.

16 Q I want to just direct your attention to the
17 introduction on page 2 to start.

18 A All right.

19 Q The last sentence of the first paragraph states,
20 "The failure to detect these lower isomers, of
21 which Aroclor 1242 is largely composed, suggests
22 that degradation may be occurring in nature either
23 by microbial action in the marine environment or by
24 metabolism within the animal."

25 Did I read that correctly?

1 A That's correct, yes, um-hum.

2 Q And at least as of February 1970, is this statement
3 consistent with Monsanto's understanding at the
4 time?

5 A Right, um-hum.

6 Q Then turn to page -- I don't know what page of the
7 report it is, but on the bottom it will say
8 GPFOX00054047.

9 A Right, um-hum.

10 Q About middle of the -- middle of the page, it
11 states, "Conclusions which can be drawn from these
12 results are."

13 Do you see that?

14 A Yes, um-hum.

15 Q And then I want to direct your attention to
16 Paragraph A there. It says, "PCBs represented by
17 Peak1 in the" --

18 A Peak 1 it is. Peak 1 in the --

19 Q Oh, Peak 1. Okay. Thank you.

20 -- "in the 1242 chromatogram, see
21 Figure 10, is rapidly degraded almost certainly by
22 a biological process."

23 A Right, um-hum.

24 Q Did I read that correctly?

25 A Yes.

1 Q And is that consistent with your understanding as
2 of February 1970?

3 A Yes, um-hum.

4 (Exhibit 964 marked for identification.)

5 BY MR. HERMES:

6 Q And, sir, I'll hand you what's been marked as
7 Exhibit 964.

8 A Thank you.

9 Q For the record, it's GPFOX00034528 through -34530.
10 Do you recognize this document at all?

11 A Yes, um-hum.

12 Q It states at the top, and at least on the last
13 page, it appears to be drafted by Mr. Papageorge;
14 is that correct?

15 A That's right, yes, um-hum.

16 Q Your name appears as one of the recipients of this
17 document --

18 A Correct.

19 Q -- is that correct?

20 A Yes, um-hum.

21 Q And do you believe you would have received a copy
22 of this document on or about July 17, 1970?

23 A Yes, um-hum.

24 Q I want to draw your attention then to Paragraph 3
25 on the first page.

1 A Right.

2 Q It's titled "Environment Samples," and it states,
3 "Investigators in both Europe and USA find isomers
4 in wildlife that resemble those in Aroclor 1254.
5 Predominant homologues present in Aroclor 1242 are
6 usually not found except" those close -- "except
7 close to industrial plants. Since large quantities
8 of Aroclor 1242 are produced and released to the
9 environment, degradation must be occurring."

10 Did I read that, although chopped up,
11 correctly eventually?

12 A That's correct, yes, um-hum.

13 Q Okay. And is that consistent with the
14 understanding you had on or about July 17, 1970?

15 A Yes, um-hum. Right, um-hum.

16 (There was discussion off the record.)

17 (Exhibit 965 marked for identification.)

18 BY MR. HERMES:

19 Q Sir, I'll hand you what's just been marked as
20 Exhibit 965.

21 A Right, um-hum.

22 Q Do you recognize this document?

23 A Yes, um-hum.

24 Q It appears to be drafted by you; is that correct?

25 A Yes, um-hum.

1 Q And the date at the top is 1st of March, 1971; is
2 that correct?

3 A Right, um-hum.

4 Q What does this relate to?

5 A Well, this is my monthly report. We just issue a
6 short report every month to cover major
7 investigations.

8 Q And to whom did this report go?

9 A Well, this was sent to Dr. Baxter, who was my boss
10 at the time, and to Mr. Papageorge in the States.

11 Q And I want to draw your attention then down under
12 the "Biodegradation" heading.

13 A Right, um-hum.

14 Q Second paragraph --

15 A Right.

16 Q -- states, "Using a 500-foot capillary column, we
17 have shown separation of practically all isomers in
18 Aroclor 1242 and MCS 1016, and we believe that
19 fairly accurate quantification of degradation
20 residues may now be possible."

21 Did I read that correctly?

22 A Yes, um-hum.

23 Q And that was occurring on or about the 1st of
24 March, 1971, correct?

25 A That's right. This was -- this followed up with

1 the dimension of MCS 1016. 1016 was a modified
2 Aroclor 1242, which was developed primarily for the
3 capacitor industry, and that contained much less of
4 the homologues than Aroclor 1242. We just used a
5 separation process to do that.

6 In Europe we made a similar product,
7 which was called Aroclor 1241 for some reason. It
8 was -- maybe it did contain 41 percent chlorine,
9 but it was a similar structure to the other one.

10 Q And then -- I'm sorry.

11 I want to draw your attention to the last
12 paragraph as well. It states, "It has been
13 confirmed that significant degradation of
14 4,4'-dichlorobiphenyl has occurred with the biphenyl
15 active culture, C3."

16 Is that correct?

17 A That's right, yes. Because this was one of the
18 compounds I mentioned that you can't degrade on its
19 own, but we were able to degrade it using this
20 special culture, and it also degraded much more
21 readily in mixtures.

22 Q And this work was occurring for the first time
23 around March of 1971, correct?

24 A That's right, yep.

25 (Exhibit 966 marked for identification.)

1 BY MR. HERMES:

2 Q Sir, let me hand you what's been marked as
3 Exhibit 966. It appears to be a Monsanto
4 memorandum drafted by Dr. Baxter; is that correct?

5 A That's right, yes, um-hum.

6 Q I see you as a copy recipient.

7 A Yes. That's right, yes.

8 Q Take a look at this memorandum for a second, and
9 let me know if you recognize that.

10 A Yes, um-hum.

11 Q This was to Mr. Richard in St. Louis?

12 A That's right. He was research manager at
13 St. Louis.

14 Q And the date here, 2nd November, 1971, correct?

15 A Yes, um-hum.

16 Q And I want to draw your attention to the very first
17 line. "The following are the major objectives of
18 H.A. Vodden's visit." Is that you?

19 A That's right, yes.

20 Q Were you planning a visit to St. Louis?

21 A Yes.

22 Q When did you go? Do you recall?

23 A I know I was there just before Christmas. I
24 remember getting back home almost on Christmas Eve.
25 Must have been late December, I think.

1 Q And that would have been 1971.

2 A '71, yes.

3 Q Okay. One of the objectives, No. 1, was to "Write
4 total document on PCB biodegradability and
5 toxicity. Agree what parts should be published,
6 where and when."

7 A That's right.

8 Q Was anything -- any documents written or anything
9 published prior to that time by Monsanto?

10 A I don't think we published anything prior to that,
11 not in the scientific literature. This was -- I
12 know this was published as an internal report
13 fairly soon after I went and made my visit. In
14 1972 it would have been published internally.

15 But it was really a -- you know, it was
16 sort of a document which tried to pull together all
17 the information that we had at that time.

18 Q And then No. 2 here on 966 says, "Agree future
19 program on PCB biodegradability including Pond
20 experiment"; is that correct?

21 A That's right, yes. The Pond experiment was an
22 experiment using carp to see to what extent PCBs
23 did accumulate in fish.

24 Q And that had not been done by Monsanto prior to
25 your trip to the United States for this purpose?

1 A We'd done a limited amount of work on it, but this
2 was -- we discussed when I visited what extra work
3 we should do to expand that. There were quite a
4 lot of technical difficulties in running the
5 experiment at the moment, catching the fish being
6 one of them.

7 MR. HERMES: Just a couple more.

8 (Exhibit 967 marked for identification.)

9 BY MR. HERMES:

10 Q Sir, I'll hand you what's been marked as 967.

11 Tom, I'm sorry, I don't have an extra
12 copy of this one.

13 Ask you to take a look at this document
14 and let me know if you recognize it.

15 A Yes, um-hum.

16 Q The title says, "PCBs - The Environmental Problem,"
17 I believe. Is that correct?

18 A I think that's Richard, yes, um-hum.

19 Q And it says by R.A. Lidgett and H.A. Vodden. Is
20 that you?

21 A That's correct, yes, um-hum.

22 Q Do you believe this may have been the internal
23 memorandum to which you were referring in the -- or
24 to which was referred to in the previous exhibit as
25 being published within Monsanto in --

1 A That's right, yes.

2 Q -- 1972?

3 A Yes, um-hum.

4 Q And let me just draw your attention to the first --
5 first page, last paragraph.

6 It states, "Not all PCBs are found in
7 wildlife. The chromatograms usually reported
8 suggest that homologues containing 5 or 6 chlorine
9 atoms are the most common. It is often claimed
10 that the closest match for the chromatograms of
11 wildlife extracts is that obtained from commercial
12 products corresponding to 50 to 54 percent
13 chlorine."

14 Did I read that correct?

15 A That's correct, yes.

16 Q And that was true at the time you authored this
17 document?

18 A Yes, um-hum.

19 Q Let me draw your attention then to page 2, the
20 bottom paragraph.

21 A Page 2.

22 Q Yes. The last two sentences of that paragraph
23 state, "Thus, although claims to have detected, in
24 wildlife, significant quantities of commercial
25 products containing 42 percent chlorine are rare,

1 it is not prudent to assume that these products are
2 completely acceptable.

3 On the other hand, polychlorinated
4 biphenyls containing 5 or 6 chlorine atoms, such as
5 are present in transformer askarels, have
6 definitely been indicated (sic) as environmental
7 pollutants."

8 Did I read that correctly?

9 A That's correct, yes, um-hum.

10 Q And is that consistent with your understanding of
11 information available to you at the time?

12 A Yes, um-hum.

13 Yes, this is a reiteration of, you know,
14 the fact that Aroclor 1242, although it's not found
15 as such, does contain these homologues; and,
16 therefore, it would not be prudent to assume that
17 without a fact.

18 (Exhibit 968 marked for identification.)

19 MR. HERMES: I only have one extra copy
20 of 968. It's -- for the record -- I'm sorry. 968
21 is PHGNCR-2001738.

22 Q And, sir, I've just handed you what's been marked
23 as 968. Ask you to take a look at this particular
24 memorandum and advise if you've -- if you authored
25 this document.

1 A That's right, yes, um-hum.

2 Q And is that your signature at the bottom?

3 A Yes, um-hum.

4 Q The date on here is October 6, 1971; is that
5 correct?

6 A Right, yes.

7 Q Do you recall this particular document regarding
8 the Pond experiment?

9 A Yes, um-hum.

10 Q And is that the Pond experiment to which we were
11 referring a couple documents ago?

12 A It is, yes, um-hum.

13 Q Let me draw your attention to the last sentence of
14 the second paragraph. It states, "Work done since
15 this report, using equipment with more efficient
16 agitation than in the earlier shake-flask
17 apparatus, has indicated that the significant
18 isomers in Aroclor 1242 also degrade completely."

19 Did I read that correctly?

20 A Yes, um-hum.

21 Q And then let's skip down to the last sentence of --
22 or last two sentences of this particular
23 memorandum.

24 It states, "The Pond experiment, which
25 essentially takes into account the rates of

1 degradation at many stages, will we hope
2 substantiate this belief. It may even show that
3 residues from Aroclor 1242 do not accumulate
4 significantly."

5 Did I read that correctly?

6 A That's right. That was the purpose of the Pond
7 experiment, to see if Aroclor 1242 would accumulate
8 in fish or and part of it accumulate in fish.

9 We -- the results of that study did
10 indicate that there was accumulation of the higher
11 homologues.

12 Q But at least as of October 6, 1971, Monsanto did
13 not have --

14 A We didn't have proof that this -- at that point.

15 MR. SCHAFER: If you give us just a
16 minute.

17 MR. LYTZ: Sure.

18 (There was discussion off the record.)

19 THE VIDEOGRAPHER: Going off the record
20 at 12:28.

21 (A recess was taken.)

22 THE VIDEOGRAPHER: Back on the record at
23 12:32.

24 BY MR. HERMES:

25 Q Sir, just one last set of questions here. There

1 has been some comparisons made in our case between
2 PCBs and DDT. Are you familiar with DDT?

3 A Only through -- I'm not familiar with it in
4 chemical terms, no. I mean, I know of the uses of
5 insecticide and that sort of thing.

6 Q Are you aware of the degree of toxicity difference
7 between PCBs and DDT?

8 A Well, DDT is much more toxic than PCBs. What the
9 exact numbers are I couldn't say, but the -- but
10 PCBs, particularly Aroclor 1242, is relatively low
11 in toxicity, something about the order of castor
12 oil, something of that sort. So -- but DDT is much
13 more toxic. Again, I don't have a number for you.

14 MR. HERMES: Okay. Thank you. That's
15 all I have.

16 (There was discussion off the record.)

17 THE VIDEOGRAPHER: Going off the record
18 at 12:33.

19 (Exhibits 969 and 970 were marked for
20 identification.)

21 THE VIDEOGRAPHER: We're back on the
22 record at 25 to one.

23 EXAMINATION

24 BY MR. LYTZ:

25 Q Dr. Vodden, you first began working on PCBs in

1 1969, correct?

2 A No. I started working on them earlier than that,
3 but only in the electrical applications.

4 Q You were not -- it was -- your responsibilities
5 changed substantially in October of 1969.

6 A That's correct, yes.

7 Q And whereas after 1969, October of 1969, you were
8 in hands-on control of the discussions that were
9 occurring within the company, that was not true
10 before that time, was it?

11 A Not before that time, no.

12 Q I'm handing to you what's been marked as
13 Exhibit 969. This is a two-page document, a
14 February 10th, 1967, correspondence from R. Emmet
15 Kelly to Mr. D. Wood in London --

16 A Right.

17 Q -- with a Bates range GPFOX00054149 through 54150.

18 A Right.

19 Q Have you seen this document before?

20 A I don't remember seeing it, but I may have done. I
21 wasn't copied in on this, by the look of it. But I
22 probably knew about the -- well, I certainly knew
23 about the problems that Jensen's paper had
24 highlighted, but I didn't -- I didn't have much
25 involvement with it at that time.

1 Q You were unaware then that a series of other
2 investigations into PCBs began in early -- began --
3 were begun by Monsanto in early 1967 in response to
4 the Jensen report; is that correct?

5 A Yes, I certainly wasn't aware of it at the time.

6 Q I'm handing to you what's been marked as
7 Exhibit 970 to your deposition. This is a copy of
8 a letter written by R. Emmet Kelly to --

9 A Kelly. Yes, he's the medical --

10 Q Yes. Do you see it was written to Dr. M.J.
11 Thomas --

12 A That's right.

13 Q -- at NCR, and it's dated February 27th. It has
14 multiple -- a multiple document with the Bates
15 range NCR-FOX-517847 through 517873.

16 Have you seen this document before?

17 A I don't think so, no.

18 Q You were unaware of the fact that NCR had requested
19 a copy of the Jensen report?

20 MR. SCHAFER: Objection to form and
21 foundation.

22 THE WITNESS: I was certainly unaware at
23 that time, yes, um-hum.

24 BY MR. LYTZ:

25 Q You were unaware of the fact that Mr. Kelly --

1 Dr. Kelly had sent a copy of the Jensen report to
2 Mr. Thomas in February of 1967; is that correct?

3 A That's correct, yeah.

4 Q In short, there were things going on in response to
5 the Jensen report in the early -- in early '67 that
6 you were unaware of --

7 A That's right.

8 Q -- isn't that true?

9 A Yes, um-hum.

10 MR. LYTZ: I have no further questions.

11 EXAMINATION

12 BY MR. HERMES:

13 Q Sir, I just have one question about the first
14 document that counsel showed you, 969.

15 We've already established Mr. Kelly as
16 the medical director. He's for Monsanto, correct?

17 A That's right, yeah, um-hum.

18 Q And then this particular memorandum, 969, to Mr. D.
19 Wood in London, was he also a Monsanto employee; do
20 you know?

21 A Yes. This is Dr. Kelly sending the memo to
22 Mr. Wood. Mr. Wood was a research specialist in
23 St. Louis.

24 Q Oh, okay. So this document, 969, appears to be an
25 internal Monsanto document.

1 A That's right, yeah, um-hum.

2 MR. HERMES: That's all I have.

3 MR. LYTZ: And, Dr. Vodden, we
4 collectively thank you for your presence here today
5 in appearing to talk to us. We promise not to
6 impose on you anymore, and we hope that you have a
7 great lunch with your family.

8 MR. HERMES: Yes. Thank you very much.

9 THE VIDEOGRAPHER: This is the end of
10 Tape 2, Volume 1 of the deposition of Herbert
11 Vodden.

12 We're going off the record at 12:39.

13 (Concluded at 12:39 p.m.)

14 (Original exhibits were attached to
15 original transcript; copies to transcript copies.)

16

17

18

19

20

21

22

23

24

25

1 STATE OF WISCONSIN)
) SS
2 MILWAUKEE COUNTY)

3 I, JULIE A. POENITSCH, RPR/RDR, Certified
4 Realtime Reporter, and Notary Public in and for the
5 State of Wisconsin, do hereby certify that the preceding
6 deposition was recorded by me and reduced to writing
7 under my personal direction.

8 I further certify that said deposition
9 was taken before me at the Chester Grosvenor Hotel,
10 Eastgate CH1 1LT, Chester, England, on the 25th day of
11 August, 2009, commencing at 9:43 a.m. and concluding at
12 12:39 p.m.

13 I further certify that I am not a
14 relative or employee or attorney or counsel of any of
15 the parties, or a relative or employee of such attorney
16 or counsel, or financially interested directly or
17 indirectly in this action.

18 In witness whereof, I have hereunto set
19 my hand and affixed my seal of office at Chester,
20 England, on this 25th day of August, 2009.

21
22 JULIE A. POENITSCH - Notary Public
23 In and for the State of Wisconsin

24 My commission expires February 13, 2011.
25

Transcript Word Index

[& - 28th]

&	113	150	1st
&	4:5	6:5	104:1,23
3:2,12 4:22 47:13	114	15th	2
0	6:4	64:19	2
020	115	16	1:25 42:13 50:15 73:14
4:23	6:5	1:7 7:11	76:12 80:16,17,19 91:24
050	116	16th	95:19 99:11 100:17 107:18
4:13 18:7	4:6	5:6 55:17	109:19,21 117:10
064	12	17	2/10/67
5:20	16:8	4:12 102:22 103:14	6:4
08	12/15/70	17th	2/27/67
1:7,13 7:11	5:12	5:9 61:2	6:5
0895	12/2/69	1882	20
1:13	5:16	37:16	32:21 38:14
1	12:28	1883	200
1	112:20	35:23	14:21
7:3,3 20:10 50:7,7,15 71:25	12:32	19	2000
91:18 101:18,18,19 107:3	112:23	84:13	3:3
117:10	12:33	190	2001014
1/13/70	113:18	3:17	5:13 64:18
4:13	12:39	1947	2001738
10	2:12 117:12,13 118:12	11:19,24,24	6:3 110:21
84:24 85:20 101:21	1241	1966	2001875
10,000	105:7	19:20 92:10	4:20 43:20
32:22	1242	1967	2001878
10/30/69	13:18,23 14:15,16 15:1,13	114:14 115:3 116:2	43:20 45:6
4:12	15:17,24 16:9 21:7,8 22:15	1969	2001879
10/6/71	22:24 23:4 26:24 27:2,9,16	12:18,20 13:1,5 26:9,19	43:21
6:3	27:22 28:3 33:22 37:12	27:20 28:2 42:21 71:19	2001880
10:40	40:2,8 42:21 43:9 46:8	75:21 76:7 77:24 91:11	4:16 35:22
50:9,10,11	54:15,16,22,22 55:3 56:11	92:6 94:22 95:19 114:1,5,7	2001977
10:55	57:5 59:5 61:15 62:11	114:7	5:17
50:17	65:15 67:13,24 68:9,19	1970	2003433
1016	69:3 70:3,15,19 71:1 72:25	4:16,19,20,25 5:4,6,10,11	5:22
104:18 105:1,1	77:15,17 78:4 82:17 85:24	5:18,20 29:25 31:17,23	2003454
102	86:7,12 88:7,24 89:2,21	33:8 35:20 39:24 40:17	5:23
5:20	100:21 101:20 103:5,8	43:18 47:11 51:1,11,13	2005015
104	104:18 105:2,4 110:14	53:4 55:17 56:1 61:2 63:9	4:22 47:20
5:21	111:18 112:3,7 113:10	64:5,19 66:4,14 74:4,8,24	2009
106	1254	75:16,23 76:2,25 78:6 80:8	1:19 2:11 118:11,20
5:23	13:23 15:17,25 22:18,22	82:9 84:13,24 85:20 87:20	2011
108	70:3,15,17 85:12 86:15	98:16 100:13 101:2 102:2	118:24
5:24	97:15,21 103:4	102:22 103:14	21800
10th	1260	1970s	3:13
5:4 53:4 114:14	13:23 15:14,18 16:3 70:4	94:7	25
11	86:19 97:15	1971	1:19 113:22
66:4	13	89:3 104:1,24 105:23	25th
11/2/71	118:24	106:14 107:1 111:4 112:12	2:10 7:12 118:10,20
5:23	133	1972	26th
11:24	3:8	107:14 109:2	4:16 35:19 37:3 74:23
69:16	13th	1975	272-7878
11:26	29:25	93:21	1:25 2:25
69:19	142	19th	27th
111	5:25	4:20 43:18	4:18 40:17 80:8 115:13
6:3	15	1lt	28th
	87:20	1:22 2:10 118:10	5:11 63:9

29 4:13	44 9:8	55 5:5	80 86:17
2nd 4:24 51:1,9,11,14 106:14	455 5:23	56856 30:9	836 5:7
3	47 4:21	59719 66:6	838 5:12
3 2:25 37:17,20,25 57:16 58:9 83:23 102:24	475 5:16	6	855 33:18
3/1/71 5:21	4th 66:14	6 41:22 80:21 86:20 109:8 110:4 111:4 112:12	856 4:14
30303 3:8	5	60 5:7 15:18 70:10	873 6:6
30968 51:3	5 51:23 70:21 71:1 77:15,18 80:21 83:24 84:19 86:19 109:8 110:4	600 3:17	878 5:18
31836 55:18	5/11/70 5:13	601 2:17	879 4:21
31838 63:10	50 4:23 109:12	60603 2:21	883 4:16
333 2:17	500 104:16	63 5:10	8th 31:17,23
34523 61:3	5020 47:20	63105 3:17	9
34527 54:5	505 3:3	64 5:12	9 4:3
34529 53:5	5178 98:17	66 5:13	9:43 1:20 2:11 7:13 118:11
34530 102:9	517847 6:6 115:15	67 116:5	9:44 8:24
34543 40:19	51787 98:16	69 4:4	90 86:18,21
35 4:15	517873 115:15	6th 91:11	91 5:15
3-5 12:17	517877 5:18 98:23	7	91367 3:13
37475 91:4	517878 98:17,23	7 39:7 45:9 54:8 85:5,7,18	94111-6538 3:3
3rd 47:11	523 5:10	7/17/70 5:20	947 4:12 17:22 18:2 23:12 25:14 71:5
4	529 5:5	70 42:22	948 4:13 29:9,16,17,18,22 73:13,19
4 37:20 54:5 59:18 81:8 85:4 91:16 94:11,14	53 5:3	71 89:16 107:2	949 4:15 29:12,15 35:10,13 74:20
4.4'dichlorobiphenyl 105:14	530 5:21	719 5:14	95 5:16
40 4:17 39:22 65:15 78:14,16 79:3,4,24 89:8,11,17 90:10	54 15:17 70:10 99:12 109:12	755 29:24	950 4:17 40:10,13 80:4,6
41 105:8	54064 100:2	78 42:22,24,25	951 4:19 43:13,16 83:7
414 1:25 2:25	54150 114:17	780 3:13	952 4:21 47:5,8
42 15:16 70:10 109:25	543 4:19	7az 9:8	953 4:23 50:13,20
43 4:19	54301 2:17	8	954 5:3 52:23 53:1 84:21,22
		8/25/09 1:25 2:25	

955 5:5 55:11,14 59:19	account 111:25	affixed 118:19	annum 32:22
956 5:7 60:20,23	accounted 42:22	agency 40:24 61:14	answer 10:11,19 11:1,4,6 20:20 64:2
957 5:10 63:4,7	accumulate 69:4 82:24 107:23 112:3,7 112:8	agitation 111:16	answered 75:25
958 5:12 64:13,16 87:14	accumulating 18:18 81:19	ago 85:15 111:11	answers 10:4
959 5:13 65:24 66:2,10	accumulation 82:24 112:10	agree 107:5,18	anxious 48:8 90:1
960 5:15 90:19,25 94:11	accurate 80:13 104:19	agreed 39:20 52:7 55:9 84:1,7	anybody 26:4 28:6 44:25 62:23
961 5:16 95:10,16	accurately 85:18 94:21	agreeing 65:8	anymore 117:6
962 5:18 98:9,20	action 2:2 8:5 100:23 118:17	agriculture 4:17 5:3,8 35:15 36:18 40:15 53:3 56:7 60:25 80:7 84:4,23 97:4,10	anyway 54:20 80:3
963 5:19 99:19,22	actions 52:7	ahead 84:21 87:14	apart 59:7
964 5:20 102:4,7	activated 78:22,24 79:6	aircraft 12:2	apologies 98:10,24
965 5:21 103:17,20	active 78:20 105:15	al 1:8,15 7:6	apologize 50:23
966 5:23 105:25 106:3 107:18	activity 21:3 95:2	alarm 48:9	apparatus 111:17
967 5:24 108:8,10	actual 15:22 30:15 34:14	alfred 9:6	apparently 51:3 81:10
968 4:25 6:3 110:18,20,20,23	acute 81:10,16	allowed 82:7 90:11	appear 27:12 30:4 63:12 99:13
969 6:4 113:19 114:13 116:14 116:18,24	addinsell 3:20 7:23	alternative 76:19 88:24	appeared 2:18,21 3:4,9,14,18 22:13
970 6:5 113:19 115:7	additional 65:22 99:10	alternatively 85:12	appearing 18:3 117:5
98 5:18	address 47:22 61:7	altogether 14:20	appears 29:25 31:4,5 33:14 36:2 40:24 44:9 47:22 53:11 64:18 66:12 88:25 91:7 95:18 102:13,16 103:24 106:3 116:24
99 5:19	addressed 18:4 66:5	america 89:12	appleton 1:4 2:18 7:4 8:10 69:23 73:4,10
9th 51:10,12	adjust 7:16,19	american 79:15	application 46:17 53:23 78:17 84:2,8 88:8 89:25 97:9 98:1
a	admit 99:3	amount 72:8 77:8 86:12 108:1	applications 12:21,23 18:14 26:7 27:22 43:11 68:19 79:13 82:16 86:13,13 89:21 97:15 114:3
a.m. 1:20 2:11 7:13,17 50:11,17 118:11	admitted 11:1	analysis 33:24 34:13,25 57:1 78:3 86:23	appreciate 9:3
able 78:24 105:19	admittedly 79:25	analytic 34:17 35:2	approach 97:14
accentuates 18:22	adopted 25:12	analytical 13:20 56:21 58:7,20 72:3 92:8,9 94:16	april 5:6,9,11 55:17,25 61:2 63:9 64:5
acceptable 78:14,16 79:8 83:4 89:11 110:2	adverse 65:22	analyzed 19:4	
accepted 82:22	advise 26:6 30:18 78:12 110:24	animal 21:17 100:24	
access 83:20	advised 25:22,25 26:2	anniston 16:17	
accompanied 97:1	affect 88:9 96:13		

[arabic - bottom]

arabic 54:5	aspects 12:23 18:15 87:24	aware 38:10 45:19 46:13 48:7 59:3 72:9 92:18,23 113:6 115:5	begun 115:3
argue 17:4	assessing 13:20	b	behalf 2:18,21 3:4,9,14,18 7:23 8:12 48:25 75:4 80:10 82:15 85:1
argument 17:14,18	assigned 25:13		belgium 38:7
arguments 17:7	assistance 30:23	back 29:19 34:14 35:3 43:21 50:17 51:12 57:3 69:18 71:5 73:13 74:3 83:11,22 94:10 95:11 106:24 112:22 113:21	belief 112:2
arises 28:20	associated 20:7 28:25 67:13	bailey 53:17 54:15,21 55:2 56:7 56:21 58:17 65:3,7 85:10 88:17	believe 41:24 67:22 75:21 83:14 87:16 102:21 104:18 108:17,22
arising 38:15 85:13 86:7	assume 30:24 38:12 80:22 110:1,16	bailey's 85:22	beneath 63:17
aroclor 4:23 13:18,22 14:15,16 15:1,13,14,17,17,18,24,25 16:3,9 20:22 21:7,8 22:15 22:18,22,24 23:20 24:2 26:24 27:2,9,22 28:3 30:2 30:14,20 33:22 36:17 37:12 39:23 40:2 42:21,25 43:9 45:23 46:8,14 50:24 54:15 54:16,22 55:3 56:11 57:5 59:5 61:15 65:15 67:13,24 68:9 69:3 70:3,8,14,15 72:25 76:19,20 77:7,15,17 82:17 84:3 85:24 86:12 88:7,24 89:2,21 97:21 100:21 103:4,5,8 104:18 105:2,4,7 110:14 111:18 112:3,7 113:10	atlanta 3:8	balance 45:24	benzene 14:5 24:14
	atoms 14:3,24 22:9 109:9 110:4	banks 23:25	better 82:3
	attached 6:7 45:24 117:14	barrett 4:12 18:4	bioaccumulate 27:4
	attachments 6:6	based 44:18	bioaccumulation 81:20 82:20
	attempt 19:5 84:8	basically 44:22 54:25 79:7 81:18 92:11,12	biodegradability 107:4,19
	attendance 44:10 48:3	bates 18:7 30:9 33:18 35:22 37:15 40:18 43:19 45:6 47:19 51:2 53:5 54:5 55:18 61:2 63:9 64:17 66:6 91:1 98:22 114:17 115:14	biodegradation 20:12,16,22 92:22,24 94:1 100:10 104:12
	attended 36:3 44:21,25 46:21 53:12 80:10	baxter 5:21,23 93:15,16 104:9 106:4	biodegrade 87:5
	attention 11:3 42:13 51:20 57:16 63:15 71:8,24 73:14 80:17 83:23 88:3,19 99:5 100:16 101:15 102:24 104:11 105:11 106:16 109:4,19 111:13	bay 1:3 2:17 7:10	biological 21:3 101:22
aroclors 4:21 5:16 12:21 13:9,11,23 14:20 16:6 17:9,16 18:14 21:4 26:7 47:12 70:3,4 96:9 96:25 97:20	attorney 118:14,15	bayer 90:14	biologically 87:2
arose 24:16 31:13	attorneys 10:21	beaconsfield 5:6 55:16	biphenyl 14:6 24:15 88:23 105:14
arrangement 14:2,24	august 1:19 2:11 7:12 118:11,20	bear 83:1	biphenyls 13:13 18:6,18 110:4
arrival 30:14	austin 2:19	bearing 18:6 40:18 47:19 64:17 66:5	bird 21:17
arriving 95:24	author 31:4 36:11	bears 35:22	birds 18:21 19:3,6,11 81:24
article 59:12	authored 51:3,7 109:16 110:24	began 20:2 92:14 113:25 115:2,2	blackwell 3:16
articles 60:5,7	authorities 37:10 83:2	beginning 7:2 12:24 50:14 83:3	board 45:13
askarels 110:5	available 54:19 78:7,9 79:14,16,24 85:9 110:11	begins 42:14 53:21	boreham 30:3
asked 12:22 36:15 41:16 62:23 65:2 69:25 70:2 71:6,22 72:17 73:15 74:21 75:24 83:8 87:16	avenue 5:9 61:1,8		borehamwood 26:14,15 30:14,18 48:25
asking 10:10 37:8 65:10 88:16	average 15:21		boss 104:9
			bottom 33:16,17,23 45:7 54:6 101:7 109:20 111:2

[bottoms - coating]

bottoms 24:10	cameron 5:17 44:20 45:2 53:14 61:11,22 62:7 96:23 97:1	certainly 16:1 18:11 24:22 27:8 28:14 32:7 36:6 37:4,6 42:9 43:12 46:13 49:19 60:18 65:16 67:16 74:18 76:5 77:6 78:6 87:7 92:21 97:19 101:21 114:22 115:5,22	chlorinated (cont.) 75:12 78:3 80:20 81:5 84:10,18
box 56:18	capacitor 25:21 43:12 105:3		chlorine 13:21 14:10,17,19,22,23,24 15:2,5,7,16,16 21:23 22:4,9 70:11,20 86:20 87:10 99:12 105:8 109:8,13,25 110:4
boxes 56:24 57:4	capacitors 26:1 43:9 77:8 86:11 97:20		chlorines 14:6,9,11,13 21:12 22:5,5 80:21 86:16 87:12
branded 58:10	capacity 95:22 100:9	certified 2:8 118:3	chopped 103:10
break 7:20 11:12 46:25 50:4 86:24	capillary 104:16	certify 118:5,8,13	christmas 106:23,24
brief 9:22	capps 5:11 38:16,17 59:22 63:8	ch1 1:22 2:10 118:10	chromatogram 101:20
bring 90:22	carbonless 29:4 39:17 43:10 46:16 57:13 68:20 77:9	ch4 9:8	chromatograms 109:7,10
bristol 23:23	cardboard 56:6,18 57:7,19	chance 64:23	civil 2:6
british 37:9 61:8 80:25 85:19	cardiff 11:17	change 16:9 68:6 69:11 78:13 95:3	claimed 109:9
brofyskin 25:2	carney 3:16 8:13,13 9:11,21 11:4 56:14,17 90:20	changed 12:8 114:5	claiming 22:19
broke 28:17,20 29:1 33:3 38:15 38:24 45:14 46:19 57:20,25 63:22 64:7 74:15	carondelet 3:17	changes 17:15	claims 109:23
brought 89:15 90:23	carp 107:22	changing 39:22	clarity 10:9
brussels 44:19 96:23	carried 48:19 74:16	channel 23:23	clark 1:14
bucks 5:6 55:16	carton 56:6 57:25	charles 2:20 8:11	class 11:15
build 81:22	cartons 58:2,11	chart 33:22 83:21	clay 78:23,24 79:6
bunyan 88:17	case 1:7,13 7:10 39:1,3 48:24 69:23 79:1 83:6 85:15 113:1	check 36:22,23	clean 30:19
burgess 3:7 8:7,7 29:16 47:4	cases 59:3 87:6	checked 84:5	clear 21:8 39:3 41:12 77:21
burnham 4:18 5:9 40:16 61:1	cashew 59:12	checking 57:2 58:18	clearly 50:1 71:11
business 44:18 89:19	castor 113:11	cheeses 58:14	close 23:21 58:10 67:3 84:6 103:6,7
c	catching 108:5	chemical 13:6 14:1 113:4	closely 85:8
c3 105:15	cause 48:9 83:5,6	chemicals 5:15,19 12:7 50:21 55:6 99:23	closest 109:10
calculated 45:23	caused 39:15 88:25	chemist 32:1	coast 23:21
calculations 34:14	cc 96:2	chester 1:22,23 2:9,10 7:25,25 9:8 118:9,10,19	coat 73:4
california 3:3,13	ceased 63:22 64:5	chicago 2:21	coated 73:5,10
called 8:18 12:17 15:17,25 18:21 23:22 24:9 25:2 26:7 30:21 30:22 44:5 56:25 105:7	certain 30:24 69:3 76:6 91:21	chief 31:25	coating 26:18 32:20 78:20
calling 54:16		chlorinated 21:6,10,20 22:1 24:13 36:14 42:15 56:6 70:22,25	

[coincidental - corporation]

coincidental 41:8	competitive 90:10	confidence 61:14,23 62:2,12,15	contaminate 27:10
colleagues 69:10	competitors 89:20 90:4	confirm 19:23 84:6 92:9	contamination 4:24 5:14 22:23,25 24:8,16 48:5 50:25 57:3 58:19 59:1 59:9,12 66:4 67:12 75:20 76:3 77:21 91:25 92:16
collect 23:12 25:14	complete 60:9 76:21	confirmed 19:25 60:12 81:9 92:11 105:13	content 18:21 99:12
collectively 117:4	completely 21:21 110:2 111:18	confirms 33:13 41:24 57:18	contents 66:8
college 11:17	complication 96:12	confused 35:17	contest 11:9
column 104:16	components 14:21 16:1 21:10 27:2 69:2 69:3 73:1 77:19	confusion 10:15	contingency 76:21
columns 16:25	composed 14:15 100:21	congratulate 61:8	continuation 76:13
combinations 14:8	composition 13:6,18 14:2 16:8	consider 10:25	continue 57:10
coming 48:14 94:6 96:1 97:12,22 98:6	compound 85:24	considerable 94:15,24	contrary 68:25
commencing 2:11 118:11	compounds 12:16,17 13:12 15:3,22 36:14 42:15 75:12 80:21 81:5 84:10,18 87:7,10 105:18	considered 76:16 77:20 78:14	contributing 19:12
comment 54:14 85:21	comprise 71:1	considering 88:23	control 53:17 56:8 71:14 114:8
commercial 80:23 94:18 96:12 109:11 109:24	comprised 70:20	consistent 16:5 75:14 76:23 81:4,13 82:8 84:13,17 86:4 89:6 92:5 101:3 102:1 103:13 110:10	controlling 76:17
commercially 85:9	con 57:23	constant 49:4 96:14	convenience 41:10
commission 118:24	concern 27:15 38:25 88:11,13	constructive 84:4	conversation 5:11 63:8
commitment 48:19	concerned 12:6 17:1 36:12 39:1 67:18 75:10 78:12 79:21 88:6 90:5	consultation 96:14	conversations 32:9 37:2 65:7
common 109:9	concerning 55:3	consumer 2:3 3:4,9 8:19	conversion 65:21
communicate 72:19	concerns 26:6,21 38:24 39:15 40:6 46:16 68:23	contact 26:4,8,11	convinced 86:9
communicated 72:17 74:3,11 75:19 78:9 92:19	concluded 117:13	contacted 26:5,8	cooperation 84:7
communicating 88:13	concluding 2:12 118:11	contain 14:18 15:24 16:1 19:4 24:12 25:7 57:4 60:13 72:25 77:18 86:15,19 105:8 110:15	coordinating 20:11 71:23 72:13 95:2
communication 73:9 87:17	conclusion 94:7	contained 70:3,15,16,17 83:18 105:3	coordination 72:2
communications 49:5	conclusions 23:3 101:11	containers 59:24 60:6,7	copied 63:14 66:25 114:21
communique 96:7,19 97:7	conduct 24:1 49:21	containing 48:13 87:12 109:8,25 110:4	copies 6:8,8 117:15,15
companies 52:12 73:3	conducted 92:25	contains 77:15	copy 30:11 45:24 90:20 96:5,6 98:11,25 102:21 106:6 108:12 110:19 115:7,19 116:1
company 1:8 2:5 3:5,10 7:6 8:21 31:23 43:4 73:4,5,10 114:9	confectionery 58:15	contaminant 27:11	corporation 1:5,11,14 2:5,22 3:6,11,15 7:5 8:12,21
compared 16:13,17			
comparisons 113:1			

[correct - directly]

correct 9:18 11:21 15:25 19:19 34:9,24 46:22 48:22 52:21 52:22 53:15 61:21 62:17 65:15 67:6 70:8,9,12,14,16 70:18 71:2,20 72:5,14 73:25 74:5,8,24 75:2,5 78:10 79:13 80:11 81:2,6 83:12,15,19 84:20,24 85:3 86:2 87:18,19,20 88:11,14 88:17 90:13 91:22 92:4,12 94:25 95:19 97:12 100:5,6 100:14 101:1 102:14,18,19 103:12,24 104:2,24 105:16 105:23 106:4,14 107:20 108:17,21 109:14,15 110:9 111:5 114:1,6 115:4 116:2 116:3,16	current 9:7 currently 36:15 75:12 customer 5:18 43:1,4 51:24 98:15 99:1 customers 25:16,20 53:22 92:20 cuts 28:21 32:23 cv 1:7,13 7:11	deemed 76:20 defendant 3:14 defendants 1:9,16 2:3 3:4,9 7:7 8:19 defense 56:9,15 definite 77:3,4,11 definitely 110:6 degradation 20:25 21:2,4,17 22:3,8,13 23:2 27:12 71:24 72:3,6,16 73:11 86:23 87:2,13 93:10 100:22 103:9 104:19 105:13 112:1 degrade 21:10,13,21,25 22:10 73:1 87:8,9 94:8 105:18,19 111:18 degraded 85:11 86:7 101:21 105:20 degree 11:14,15 81:19 113:6 delay 36:21 39:16 65:3,8,20 88:17 89:10 delays 88:25 delivered 31:15 46:8 delivery 31:2 department 13:20 31:7,8,9 38:9 47:11 47:16 50:22 66:21 73:17 departments 38:21 depend 50:2 deposited 24:17 deposition 1:18,25 2:1,25 7:3,24 9:16 18:3 29:12,22 35:13 40:13 43:16 47:9 50:7,15,20 55:14 64:16 66:3 115:7 117:10 118:6,8 description 4:11 5:2 6:2 98:13 desire 65:20 despite 9:23	detail 42:14 62:8 details 47:22 detect 100:20 detected 109:23 detection 56:5 determined 86:5 develop 39:9 79:22 developed 26:3 52:16 79:11 105:2 developing 36:13 75:11 development 5:19 12:15 50:22 89:13 99:25 device 12:15 diagram 83:11 dibbs 31:23 dichlor 22:11 diet 91:21 difference 16:20,21 17:18 87:3,6 113:6 differences 16:12,18,20 17:2,8,16 different 13:21 14:2,7,11,21,22,23 15:2 16:15,25 17:19 19:10 21:16 25:8 30:15 59:24 difficult 42:2 difficulties 88:25 108:4 dig 93:6 dimension 105:1 direct 73:14 83:23 100:16 101:15 directed 80:17 direction 118:7 directly 118:16
correctly 71:16 72:4 81:11 84:11 85:16 89:4 91:10 92:3 94:19 97:17 98:4 99:15 100:25 101:24 103:11 104:21 110:8 111:19 112:5	d d.a. 5:17 96:19 d.s. 5:17 61:11 96:23 dahlstrom 44:15,18 damage 39:15 date 7:12 36:7 51:8 66:19 74:23 91:10 93:21 100:13 104:1 106:14 111:4 dated 5:18,19 47:11 66:3 74:4 84:24 87:20 95:18 115:13 day 2:11 13:14 40:25 41:3,9,11 118:10,20 dayton 84:6 ddt 113:2,2,7,8,12 dead 18:21 19:3 dealing 25:10 94:17 dealings 72:22 dealt 30:25 dearborn 2:20 deaths 19:7,11 december 64:19 87:20 95:19 106:25 decided 56:9 decision 82:15 declined 22:9	degrade 21:10,13,21,25 22:10 73:1 87:8,9 94:8 105:18,19 111:18 degraded 85:11 86:7 101:21 105:20 degree 11:14,15 81:19 113:6 delay 36:21 39:16 65:3,8,20 88:17 89:10 delays 88:25 delivered 31:15 46:8 delivery 31:2 department 13:20 31:7,8,9 38:9 47:11 47:16 50:22 66:21 73:17 departments 38:21 depend 50:2 deposited 24:17 deposition 1:18,25 2:1,25 7:3,24 9:16 18:3 29:12,22 35:13 40:13 43:16 47:9 50:7,15,20 55:14 64:16 66:3 115:7 117:10 118:6,8 description 4:11 5:2 6:2 98:13 desire 65:20 despite 9:23	development 5:19 12:15 50:22 89:13 99:25 device 12:15 diagram 83:11 dibbs 31:23 dichlor 22:11 diet 91:21 difference 16:20,21 17:18 87:3,6 113:6 differences 16:12,18,20 17:2,8,16 different 13:21 14:2,7,11,21,22,23 15:2 16:15,25 17:19 19:10 21:16 25:8 30:15 59:24 difficult 42:2 difficulties 88:25 108:4 dig 93:6 dimension 105:1 direct 73:14 83:23 100:16 101:15 directed 80:17 direction 118:7 directly 118:16

director 44:13,18 96:21 116:16	document (cont.) 109:17 110:25 111:7 114:13,19 115:14,16 116:14,24,25	eastern 1:2 7:9	england 1:23 2:10 7:25 118:10,20
disclose 53:23 62:23 97:25	documents 95:21 107:8 111:11	eastgate 1:22 2:10 118:10	enquiry 32:19 73:21,24 74:2,7,10 74:14
disclosed 61:14,23 62:11	doing 54:1 68:23 83:21 92:7	easy 65:4	entitled 2:2 4:15,17,19,21,23 5:3,5 5:7,10,13,15,24 18:6 35:14 35:18 40:14 43:17 47:11 50:21 51:23 53:2 55:15 60:23 63:7 66:4
disclosing 62:25	double 68:7,15	effect 14:8 17:19 37:2 82:10	enumerated 63:17
disclosures 97:9	doubt 27:11	effective 76:17	environment 20:4,8 22:20 23:5 26:22 27:13 39:2,4 55:7 67:3,25 69:5 77:18 78:4 81:6,17,22 82:11,19 86:6,25 93:13 99:13,14 100:23 103:2,9
discover 24:4	dr 8:3 9:3 18:1 19:19 29:11,21 30:12 35:12 40:12 43:15 47:7 50:19 52:25 55:13 60:22 63:6 64:15 66:2 67:11 69:22 104:9 106:4 113:25 115:10 116:1,21 117:3	effects 84:9	environmental 4:24 5:14,24 12:23 17:5,8 17:14 18:15 22:25 23:6 27:10 40:6 50:25 66:4,23 67:12 68:10,23 75:20 76:3 77:20 83:5 87:24 92:15 108:16 110:6
discuss 28:24 62:6,8 72:24 97:14	drafted 71:19 102:13 103:24 106:4	efficient 111:15	enzyme 21:17
discussed 37:22 48:6 49:18,19 74:13 75:23 76:3,6 108:2	draw 71:8,24 80:16 99:5 102:24 104:11 105:11 106:16 109:4,19 111:13	effluent 30:2 48:5	episodes 58:24
discussing 38:23 75:18	drawn 101:11	effluents 48:13	equally 49:23
discussion 17:21 37:4 38:16 39:25 45:3 69:17 74:14 85:19 89:7 98:1 103:16 112:18 113:16	driven 82:5,17,20	effort 94:15,24	equipment 7:15 58:6 111:15
discussions 28:23,23 31:24 40:1,4 52:4 55:2 114:8	driving 82:21	efforts 20:6	erik 3:12
disposal 23:13 24:7 25:1,8,15,24 39:2,3 51:24 76:17	drum 25:3	eight 45:13	essentially 111:25
dispose 24:25 25:25	drums 25:3 59:13	either 13:14 100:22	essex 5:9 61:2
dissolved 79:1	dry 25:4 26:1	electrical 12:20,22 18:14 25:21 43:10 85:14 86:8 114:3	establish 20:21 22:6 71:12
distant 47:1	due 22:25 24:9,19 57:7,14 86:9 89:11	electronic 12:16	established 116:15
distribution 71:14 100:3	duly 8:22	elizabeth 9:8	establishing 22:3
district 1:1,2 7:9,9	duties 13:5,17	emmet 6:4,6 114:14 115:8	estimate 46:7
division 1:3 7:10 96:10,11,13,16,17 96:22 99:4	dye 78:25	emphasize 19:16	estuary 23:21,24,25
document 4:15,17,19,21,23 5:3,5,7,10 5:15 18:3,9,11,20 31:16 32:12 40:14,17,21,23 43:17 43:19,23,25 46:4,24 47:9 47:19,21 48:18 50:21,24 51:2,5,7,21 53:1,4,8 55:15 55:17,22,24 60:23 61:5,11 63:7,11 64:23 66:8 74:20 75:7 80:4,13 88:4,20 91:1,5 91:6 98:11 99:22 100:2,8 100:11 102:10,17,22 103:22 107:4,16 108:13	e	employed 11:20,25 12:5 96:11	et 1:8,15 7:6
	earlier 33:3 57:19 69:25 70:5 71:3 74:21 75:18 83:9 86:1 87:17 89:18 94:5 111:16 114:2	employee 26:13 38:19 59:23 88:2 116:19 118:14,15	europe 16:13 26:12 67:5 72:24 78:15,22 89:17 103:3 105:6
	early 33:8 67:19 94:7 115:2,3 116:5,5	employees 48:10 72:20	
		employment 11:23	
		emulsion 26:16 32:21,25	
		endeavored 32:24	
		ended 26:7 82:16	
		ends 32:22 37:15	
		endurance 11:9	

[european - fortuitous]

european 4:24 51:1	existing 15:22	fair 86:22	fisheries 4:17,18 5:3,8,8 40:15,16
eve 106:24	expand 108:3	fairly 16:5 58:11 59:4 77:4 78:15	53:3,12 60:25,25 80:7
event 65:4	expanded 80:2	78:25 79:5 80:1,2 104:19	84:23
events 21:16 33:12 75:15 76:24	experiment 107:20,21,22 108:5 111:8	107:13	five 15:5 70:20 86:16 87:12
eventually 25:11 26:2 27:12 36:20	111:10,24 112:7	familiar 13:17 113:2,3	fives 21:12
46:14 103:11	expert 56:21	family 117:7	flask 111:16
evidence 29:3 77:14 81:25 91:24	expires 118:24	famous 47:3	flow 33:22 83:21
92:1	explain 27:2,15	far 26:20 35:1 39:16 59:3 77:9	focus 42:13 57:16 63:15
exact 14:12 16:20 56:22 78:5	explained 61:15	79:20 92:22 93:25	follow 69:24 92:10,17
113:9	explaining 74:19	fate 46:8	followed 38:4 104:25
exactly 13:16 15:6 16:19 28:11	explanation 55:9	february 4:20 5:18,19 43:18 84:13	following 47:14 56:5 99:9 106:17
32:9 33:12 40:3,7 41:13	explanations 19:10	98:16 100:13 101:2 102:2	follows 8:23 48:4
44:2 45:3,17 58:1,6 63:3	exposure 59:1	114:14 115:13 116:2	food 4:18 5:4,8 40:15 53:3,12
72:10 88:12	extent 20:22 21:5 50:2 89:22	118:24	59:1,9 60:5,8,25 80:8 84:24
examination 4:2 9:1 10:22 69:20 113:23	107:22	federal 2:6	foodstuffs 58:12 59:6
116:11	extra 90:20 98:11 108:2,11	field 12:14 25:21 72:11 82:4	foot 104:16
examine 18:9 35:24 40:20 51:4 53:8	110:19	figure 7:18 101:21	force 82:21
55:21 61:4 63:11 66:8	extracts 109:11	files 93:8	fore 12:24
examined 8:22	f	finally 11:9 24:14	foresee 76:16
example 14:4 15:24 49:13 85:12	facilitate 10:9	financially 118:16	forget 14:12 38:21 56:22
exchange 44:6 52:8,8	facility 49:15 95:22 100:9	find 20:25 21:1,19 22:16 76:18	form 10:8 14:5 17:10 23:9 27:6,7
exchanging 52:15	fact 14:17 15:20,21 16:19 18:12	87:7 103:3	27:18 34:5 35:5 38:2 39:2
excuse 30:21 35:17 95:14	19:8,17 20:14 21:1 22:2	finding 29:3 90:4	46:10 49:10,16,24,25 52:18
exhibit 17:22 18:2 23:12 25:14	23:4,21 24:1,17 37:23 38:4	fine 7:18	52:19 54:24 60:16 61:24
29:9,12,15,22,24 33:16	48:18 57:7,22 72:23,25	finish 10:10	67:14,15 68:2,12 69:7
35:10,13,25 37:15 40:10,13	78:13 81:18 82:23 89:11,24	first 7:20 8:1,22 9:15 11:15 12:3	77:13 82:12 115:20
41:21 43:13,16 45:6 46:2	90:5 96:9,13 110:14,17	18:20 19:5 20:10 31:18,21	formerly 11:20
47:5,8 50:13,20 52:23 53:1	115:18,25	33:4 36:10 40:3 44:3,3	formula 16:5
55:11,14 57:16 59:19 60:20	factor 19:12 79:3	45:22 52:3 53:21 54:17	formulated 27:24
60:23 63:4,7 64:13,16	facts 99:10	56:3,3 61:10 62:4 63:16	fort 2:4,5 3:5,5,10,10 8:20,21
65:24 66:2,10 71:5 80:6	factual 71:12	71:8 75:9,23 76:3,6 80:19	forthcoming 36:17
83:7 84:21 87:14 90:19,25	fail 28:13	81:9 83:9 89:2,15 93:25	fortuitous 41:15
95:10,16 98:9,12,20 99:19	failure 100:20	94:3 97:6,8 99:6 100:19	
102:4,7 103:17,20 105:25		102:25 105:22 106:16	
106:3 108:8,24 110:18		109:4,5 113:25 116:13	
114:13 115:7		fish 91:21 107:23 108:5 112:8,8	
exhibits 6:7,9 71:3 113:19 117:14			
existence 19:6			

[found - homologue]

found 19:3,4,9,17,18,24 22:19 36:15 54:10 56:23 57:2,4,6 75:13 80:21 81:5 85:7 91:20 93:7,9,21 97:16 99:13 103:6 109:6 110:14	getting 17:25 30:20 67:3 106:24	green 1:3 2:17 7:10	health 83:2
foundation 20:18 34:11,18 35:6 43:7 45:15 48:16 54:23 61:25 63:24 64:11 66:17 115:21	gilbert 93:18,19,20,20	grosvenor 1:22 2:9 7:25 118:9	heard 9:14
foundational 62:4	give 9:19 10:4 36:22 65:12 79:4 80:3 112:15	group 13:12 20:23 31:10 44:18 78:2	held 31:24 66:13
four 21:12,23 22:5 95:12	given 11:1 18:13 77:24 95:1	guess 94:20	help 9:25
fourth 33:15 38:14 54:4 99:8	glasses 17:25	guybert 93:17	herbert 1:18,25 2:1,25 7:3 8:18 9:6 50:7,15 117:10
fox 5:18 6:6 98:16,23 115:15	go 14:13 69:12 71:5 82:7 94:11 104:8 106:22	h	herbs 58:14
fractionating 16:25	god 9:25	h.a. 5:12,22,25 6:3 106:18 108:19	hereunto 118:18
fractionation 16:22	goes 73:23	half 80:18,19	hermes 2:16,16 4:4,6 8:9,9 27:7,18 34:11 38:2 45:15 46:10 47:3 48:16 49:16,25 52:19 61:24 62:13,21 63:24 66:17 67:15 68:2 69:21,22 76:1 77:22 82:14 90:21 95:3,5 95:13 98:10,15,18 99:20 102:5 103:18 106:1 108:7,9 110:19 112:24 113:14 116:12 117:2,8
france 90:15	going 9:16 25:5 27:21 37:4 50:9 56:23 57:11 60:4 68:7 69:15 74:7 77:18 95:6,7 98:12 112:19 113:17 116:4 117:12	hand 8:17 29:14 99:21 102:6 103:19 106:2 108:10 110:3 118:19	hesitate 11:12
francisco 3:3	good 8:3 9:3 11:13 79:4	handed 18:1 29:11,21 40:12 43:15 47:7 60:22 90:24 95:15 98:19 110:22	hexa 15:9
front 51:15 91:13	goodstein 3:12	handing 35:12 50:19 52:25 55:13 63:6 64:15 66:2 114:12 115:6	hexachlor 14:19
full 9:4 10:4 53:21 63:16 71:13	government 41:5 53:16	handle 31:10	hide 84:8
fully 67:22 89:2	governmental 37:9	handled 30:17	high 44:11,22 46:13,16 81:19 82:24 86:17
function 17:3	gpfox00030966 4:25 51:2	handling 31:13 45:14	higher 13:23 21:11 23:1 36:14 42:15 57:5 70:22,25 75:12 78:3 80:20 81:5,23 94:9 112:10
further 32:19 65:20 69:9 73:22 116:10 118:8,13	gpfox00034528 5:21 102:9	hands 114:8	highest 11:14
future 47:2 107:18	gpfox00037466 5:16 91:2	handy 58:22	highlighted 18:16 114:24
g	gpfox00039135 5:25	happen 22:15 82:2,7,18,25	highlights 96:8
gain 13:5	gpfox00054039 5:20 100:2	happened 33:13 39:13 45:1 65:17	hills 3:13
garrels 44:16,17	gpfox00054047 101:8	happening 34:20	home 106:24
general 38:25 78:12	gpfox00054149 6:4 114:17	hardy 91:8	homed 14:16
generally 59:4 95:25	grade 85:14	harmful 82:1,10	homologue 14:1,17 87:3
george 1:8 7:6	grades 80:23 85:9 86:8	hazard 82:23	
georgia 2:3,4 3:4,5,7,8,9,10 8:4,8 8:19,20	gramann 1:25 2:25 7:22,23	hb 39:22 65:15 78:14,16 79:3 79:4,24 89:8,11,17 90:10	
german 90:14	great 117:7	heading 104:12	
	greater 77:9 85:13 86:8,16 87:10		

[homologues - january]

homologues 13:21,24 14:14,18 23:1 57:6 70:16,19,20 77:16 78:3 86:15,20,23 87:11 94:8 103:5 105:4 109:8 110:15 112:11 honors 11:15 hope 11:9 112:1 117:6 hoped 25:6 hotel 1:22 2:10 7:25 118:9 house 5:4 53:3 housekeeping 24:19,21 36:22,23 hum 11:13 13:8,16 15:8,12 20:9 20:15 27:1 28:18 31:20 32:3,13 33:2,6,20 34:1,1 36:1,1 37:1,13,18 40:9,22 41:2 42:6,17,20 43:8,25 44:8 45:8,11,25 46:20,23 48:12 49:9 51:6,6,16 52:2 52:10,17 53:10,10,13,19,25 54:3,7,13,25 55:8,23 56:2 58:1,23 59:21 60:1,3,8,10 61:6,19,21 63:14,14,20,23 64:3,6,8,21,25 65:23 66:9 66:11,15 67:23 68:1 69:6,8 70:1,13,18 71:2,7,17,21 72:1,5 73:20 74:1,6,9,25 75:3,6,8,17 76:9,11,14 77:1 78:11 80:12,15 81:3,7,12 81:15 82:13 83:13,16,25 84:12,16,20,25 85:3,17 86:3,21 87:19 88:15,18,21 89:5 90:8 91:6,12,15,19,23 92:4 94:20,23 95:17,17,20 96:18 97:5,13,23 98:5,8 99:17 100:1,12,15 101:1,5 101:9,14,23 102:3,11,15,20 102:23 103:12,15,15,21,23 103:25 104:3,13,22 106:5 106:10,15 108:15,18,21 109:3,18 110:9,12 111:1,3 111:9,12,20 115:23 116:9 116:17 117:1 human 91:21 humans 82:10 humphreye 4:14 31:3 32:4	hunsucker 3:12 husch 3:16 hypothesized 19:9 hypothetically 17:17 i identical 14:1 identification 17:22 29:9 35:10 40:10 43:13 47:5 50:13 52:23 55:11 60:20 63:4 64:13 65:24 90:19 95:10 98:9 99:19 102:4 103:17 105:25 108:8 110:18 113:20 identified 4:11 5:2 6:2 27:10 identify 36:16 84:2 identifying 20:6 illinois 2:21 imagine 36:8 immediate 79:5 immediately 31:21 79:25 important 71:11 impose 88:16 117:6 incident 19:2 30:13,13 56:18 incidents 19:15 incineration 25:9 26:2 include 12:22 included 13:22 15:4 16:22 31:13 44:12 including 12:15 14:18,22 46:19 72:3 77:7 82:16 107:19 inclusive 30:10 40:19 43:21 47:20 51:3 53:6 55:19 incorporated 7:5	incorrectly 80:22 increasingly 42:2 indicate 22:21 112:10 indicated 18:17 22:7 44:1 84:10,19 110:6 111:17 indicates 20:10 indirectly 118:17 individual 97:1 industrial 103:7 industry 12:7 43:10 77:9 85:14 90:2 105:3 infestation 53:17 56:8 informality 9:23 information 22:7 23:13 25:14 36:19 41:19 49:22 52:8,15 60:14 64:9 67:11,17,19 71:12,15 78:7,8 83:18 94:17 107:17 110:11 informed 32:8 initial 12:6 insecticide 113:5 inserted 14:6 insignificant 17:3 insofar 38:10 instance 2:3 59:7 instances 20:1 58:25 59:8 instructions 9:20 instructs 11:4 integrity 36:21 intend 76:21 intent 71:18	interchangeable 13:10 interest 56:15,16 89:19 interested 118:16 interests 36:20 internal 107:12 108:22 116:25 internally 94:4 107:14 interrupt 57:10 introduced 76:19 introduction 100:17 invariably 42:14 80:20 investigated 25:9 32:19 73:22 investigation 49:8,14,22 investigations 19:8 24:1 48:24 49:13 66:19 104:7 115:2 investigators 103:3 involved 12:10 28:16 74:16 79:10 88:7 involvement 12:13 66:22 114:25 irish 18:22 19:2 20:1 isomers 100:20 103:3 104:17 111:18 issue 29:6 33:4 75:20 104:5 issues 20:7 67:12 76:3 item 20:10 items 63:17 91:21 j j.d. 4:14 31:3 j.w. 4:12 18:4 james 2:4,5 3:5,5,10,10 8:20,21 january 4:16,19 29:25 31:17,17,23
--	---	---	--

[january - manufacturing]

january (cont.) 33:8 35:20 36:3 37:3 39:24 40:17 74:4,8,23 75:16,23 76:10,25 80:8	knowledge 36:19 39:17 46:4 78:16 83:15 88:7	life 9:15	low 81:21 82:1 113:10
japan 90:15	known 64:9	limit 97:9	lower 21:5,9,19,25 56:6 84:9,18 94:8 100:20
jensen 18:17 19:17,24 115:4,19 116:1,5	labeled 37:16 98:22	limited 5:15,19 47:23 50:21 99:23 108:1	lp 2:4 3:4,9 8:20
jensen's 19:19 92:10,17 114:23	laboratories 13:3	limits 83:3	lucky 9:15
job 12:8 95:1	laboratory 4:18 5:9 40:16 53:18 56:8 60:4 61:1	line 32:19 73:21,24 74:2,7 106:17	lunch 117:7
john 3:7 8:7 56:24 57:24 58:2,10 59:2,2,13,24 60:13	landfill 24:18 25:4 26:1,1	linked 14:5	lytz 3:2 4:3,5 7:17 8:3,4 9:2 17:12,24 20:19 23:10 27:14 27:19 29:8,10,18 34:8,16 34:21 35:7,11 38:3 40:11 43:14 45:21 46:18 47:6 48:17 49:11,20 50:4,18 52:20,24 55:1,12 56:16 60:21 62:3,16 63:5 64:1,14 66:1,18 67:21 68:3,16 69:9 75:24 77:13 82:12 98:13 112:17 113:24 115:24 116:10 117:3
joint 28:8,23 36:2	large 77:17 86:12 103:7	list 48:3 100:4	
jointly 28:15	largely 67:2 89:10 100:21	listed 91:13 96:2,3 97:10 100:3	m
judge 10:24	larger 43:12	literature 107:11	m.j. 6:5 115:10
julie 1:25 2:7 7:21 118:3,22	largest 43:1,4 77:7	litigation 98:22	main 2:17 12:18 72:10
july 102:22 103:14	late 19:20 76:7 106:25	little 56:24 57:24 58:2,10 59:2,2 59:13,24 60:13 91:24	mainprize 93:16
jump 81:8	latham 3:2	llc 2:4 3:5,10 8:20	maintain 42:2 48:8 71:13
k	law 2:16	llp 2:19 3:2,16	major 25:15,19 36:16 104:6 106:17
karl 3:2 8:4	leakage 24:22	local 60:2	making 10:7 28:4
kelly 6:4,6 26:12,13,19 27:20 28:2,7 49:18 114:15 115:8 115:9,25 116:1,15,21	leakages 24:19	location 32:24	malvern 12:2
kimberly 1:14	learn 89:20	locations 72:7	mammals 81:24
kind 37:4	leave 7:15	london 4:16,18,20 5:4 35:19 36:3 40:16 41:10 43:18 53:4 114:15 116:19	man 44:20
kingdom 23:17,18 43:2,6 45:14 58:25	led 94:7	long 76:15 78:1 89:25	management 44:7 48:6
knew 33:10 38:18 57:12 114:22 114:22	left 31:14	longer 56:10	manager 31:25 38:21 96:24 106:12
know 16:20 17:19 19:1 20:24 28:17 30:24 31:3 34:2 38:16 39:12,14 45:3 46:25 58:4 60:13 61:22 63:3 64:9 64:12 65:10 74:2,10 78:19 82:2,25 88:22 89:13,25 91:5,6 101:6 106:9,23 107:12,15 108:14 110:13 113:4 116:20	length 30:1	look 21:15 31:18 36:10 43:22 51:13 58:9 59:18 91:4 97:6 106:8 108:13 110:23 114:21	managing 44:13
	lesser 87:10	looks 22:17 33:22 51:12	manufactured 16:13,14 26:17 57:20
	letter 5:18 6:5 98:16 99:1 115:8	lot 58:16 92:9 108:4	manufacturers 25:21,22 89:23 90:12,15
	letterhead 50:23	louis 3:17 96:20 97:12,22 98:7 106:11,13,20 116:23	manufacturing 23:19 34:23
	level 14:23 44:7,12,22 81:21		
	levels 13:21 14:22 15:21 81:23 83:4 87:11		
	lidgett 5:24 53:14 93:16 108:19		

[march - ncr]

march 4:24 5:4 47:11 51:1,9,10,11 51:13 53:4 84:24 85:20 104:1,24 105:23	meeting (cont.) 41:19 42:9 43:17 44:5,10 44:11,12,22,23 45:1 46:21 49:3 53:2,11 55:3,16 60:24 61:13 62:6 66:13,16,20,24 75:1,22 76:2,10 80:6,10,14 84:3,23 85:1,20	ministry (cont.) 97:10	monsfox00034524 5:4 53:5
marine 81:21 100:23	meetings 41:7,8,11 74:17	minor 16:12 91:25	monsfox00034541 4:19 40:18
mark 98:12	memo 4:12,13 5:12,20,23 6:3 20:5 32:10 116:21	minute 50:4 95:7 112:16	monsfox00056852 4:14 30:9
marked 6:9 17:22 18:2 29:9,11,15 29:22,24 35:10,13 40:10,12 43:13,15 47:5,8 50:13,19 52:23,25 55:11,14 60:20,23 63:4,6 64:13,15 65:24 90:19,25 94:10 95:10,15 98:9,20 99:19,21 102:4,6 103:17,19 105:25 106:2 108:8,10 110:18,22 113:19 114:12 115:6	memorandum 18:4 30:1,6 35:21 64:19 106:4,8 108:23 110:24 111:23 116:18	minutes 95:12	monsfox00059700 5:14 66:6
market 89:23	menasha 3:15	mipb 89:2,8,14	monsfox00097049 4:12 18:7
marketing 31:24 44:20 96:24	mention 41:18 42:1,7 97:19	missed 68:14,17	montgomery 3:3
martin 26:12,13	mentioned 17:13 18:12 105:18	missouri 3:17	month 104:6
mass 45:23	mentions 85:25	mixed 87:9	monthly 5:21 104:5
match 109:10	message 5:16 95:18,23	mixture 15:1,2,4 54:20 70:11 86:10 87:4	months 79:23
material 16:9 24:23 25:3	met 26:12,20	mixtures 105:21	morning 8:3 9:3 69:25 70:6 71:6 74:22 75:19 86:2 98:25
materials 57:1	metabolism 100:24	modified 105:1	mroz 3:12
matter 7:4,8 30:2 36:8	method 25:8,10 76:17	molecule 14:3,25	multipage 100:2
mcs 104:18 105:1	michael 2:16	moment 18:8 35:24 37:19 40:20 42:18 45:10 51:4,25 53:7 54:11 55:21 61:4 63:18 64:22 66:7 108:5	multiple 30:1 35:21 40:17 43:19 47:9,19 51:1 53:1,4 55:15 55:17 66:3 91:1 115:14,14
mean 13:15,25 28:19 47:4 57:10 59:17 79:17 90:7 96:16 113:4	micro 21:2,14 93:11	monochlor 22:4,11	n
means 63:3	microbial 100:23	monoisopropyl 88:23	n.e. 3:8
meant 61:22 62:10,18,20 81:20 93:6	middle 31:18 33:21 54:9 78:6 101:10,10	monsanto 3:18 5:4,15,19 8:14 11:21 11:24 12:4 13:3,11 20:2,17 24:1 27:21 30:22 34:4,6,9 34:14,17,24 35:2 37:9 38:4 39:25 41:1,4 43:2,5 44:13 44:13 48:18 49:1 50:21 52:12 53:3 68:18 70:8 71:18 72:7 73:16,25 75:4 79:17,21 80:11 82:15 85:2 88:1,2 89:19,20 90:13,17 94:15 96:17 98:15 99:23 106:3 107:9,24 108:25 112:12 115:3 116:16,19,25	name 8:4,7 9:5 13:11 28:12,13 31:3,4 53:22 70:8 73:7 96:2 102:16
medical 115:9 116:16	mike 8:9 69:22 98:13	monsanto's 92:6,19 94:21 101:3	named 73:4
medicines 58:14	mills 45:13	monsfox00031834 5:7 55:18	naming 61:9
meet 26:19	milwaukee 118:2	monsfox00031837 5:12 63:10	nature 12:16 36:15 48:9 75:13 95:21 100:22
meeting 4:15,17,19 5:3,5,7 28:6,8 35:14,19 36:2,6,11,17 37:3 37:5 40:14,24,25 41:3,5,14	mind 10:15 51:15 83:1 95:24	monsfox00034522 5:10 61:3	nc 74:19
	minimize 30:19 39:14		ncr 1:5,11 2:22 4:15,20 5:18 6:6 7:5 8:12 26:4,5,8,13,14 28:4,8,15,24 30:2,21,22 31:24,25 32:21 34:3,17,22 35:3,19 36:3,12,16 37:8,23 39:8 40:1 41:1,4,13 42:1,7 43:1,4,11,17 45:14 46:21 48:25 49:6,15,23 52:4,12 53:23 54:2 60:15,18 61:15 61:16 62:12 64:10 67:5,12
	ministry 4:17 5:3,8 12:1 35:14 36:18 40:15 41:14 53:2,12 56:7 56:22 60:24 63:1 80:7 81:1 81:2 84:3,7,23 85:19 97:4		

ncr (cont.) 67:19,24 68:9,18 72:17,19 72:21,24 73:4 74:11,19 75:1,9,20 76:4,7,15 77:3,4 78:10,21 84:1,2,15 88:9,22 89:12,21 92:19 96:9,15 97:25 98:2,16,23 115:13,15 115:18	numbered 37:20 numbers 14:12 18:7 22:12 25:20 37:16 83:21 99:8 113:9 numerals 15:19 nuts 59:12	oh 68:11 101:19 116:24 oil 113:12 okay 9:13 29:19 34:1 37:21 51:16 54:14 58:21 68:7 69:25 70:2 74:20 83:22 87:15 90:18 93:9 94:10 95:5 99:18 101:19 103:13 107:3 113:14 116:24 olson 5:17 96:19 97:22 98:6 once 64:23 ones 14:19 21:11 94:9 ongoing 41:6 open 26:7 68:19 82:16 opened 27:22 operating 2:4 3:5,10 8:21 84:15 operations 37:24 49:1 94:18 opposed 89:8 orde 84:5 order 86:17 113:11 organisms 21:2,14 93:11 organization 25:1 organizations 19:23 organize 79:21 organized 66:20 original 6:7,7 117:14,15 outlet 36:17 output 77:17 outset 9:14 oxnard 3:13	p p.m. 2:12 7:15,17 50:10 117:13 118:12 pacific 2:3,4 3:4,5,7,9,10 8:4,8,19 8:20 packages 56:25 57:4 packaging 58:5,6,18 59:2,13 60:13 page 4:2,11 5:2 6:2 18:3 20:10 29:19 31:5,19 32:14 33:15 33:17,19,21,23 35:21 36:10 37:14,17 39:7 40:17 41:20 42:12 43:19 45:5 46:1,2 47:9,19,21 51:1,12,21,21 53:1,4,20 54:9 55:15,17 56:3 57:15 60:23 63:7,16 64:17 66:3 73:14 76:12 80:16 83:9,23 85:4 91:7,13 91:16 94:11,14 99:6 100:17 101:6,6,10 102:13,25 109:5 109:19,21 114:13 pages 30:1 91:1 papageorge 5:13,20,22 64:20 65:10 87:18,22,23 102:13 104:10 papageorge's 88:11 paper 1:8 5:24 7:6 18:17 26:18 28:4 29:4 32:20,22 36:16 39:18 43:10,12 45:18 46:17 53:23 57:8,13,14 61:15,18 68:20 73:4,5,10 76:15,18 77:3,5,9 78:20 84:2 86:13 88:8 89:21 92:10 94:3 114:23 papers 1:4 2:18 7:4 8:10 69:23 paragraph 18:20 31:21 32:18 37:25 38:14 39:7 41:22,25 42:13 44:3,4 45:9,22 51:23 52:3 53:21 54:8 56:3 57:16 58:9 59:18 61:10 63:16,19 71:9 71:25 73:15,21 76:23 80:17 80:18,19 81:8 83:24 84:19 85:5,7,18 88:4,20 91:18,24 94:11 97:6,24 99:8,11 100:19 101:16 102:24 104:14 105:12 109:5,20,22 111:14
ncr's 34:15 42:11 near 67:4 necessary 84:7 94:16,16 needed 16:24 79:11 needs 80:1,3 negatives 68:7 nelson 3:12 new 13:5 39:18,18 51:16 65:12 79:14,20 newport 16:16 23:14,16,18 30:17 31:1,7 38:10 66:13,21 67:4 nivelles 4:22 38:6,7 46:9,11 47:13 49:2 nondegradable 69:4 normally 57:6 north 13:4 nos 30:9 notary 2:8 118:4,22 note 29:23 notice 2:7 noticeably 44:22 noticed 7:14 november 106:14 number 4:12,13 7:10 14:8,13 15:15 19:3,10,14,22 20:1,5 22:9 33:18 42:23 97:3 113:13	o oath 9:24 object 27:18 34:11 38:2 45:15 46:10 48:16 49:16 61:24 63:24 66:17 69:7 objection 11:5 17:10 20:18 23:9 27:6 27:7 34:5,18 35:5 43:7 49:10,24,25 52:18,19 54:23 56:14 60:16 62:21 64:11 67:14,15 68:2,12 75:24 77:13 82:12 115:20 objections 10:21 11:3 62:13 objectives 106:17 107:3 obligates 10:4 obligation 25:13 observed 23:6 55:6 85:10 obtain 94:16 obtained 11:14 35:2 109:11 obviously 67:1 89:14 occasion 9:15 44:24 occur 20:22 21:4 23:1 65:22 occurred 12:25 21:2 24:9 41:9 44:23 76:24 105:14 occurring 19:15 72:6 75:15 100:22 103:9 104:23 105:22 114:9 occurs 21:16 october 13:1 71:19 76:8 77:24 111:4 112:12 114:5,7 office 118:19		

[paragraphs - pretty]

paragraphs 37:20	pcbs (cont.) 113:25 115:2	place 7:24 25:1 79:2	poor 24:19
paren 84:6	peachtree 3:8	plaintiff 1:12 2:18,21 3:14	posed 10:21 27:16
parentheses 84:5	peak 101:18,18,19	plaintiffs 1:6 7:5	posing 29:5
part 13:5,17 16:21 24:16 26:9 31:12 41:3,6 71:14 79:17 87:4 96:10 100:10 112:8	peakl 101:17	plan 76:21 79:22 80:2	position 39:9 42:3 56:22 84:6 94:21
partially 79:1 85:11	penta 15:9 85:13	planning 106:20	positions 14:7,11 69:11
participant 40:23	pentachlorodiphenyl 85:8	plant 16:16 23:14,16,17,19,20,24 24:2,8,10 25:11 26:16 30:17 31:1,9,11,14,17,25 32:20 46:9,11 47:13 48:2,5 48:14 67:4	positive 84:4
particular 21:17 26:25 45:19 58:17 70:11 74:13 96:19 98:11 100:11 110:23 111:7,22 116:18	people 4:12,13 18:5 22:18 31:7,10 57:23 72:21	plants 16:25 48:22 51:24 67:4 103:7	possible 67:20 76:22 97:8 104:20
particularly 87:24 90:4 113:10	percent 15:16,17,18 32:21 33:24 38:14 42:22,24,25 70:11,19 70:21 71:1 77:15,18 86:15 86:18,19,21 99:12 105:8 109:12,25	plasticizer 96:10,16,17,21 99:4	potential 28:25 55:4 67:25 68:4,10 99:14
parties 118:15	percentage 15:15 86:17	plasticizers 97:25	potentially 77:5
partly 78:20 86:10 94:25	performed 34:3	play 82:3	poulenc 90:14
parts 107:5	persistence 82:20	plaza 3:17	powell 31:25
party 3:14	persistent 27:3 69:4 77:16,19 78:4	please 8:1,16,24 9:5 10:14,17 11:12 29:8 32:15 37:20 51:25 54:12 55:21 57:10,17 63:11,19 64:2 73:13 80:16 87:14	practically 104:17
pass 72:21	person 28:12	poenitsch 1:25 2:7 7:21 118:3,22	practice 17:18
passing 67:18	personal 118:7	point 12:10,12 14:17 15:20,21 16:11 21:1 23:23 24:23 29:6 33:9 86:4 89:24 92:13 99:9 112:14	preceding 118:5
pattern 22:22 49:21	personally 39:25 44:9 62:19	pointed 27:8,25	predominant 103:5
pay 11:2	personnel 30:18	points 34:23	preliminary 94:6
pc 3:12 23:13	persuade 65:2	policy 27:24	preoccupation 12:19
pcb 12:21 13:21 14:4 18:21 21:20 25:15 36:13 44:6 51:24 54:9 56:6 58:25 66:23 73:11 75:11 85:7 86:8 107:4,19	phgncr 4:16,20,22 5:13,17,22,23 6:3 35:22 43:20 47:20 64:18 110:21	pollutants 110:7	prepare 41:4
pcbs 5:14,24 12:11,13,24 13:7 13:12,15 19:4,6,11,17 20:3 20:7 23:1 26:22 33:24 39:2 43:1,5 48:13 59:4,9 60:13 66:5 70:25 71:24 72:3 78:12 81:14,17 82:9,16,22 83:4 86:6 87:24,25 90:7,11 90:12 91:20 92:24 93:10 94:1 99:11 101:16 107:22 108:16 109:6 113:2,7,8,10	phonetic 23:22	pollution 4:22 47:12 76:16 77:3,6,12	prepared 46:5 83:14 91:8
	physicist 12:5	polychlorinated 13:13 18:6,18 110:3	presence 37:22 55:10 86:6 117:4
	physics 11:15	pond 107:19,21 111:8,10,24 112:6	present 3:19 28:6 53:16 75:4 78:4 85:1 99:13 103:5 110:5
	picked 58:17 59:6		presented 66:13
	picking 58:21		presently 84:10
	pills 58:14		preserving 10:24
			press 59:9
			presume 12:8
			pretty 60:12

[previous - recollection]

previous 12:13,19 97:10 108:24	promise 117:5	question (cont.) 22:23 43:3 54:17 62:1,4 68:8 70:5,7 71:22 116:13	readily (cont.) 94:8 105:21
previously 6:9 29:24	pronounce 38:6 47:24	questions 10:5,14 69:9,24 70:2 71:6 73:15 74:21 83:8 87:16 112:25 116:10	reading 45:18 91:10
primarily 105:2	proof 112:14	quickly 11:10 76:21 80:2,2	reads 71:11 72:2 76:15 80:20 81:9 85:7
prior 92:7,21 98:1 107:9,10,24	proportion 46:14	quite 23:21 41:14 42:23 43:3 46:13 61:7,7 78:15 82:1 86:17 92:9 97:3 108:3	ready 89:16
probably 9:21 33:13 41:8,9 45:2 59:15 62:8,23 92:13 114:22	protect 36:21	quote 58:10,11	realize 57:13
problem 5:24 20:3 28:16 29:5 44:7 45:17 48:7 66:23 67:25 68:4,10 71:13 74:19 79:6 79:10 81:10,16,17 92:8,15 92:20 99:14 108:16	prove 65:4 92:1	r	realized 36:18
problems 25:23 27:16 31:11,13 48:4 89:7 114:23	provide 10:18 22:24	r.a. 5:21,23,24 108:19	really 46:16 62:25 63:1 74:15 82:25 85:23 107:15
procedure 2:6	provided 34:24	radar 12:2	realtime 2:8 118:4
procedures 58:8	prudent 110:1,16	raise 8:17 14:13	reason 11:11 40:5 66:24 68:5,22 76:18 79:7 105:7
proceed 89:1	publication 65:3,9 88:17 93:7,10	raised 33:5 45:17	reasons 46:15
proceedings 7:1	publicity 65:20,22	range 13:20 15:22 18:7 35:22 40:18 43:19 47:19 51:2 53:5 55:18 61:2 63:9 66:6 91:1 114:17 115:15	reassuring 92:2
process 9:20 16:16 24:11 25:11 28:22 34:23 79:21 89:14 90:11 101:22 105:5	publish 93:2	rapidly 22:10 89:1 101:21	recall 16:19 28:11 37:8 38:4,11 45:2,16 49:17 55:25 56:18 58:24 59:7,10 70:5 72:20 74:18 93:4,8 95:21 96:7 106:22 111:7
processed 57:8	published 92:23 93:5,11,23 94:1 107:5,9,10,12,14 108:25	rare 109:25	received 32:12 45:12 55:25 76:8 96:6 100:9 102:21
processing 16:22	pull 107:16	rate 22:6,8	receiver 78:21
produced 98:22 103:8	purchased 59:23	rates 22:3,12 111:25	receiving 30:11 65:1 95:21 96:7
product 5:15 15:16,23 16:2,13,23 22:15,17,18 27:12 30:16 31:14 40:5 54:19 55:10 90:11 105:6	purpose 20:16,21 41:3 107:25 112:6	rdr 1:25 2:7 118:3	recess 50:12 95:9 112:21
production 12:2 28:4,21 31:12 38:15 61:17 65:13 79:18	purposes 11:2	reached 23:4 57:23	recipient 30:4 32:10 44:1 49:3 55:24 63:13 91:14 106:6
products 2:4 3:4,9 8:20 13:22 20:23 24:13 25:24 59:24 97:16 109:12,25 110:1	pursuant 2:5,6	react 78:24	recipients 102:16
program 107:19	put 8:1 25:3	reaction 79:2	reckoned 57:7
progress 5:13 47:10 66:3	quantification 104:19	read 32:16 37:19 42:18,23 45:10 51:25 54:11 59:19 62:8 71:16 72:4 81:11 84:11 85:16 89:4 91:17 92:3 94:19 97:17 98:4 99:15 100:25 101:24 103:10 104:21 109:14 110:8 111:19 112:5	recognize 18:10,11 20:2 32:12 35:25 40:21 43:24,25 51:5 53:8 55:22 61:5 63:12 64:24 66:10 73:7 75:7 80:13 91:5 99:22 100:11 102:10 103:22 106:9 108:14
project 78:1	quantities 88:8 103:7 109:24	readily 21:25 73:1 78:25 87:8,9	recollection 28:1 33:7 52:11 57:21
	quarry 25:1,4		
	quarter 89:3,15		
	query 62:15		
	question 10:10,18,23 11:5,6 16:7		

[recommendation - risk]

recommendation 47:15	relationship 20:6 61:16	reporter 2:8 7:21 8:16,17 29:17 90:25 95:14,16 98:20 118:4	resulted 52:7
record 8:2 9:5 10:7,9,24 17:21 18:1 29:13,23 30:8 47:18 50:9,17 69:13,15,17,19 95:7,12 98:21 102:9 103:16 110:20 112:18,19,22 113:16,17,22 117:12	relative 9:23 118:14,15	reporting 1:25 2:25 7:22,23 52:4 59:12 66:12	resulting 88:6
recorded 118:6	relatively 11:10 17:2 21:21 113:10	reports 92:18,23	results 19:16,24 34:17 49:12,14 60:11 67:6 74:10 92:12 93:2 94:5,6 101:12 112:9
recording 7:14	release 24:9	represent 8:4,8,10,13 70:10	reveal 37:9
recycled 57:8,14,25	released 23:5 103:8	representative 28:10 38:9	review 63:18 64:22
recycling 28:25 29:4 33:3 38:24 39:5 46:19 63:22 64:5	releases 24:2 26:22 27:15 97:11	represented 9:9 101:16	rhone 90:14
reduced 118:6	relevant 25:15 71:12	repulping 32:23	richard 5:23 6:3 106:11 108:18
refer 13:12	remain 56:10	request 42:10,11 44:5 54:2	right 8:17 9:11,12 10:13,20 11:8 11:22 13:8 15:10,15 16:4 18:25 20:9,13 21:24 22:2 23:8,15,18,25 25:17 26:10 26:14 28:5 30:5 32:3,11 33:6,9 34:1,1 36:1 37:1,7 37:11,21 38:1 39:6,11 41:2 41:23 42:4,20 43:8 45:8,11 46:3,6,12,19,20,23 47:17 48:15,23 49:2,7 51:6,14,16 51:19,22 52:2,6,14 53:10 53:13,19,25 54:7,13,13 55:8,20 56:2 57:18 58:1,13 59:21 60:1,8 61:6,12,19 63:14,20,23 64:3,21,25 65:23 66:9,11,15 67:8 68:5 69:6 70:1,13 71:4,7,10,21 72:1,15 73:6,18 74:9,25 75:6,17 76:9,11 77:1,25 78:11 79:18 80:9,12 81:3,7 81:12 82:13 83:16,25 84:12 84:25 85:6,17,21 87:1,21 88:5,10,12 89:5,10 90:8,14 91:3,9,12,19 93:20,22 95:1 95:14,17 96:4,18,24 97:5 97:13,23 98:3 99:7,8,24 100:7,18 101:5,9,23 102:15 103:1,15,21 104:3,13,15,25 105:17,24 106:5,7,12,19 107:7,21 109:1 111:1,6 112:6 114:16,18 115:12 116:7,17 117:1
reference 48:13	remember 26:20 28:10,13 30:11,13 32:6,8 35:1 36:5,6,7,9 37:2 37:4 38:23 39:13 44:23,24 45:12,17 55:2 58:5 59:11 59:11,15,16 60:11,17 65:1 65:2,8 66:25 67:17 70:7 72:10 74:12 78:5 95:23,25 106:24 114:20	research 5:19 12:2,5 13:3 50:22 77:11,23 78:1 79:12 92:22 93:9 99:25 106:12 116:22	
referenced 6:9	remembered 33:11	resemble 85:8 103:4	
referred 13:9 15:11,13 19:1 108:24	remembrance 5:9 61:1,7	residence 9:7	
referring 23:16 85:23 108:23 111:11	reminded 59:14	residue 27:13 36:13 75:11 85:12	
refers 15:15 18:20 89:7 91:20	reminding 59:16	residues 22:25 23:7 24:8,10,25 54:9 85:7,10,13 86:7,14 104:20 112:3	
reflected 23:11 34:2 49:3 55:24	repeat 64:2	resin 78:22 79:1,1,4	
reflects 40:23 48:18 94:21	replaced 65:14	resistant 87:1,13	
refresh 33:7 52:11 57:21	replacement 40:2,5	respective 61:17	
regard 25:18	replacing 65:16 89:2	response 79:5 115:3 116:4	
regarded 54:15	report 4:15,17,19,24 5:3,5,7,10,13 5:19,21 31:4 32:20 34:17 35:3,14,18,18 38:12 40:14 43:17 45:12 47:10 50:25 51:17 53:2,11 55:15 57:22 60:24 62:9 63:8 66:3 67:1 73:19,22 74:4 75:1 80:6 84:22 99:25 101:7 104:5,6 104:8 107:12 111:15 115:4 115:19 116:1,5	responsibilities 114:4	
regarding 48:8 72:16 73:15 92:20,24 94:1 111:7	reported 1:25 34:19 42:21 49:14 57:24 59:3,8 67:6 109:7	responsibility 12:25 18:13 23:12 31:12 34:15	
regulations 83:5		responsible 12:20 20:11 87:23	
reiteration 110:13		rest 58:9	
relate 104:4		result 16:24 35:2,3 39:5 59:1,13 73:2 74:13 86:7	
relating 25:23			ring 15:7
relation 20:3			rings 14:5,7 21:23 24:14
			risk 28:25

[risks - sort]

risks 30:19	schafer 2:20 8:11,11 17:10 20:18	seriousness 48:7	simply 82:23
river 23:24	23:9 27:6 34:5,18 35:5 43:7	services 31:6,8,9 38:9 47:10,16	simulation 22:14
rivers 46:15	64:11 67:14 68:12 69:7,14	66:21 73:17	single 64:17
roles 61:17	112:15 115:20	set 83:3 112:25 118:18	sir 11:7 71:5 73:13 76:2 77:2
round 41:15	science 93:13	severn 23:21,24	83:7 84:11 90:24 93:2
rpr 1:25 2:7 118:3	scientific 107:11	shake 111:16	95:14 98:19 99:2,21 102:6
ruabon 13:4 21:9 72:2,12,13 95:22	sea 18:22 19:2,3 20:2	share 49:12,13,22 90:21	103:19 106:2 108:10
100:9	seal 118:19	shared 60:14,18,18	110:22 112:25 116:13
rubber 12:7	second 10:7 23:11 31:5 32:14	sheet 78:21	site 24:18
rules 2:6	42:12 47:21 53:20 57:15	short 21:21 46:25 54:21 104:6	sited 23:20
run 76:15	71:11 80:18 88:3 97:7	116:4	sitting 9:11
running 79:18 108:4	104:14 106:8 111:14	show 91:25 112:2	situation 9:24 25:7 36:13 75:11 88:9
s	section 42:14 44:4	showed 81:19 116:14	six 14:12,19 15:7 70:20
safe 82:3	security 48:8	shown 104:17	sixes 21:12
sale 28:3 43:5 96:9	seeing 114:20	shuffle 41:10	skip 84:21 87:14 111:21
sales 27:21 42:25 68:19	seen 99:1,3 114:19 115:16	sic 98:16 110:6	slight 96:12
salt 58:15	self 56:9,15,15,16	side 44:13	slightly 16:15,24
samples 23:6 33:23 34:2,22 67:3	selling 63:22 82:16	sidley 2:19	small 17:6 32:17 72:8
103:2	sending 116:21	signature 111:2	sold 26:17 43:9
sampling 48:19	senior 3:7	significance 17:4,5,8,15	solubility 79:3
san 3:3	sent 32:23 104:9 116:1	significant 16:18 17:6,19 19:12 20:3	solvent 39:19,23 65:12 78:13,14
sanders 3:16	sentence 45:22 71:11 75:9,14 81:9	20:25 21:1 81:23 86:14	79:14,20 89:12
satisfy 80:1	97:7,8 100:19 111:13,21	88:8 92:15 94:3 105:13	solvents 68:6 79:10
saw 38:11	sentences 109:22 111:22	109:24 111:17	somebody 51:16
saying 57:19 99:16	separation 104:17 105:5	significantly 16:11 21:11,13 112:4	somewhat 30:15
says 7:15 32:19 56:4,15 61:22	separations 17:1	silent 56:10	soon 78:15 107:13
73:21 97:7,24 101:16	september 11:24	silicon 12:14,15	sorry 16:7 17:11 35:16 43:3 57:9
107:18 108:16,19	sequence 21:16 29:8	similar 12:16 105:6,9	68:11,14 90:22 93:6,8
scaled 89:18	series 33:23 41:6 115:1	simon 3:20 7:22	94:13,14 98:17 105:10
scarcely 17:6	serious 91:25	simple 54:18	108:11 110:20
	seriously 88:9,22		sort 22:14 24:13,20 28:21 32:17
			45:16 57:8,14 58:7 65:7
			66:16 70:7 74:15 79:22

[sort - terminating]

sort (cont.) 107:16 113:5,12	starting 81:20	substantially 114:5	talking 33:3 54:9,22
sound 19:19	state 2:9 9:4 17:25 29:13 30:8	substantiate 112:2	talks 38:14
sounds 54:18 59:22	47:18 73:23 109:23 118:1,5 118:23	suggest 22:8 46:24 97:9 109:8	tape 7:3 50:7,15 117:10
source 22:23 55:4 58:19 76:16 77:3,6,12,20	stated 61:13 84:19	suggesting 97:18,19	task 23:11 76:10 77:24
south 2:20 23:18 25:2 32:23	statement 31:22 48:4 56:4 101:2	suggests 100:21	tasked 20:5
span 21:22	states 1:1 7:8 16:14,17 31:16 39:8 41:25 44:4 45:22 58:9	suite 2:17 3:3,13,17	teape 4:15,20,22 5:6,11 26:5,18 28:9,9,12,14,24 35:19 36:4 36:12 37:8,23 38:19 39:8 40:1 41:12 42:11 43:18 44:6 45:23 46:5,22 47:12 47:23 48:6 49:1,6,19,23 52:5,13 54:2 55:16 56:9 57:24 59:23 60:19 61:16 62:12 63:1,9,21 64:4 65:14 67:5,19 72:18 74:17 75:2 75:10 76:7 80:3 83:15 84:1 84:14 96:10,14
speaking 50:2	65:13,18,21 72:9,20,22 73:3 75:9 78:17,21 79:8 84:1 87:25 88:6,22 89:9,10 90:17 91:24 99:9 100:19 101:11 102:12 103:2 104:10,16 105:12 107:25 109:6 111:14,24	summarize 66:22 85:18	teape's 37:24 42:7 46:7 48:22 49:15
special 105:20	status 4:24 50:25 51:17 66:19	summary 31:19 36:11 44:4 56:4 61:13 76:13 80:14 91:17,18	technical 31:6,8,9,11 38:9 47:10,16 52:4 66:21 73:16 108:4
specialist 116:22	step 84:4	summing 66:16	technological 88:24
specialty 61:18	stop 82:15	supermarket 60:2	telegram 5:16 95:18
species 21:6,20	stopping 68:19	supply 80:3	telephone 5:11 63:8
specific 36:7 85:24 95:24 96:7	store 25:3	supplying 90:2,6,7	telephonically 3:14
specifically 16:8 32:7 41:6 49:18 59:5 74:12	story 39:9,14	support 39:9	tell 9:24 18:9 27:20 28:1 35:25 40:21 43:23 51:5 53:8 55:22 56:20 61:5 63:12 64:24 67:24 68:4,9,13,18 68:22,25
spices 58:14	street 2:17 3:3,8,13	suppose 51:16	ten 14:6 45:13 50:4
spillage 30:14,19	streets 61:9	supposition 82:1	tended 19:16
spillages 25:23	structure 105:9	sure 10:14 24:21 37:6 45:18,18 60:12 62:24 89:25 90:3 94:20 95:25 112:17	tepted 23:22
spoke 28:14	studies 4:24 20:16 51:1 94:2	surfacing 89:8	term 13:14 70:23 85:23
ss 118:1	study 94:5 100:10 112:9	swear 8:16	terminate 27:21
st 3:17 96:20 97:12,22 98:7 106:11,13,20 116:23	stuff 78:25	sweden 18:17 19:17	terminating 28:3
stages 112:1	style 10:23	sworn 8:22	
stamp 30:9 33:18 35:22 37:15 64:17	subheading 31:19	system 76:20 78:21 79:15 89:12	
stamped 50:10	subject 30:2	systems 31:2	
standing 47:16 87:4	subsequent 19:8,21 74:17	t	
start 11:20 62:4 78:1 80:19 83:10 90:2,6 97:8 100:17	subsequently 84:5	taken 2:2 9:17,24 34:22 50:12 95:9 112:21 118:9	
started 12:3 20:24 24:25 77:23 114:2	substance 23:4 27:3	talk 26:21,24 28:17 32:4 44:25 117:5	
		talked 9:21 32:6 45:2	

[terminology - unchecked]

terminology 15:14	time (cont.) 29:2 32:8 33:10 36:22	trade 13:11 70:8	types 17:7 21:3
terms 10:16 13:10 86:22 113:4	37:10 38:12,18 39:13,19,21	transcribed 10:8	typical 49:21
terphenyls 24:13	41:7 45:4 50:3,10 54:1	transcript 6:7,8 7:1 117:15,15	typically 10:22
tested 60:7	57:12,22 65:12,14 68:8	transfer 12:25	u
testified 8:23 41:24 75:18 83:14	69:10 71:13,18 72:15 77:2	transform 25:22	u.k. 16:16 17:9,16 20:7 42:25
86:1	77:7,12,21 79:12,14,16	transformer 25:22 110:5	44:14 59:10
testimony 10:25 77:10	81:2,6,14 82:9 83:2 84:15	transformers 77:8 86:11 97:20	u.s. 17:9,16 88:9,22
testing 60:6	86:9 88:1 89:14 90:13	treforest 4:22 38:5 46:9 47:13,23,24	ubiquitous 59:4
tests 12:6	92:14 93:23 94:22 95:3	47:24 48:1,2,14 49:2 57:20	uh 93:1,1
tetrachlor 21:20 22:10	99:16 101:4 104:10 105:22	trichlor 14:16 22:11	um 11:13 13:8,16 15:8,12 20:9
thank 9:13 29:19 56:16 80:5	107:9,17 109:16 110:11	trichlorodiphenyl 54:15,18 85:11,23	20:15 27:1 28:18 31:20
101:19 102:8 113:14 117:4	114:10,11,25 115:5,23	tricks 79:9	32:3,13 33:2,6,20 34:1,1
thing 10:7 24:20 40:4 45:20	timetable 78:5	tried 24:21 28:11 107:16	36:1,1 37:1,13,18 40:9,22
65:17 74:15 79:22 95:23	timing 37:7	trigger 33:9	41:2 42:6,17,20 43:8,25
96:1,8 113:5	timings 33:12	trip 107:25	44:8 45:8,11,25 46:20,23
things 28:21 58:16,18 66:12 116:4	title 50:24 93:4 108:16	trips 97:2	48:12 49:9 51:6,6,16 52:2
think 9:14 13:1 14:12 18:22 28:8	titled 93:10 103:2	true 42:6 77:2,12 109:16 114:9	52:10,17 53:10,10,13,19,25
28:8,9 29:2 33:9 34:12	today 9:4,9 11:10 70:23 85:15	116:8	54:3,7,13,25 55:8,23 56:2
38:20 42:24 50:1 54:21	117:4	truth 9:25,25	58:1,23 59:21 60:1,3,8,10
56:14,15 57:12 59:5,14,15	today's 7:12 11:2	truthful 10:4,19	61:6,19,21 63:14,14,20,23
60:10 62:15 65:3 67:16	told 69:2	try 9:22 10:17 65:6,11 82:3	64:3,6,8,21,25 65:23 66:9
68:7 72:8 74:13 85:21	tolworth 56:8	tsd 47:14,16 67:2	66:11,15 67:23 68:1 69:6,8
90:16 92:4,14 93:16,23	tom 8:13 108:11	tuesday 1:19	70:1,13,18 71:2,7,17,21
94:3 96:21 106:25 107:10	tons 32:22	turn 32:14 33:15 37:14 41:20	72:1,5 73:20 74:1,6,9,25
108:18 115:17	top 32:18 37:17 44:7 45:9	42:12 45:5 46:1 51:20	75:3,6,8,17 76:9,11,14 77:1
third 3:14 25:13 37:14 51:20	51:23 53:20 73:15,21 76:12	53:20 54:4 57:9,15 73:13	78:11 80:12,15 81:3,7,12
thomas 3:16 6:5 115:11 116:2	100:13 102:12 104:1	74:20 76:12 80:4,16 83:7,9	81:15 82:13 83:13,16,25
threat 94:18	total 42:25 93:13 107:4	83:22 85:4 88:3,19 91:7,16	84:12,16,20,25 85:3,17
three 14:10,17 22:5 24:14 52:11	toxic 113:8,13	94:10 101:6	86:3,21 87:19 88:15,18,21
63:16 90:22	toxicity 81:10,16 82:6,17 107:5	twelve 95:8,12	89:5 90:8 91:6,12,15,19,23
tight 48:8	113:6,11	type 5:16 14:14 15:14 95:18,23	92:4 94:20,23 95:17,17,20
tightened 24:7,20	toxicological 94:17	96:1 100:8	96:18 97:5,13,23 98:5,8
time 7:13,18 11:11 12:8,10,12	toxicologically 82:22		99:17 100:1,12,15 101:1,5
12:22 13:2 18:12 19:16,25	toxicology 5:15		101:9,14,23 102:3,11,15,20
21:22 25:7 26:3,5 28:15	traces 46:7 57:5 91:20		102:23 103:12,15,15,21,23
			103:25 104:3,13,22 106:5
			106:10,15 108:15,18,21
			109:3,18 110:9,12 111:1,3
			111:9,12,20 115:23 116:9
			116:17 117:1
			unaware 115:1,18,22,25 116:6
			uncertain 33:4 82:11
			uncertainty 82:6,18
			unchecked 82:7

[uncontrolled - write]

uncontrolled 27:23	verify 19:23	wanting 63:2	wisconsin 1:2 2:9,17 7:10 118:1,5,23
underneath 48:3	versa 10:11	wash 32:25	wish 41:13 44:6
understand 10:2,12,14,16,18,19 11:6,7 13:15 93:25	versus 7:6 87:4	waste 23:13 24:25 25:10,15,25	withdraw 82:3
understanding 13:6 62:10,20 63:21 64:4 75:15 76:24 80:24 81:4,13 82:8 84:14,17 86:5 89:6 92:5 101:3 102:1 103:14 110:10	vice 10:11	wastepaper 28:20	withdrawal 83:6
undertake 20:5 83:17	video 1:18,25 2:25	water 48:5	withdrew 89:23 90:2,6
undertaken 20:17 94:24	videographer 3:20 7:2,19,22 8:15,24 50:6 50:14 69:12,15,18 95:4,6 95:11 112:19,22 113:17,21 117:9	watercourses 25:5	withhold 41:17 67:11
undertaking 37:24	view 92:6,7	waterways 30:20	withholding 67:17
undertook 19:23	views 44:6	watkins 3:2	witness 2:2 3:18 8:14,16,18 17:11 17:23 27:8 34:6,12,19 43:8 45:16 46:11 49:17 50:1 54:25 60:17 62:1,14,22 64:12 67:16 68:13 69:8 77:14 82:13 115:22 118:18
undesirable 76:20 84:9	visit 30:2 31:16,22 32:4 38:8,11 44:21 47:14,23 106:18,20 107:13	weeks 36:21	wonder 51:15
unintentional 24:22 25:24	visited 30:18 38:5 108:2	went 22:8 97:3 107:13	wondering 62:19
united 1:1 7:8 16:17 23:17,18 43:2 43:5 45:14 58:25 65:18,21 72:20 73:3 78:17 79:8 87:25 89:9 90:16 107:25	visits 4:22 25:19 37:24 47:12,22 97:3,4	we've 70:22 116:15	wood 6:4 30:3 114:15 116:19,22 116:22
university 11:17	vodden 1:18,25 2:1,25 5:12,22,25 6:3 7:4 8:3,18 9:3,6 18:1 29:11,21 30:12 35:12 40:12 43:15 47:7 50:8,16,19 52:25 55:13 60:22 63:6 64:15 66:2 67:11 69:22 108:19 113:25 117:3,11	whiting 1:8	woodland 3:13
unnecessary 48:9	vodden's 106:18	whitney 7:6	word 13:24
usa 103:3	volume 7:3 50:7,15 117:10	whoops 43:20	words 47:3
usage 56:10 61:15,23 62:11	vs 1:7,13	wide 18:5	work 12:3,6 13:19 19:19,21,23 20:1,12,21,24 21:9 22:2,21 34:3,6,9,20 57:1 58:20 60:4 60:9 67:2 71:23 72:2,3,6,8 72:11,13,16 73:2,10 92:8,9 92:17,24 93:2,4,15 94:1,25 105:22 108:1,2 111:14
use 10:16 13:14 26:6 28:3 30:16 37:12 39:17,19,22 42:8 77:7 78:15 85:13,22 86:8,10,12 89:16,20	w	widely 58:11 80:23	worked 12:1 25:8 41:14
uses 113:4	wales 11:17 13:4 23:19 25:2 32:24	widespread 39:17 88:7	working 12:6,11,14 13:2 52:12 88:1 113:25 114:2
usually 103:6 109:7	want 39:8 97:25 99:5 100:16 101:15 102:24 104:11 105:11 106:16	wiggins 4:15,20,22 5:6,11 26:5,17 28:9,9,12,14,24 35:19 36:4 36:12 37:8,22,24 38:19,20 39:8 40:1 41:12 42:7,11 43:18 44:5 45:23 46:5,7,22 47:12,23 48:6,22 49:1,5,15 49:19,23 52:5,13 54:2 55:16 56:8 57:23 59:22 60:19 61:16 62:12 63:1,9 63:21 64:4 65:14 67:5,19 72:18 74:17 75:2,10 76:7 80:3 83:15 84:1,14 96:10 96:14	works 72:12
v	wanted 39:14,16 41:12 68:5 78:13	wildlife 18:19 19:18 91:21 103:4 109:7,11,24	world 83:3
varied 15:1			worried 90:4
variety 18:5 66:12			write 107:3
various 34:23 58:11 83:2			
verification 83:17			

[writing - yep]

writing 118:6
written 18:4 57:22 61:11 94:22 107:8 115:8,10
wrote 36:11 51:17 62:11
y
yeah 33:20 42:20 48:15 51:14,19 61:21 90:8 96:18 97:5 100:5 116:3,17 117:1
year 11:18
years 12:19 16:6,10 85:14
yep 29:7 32:3,13 37:18 48:12 53:25 55:23 58:1,23 60:1 61:12,21 66:11 81:3,7 83:13 84:12 85:3,17 88:5 91:23 92:4 94:14 95:4 105:24