

STATE OF ALABAMA
IN THE CIRCUIT COURT OF CALHOUN COUNTY

MARS HILL MISSIONARY
BAPTIST CHURCH, et al.,

Plaintiffs,

CIVIL ACTION NUMBER

versus

CV-96-243

MONSANTO COMPANY, et al.,

Defendants.

CONTINUATION OF THE
DEPOSITION OF WILLIAM B. PAPAGEORGE

The continuation of the videographic and
stenographic deposition of WILLIAM B.
PAPAGEORGE, was taken before Deborah Salers
Garrett, Certified Shorthand Reporter,
Registered Professional Reporter, as
Commissioner, commencing at 9:00 a.m. on May
21, 1998, by the Plaintiffs, at the Ritz
Carlton Hotel, 100 Carondelet, St. Louis,
Missouri, pursuant to the stipulations set
forth herein.

Regional Reporting Service, Inc.
755 Walnut Street
Gadsden, Alabama 35901-0755

A P P E A R A N C E S

For the Plaintiffs:

JACK ATKIN, Esq.
KASOWITZ, BENSON, TORRES & FRIEDMAN
1301 Avenue of the Americas
New York, New York 10019

For the Defendants:

ADAM PECK, Esq.
LIGHTFOOT, FRANKLIN & WHITE
300 Financial Center
505 North 20th Street
Birmingham, Alabama 35203

GERARD H. DAVIDSON, JR., Esq.
SMITH, HELMS, MULLISS & MOORE
P. O. Box 21927
Greensboro, North Carolina 27420

I N D E X

	<u>Page</u>
Stipulations	4
Reporter's Certificate	201

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

	<u>Page</u>
Witness: WILLIAM B. PAPAGEORGE	
By Mr. Atkin	5
By Mr. Peck	197
By Mr. Atkin	199

REGIONAL REPORTING SERVICE, INC.

E X H I B I T S

<u>Plaintiffs'</u>	<u>Marked</u>	<u>Offered</u>
Fifty-three	15	
Fifty-four	23	
Fifty-five	30	
Fifty-six	39	
Fifty-seven	44	
Fifty-eight	56	
Fifty-nine	61	
Sixty	65	
Sixty-one	76	
Sixty-two	84	
Sixty-three	89	
Sixty-four	98	
Sixty-five	103	
Sixty-six	112	
Sixty-seven	115	
Sixty-eight	119	
Sixty-nine	124	
Seventy	127	
Seventy-one	130	
Seventy-two	137	
Seventy-three	141	

No other exhibits were marked for
identification, offered or attached as
exhibits hereto.

REGIONAL REPORTING SERVICE, INC.

S T I P U L A T I O N S

IT IS STIPULATED AND AGREED by the
parties, through their respective counsel,
that the deposition of WILLIAM B. PAPAGEORGE,
may be taken before Deborah Salers Garrett,
CSR, RPR, as Commissioner and Notary Public,
Alabama at Large, at St. Louis, Missouri, on
May 21, 1998, at 9:00 a.m.

IT IS STIPULATED AND AGREED that the
signature to and reading of the deposition by
the witness is waived, the deposition to have
the same force and effect as if full
compliance were had with all laws and rules of
Court relating to the taking of depositions.

IT IS STIPULATED AND AGREED that it
shall not be necessary for any objections to
be made by counsel to any questions except as
to form or leading questions and that counsel
may make objections and assign grounds at the
time of trial or at the time said deposition
is offered in evidence or prior thereto.

IT IS STIPULATED AND AGREED that notice
of filing by the Commissioner is waived.

REGIONAL REPORTING SERVICE, INC.

STATE OF MISSOURI, ST. LOUIS, MAY 21, 1998

WILLIAM B. PAPAGEORGE,

after having been first duly sworn, was
examined and testified as follows:

EXAMINATION

BY MR. ATKIN:

Q. Good morning, Mr. Papageorge. How are
you today?

MR. ATKIN: Off the record.

(Discussion held off record.)

Q. Mr. Papageorge, have you met with
Monsanto's attorneys since your last
deposition?

A. Yes, I have.

Q. And when was that?

A. Are you speaking of this matter here or
any matters?

Q. I would say related to this matter here.

A. I met yesterday with attorneys.

Q. Who did you meet with?

A. Mr. Mike Kelly, Mr. Adam Peck, and

REGIONAL REPORTING SERVICE, INC.

Mr. Gerard Davidson.

Q. Okay. And where did you meet with them?

A. At the offices of Solutia, Incorporated.

Q. Here in St. Louis?

A. Yes.

Q. How long did you meet with them for?

A. About four hours.

Q. Okay. Do you expect to be compensated
for the time you spent yesterday with
Monsanto's attorneys preparing for the
deposition?

A. I expect it, yes.

Q. Okay. Would that be at an hourly rate,
or would that be within the monthly
retainer that you were telling us about
last time?

A. It's within the monthly, unless the
hours exceed the monthly rate.

Q. Okay. Have you reviewed the deposition
transcripts from your first two days of
testimony in this matter?

A. I have.

Q. When did you do that?

REGIONAL REPORTING SERVICE, INC.

A. Oh, a week or two ago.

Q. Okay. Have you reviewed any other
transcripts of deposition testimony
given in this case by anyone else?

A. No.

Q. Did you review any documents yesterday
when you met with Monsanto's lawyers?

A. Some, yes, sir.

Q. What did you review?

A. I can't remember in detail.

Q. Did you review the transcript of your --
the two transcripts of your first two
days of testimony in this matter?

A. Not really reviewed it. We talked about
it.

MR. PECK: Wait a minute. I'm
going to instruct you. Do
not discuss anything that we
discussed. That would be
within the attorney-client
privilege. He's entitled to
ask you and I think all he
really has done is ask you

REGIONAL REPORTING SERVICE, INC.

about something that you
looked at with us. But he's
not entitled to ask you about
anything we discussed. So I
caution you not to get into
anything we discussed.

A. I don't recall looking at anything that
I associated with the depositions you
referred to.

Q. Okay. I'm still talking specifically
about the transcripts from your first
two days of testimony.

A. Yes. There was a page that I recall.

Q. Okay. Do you recall what page that was?

A. No, I don't, sir.

Q. Do you recall what the topic was?

A. As I remember, I had mentioned a wrong
date associated with a document. That's
all I can recall at the moment.

Q. Okay. Now, other than the documents
that you reviewed yesterday with
Monsanto's attorneys and your review of
the deposition transcripts from your

REGIONAL REPORTING SERVICE, INC.

first two days of testimony that was done around one or two weeks ago, have you reviewed any other documents in connection with the preparation for your deposition here today?

A. I have not.

Q. Okay. Let me show you what was previously marked in this case for identification as Papageorge Fifty-two. I don't believe we -- I think we left off last time with this document. I don't believe that we ever asked any questions about it. So why don't you take a look at it, if you could.

MR. PECK: In fact, I don't think it was marked. It wasn't offered.

MR. ATKIN: Why don't I just, then, mark it for the record. Thank you. This is a memorandum dated October 26th, 1971, subject, General Electric Capacitor

REGIONAL REPORTING SERVICE, INC.

Department, to various people, including Mr. Papageorge. This is a memorandum by Mr. Benignus, B-e-n-i-g-n-u-s.

A. I have scanned the document.

Q. Okay. If you could, look at paragraph six. In that paragraph, Mr. Benignus states that Monsanto would soon have to stand up before the ANSI and give understandable and convincing evidence about the biodegradation and migration of PCBs regarding Aroclor 1016. And then he goes on to say, "The information available at this time is not sufficient and lacks conviction required for us to present our case to ANSI." Do you see that?

A. I think you used some words that I don't see here. You used biodegradation when you described the sentence.

Q. Will have to stand up -- about this -- You're right.

REGIONAL REPORTING SERVICE, INC.

If you look at the previous paragraph -- I was taking an extra step there. If you look at the previous paragraph, it says, "This puts all emphasis on the questions of migration and how biodegradable is Aroclor 1016 in terms of realistic conditions of organisms and time and also knowledge about what is formed after biodegradation." And then he goes on to say, "The time is rapidly approaching when we will have to stand up before ANSI and give understandable and convincing evidence about this." Do you see that?

A. Yes.

Q. Okay. Let me just ask you first. What is ANSI?

A. That's an acronym for the American National Standards Institute.

Q. Okay. And what type of organization was it or is it?

A. It's a group that represents industry

REGIONAL REPORTING SERVICE, INC.

that addresses the formulation of industrial standards.

Q. When you say it represents industry, it represents industry where?

A. When you say where, are you talking about the specific locality or --

Q. No. In connection with what does it represent in industry?

A. If a particular industry is interested in formulating a standard to cover its area of interest, it can, as a group, approach the ANSI organization to establish a working group, which will then convene, as they see fit, to establish standards, whether it be in the workplace or in the product or in the labeling or whatever area is of interest to the group requesting that back-up support from ANSI.

Q. Okay. And what was Monsanto's involvement with ANSI?

A. Oh, I can't speak for all of Monsanto's involvement. I don't know.

REGIONAL REPORTING SERVICE, INC.

1 Q. Well, in connection with PCBs, what was
 2 Monsanto's involvement with ANSI?
 3 A. I was offered and did serve as a
 4 chairman of a committee under the
 5 sponsorship of ANSI.
 6 Q. What was the committee?
 7 A. It was referred to as ANSI C-107.
 8 Q. What was the purpose of that committee?
 9 A. To establish standards for the handling
 10 of PCBs in the use proposed by
 11 electrical equipment manufacturers.
 12 Q. Okay. And did Monsanto ever appear
 13 before ANSI to discuss the
 14 biodegradation or migration of PCBs?
 15 A. I recall discussing -- giving progress
 16 reports on the studies that Monsanto
 17 gave.
 18 Q. On which studies?
 19 A. There were studies conducted within
 20 Monsanto to establish the rate at which
 21 PCBs would degrade in the environment
 22 when exposed to the bacteria of living
 23 creatures in the normal environment.

REGIONAL REPORTING SERVICE, INC.

1 Q. And that information was shared with
 2 ANSI?
 3 A. Yes.
 4 Q. When Mr. Benignus says, "The information
 5 available at this time is not sufficient
 6 and lacks conviction required for us to
 7 present our case at ANSI," do you know
 8 how the information that Monsanto had at
 9 that time was insufficient and lacking
 10 conviction regarding biodegradation and
 11 migration of PCBs?
 12 A. Well, sir, the statement you have read
 13 represents Mr. Benignus' understanding,
 14 and he is not a bacteriologist or an
 15 analytical chemist, so I can't say that
 16 Monsanto's information was not
 17 sufficient or lacked conviction. It
 18 depends on who understood it and how it
 19 was interpreted to each individual.
 20 Q. In your view at this time, in October of
 21 1971, did Monsanto have sufficient
 22 information and did that information
 23 have sufficient conviction regarding

REGIONAL REPORTING SERVICE, INC.

1 biodegradation and migration of PCBs?
 2 A. It did.
 3 MR. ATKIN: Okay. Let us mark for
 4 identification purposes as
 5 Benignus Fifty-three -- I'm
 6 sorry -- as Papageorge
 7 Fifty-three a February 2nd,
 8 1972, letter from
 9 Mr. Papageorge to
 10 Dr. Posefsky and Mr. Raab of
 11 General Electric Company.
 12 MR. PECK: Jack, did you want me
 13 to mark it?
 14 MR. ATKIN: Yes, please.
 15 (Plaintiffs' Exhibit Number
 16 Fifty-three was marked for
 17 identification.)
 18 A. I have reviewed the exhibit.
 19 Q. Okay. Do you recognize this document?
 20 A. I do.
 21 Q. Do you remember writing this letter?
 22 A. I do.
 23 Q. In the first paragraph of this letter

REGIONAL REPORTING SERVICE, INC.

1 you state, "Attached is a question and
 2 answer list for responding to PCB
 3 inquiries, which I offered to mail to
 4 you at our December 10th ANSI C-107
 5 meeting."
 6 When you talk about responding to
 7 PCB inquiries, whose inquiries regarding
 8 PCBs was the attachment -- the
 9 attachment to this letter supposed to
 10 respond to?
 11 A. These were inquiries that the electrical
 12 equipment manufacturers were receiving
 13 from within their own companies and from
 14 their customers.
 15 Q. Okay. And when you refer to the
 16 December 10th ANSI C-107 meeting, do you
 17 recall what the purpose of that meeting
 18 was?
 19 A. Well, that was one of the several
 20 meetings held by this ANSI committee to
 21 establish the standards that were
 22 eventually put together.
 23 MR. PECK: Just for the record,

REGIONAL REPORTING SERVICE, INC.

what's the date of the document?

MR. ATKIN: February 2nd, 1972.

MR. PECK: I couldn't read it.

Sorry.

MR. ATKIN: No problem.

Q. Now, question four of the attached questions and answers for ANSI PCB states, "How does PCB get into the environment?" And the answer begins, "Probably through improper handling, use, and disposal."

Is that an accurate statement?

A. Accurate in what way, your reading it from here or accurate in its --

Q. Is that an accurate answer to the question?

A. Yes. But the word "probably" is not that specific.

Q. Okay. Did you draft these questions and answers?

A. Yes, sir.

Q. Okay. When you say probably is not that

REGIONAL REPORTING SERVICE, INC.

specific, what do you mean?

A. To me the use of the word "probably" there reflects my lack of specific reasons for PCBs getting into the environment. Otherwise, I would have started with the word "through."

Q. Okay. I understand.

Now, Mr. Papageorge, if PCBs have been detected beyond the boundaries of Monsanto's Anniston plant, that would mean that Monsanto improperly used or disposed of PCBs, wouldn't it?

A. Not necessarily. It could be an accident, or it could be another source of PCBs other than the Monsanto plant.

Q. Well, let's assume that it's determined that the source was in fact the Monsanto plant, then PCBs that are detected beyond the boundaries of the plant -- and that those PCBs are detected beyond the boundaries of the plant and they can be shown to have come from the plant, that would mean that Monsanto improperly

REGIONAL REPORTING SERVICE, INC.

used or disposed of PCBs?

MR. PECK: Object to the form of the question.

A. Well, the reason I'm hesitating is the word "improper" is time related. What was proper in 1930 might be improper in 1998. So throughout the decades that PCBs were manufactured, I cannot honestly say that they were improperly handled, because that definition of "proper" kept changing.

Q. But you wrote this letter and these answers in 1972, correct?

A. Yes, sir.

Q. So that was an accurate statement at the time that you wrote this letter; is that right?

When you wrote that "PCBs get into the environment through improper handling, use, and disposal," that was an accurate statement, according to your opinion, in 1972?

A. Yes, and it refers to that time period.

REGIONAL REPORTING SERVICE, INC.

Q. Right. To the 1972 time period?

A. Yes, sir.

Q. And it doesn't refer to -- Does it refer to any time period before that?

A. Well, the statement does, but the definition of proper and improper is the variable.

Q. And in your opinion when did that variable change?

A. It happens so gradually that I don't have a definite date in mind.

Q. Okay. Is it your opinion that allowing PCBs to escape into the environment in 1972 constituted a violation of the proper standard of care in the chemical production industry?

MR. PECK: Object to the form of the question.

A. That is dependent, sir, on the accidental versus deliberate type of allowing and also is dependent on the amount that is involved.

Q. Let's focus on the latter statement you

REGIONAL REPORTING SERVICE, INC.

1 just made. What -- Do you have a
2 specific amount in mind when you say
3 that the answer is dependent on the
4 amount?

5 A. No, I don't, because it depends on where
6 it is going to end up.

7 Q. What do you mean by that?

8 A. I'm trying to think of an example. If
9 you take a pound of PCB and introduce it
10 into water with some juvenile shrimp,
11 that pound is too much. Now, if you
12 took that pound and introduced it into a
13 piece of soil in your backyard, it's not
14 going to do anything. It's going to
15 stay there. So I can't say that that's
16 too much. Too much for what? It's not
17 going to do any harm.

18 So it's not only the amount, it's
19 the final disposal point or area.

20 Q. Okay. Let's look at question six, if we
21 could, which asks, "Does PCB cause birth
22 defects?" And the answer is, "Again,
23 some studies have shown it can be

REGIONAL REPORTING SERVICE, INC.

1 detrimental to the reproductive cycles
2 of certain species of wildlife,"
3 correct?

4 A. That's what it says, yes, sir.

5 Q. And you authored that?

6 A. Yes.

7 Q. Did Monsanto ever undertake any studies
8 to determine whether PCBs can cause
9 reproductive disorders in humans?

10 A. In humans?

11 Q. Yes.

12 A. No, sir.

13 Q. Why not?

14 A. There was nothing known to anybody, not
15 only Monsanto, to indicate a need for
16 such a study.

17 Q. Okay. If you could take a look at
18 question eight, it states, question,
19 "How can PCB be disposed of?" And the
20 answer discusses, "Under high
21 temperature, controlled incineration,
22 PCB break down into hydrochloric acid,
23 carbon dioxide, and water."

REGIONAL REPORTING SERVICE, INC.

1 This answer doesn't mention
2 landfilling at all, does it?

3 A. It does not.

4 MR. ATKIN: Okay. Let us mark for
5 identification as Exhibit
6 Number Fifty-four --

7 MR. PECK: Yes.

8 MR. ATKIN: -- a letter -- a
9 three-page letter dated March
10 22nd, 1972, from T. Katayama,
11 K-a-t-a-y-a-m-a, to
12 Mr. Benignus, and various
13 people received copies,
14 including Mr. Papageorge.
15 This bears Bate's number FGL
16 0010322 through 0010324.
17 (Plaintiffs' Exhibit Number
18 Fifty-four was marked for
19 identification.)

20 A. I have read the exhibit.

21 Q. Okay. Do you recognize this document?

22 A. I do after I read it, yes.

23 Q. Do you recall receiving it?

REGIONAL REPORTING SERVICE, INC.

1 A. Yes.

2 Q. Who was Mr. Katayama?

3 A. He was a sales representative, as best I
4 recall, with the Mitsubishi Monsanto
5 Company in Japan.

6 Q. Was that a joint venture between
7 Mitsubishi and Monsanto?

8 A. I don't know if the words "joint
9 venture" adequately describe it, but it
10 was a joint business activity. I don't
11 know how that's described legally.

12 Q. Okay. On the second page, in the second
13 to last paragraph, Mr. Katayama states,
14 "I think the latest happening
15 sensationally moved the government to
16 this direction. The analysis of
17 mothers' milk in Osaka showed PCB levels
18 of zero point seven to zero point one
19 parts per million, as against the FDA's
20 zero point two maximum level for cows'
21 milk. In the diet committee, the
22 Welfare Minister was at a loss when
23 asked if or not babies can drink milk

REGIONAL REPORTING SERVICE, INC.

with zero point seven parts per million PCB without any danger to their healthy growth."

Let me ask you first, when Mr. Katayama refers to the latest happening sensationally moved the government to this direction, do you know what happening he is referring to?

A. By reading this, sir, at the time I assumed it's this analysis of milk that he follows in that same sentence.

Q. Okay. Did you have an understanding, when you received this letter, as to how elevated levels of PCBs got into the breast milk of Osaka women?

A. I had a questionable impression --

Q. And what was --

A. -- that somehow that was related to the water contamination, but I had no specifics to confirm that.

Q. Did you have any impression that it might have been from the capacitor plants that were upstream from Osaka

REGIONAL REPORTING SERVICE, INC.

that are referred to in the last paragraph on that second page?

A. Well, I find that I can't jump to conclusions like that because there are so many possible sources of PCBs that it's just not responsible to assume any one source.

Q. Would you agree, sir, that women who live downstream from areas in which PCBs are released into bodies of water are at a risk for having elevated PCB levels in their breast milk?

MR. PECK: Object to the form of the question.

A. Sir, I'm not an authority on that. I don't know.

Q. Okay. Did Monsanto ever undertake any studies of whether babies can drink milk with zero point seven parts per million of PCBs without any danger to their health?

A. No. No reason to.

Q. Okay. Did Monsanto ever undertake any

REGIONAL REPORTING SERVICE, INC.

studies regarding what levels of PCBs in babies' milk would be considered -- in mothers' milk would be considered safe to babies' health?

A. Like I said, sir, there was nothing to indicate to anyone, including Monsanto, that such a study would be appropriate and meaningful.

Q. Do you know if the Welfare Minister of Japan ever reached a conclusion as to whether or not babies can drink milk with zero point seven parts per million PCBs without any danger to their healthy growth?

A. I do not know.

Q. Do you know if -- Do you know if any regulatory body in our country has ever made a determination as to what is considered a safe level of PCBs in mothers' milk?

A. I don't recall any regulation referring to PCBs in mothers' milk.

Q. Okay. Now, in the last paragraph on

REGIONAL REPORTING SERVICE, INC.

that page, Mr. Katayama says that soil samples taken at Nichicon -- Lake Nichicon, N-i-c-h-i-c-o-n, had, in quotes, an unfortunate result, showing one thousand parts per million PCBs.

Do you know why Mr. Katayama believed that a thousand parts per million of PCBs were an unfortunate result?

MR. PECK: Object to the form of the question.

A. No, I don't.

Q. Is there any level of PCBs in soil -- soil samples that you would consider to be an unfortunate result?

MR. PECK: Object to the form of the question.

A. There again, sir, it isn't only the presence in soil at a level. It's the potential for that soil to cause an exposure to some living creature that would result in some harm. The question is just so broad, I really can't answer

REGIONAL REPORTING SERVICE, INC.

1 it.

2 Q. Do you know if any regulatory body in
3 this country has ever set any threshold
4 levels for PCBs in soil?

5 A. Yes. Eventually the Environmental
6 Protection Agency came up with a level
7 that they use for regulatory purposes.

8 Q. What is that level, sir?

9 A. As I remember, it was fifty parts per
10 million.

11 MR. ATKIN: Okay. That's all I
12 have on that document.

13 Let us mark as exhibit
14 Fifty-five for the Papageorge
15 deposition a May 4th, 1973,
16 letter from Mr. Papageorge to
17 Ms. Mary A. Appelhof,
18 A-p-p-e-l-h-o-f, of the
19 Environmental Health
20 Committee in South Central
21 Michigan Health Planning
22 Council, bearing Bate's
23 number MONS 091681 through

REGIONAL REPORTING SERVICE, INC.

1 091682.

2 (Plaintiffs' Exhibit Number
3 Fifty-five was marked for
4 identification.)

5 Q. I'd ask you to take a look at that, sir,
6 if you could.

7 A. I have read the exhibit.

8 Q. Okay. Let me ask you first, have you
9 seen this letter before?

10 A. Certainly. I wrote it.

11 Q. When did you last see the letter?

12 A. About the date of the letter.

13 Q. Okay. Fine. Do you recognize the
14 letter?

15 A. I do.

16 Q. Do you recall writing it?

17 A. Yes.

18 Q. Do you know why Ms. Appelhof was writing
19 to Monsanto?

20 A. Not really.

21 Q. Okay. Do you know who at Monsanto she
22 wrote to, she addressed her inquiry to?

23 A. As best I recall, it was addressed to

REGIONAL REPORTING SERVICE, INC.

1 some broad title, such as Chief
2 Operating Officer of Monsanto Company or
3 something. It was not addressed to a
4 specific person.

5 Q. Okay. And who referred the letter over
6 to you?

7 A. I don't recall the individual. It was a
8 marketing representative at Monsanto
9 involved with PCBs, but I don't recall
10 the specific person.

11 Q. Do you know why the letter was referred
12 to you?

13 A. Well, I was involved with the issue.
14 Why that particular individual brought
15 it to me, I don't know.

16 Q. Okay. Fair enough.

17 Do you recall generally what type
18 of information Ms. Appelhof was looking
19 for from Monsanto?

20 A. Generally she was interested in learning
21 more about PCBs. I don't know how else
22 to put it. She had heard of PCBs and
23 didn't quite understand everything she

REGIONAL REPORTING SERVICE, INC.

1 had heard and was trying to get up to
2 date.

3 Q. Okay. In the second paragraph of the
4 letter you state, "With increasing
5 evidence that polychlorinated biphenyls
6 were being identified as environmental
7 contaminants and that some mammals,
8 birds, and marine life were being
9 affected" -- Which mammals, birds, and
10 marine life were being affected, as to
11 the time you wrote this letter, on May
12 4th, 1973?

13 A. Well, Monsanto studies themselves by '73
14 reported that some of the PCBs at high
15 levels fed to test animals did result in
16 some effects. And I'm talking here now
17 about the white rat studies.

18 Q. The ones that were done by IBT?

19 A. Yes. And then there were some studies
20 done with -- Again, IBT did some studies
21 with poultry, chickens. And those
22 studies indicated that some of the PCBs
23 would result in eggs that wouldn't

REGIONAL REPORTING SERVICE, INC.

1 hatch.

2 The marine life reflected such
3 studies as were conducted in Gulf
4 Breeze, Florida, by the Federal
5 Commercial Fisheries Laboratory and
6 established that juvenile shrimp
7 represented a very sensitive species.
8 It's that kind of information.

9 Q. Okay. On the second page, in the first
10 paragraph, you state that "Ideally,
11 disposal should be made by exposing the
12 waste to high temperature incineration,"
13 correct?

14 A. Now, this does refer to solid waste,
15 yes, sir.

16 Q. And you say, "We have not been able to
17 locate commercial incinerator --
18 incinerators capable of reaching the
19 high temperatures required."

20 Did Monsanto ever locate an
21 incinerator that could reach the
22 necessary temperatures?

23 A. No.

REGIONAL REPORTING SERVICE, INC.

1 Q. For how long did Monsanto continue its
2 efforts to locate an incinerator that
3 could reach the necessary temperatures?

4 A. That I don't know, because I was not
5 involved after about 1976 or so.

6 Q. Now, in the next sentence you state,
7 "Additionally the problem of segregating
8 and collecting the waste material still
9 remains to be solved." What did you
10 mean by that?

11 A. I thought the sentence is pretty clear.
12 You have got to segregate the
13 contaminated from the non-contaminated,
14 put it in the proper bins or receptacles
15 to avoid losses in transport.

16 Q. What waste material were you referring
17 to?

18 A. This could include capacitors that have
19 failed in service. It could include
20 clay that was used to treat a PCB
21 liquid. It could include sawdust which
22 was sprinkled on a spill to absorb it,
23 rags, workers' clothing.

REGIONAL REPORTING SERVICE, INC.

1 Q. Okay.

2 A. That's just a partial list.

3 Q. Did Monsanto make any efforts to
4 segregate and collect the waste
5 materials?

6 A. We certainly collected it. I don't know
7 that we segregated the soiled clothing
8 that was discarded from the sawdust. It
9 was all put in steel barrels for
10 disposal.

11 Q. Okay. Well, when you say that the
12 problem of segregating and collecting
13 the waste material still remains to be
14 solved, was that problem ever solved?

15 A. Not to my knowledge.

16 Q. Now, in the last sentence of that
17 paragraph, you state, "It is our
18 considered opinion that as long as the
19 polychlorinated biphenyl waste is not
20 exposed to water and thereby
21 transported, adverse effects to the
22 environment will be essentially
23 eliminated." Do you see that?

REGIONAL REPORTING SERVICE, INC.

1 A. I do.

2 Q. What adverse effects to the
3 environment were you referring to could
4 be prevented by preventing PCB waste
5 from coming in contact with water?

6 A. Well, it's the -- An example is this
7 juvenile shrimp injury or harm that we
8 just talked about. That's just one
9 example.

10 And at that time, since the
11 chickens were affected by some PCBs, in
12 terms of egg hatching, the idea was
13 extended to say this could possibly
14 apply to wild birds, so let's avoid that
15 exposure.

16 Q. Okay. Now, if PCB waste is exposed to
17 water and transported, then adverse
18 effects to the environment can be
19 expected to occur?

20 MR. PECK: Object to the form of
21 the question.

22 A. No. All I say with that is it's
23 relocated. It doesn't necessarily mean

REGIONAL REPORTING SERVICE, INC.

that the end result is any different than before the relocation.

Q. Now, you say also in this paragraph, "Lacking proper incineration, the only recourse available is the use of authorized, properly managed dry landfills." Do you see that?

A. I'm looking for it.

Q. I'm sorry, sir. It was before -- It was the sentence before the one I just read to you before.

A. Oh, I find it, yes.

Q. Now, Monsanto's PCB landfills in Anniston weren't properly managed or dry, were they?

MR. PECK: Object to the form of the question.

A. Again, sir, we're talking a period of decades. And the adjective "properly" changed through that forty, fifty year period. What was proper in 1930 was modified such that what was proper in the 1970s is different. I don't know

REGIONAL REPORTING SERVICE, INC.

how to respond to your question other than that.

Q. Are you aware, sir, of all the work that Monsanto has been required to undertake to try to address the PCB releases from the Anniston landfill?

A. I'm aware of the fact that work has been done. I'm not aware of the details. I don't know any more than that.

Q. The PCBs at the Mars Hills Missionary Baptist Church came from Monsanto's landfill, didn't they, sir?

MR. PECK: Object to the form of the question.

A. I don't know that any more than you do.

Q. Okay. Well, if they didn't come from Monsanto's plant, then where did they come from, in your opinion, sir?

MR. PECK: Object to the form of the question, lack of foundation.

A. Since I didn't personally see it, I can only -- it amounts to guessing where it

REGIONAL REPORTING SERVICE, INC.

could come from.

MR. ATKIN: Okay. That's all I have on that document.

Let's mark for

identification as Papageorge Fifty-six a March 18th, 1975, letter from Mr. Papageorge to Mr. Dan A. Albert, Staff Supervisor, Personal Relations of the Westinghouse Electric Corporation. It appears to be an eight-page letter bearing Bate's number GBRN 001641 through GBRN 001648. (Plaintiffs' Exhibit Number Fifty-six was marked for identification.)

A. I've scanned the exhibit.

Q. Mr. Papageorge, under the first page -- on the first page of the attachment, under question one, the question states, "Does Inerteen have permanent effects on

REGIONAL REPORTING SERVICE, INC.

the human body? If so, what type of permanent damage and how long a period of time does it take for this to develop; if not, explain why, if possible."

And these are responses that you are giving to questions that were written to you by Mr. Albert of Westinghouse; is that right?

A. Yes.

Q. Okay. Now, the answer that you give -- And by the way, did you draft the answers to these questions?

A. No.

Q. Who did?

A. Mr. Elmer Wheeler.

Q. Okay. If Mr. Wheeler drafted the answers to the question, then why were you addressing the response to Mr. Albert?

A. Well, Mr. Albert had contacted me via a letter with a list of questions. And since they were medically-oriented type

REGIONAL REPORTING SERVICE, INC.

of questions, I asked Mr. Wheeler, who was a member of Monsanto's medical department, if he would draft the responses. And Mr. Wheeler did that and sent them to my office, and I forwarded them to Mr. Albert.

Q. Okay. The answer to that first question states at the beginning, "The polychlorinated biphenyls in Inerteen can have permanent effects on the human body."

What was Inerteen, by the way?

A. Inerteen is a Westinghouse trademark used with products that are liquids that are used in Westinghouse electrical equipment.

Q. Okay. Now, when it states here that the polychlorinated biphenyls in Inerteen can have permanent effects on the human body, what kind of permanent health effects was Mr. Wheeler referring to?

MR. PECK: Object to the form of the question.

REGIONAL REPORTING SERVICE, INC.

Q. To your knowledge.

A. Well, he was referring to -- Excuse me. I hesitate because I'm trying to define the word "permanent" in a way that's understood by both of us.

Continued exposure can in a way result in this chloracne that is described in a person. And as far as that person is concerned, it's permanent. That's an example of a permanent effect, health effect. I don't know how else to describe it.

The enlarged liver is another effect that could be included under the definition of a permanent effect.

Q. Okay. Now, in the middle of that page, in the paragraph beginning "The potential toxic effects," it says --

A. I haven't found it yet.

Q. I'm sorry. In the -- I'm sorry -- the one, two, three, four -- the fifth paragraph of the answer.

A. Oh, okay. And what was your question,

REGIONAL REPORTING SERVICE, INC.

sir?

Q. It refers to the fact that chloracne may be an external symptom of overexposure preceding serious liver injury. I just wanted to ask you if you know what -- is it Mr. Wheeler or Dr. Wheeler?

A. Mister.

Q. -- what Mr. Wheeler meant when he was referring to serious liver injury?

A. Well, it does refer to increased liver weights.

Q. Okay. Anything else that you're aware of other than increased liver weight when he's referring to serious liver injury?

A. No. You mean other than what we are discussing here?

Q. Yeah.

A. Well, I understand that continued high exposures can result in that liver being damaged to the point where it cannot recover.

Q. Did Monsanto -- I'm sorry. Did Monsanto

REGIONAL REPORTING SERVICE, INC.

ever tell the residents of Anniston, Alabama, that PCBs can cause serious liver injuries in humans?

A. No more than your service station would tell the neighborhood about the used motor oils that can cause these very things.

MR. ATKIN: Okay. That's all I have on that document.

Let us mark -- Let us mark for identification as Papageorge Fifty-seven a March 25th, 1969, letter from Mr. Eugene C. Wright, Pollution Control Engineer of Monsanto, to W. A. Kuhn, K-u-h-n, and several recipients, including Mr. Papageorge, bearing Bate's number MONS 097308. (Plaintiffs' Exhibit Number Fifty-seven was marked for identification.)

REGIONAL REPORTING SERVICE, INC.

- 1 Q. Let me ask you to take a look at that,
2 if you could, sir.
- 3 A. I have scanned the article. It's rather
4 difficult to read.
- 5 Q. Maybe I can help you with some of it.
6 Sir, did Monsanto ever conduct
7 biological studies on the Choccolocco
8 Creek watershed?
- 9 A. Yes.
- 10 Q. Okay. And did Monsanto hire outside
11 parties to conduct those biological
12 studies?
- 13 A. Yes.
- 14 Q. When did Monsanto first hire the outside
15 consultants to conduct the studies?
- 16 A. Well, this exhibit reminds me that a
17 study was made and refers to the date
18 1964.
- 19 Q. Okay. Where are you referring to?
- 20 A. I may have misread that. It's the
21 fourth line down, the third -- the
22 date --
- 23 Q. Is that from late 1966?

REGIONAL REPORTING SERVICE, INC.

- 1 A. '66, it looks like, yes.
- 2 Q. To August or September of 1967?
- 3 A. Yes.
- 4 Q. Okay. Now, let me ask you first, do you
5 recall receiving this memorandum or this
6 letter?
- 7 A. I don't recall receiving it. I recall
8 reading it since the date of the letter,
9 but I don't recall under what
10 conditions.
- 11 Q. Do you recall reading this anytime in
12 the recent past, within the last few
13 weeks?
- 14 A. No.
- 15 Q. Okay. What is referred to as the
16 Choccolocco Creek watershed?
- 17 MR. PECK: Object to the form of
18 the question.
- 19 A. I just associate it personally with the
20 presence of a creek that has the name
21 "Choccolocco Creek" in that area.
- 22 Q. Okay.
- 23 A. I don't know --

REGIONAL REPORTING SERVICE, INC.

- 1 Q. What the watershed is referring to?
- 2 A. That's right. The hydrologist's
3 definition of a watershed, I do not
4 know.
- 5 Q. Now, the purpose of the studies that
6 were conducted was to determine whether
7 Monsanto's effluents were producing any
8 adverse effects upon the ecology or
9 chemistry of the watershed?
- 10 A. That is the intent, yes.
- 11 Q. What did the studies conclude?
- 12 A. As best I recall, it concluded the
13 presence of PCBs. I do not recall any
14 adverse effects being documented.
- 15 Q. Okay. Who were the outside consultants
16 hired to do these studies?
- 17 A. Well, the initial one is referred to as
18 Dr. Ferguson, and later --
- 19 Q. Later was it Drs. Gunning and Suttkus?
- 20 A. Gunning and Suttkus.
- 21 Q. When did Monsanto first become concerned
22 about whether the effluents were
23 producing any adverse effects on the

REGIONAL REPORTING SERVICE, INC.

- 1 ecology or chemistry of the watershed?
- 2 A. I don't recall a specific date. There
3 was an evolving awareness developing as
4 the analytical procedures were being
5 developed and more information was
6 coming from other sources. And I really
7 can't pinpoint a specific time.
- 8 Q. Okay.
- 9 A. It started with the Swedish work in
10 1966. And from that point on the
11 information slowly evolved.
- 12 Q. Okay. In the middle of the second
13 paragraph it says, "In each of these
14 reports there is mention of the fact
15 that there are no fish or other aquatic
16 life in Snow Creek.
- 17 When did Monsanto first learn that
18 there was no fish or aquatic life in
19 Snow Creek?
- 20 A. I don't know that I could speak for
21 Monsanto. I can only speak for myself.
- 22 Q. Okay. When did you first learn of that?
- 23 A. I was first exposed to Snow Creek in

REGIONAL REPORTING SERVICE, INC.

1 1965. And from that point on -- My
2 personal observation and discussions
3 with plant people, we were all under the
4 definite impression that it was
5 lifeless.

6 Q. Did Monsanto ever tell the residents of
7 Anniston that it knew that there was no
8 fish or aquatic life in Snow Creek?

9 A. That would be an irrational -- No,
10 because there was a lot of industry
11 around there, not just Monsanto's plant.

12 Q. The answer is no?

13 A. That is right.

14 Q. Okay. The next sentence says, "Snow
15 Creek receives all of the waste water
16 and sewer acid from our Aroclor
17 process."

18 Do you know when Snow Creek first
19 began receiving all of the waste water
20 from Monsanto's Anniston plant?

21 MR. PECK: Object to the form of
22 the question. It's a
23 mischaracterization of the

REGIONAL REPORTING SERVICE, INC.

document.

2 A. No. When I arrived, that was the
3 practice. I have no way of knowing when
4 it really started.

5 Q. Okay. The next sentence says, "Although
6 there are many other factors which could
7 adversely affect Snow Creek, the fact
8 that we dump into Snow Creek should
9 certainly be of great interest to us."

10 As this memo reflects, Monsanto
11 was dumping PCBs into Snow Creek; isn't
12 that right?

13 MR. PECK: Object to form of the
14 question, mischaracterization
15 of the document.

16 A. No, sir, it doesn't say that. And you
17 left out a parenthetical expression
18 there referring to organic dyes and
19 foundry waste and so on that contribute
20 to the conditions of that creek.

21 Q. But my question is, sir, regardless of
22 whatever else might have been dumped
23 into the creek, this memo reflects that

REGIONAL REPORTING SERVICE, INC.

1 Monsanto -- Mr. Wright, Pollution
2 Control Engineer, his recognition that
3 Monsanto was dumping into Snow Creek;
4 isn't that right?

5 A. I would suggest, sir, that Monsanto was
6 discharging a water stream that had gone
7 through a collection pit and a limestone
8 bed that deacidified that waste water
9 before it was discharged into a -- I'm
10 going to call it a local ditch that
11 eventually ended up in Snow Creek.

12 Q. Okay. Is it fair to say, sir, that you
13 disagree with Mr. Wright's
14 characterization and use of the word
15 "dumping"?

16 A. I'm having a hard time finding that
17 word, sir. Can you help me?

18 Q. Sure. As I just read previously, the
19 sentence, "Although there are many other
20 factors which could adversely affect
21 Snow Creek" -- and then there is the
22 parenthetical that you referred to --
23 "the fact that we dump into Snow Creek

REGIONAL REPORTING SERVICE, INC.

1 should certainly be of great interest to
2 us."

3 A. Yeah. I personally would not use the
4 word "dump." I would use the word
5 "discharge."

6 Q. Okay. That's all I have on that
7 document. Thank you.

8 Actually, if you could take a look
9 at it -- You don't need the document.
10 Well, yeah, you do. If you could, take
11 a look at it again.

12 Let me ask you this, sir: Was the
13 fact that Monsanto was dumping -- to use
14 Mr. Wright's language, characterization
15 -- into Snow Creek, was that of interest
16 to Monsanto?

17 A. Well, it certainly is of interest in
18 that they had to dispose of this water,
19 and it had to go somewhere. So
20 naturally they are interested in the
21 method of discharge, which included that
22 waterway. So there was interest in
23 that.

REGIONAL REPORTING SERVICE, INC.

Of course, the fact that Monsanto installed the limestone neutralization catch basin reflects the interest in avoiding any undesirable contaminants being in that water that finds its way to Snow Creek.

Q. Okay. Did Monsanto ever tell the residents of Anniston, Alabama, that it was dumping PCBs into Snow Creek?

A. I don't know that Monsanto even knew it was dumping PCBs. It was discharging a treated waste water.

Q. Did Monsanto ever tell the residents of Anniston that it was discharging PCBs into Snow Creek?

A. No.

Q. Do you think that might have been of interest to the residents of Anniston, Alabama, to know that?

MR. PECK: Object to the form of the question, calls for speculation.

A. Sir, I have no way of knowing what is

REGIONAL REPORTING SERVICE, INC.

interesting to others.

Q. Do you think they had a right to know that information, that Monsanto was discharging PCBs into Snow Creek?

MR. PECK: Object to the form of the question.

A. If there is no harm in that, it's no different than telling them we are discharging dirty laundry water.

Q. Is your answer no, you don't think that they had a right to know that information?

A. I don't know about rights and knowing that kind of information. It's not helpful.

Q. Do you think Monsanto should have told the residents of Anniston, Alabama, that it was discharging PCBs into Snow Creek?

A. There was no reason to, therefore --

Q. Is the answer no?

A. The answer is no.

Q. Okay. Let's take a look at the last -- the handwritten note there on the

REGIONAL REPORTING SERVICE, INC.

bottom, which I believe is addressed to you. It says, "Bill" -- Do you see that?

A. That's not me. That's Mr. Kuhn.

Q. It says, "Our thought was that if the business group was interested in long-term effects of PCB on a stream, Choccolocco Creek would be a good place to start. Any information would also help us in maintaining knowledge of the situation in the creek and future insurance if an upset occurs." And I believe that is signed by Mr. Landwehr; is that right?

A. That is correct.

Q. His first name was Joe?

A. Yes.

Q. Do you know what Mr. Landwehr meant by an upset occurring in the future?

MR. PECK: Object to the form of the question.

Q. Do you have an understanding of what he meant?

REGIONAL REPORTING SERVICE, INC.

A. I don't know what Mr. Landwehr meant.

Q. Do you have an understanding of what he meant when he was referring to future insurance if an upset occurs?

MR. PECK: Object to the form of the question.

A. Again, I don't know what he's thinking.

MR. ATKIN: Okay. Thank you.

That brings us to the next document for identification, which I believe is Papageorge Fifty-eight, which is a four-page document. It's a memorandum written by Mr. Papageorge to -- I'm sorry -- written by Mr. Keller to Mr. Papageorge, dated April 17th, 1970, with a number of other recipients. And the memo is dated personal and confidential. I'd ask you to mark this. (Plaintiffs' Exhibit Number

REGIONAL REPORTING SERVICE, INC.

1 Fifty-eight was marked for
2 identification.)
3 A. I have reviewed the exhibit.
4 Q. Okay. The subject of this memorandum is
5 Environmental Materials Analyzed by
6 Monsanto for PCBs, correct?
7 A. Correct.
8 Q. What work did Monsanto do to detect PCBs
9 in environmental materials?
10 A. I don't think I understand the question.
11 Q. Okay. This memo reflects that -- or
12 contains results of samples that were
13 taken from or near eleven waterways
14 associated with industrial sites and
15 waterways and other areas associated
16 with non-industrial sites, correct?
17 A. Yes.
18 Q. Now, the types of samples taken by
19 Monsanto included samples from water,
20 sediment, air, fish, human fat, and
21 milk, correct?
22 A. You used the expression "taken by
23 Monsanto." These samples were taken by

REGIONAL REPORTING SERVICE, INC.

1 others and sent to Monsanto's
2 laboratory.
3 Q. For analysis.
4 A. For analysis.
5 Q. Thank you for clarifying that.
6 But those samples included water,
7 sediment, air, fish, human fat, and
8 milk?
9 A. Yes.
10 Q. And in fact, PCBs were detected in
11 water, sediment, air, fish, human fat,
12 and milk, correct?
13 A. It is correct generally, but not in
14 every sample.
15 Q. Okay. Now, I'd like to ask you about
16 the samples that were taken from Snow
17 Creek and Choccolocco Creek that are
18 reflected on the chart right at the
19 beginning of the first chart there on
20 page two. Do you see that?
21 A. I do.
22 Q. Okay. Do you know where these samples
23 were taken other than Snow Creek and

REGIONAL REPORTING SERVICE, INC.

1 Choccolocco Creek?
2 A. No, I don't.
3 Q. Now, in discussing the -- Are you able
4 to determine from this what levels of
5 PCBs were found in the samples that were
6 taken from Snow Creek and Choccolocco
7 Creek?
8 A. By levels, do you mean specific numbers?
9 Q. Yes.
10 A. No. This is --
11 Q. This is just reflection that there were
12 PCBs found in levels from, let's say,
13 parts per billion to parts per million?
14 A. That's the way it's reported, yes.
15 Q. That's what I thought.
16 Now, do you have any recollection,
17 independent recollection of what the
18 levels were of the air, water, sediment,
19 and fish samples that were taken?
20 A. I do not.
21 Q. Okay. Now, Monsanto analyzed a human
22 fat biopsy specimen also, correct?
23 A. Yes.

REGIONAL REPORTING SERVICE, INC.

1 Q. Why? Why did it do that?
2 A. I don't know.
3 Q. Do you know what the levels were of the
4 PCBs found in the human fat biopsy?
5 A. I don't remember.
6 Q. Okay. Did Monsanto ever tell the
7 residents of Anniston, Alabama, that
8 PCBs had been found in water samples
9 from Snow Creek and Choccolocco Creek?
10 A. No.
11 Q. How about sediment samples?
12 A. No.
13 Q. How about the air?
14 A. No.
15 Q. How about fish?
16 A. No.
17 Q. How about human fat?
18 MR. PECK: Object to the form of
19 the question.
20 A. No.
21 Q. And how about milk?
22 MR. PECK: Object to the form of
23 the question, no foundation.

REGIONAL REPORTING SERVICE, INC.

1 A. No.

2 MR. ATKIN: Okay. That's all I

3 have on that document.

4 And let us mark for

5 identification purposes as

6 Exhibit Fifty-nine to the

7 Papageorge deposition a

8 December 3rd, 1970, letter --

9 memorandum, rather, from

10 E. S. Tucker to

11 Mr. Papageorge and several

12 other recipients as well. It

13 is a three-page memorandum

14 bearing Bate's number SCM

15 037756 through SCM 037758.

16 And I'd ask you to mark that,

17 if you could.

18 (Plaintiffs' Exhibit Number

19 Fifty-nine was marked for

20 identification.)

21 MR. PECK: Do you want me to

22 cover --

23 MR. ATKIN: Oh, sure, yeah. That

REGIONAL REPORTING SERVICE, INC.

1 will be good. Thank you.

2 Q. Now, this memorandum refers to the

3 shrimp studies that you were telling us

4 about before; is that right?

5 A. No.

6 Q. Okay. Let me take a look at -- This

7 memorandum, then, refers to the PCB

8 content of Pensacola White or Bay

9 Shrimp, correct?

10 A. That's the title, yes, sir.

11 Q. Which shrimp studies were you referring

12 to earlier?

13 A. There is a laboratory located offshore

14 from Pensacola, the City of Pensacola,

15 at Gulf Breeze, Florida, that at that

16 time was called the Commercial Fisheries

17 Laboratory, as best I recall, in which

18 the researchers tried different

19 exposures to the shrimp and the fish and

20 whatever is found in the Gulf of Mexico.

21 And they exposed some of the

22 recently-hatched shrimp to different

23 chemicals. One of them was PCBs.

REGIONAL REPORTING SERVICE, INC.

1 Q. So that is separate and apart from the

2 studies that were done -- or the PCB

3 analyses that were done that are

4 referred to in this memorandum?

5 A. That's correct.

6 Q. Were those studies done at or about the

7 same time as the studies that are

8 referred to here, 1970?

9 A. At or about, yes, about that period of

10 time.

11 Q. Okay. Now, Monsanto concluded from the

12 studies that were done on the shrimp in

13 Escambia Bay that there were in fact --

14 that PCBs were in fact affecting the

15 shrimp in Escambia Bay; is that right?

16 A. No, sir.

17 MR. PECK: Object to the form of

18 the question.

19 A. I don't see any mention of effects.

20 Q. Okay. This reflects the fact -- the

21 presence of PCBs in the shrimp in

22 Escambia Bay?

23 A. That is correct.

REGIONAL REPORTING SERVICE, INC.

1 Q. Okay. Do you know why Monsanto

2 undertook this analysis of the PCB

3 content of shrimp from Escambia Bay?

4 A. I'd be guessing, sir.

5 Q. Okay. I don't want you to guess.

6 Escambia Bay is near the Monsanto

7 plant in Pensacola, Florida, right?

8 A. Yes.

9 Q. Did Monsanto ever take any steps to

10 minimize the amount of PCBs discharged

11 from its plant in Pensacola, Florida?

12 A. Yes. That was a continuing objective.

13 Q. And did Monsanto make any attempt to

14 reduce the level of PCBs in Escambia

15 Bay?

16 A. Not the bay itself, no, sir.

17 Q. Did Monsanto ever share the results of

18 its PCB analysis of shrimp in Escambia

19 Bay with any state or federal

20 authorities?

21 A. Not to my knowledge.

22 Q. Did Monsanto ever share the results of

23 its PCB analysis of shrimp in Escambia

REGIONAL REPORTING SERVICE, INC.

1 Bay in Florida with any state or federal
2 authority in Alabama?

3 A. I don't know.

4 MR. ATKIN: Okay. That's all I
5 have on that document.

6 Let us mark for
7 identification as Papageorge
8 Sixty a one-page memorandum
9 from Mr. Wheeler to D. S.
10 Cameron, C-a-m-e-r-o-n,
11 Brussels, dated January 29th,
12 1970, regarding status of
13 Aroclor toxicological
14 studies.

15 (Plaintiffs' Exhibit Number
16 Sixty was marked for
17 identification.)

18 A. I have read the document.

19 Q. Okay. This memo -- In this memo
20 Mr. Wheeler states that he is enclosing
21 a copy of the reports from our
22 consulting laboratory indicating the
23 status of the animal toxicity studies.

REGIONAL REPORTING SERVICE, INC.

1 Now, when he's referring to the
2 animal toxicity studies and the work
3 done by the consulting laboratory, is he
4 referring to the IBT studies?

5 A. Yes.

6 Q. Okay. When did Monsanto first hire
7 consultants to conduct animal toxicity
8 studies regarding the PCBs, to the best
9 of your recollection?

10 A. It was in the '40s, late '30s, as best I
11 recall.

12 Q. Who did the work that was done in the
13 late 1930s or the 1940s on animal
14 toxicity and PCBs?

15 A. There was a laboratory, as best I
16 recall, Younger Laboratories.

17 Q. Younger?

18 A. Younger, Y-o-u-n-g-e-r.

19 Q. And the work that they did, was that
20 done only in the late '30s, early '40s,
21 or did they continue to do work?

22 A. There were repeated studies in the '50s
23 and then of course in the '60s.

REGIONAL REPORTING SERVICE, INC.

1 Q. Who did the studies in the '50s?

2 A. I don't remember the name of the
3 laboratory.

4 Q. Okay. And who did the studies in the
5 1960s?

6 A. Industrial Bio-Test Laboratories.

7 Q. IBT?

8 A. IBT.

9 Q. Let's talk for a second about the
10 studies that were done in the late 1930s
11 or early 1940s by Younger Laboratories.
12 Do you recall what type of studies were
13 done?

14 A. Those were the studies typically
15 referred to as Acute Animal Toxicity
16 Studies.

17 Q. What types of animals were studied?

18 A. The white rat is the typical --

19 Q. Okay.

20 A. -- test animal.

21 Q. What was the purpose of those studies
22 that were done in the late 1930s or
23 early 1940s by Younger Laboratories?

REGIONAL REPORTING SERVICE, INC.

1 A. To establish the level at which the
2 animals are seriously affected. I
3 forget the exact ground rules, something
4 like half of the animals die as a result
5 of exposure, some such guideline.

6 Q. LD 50?

7 A. Yes, that's it, LD 50.

8 Q. Do you recall what level was determined
9 to be the LD 50 level by Younger
10 Laboratories based on the studies that
11 they did with white rats in the late
12 1930s or early 1940s?

13 A. I do not.

14 Q. Now, the studies that were done in the
15 1950s, to the best of your knowledge
16 were they done by a laboratory other
17 than Younger Laboratories?

18 A. The reason I hesitate, as I remember,
19 Younger Laboratories changed names. The
20 personnel were the same, but the
21 laboratory designation changed. And I
22 don't recall which took place first.

23 Q. But was the -- were the studies that

REGIONAL REPORTING SERVICE, INC.

1 were done in the '50s done by the
2 laboratory that was formerly known as
3 Younger Laboratories?

4 A. I'm under that impression, yes.

5 Q. You just don't remember the name of the
6 laboratory?

7 A. That is correct.

8 Q. What was the purpose of the studies that
9 were done in the 1950s?

10 A. Just a reconfirmation of what was
11 perceived to be data that might bear a
12 looking into again.

13 Q. And do you recall the results of any of
14 those studies?

15 A. I don't remember the specifics.

16 Q. Okay. And how about the studies that
17 were done in the 1960s by IBT? What was
18 the purpose of those studies?

19 A. The first tests run in that period were
20 referred to as a subchronic series,
21 which is the exposure that is -- as best
22 I remember, is a ninety-day exposure.
23 And the idea is to expose the test

REGIONAL REPORTING SERVICE, INC.

1 animal to the point where it survives
2 for the ninety-day test period, but at
3 the same time, if there is an effect,
4 that that effect be noted. And that
5 series of tests was used to establish
6 the dosage levels that were later used
7 for the lifetime studies, the
8 two-year-plus studies.

9 Q. That were done, when, in the '70s?

10 A. Yeah, in the early '70s.

11 Q. And the tests that were done by IBT in
12 the 1960s, what types of animals were
13 they done on?

14 A. There were white rats, beagle dogs, and
15 leghorn chickens.

16 Q. Okay. Now, in this memorandum,
17 Mr. Wheeler says, in the second
18 paragraph, "We have given copies of
19 these data to one U.S. customer, the
20 USFDA, and one or two other state
21 agencies."

22 Now, let me ask you first, do you
23 know which U.S. customer the data was

REGIONAL REPORTING SERVICE, INC.

1 given to?

2 A. I do not.

3 Q. Do you know what data they were given?

4 A. I do not.

5 Q. Do you know if the data that's referred
6 to in this memorandum was ever shared
7 with any other Monsanto customer?

8 A. I do know that later versions of those
9 status reports were shared with Monsanto
10 customers.

11 Q. How much later?

12 A. Oh, I can't recall the exact period, but
13 the intent was to have a status report
14 about every six months that we would
15 share with customers.

16 Q. Okay. The next sentence says, "I don't
17 see why this information cannot be
18 released with discretion in Britain or
19 Europe."

20 Do you know what Mr. Wheeler meant
21 when he talked about the animal toxicity
22 data possibly being released with
23 discretion in Britain and Europe?

REGIONAL REPORTING SERVICE, INC.

1 MR. PECK: Object to the form of
2 the question, calls for
3 speculation.

4 A. I don't know what Mr. Wheeler meant by
5 that.

6 Q. Was the animal toxicity information that
7 is referred to in this memorandum ever
8 released with discretion in Britain or
9 Europe?

10 A. Well, sir, I know personally that it was
11 released, but I don't know about the use
12 of the word "discretion." I personally
13 was involved shortly after January, in
14 April, as I remember --

15 Q. January 1970?

16 A. -- 1970, with sharing that kind of
17 information with individuals, customers,
18 co-producers and what have you in
19 Europe.

20 Q. Okay. Now, according to this
21 memorandum, the paragraph states, "Our
22 interpretation is that PCBs are
23 exhibiting a greater degree of toxicity

REGIONAL REPORTING SERVICE, INC.

1 in this chronic study than we had
2 anticipated."

3 What were the results of the
4 studies that showed a greater degree of
5 toxicity than had been anticipated?

6 MR. PECK: Object to the form of
7 the question. There is lack
8 of foundation for this
9 witness to deal with issues
10 of toxicity.

11 A. It has to do with the observed results
12 on the livers of the test animals at the
13 high levels of exposure and for the
14 higher chlorinated types of PCBs.

15 Q. The higher chlorinated, referring to
16 1254 and 1260?

17 A. 1260, yes, sir.

18 Q. What results had been anticipated?

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

21 A. Well, up to this point there was nothing
22 to indicate that PCBs would have any
23 results, and we expected the test

REGIONAL REPORTING SERVICE, INC.

1 animals to reflect that belief. And it
2 didn't do so.

3 Q. Okay. Now, the next paragraph states --
4 actually -- Withdrawn.

5 The next sentence in that
6 paragraph states, "Secondly, although
7 there are variations, depending on
8 species of animals, the PCBs are about
9 the same as DDT in mammals." Do you
10 know what Mr. Wheeler meant by that?

11 MR. PECK: Object to the form of
12 the question.

13 A. No, I don't.

14 Q. The next paragraph states, "We have
15 additional interim data which will
16 perhaps be more discouraging." Do you
17 know what data Mr. Wheeler was referring
18 to in that sentence?

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

21 A. He was referring to the results in the
22 chicken studies.

23 Q. Okay. What results specifically was he

REGIONAL REPORTING SERVICE, INC.

1 referring to when he said that data
2 would perhaps be more discouraging?

3 MR. PECK: Object to the form of
4 the question.

5 A. Hatchability of eggs.

6 Q. Okay. Now, in the last sentence in this
7 memorandum, Mr. Wheeler says, "We are
8 repeating some of the experiments to
9 confirm or deny the earlier findings and
10 are not distributing the early results
11 at this time."

12 Let me just ask you. Did Monsanto
13 have the experiments repeated?

14 A. Yes.

15 Q. Okay. And did they confirm or deny the
16 earlier findings?

17 A. They confirmed.

18 MR. ATKIN: Okay. Let us mark for
19 identification purposes for
20 your deposition as Papageorge
21 Sixty-one a May 7th, 1970,
22 memorandum from G. W. Miller
23 to G. L. Jessee. And

REGIONAL REPORTING SERVICE, INC.

1 Mr. Papageorge is a recipient
2 of this memoranda. The
3 memorandum is dated May 7th,
4 1970. It bears -- It's a
5 two-page memorandum bearing
6 Bate's number MONS 099533
7 through 099534.
8 (Plaintiffs' Exhibit Number
9 Sixty-one was marked for
10 identification.)

11 A. I have scanned the exhibit.

12 Q. Okay. This discusses a visit by
13 Mr. Landwehr, Mr. Wright, and Mr. Miller
14 to Mr. Crockett at the Alabama Water
15 Improvement Commission in or about May
16 1970. Were you aware of that visit?

17 A. Eventually, yes.

18 Q. What does eventually mean?

19 A. When I got a copy of this letter or
20 memorandum.

21 Q. Okay. Have you seen this memorandum
22 anytime in the recent past?

23 A. By recent, if you mean the past couple

REGIONAL REPORTING SERVICE, INC.

1 of months, yes.

2 Q. Did you look at it in the last couple of

3 weeks?

4 A. No.

5 Q. Okay. Now, who -- Do you know who at

6 Monsanto first initiated contacts with

7 Mr. Crockett on the PCB issue?

8 A. No, I don't.

9 Q. Okay. One of the topics that they

10 discussed with Mr. Crockett was that

11 Aroclors reaching the watershed from the

12 Anniston plant were entering Snow Creek,

13 correct?

14 A. Will you help me find that reference?

15 Q. Yes. If you look in the second

16 paragraph, it says -- number three says,

17 "Additional information supplied covered

18 the following facts." And number three

19 is, "Any Aroclors reaching the watershed

20 from the Anniston plant were entering

21 Snow Creek."

22 A. That's what it states, yes.

23 Q. Okay. Now, in the next paragraph, it

REGIONAL REPORTING SERVICE, INC.

1 states, "He" -- referring to

2 Mr. Crockett -- "alluded that our action

3 would produce a situation that was

4 beneficial to the protection of both the

5 Monsanto and AWIC positions." Do you

6 know what he meant by that?

7 A. No.

8 MR. ATKIN: You didn't need that

9 objection.

10 MR. PECK: I was just going to

11 object to the form of the

12 question because it calls for

13 speculation by you. You

14 handled it, so never mind.

15 Q. Do you know, sir, what position Monsanto

16 was looking to protect that is referred

17 to here in this memorandum?

18 A. No, I don't.

19 Q. Do you know what position the AWIC was

20 looking to protect?

21 A. I do not.

22 Q. Okay. Now, in the recommendations that

23 Mr. Crockett made that are referred to

REGIONAL REPORTING SERVICE, INC.

1 in the third paragraph of this

2 memorandum, one of the things that he

3 recommended, number three, is "Give no

4 statements or publications which would

5 bring the situation to the public's

6 attention." Do you see that?

7 A. I see that.

8 Q. Okay. Do you recall learning about the

9 fact or discussing the fact that

10 Mr. Crockett had recommended that

11 Monsanto should give no statements or

12 publications which would bring the

13 situation to the public's attention?

14 A. I recall that, yes, sir.

15 Q. What do you recall about that?

16 A. I can share with you my impressions at

17 the time.

18 Q. Okay.

19 A. This confirmed my experience and belief

20 that individuals in this type of

21 assignment are very sensitive to what is

22 revealed to the public; and therefore,

23 this is almost an expected request.

REGIONAL REPORTING SERVICE, INC.

1 Q. Okay. That was your impression at the

2 time?

3 A. That is my impression.

4 Q. Okay. Did Monsanto follow this

5 recommendation?

6 A. No.

7 Q. Okay. Well, did it ever make any

8 statements to the public about the fact

9 that it knew that Aroclors reaching the

10 watershed from the Anniston plant were

11 entering Snow Creek?

12 A. I don't know about those specific words,

13 but I do recall -- Yes, they did. The

14 plant manager addressed that.

15 Q. How did he address that?

16 A. Well, I have a vivid recollection of an

17 article in a local paper that appeared

18 in 1970, as best I recall.

19 Q. Anything else?

20 A. That's all that comes to mind right now.

21 Q. Okay. Do you recall being told of a

22 recommendation that Mr. Crockett made

23 that if approached by news media, either

REGIONAL REPORTING SERVICE, INC.

1 the AWIC or Monsanto is free to state
2 the situation is under study by the
3 staff of AWIC at the direction of the
4 technical director, Mr. Crockett?

5 A. Yes.

6 Q. And was that recommendation adopted by
7 Monsanto?

8 A. Yeah.

9 Q. Okay. Now, the paragraph number five in
10 this memorandum, under the
11 recommendation, says, "If in the future
12 information is developed indicating that
13 Aroclors are detrimental to watersheds,
14 Monsanto will be required to secure a
15 permit from AWIC to allow certain
16 maximum quantities of chlorinated
17 biphenyl to enter Snow Creek."

18 Did Monsanto ever secure such a
19 permit from the AWIC?

20 A. No. The detrimental effect was never
21 determined; therefore, no need to secure
22 any permit.

23 Q. Okay. Let me ask you. Before this

REGIONAL REPORTING SERVICE, INC.

1 situation involving the PCBs and the
2 contacts that Monsanto had with
3 Mr. Crockett regarding Aroclor
4 pollution, did Mr. Miller, Mr. Landwehr,
5 or Mr. Wright or anyone else at Monsanto
6 have any prior dealings with
7 Mr. Crockett on any other environmental
8 matters?

9 A. Yes.

10 Q. What types of matters?

11 A. Well, I personally met with Mr. Crockett
12 on a situation where some agricultural
13 chemical resulted in a fish kill in -- I
14 have forgotten the exact date, in the
15 '67, '68 period.

16 Q. An agricultural chemical produced or
17 manufactured at the Anniston plant?

18 A. Yes, sir.

19 Q. When you say a fish kill, what do you
20 mean?

21 A. A fish kill, you know, bellies up
22 scenario, where the fish -- And I forget
23 which water system. It was the system

REGIONAL REPORTING SERVICE, INC.

1 that received the discharge of the
2 Anniston Municipal Treatment Plant.

3 Q. What chemical was involved?

4 A. Parathion, p-a-r-a-t-h-i-o-n.

5 Q. When you say a fish kill, how many fish
6 were killed?

7 A. I have no idea. I don't remember the
8 amount.

9 Q. Okay. Was that information ever
10 disclosed to the public?

11 A. Oh, yes.

12 Q. How was it disclosed to the public?

13 A. All the media, news media, radio,
14 newspaper.

15 Q. Did Monsanto ever release any -- a press
16 release regarding the fish kill that you
17 are referring to in the '60s that
18 resulted from parathion?

19 A. Press release, I don't remember any.

20 MR. ATKIN: That's all I have on
21 that document.

22 Let us mark for
23 identification purposes as

REGIONAL REPORTING SERVICE, INC.

1 Papageorge Sixty-two a
2 one-page document bearing
3 Bate's number FGL 0913054, a
4 summary by Mr. Papageorge.
5 (Plaintiffs' Exhibit Number
6 Sixty-two was marked for
7 identification.)

8 A. I have read the exhibit.

9 Q. Let me ask you first. Do you know when
10 this summary was prepared by you?

11 A. It's familiar, and yet I can't place it
12 time-wise.

13 Q. Well, I note that it says on top,
14 "Received by Westinghouse from Monsanto
15 on May 29th, 1987." Obviously that
16 wasn't on the original document that you
17 authored.

18 A. That is correct.

19 Q. Does that refresh your recollection,
20 though, as to whether or not you wrote
21 the summary in or about that time, in or
22 about 1987?

23 A. Oh, no. This was in the '70s.

REGIONAL REPORTING SERVICE, INC.

- 1 Q. Okay. Do you know if it was the early
2 '70s or late '70s?
- 3 A. I suggest about the middle '70s.
- 4 Q. Okay. Now, in this summary you are
5 discussing with Monsanto -- revealing to
6 Monsanto's customers your observations
7 regarding whether PCBs degrade in the
8 environment, correct?
- 9 A. I'm not certain. I am advising
10 somebody, but I don't recall at the
11 moment what the audience was.
- 12 Q. Oh, okay. That's a good point.
13 Let me ask you this, then: Did
14 you ever issue summaries to Monsanto's
15 customers explaining your observations
16 about whether PCBs degrade in the
17 environment?
- 18 A. Yes.
- 19 Q. Okay. How often did you do that?
- 20 A. I think it was done once.
- 21 Q. So this may be the summary that was
22 done; is that right?
- 23 A. Yeah. Underline the "may be."

REGIONAL REPORTING SERVICE, INC.

- 1 Q. You're not sure?
- 2 A. I'm not sure.
- 3 Q. Now, when did Monsanto first believe
4 that PCBs degrade in the environment?
- 5 A. You used the word "believe."
- 6 Q. Well, actually -- I don't mean to
7 interrupt, but it's your word. It says,
8 "Lead us to believe with considerable
9 confidence that PCBs do degrade in the
10 environment."
- 11 A. This use of the word "belief" is based
12 on some laboratory data. Monsanto's
13 observation of the analytical results it
14 was receiving in the late '60s, early
15 '70s created a -- I'm going to call it a
16 hypothesis. The reason the lower
17 chlorinated PCBs, which were sold in
18 greater quantities, were not being found
19 in the environment could well be that
20 they are degrading.
- 21 Q. Okay. So when you refer to here the
22 fact that there is degradation, you are
23 referring to the lower chlorinated PCBs?

REGIONAL REPORTING SERVICE, INC.

- 1 A. Yes.
- 2 Q. Okay. Now, when you say that this
3 belief is results from laboratory data,
4 what laboratory data were you referring
5 to?
- 6 A. There was a study conducted by Dr. Scott
7 Tucker and another study conducted in
8 Robin, Wales, by Monsanto research
9 personnel.
- 10 Q. Okay. Can you tell us any specifics of
11 what those studies found?
- 12 A. They found that the lower chlorinated
13 types of PCBs --
- 14 Q. Which PCBs are you referring to
15 specifically?
- 16 A. The di, the tri, the tetra, the chloro,
17 some of the pentas. Once you get above
18 the five chloros, they were more
19 resistant.
- 20 Q. Did you ever issue any subsequent
21 summaries regarding the degradation of
22 PCBs in the environment subsequent to
23 this document?

REGIONAL REPORTING SERVICE, INC.

- 1 A. Not knowing the details of this summary,
2 I don't know that I can answer your
3 question. This may well have been the
4 last one, or it could have been an
5 intermediate one. I don't know.
- 6 Q. Do you recall ever telling any customers
7 of Monsanto that PCBs do not degrade in
8 the environment?
- 9 A. At what point in time, sir?
- 10 Q. At any point in time.
- 11 A. Any point? There was, before the
12 studies confirmed the suspicion we had,
13 a point in time when it was sincerely
14 believed that PCBs were inactive, inert,
15 that once they got in the environment
16 nothing would happen.
- 17 Q. Do you know what that point in time was?
- 18 A. Oh, gosh, it's again one of those
19 evolving impressions. In the early
20 '30s, '40s and '50s, it was sincerely
21 believed that they were inert. It was
22 only when the studies out of Sweden were
23 known or made known that the inertness

REGIONAL REPORTING SERVICE, INC.

1 began to be questioned.

2 MR. ATKIN: Okay. That's all I
3 have on that document.

4 Let us mark for
5 identification purposes a
6 December 24th, 1970 --

7 MR. PECK: It will be Plaintiffs'
8 Exhibit Sixty-three.

9 MR. ATKIN: I'm sorry?

10 MR. PECK: It will be Plaintiffs'
11 Exhibit Sixty-three.

12 MR. ATKIN: Thank you. For
13 identification purposes as
14 Papageorge Sixty-three, a
15 one-page memorandum dated
16 December 24th, 1970.
17 Mr. Papageorge is apparently
18 a recipient. The memo was
19 written -- It appears to have
20 been written by Mr. Landwehr
21 or perhaps by Mr. Savage to
22 Mr. Landwehr.

23 (Plaintiffs' Exhibit Number

REGIONAL REPORTING SERVICE, INC.

1 Sixty-three was marked for
2 identification.)

3 Q. Let me just hand it to you.

4 A. I have read the exhibit.

5 Q. Let me ask you this: Did Monsanto have
6 a budget for PCB pollution control in
7 1970?

8 A. Yes.

9 Q. What was the monthly amount budgeted?
10 Do you know?

11 A. No, I don't remember.

12 Q. Is that pollution -- PCB pollution
13 control what -- PCB pollution control
14 budgeted amount also referred to in this
15 memorandum as the toxicological account?

16 A. Can you help me find that reference?

17 Q. Sure. The next to the last paragraph.
18 It says, "I cannot agree that the
19 toxicological account will be ten
20 thousand dollars a month in 1971." And
21 I think it says in parenthesis,
22 "Sixty-seven hundred dollars over the
23 present budget."

REGIONAL REPORTING SERVICE, INC.

1 I guess what I'd like to know is
2 the toxicological account being referred
3 to here, is that the same as the PCB
4 pollution capital amount -- budgeted
5 amount?

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

8 A. I don't remember.

9 Q. What was the PCB pollution capital
10 amount supposed to be used for?

11 A. The capital account?

12 Q. The PCB pollution -- Well, it refers to
13 "PCB pollution capital at Anniston
14 should be held to minimum."

15 I guess what I am asking you is --
16 I presume that is referring to a certain
17 budgeted amount?

18 A. It's a budgeted amount of money to be
19 used for new facilities.

20 Q. What types of new facilities?

21 A. Whatever the management of the plant
22 felt they need.

23 Q. New facilities to do what?

REGIONAL REPORTING SERVICE, INC.

1 A. Whatever their programs called for.

2 Q. Is that in connection with controlling
3 PCB pollution?

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

6 A. Yes. If it's referred to as PCB
7 pollution capital, it has to do with
8 PCBs in the environment. And any new
9 facility, like a new pump, for example,
10 had to come out of that budget as
11 distinguished from repairing a pump
12 that's already in service and needs
13 repairs.

14 Q. Okay. Now, according to this, it
15 appears that the present budget in 1970
16 for PCB pollution capital was
17 thirty-three hundred dollars a month.
18 Is that right?

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

21 A. I'm having a difficult time finding it
22 again.

23 Q. Sure. It's the next to the last

REGIONAL REPORTING SERVICE, INC.

paragraph. "I cannot agree that the toxicological account will be ten thousand dollars a month in 1971." In parenthesis, "Sixty-seven hundred dollars over the present budget."

MR. PECK: What was the question again?

Q. Does that refresh your recollection, sir, that the budget in 1970 for the PCB pollution capital at Anniston was thirty-three hundred dollars a month?

A. Sir, as I had indicated earlier, I don't know that the terminology today to -- I don't recall the terminology that would help me make a distinction between the so-called toxicological account and the pollution control account.

Q. Do you have any understanding, sir, as to whether or not the toxicological account is any different than the PCB pollution capital account?

A. I don't know the difference today.

Q. Do you know what the toxicological

REGIONAL REPORTING SERVICE, INC.

account is referring to?

A. I do not.

Q. Okay. Did the decision to move production of liquid Aroclor to Krummrich have any effect upon the budget Monsanto was willing to allot to PCB pollution control at Anniston?

A. Naturally, yes.

Q. And Monsanto was looking to minimize the amount that would be spent on PCB pollution control consistent with the phaseout of the PCB manufacture in the Anniston plant; is that right?

MR. PECK: Object to the form of the question.

A. Yes. If you -- by your expression of tying it in to the phasing out, that is correct, yes.

Q. Okay. Now, who at Monsanto made the decision to minimize the budget for PCB pollution control at Anniston?

A. Don't know.

Q. Well, maybe you can help me with this:

REGIONAL REPORTING SERVICE, INC.

Does this memo reflect that it was written -- Can you tell if this was written by Mr. Landwehr to Mr. Savage or from Mr. Savage to Mr. Landwehr?

A. The author is Mr. Savage, addressed to Mr. Landwehr.

Q. Okay. Mr. Savage was in the general office?

A. Yes.

Q. What was his title?

A. He was manager, manufacturing for the organic chemicals division of Monsanto company.

Q. Do you recall whether or not Mr. Landwehr had proposed that the toxicological account for 1971 be ten thousand dollars a month?

A. I don't remember that, no.

Q. Do you recall Mr. Savage -- Do you recall the topic of this memorandum, which is -- Do you recall Mr. Savage at any time stating that he could not agree with a proposed amount that was being

REGIONAL REPORTING SERVICE, INC.

budgeted or a proposed budget for toxicological or PCB pollution control in Anniston in 1971?

MR. PECK: Object to the form of the question.

A. Do I remember it specifically? No. This is a normal type of discussion that takes place during the budget-setting process. There are differences of opinion.

Q. You don't remember it specifically?

A. No, I don't.

MR. ATKIN: That is all I have on that memorandum.

(Discussion held off record.)

MR. PECK: I was just asking Jack if he knew there was any more to this document. It looks like this document, which was marked as Plaintiffs' Exhibit Sixty-three, is more than one page to me.

MR. ATKIN: And all I can tell you

REGIONAL REPORTING SERVICE, INC.

1 is that I'm not aware of -- I
2 see what you're saying, that
3 perhaps there should be some
4 additional material, but I'm
5 not aware of any. Maybe in
6 the way it was produced, we
7 couldn't put -- You know,
8 maybe it was produced
9 separately.

10 You are switching tapes,
11 right?

12 THE VIDEOGRAPHER: I have switched
13 already.

14 MR. ATKIN: Let us mark for
15 identification purposes as
16 Papageorge Sixty-three --

17 MR. PECK: Sixty-four.

18 MR. ATKIN: -- Sixty-four -- thank
19 you -- a three-page
20 memorandum, a report by PCB
21 study group dated December
22 10th, 1975, by Mr. Wilkins to
23 Mr. Harbison. And there are

REGIONAL REPORTING SERVICE, INC.

1 several recipients on the
2 bottom of the memorandum,
3 including Mr. Papageorge.
4 (Plaintiffs' Exhibit Number
5 Sixty-four was marked for
6 identification.)

7 A. I have scanned the exhibit.

8 Q. Okay. Let me ask you first. Who is
9 Mr. Wilkins, Pierre Wilkins?

10 A. Mr. Wilkins at that time was the
11 Monsanto medio relations individual
12 located in New York City.

13 Q. Was he a Monsanto employee?

14 A. Yes.

15 Q. And who was Mr. Harbison?

16 A. Mr. Harbison at that time was the vice
17 president and principal official in the
18 group within Monsanto referred to as the
19 Monsanto Industrial Chemicals Company.

20 Q. Okay. Now, was there a group at
21 Monsanto called the PCB study group or
22 referred to as the PCB study group?

23 A. That group was primarily a media

REGIONAL REPORTING SERVICE, INC.

1 relations and government relations team.

2 Q. Okay. Who was on that team?

3 A. I remember a Warren Wealey out of the
4 Washington office and Dan Bishop and Jim
5 McKee.

6 Q. All the people who are listed here as
7 recipients, were you all part of the PCB
8 study group?

9 A. No. I wasn't, I know, and Mr. Paton
10 wasn't, and neither was Mr. Potter.

11 Q. Why did you receive a copy of this?

12 A. I'm sorry?

13 Q. Why did you receive a copy of this
14 memorandum that is referring to a report
15 by the PCB study group?

16 A. Well, I was the person that had the
17 assignment with PCBs from 1970, and I
18 was perceived to be a part of the
19 network, if you will, regarding PCBs.

20 Q. Okay. What was the purpose of the PCB
21 study group?

22 A. I'd be guessing, sir. I don't know.

23 Q. Okay. Now, the -- On the last page of

REGIONAL REPORTING SERVICE, INC.

1 this memorandum, it states, "The group
2 further considered a number of broad
3 principles and courses of action during
4 the period ahead to minimize the
5 negative impact on Monsanto's image.
6 Those were:" And it lists a whole bunch
7 of different things.

8 The last one is the one I would
9 like to talk to you about. It says,
10 "Principally, Monsanto must not be
11 viewed as being forced into a decision
12 to withdraw from PCB manufacture by
13 either government action or public
14 pressure. Rather, key audiences must
15 perceive Monsanto as having initiated
16 responsible action in a manner
17 consistent with past reputation and
18 practices."

19 Let me ask you this: Was the PCB
20 study group concerned that Monsanto
21 would be viewed as being forced into a
22 decision to withdraw from PCB
23 manufacture by government action?

REGIONAL REPORTING SERVICE, INC.

MR. PECK: Object to the form.

- A. Again, since I wasn't part of this group, I really can't speak as to what thoughts went through their minds.
- Q. Well, when you received this memorandum, did you formulate any opinions or discuss the contents of the memorandum with anyone?
- A. I formed my own opinions after reading the document.
- Q. And did you form an opinion as to whether or not the group was concerned that Monsanto not be viewed as being forced into a decision to withdraw from PCB manufacture by government action?
- A. Yes. The impression I got from that is that whatever Monsanto did, it should not be perceived as being forced to do it. The intent was to -- if it's going to be done, Monsanto take the lead and do it. That's my impression of that statement.
- Q. And similarly, that it should not be

REGIONAL REPORTING SERVICE, INC.

forced into a decision to withdraw from PCB manufacture by public pressure?

- A. Yeah. That goes along with the government action, yes.
- Q. Okay. Do you know why Monsanto wanted to avoid being viewed as being forced into a decision to withdraw from PCB manufacture by government action or public pressure?
- A. I can't speak for the corporate thinking there, no. I'd be guessing.
- Q. Okay. Now, when the last paragraph says that "Rather, key audiences must perceive Monsanto as having initiated responsible action," do you know who the key audiences were being referred to here?
- A. Again, sir, I can list you many, but it's still a guess on my part.
- Q. Okay. You don't know?
- A. I don't know.
- MR. ATKIN: Okay. That's all I have on that document, which

REGIONAL REPORTING SERVICE, INC.

brings us to Papageorge Sixty-five for identification purposes.

And this is a four-page document called Executive Summary, PCB Pollution, dated 10-29-69, bearing Bate's number STR 018891 through STR 018894. (Plaintiffs' Exhibit Number Sixty-five was marked for identification.)

- A. I have glanced at the document.
- Q. Okay. This is an executive summary on PCB pollution. Do you know who prepared this executive summary?
- A. I do not.
- Q. It wasn't you?
- A. Correct.
- Q. Do you recall receiving this executive summary?
- A. I did not.
- Q. You did not receive it?

REGIONAL REPORTING SERVICE, INC.

- A. That is correct.
- Q. Okay. Do you know who this executive summary was sent to?
- A. I do not.
- Q. Now, this summary reflects that by 1969 Monsanto was aware of the ecological problems caused by PCB pollution, correct?
- MR. PECK: Object to the form of the question.
- A. That's what it states, yes, sir.
- Q. In fact, it states that by mid 1969 Monsanto knew that PCBs had created a world-wide ecological problem; isn't that right?
- MR. PECK: Object to the form of the question. The document speaks for itself. It's not a document he has seen before.
- Q. I'm referring to the last sentence of the first section, Problem Definition and Timing, "Monsanto confirmed PCBs in

REGIONAL REPORTING SERVICE, INC.

mid 1969 and confirmed the adequacy of work by Widmark and Jensen and others, a world-wide ecological problem."

MR. PECK: Let me object to the form. There is no evidence of where the document even came from and no foundation for questioning him about it. Go ahead.

A. I don't understand the question. Am I supposed to agree that it's here, that that is what we are reading?

Q. I'm asking you whether or not -- Well, obviously it states that here, correct?

A. That's what's typewritten here.

Q. Do you have an understanding as to whether or not Monsanto knew in mid 1969 that PCBs had created a world-wide ecological problem?

A. Well, the presence of PCBs in many, many samples imply world-wide ecological problem.

Q. And you knew that in 1969, right?

REGIONAL REPORTING SERVICE, INC.

A. Did I personally know it in '69?

Q. Yes.

A. No.

Q. But others at Monsanto knew that?

MR. PECK: Object to the form of the question.

A. Yes, there were others.

Q. Certainly the person who prepared this executive summary knew that?

MR. PECK: Object to the form of the question.

A. Correct.

Q. Did you ever hear about anybody working on an executive summary on PCB pollution?

A. Did I ever hear of it?

Q. Yes.

MR. PECK: We are operating under the usual stipulations, aren't we?

MR. ATKIN: Yes.

MR. PECK: We never said that. I'm assuming so.

REGIONAL REPORTING SERVICE, INC.

Q. Go ahead.

A. Sir, after I received my appointment in the PCB environmental issue in 1970, I was made aware of some of the activities that took place prior to 1970. I was aware that a presentation was prepared for upper Monsanto management. This specific document seems to cover those subjects, but I have no way of relating it to the presentation that actually took place.

Q. When you say a presentation was prepared, who was it prepared by?

A. There was a group composed of Monsanto employees that reflected marketing, research, public relations, medical, that put together the many thoughts that related to the issue and assisted the managers of the two business groups involved in preparing a presentation that was made to the top management committee.

Q. Do you know who made that presentation

REGIONAL REPORTING SERVICE, INC.

to the top management committee?

A. I know some of the people. I recall some of them.

Q. All right, sir. Who were they?

A. Howard Bergen, James Springgate, representing the business groups. Elmer Wheeler spoke on the medical information. Those were the key presenters.

Q. Okay. When you say that they made a presentation to upper Monsanto management, who are you referring to there?

A. At the time -- this was the president of Monsanto -- was several vice presidents. The committee itself had different names through the periods of time. I think at the time it was called the corporate development committee, but it could have been the corporate administrative committee.

Q. Who was the president of Monsanto at that time?

REGIONAL REPORTING SERVICE, INC.

1 A. Ed Bok. B-o-k, I think, is the way you
2 spell that.

3 Q. Now, on page two the memo reflects that
4 Monsanto was worried about the potential
5 business it might lose for PCBs on a
6 world-wide basis, correct? I'm
7 referring to the paragraph headed Effect
8 on Monsanto; one, business potential at
9 stake on a world-wide basis.

10 A. I'm having a hard time again finding
11 the exact --

12 Q. It's the paragraph before that, the
13 heading. Do you see the heading Effect
14 on Monsanto?

15 A. Yes.

16 Q. One, business potential at stake on a
17 world-wide basis?

18 A. Yes. This is the -- This particular
19 item number one on page two reports the
20 quantities and value of the different
21 uses of PCBs.

22 Q. Right. And the potential business loss
23 that Monsanto was concerned about was

REGIONAL REPORTING SERVICE, INC.

1 eight to eleven million dollars a year
2 annually in gross profit, correct?

3 MR. PECK: Object to the form of
4 the question, calls for
5 speculation from this
6 witness.

7 A. I don't know. That's not necessarily a
8 loss. That's the value of the business.
9 It could be replaced by substitute
10 products and even exceed that eleven
11 million. So that is the piece of
12 business that is going to get the
13 attention here.

14 Q. Right, the PCB piece of business. The
15 PCB piece of business?

16 A. Yes. That doesn't mean it's all going
17 to be loss.

18 Q. I understand.

19 Well, this executive summary
20 reflects that in 1969 Monsanto was
21 weighing the risk of producing PCB
22 products which cause a world-wide
23 ecological problem against a potential

REGIONAL REPORTING SERVICE, INC.

1 loss of business; isn't that right?

2 MR. PECK: Object to the form of
3 the question, calls for
4 speculation from this
5 witness.

6 A. Yes. Those are the factors that enter
7 into the decision making.

8 MR. ATKIN: That's all I have on
9 that.

10 MR. PECK: Jack, let's take a
11 quick break.
12 (A break was taken from 11:55
13 a.m. to 1:00 p.m.)

14 MR. ATKIN: Let us mark for
15 identification purposes -- We
16 are now back on the record
17 after lunch. Thank you --
18 Papageorge Exhibit Number
19 Sixty-six. And this is a
20 January 23rd, 1969,
21 memorandum on Aroclors and
22 plant effluent, with a Bate's
23 number NEV 031181.

REGIONAL REPORTING SERVICE, INC.

1 And I will say, to save,
2 Mr. Peck, time, I think one
3 could surmise that perhaps
4 there is another page to this
5 document as well, but I don't
6 have it. I'm not sure, but I
7 say that because there is no
8 signature at the bottom or
9 anything.

10 (Plaintiffs' Exhibit Number
11 Sixty-six was marked for
12 identification.)

13 MR. PECK: Yeah. I suspect there
14 are additional pages to this.

15 Q. I have that one page for you.

16 A. I have scanned the exhibit.

17 Q. Okay. You have had a chance to look at
18 it. Let me ask you. Do you know who
19 wrote this document?

20 A. No, I don't.

21 Q. It's addressed to E. G. Wright in
22 Anniston. Is that Mr. Wright that we
23 referred to earlier?

REGIONAL REPORTING SERVICE, INC.

- 1 A. Yes.
- 2 Q. And is it Mr. Buckley in Krummrich?
- 3 A. Yes.
- 4 Q. Who is Mr. Buckley?
- 5 A. He is Mr. Wright's counterpart at the
- 6 Krummrich plant.
- 7 Q. And you were one of the people who
- 8 received this memorandum, correct?
- 9 A. I was, yes.
- 10 Q. Do you recall receiving it?
- 11 A. Now that I've reviewed it, I do recall
- 12 it, yes.
- 13 Q. In the first paragraph, it says, "With
- 14 the likelihood that the attention now
- 15 being focused on presence of Aroclors in
- 16 natural waters will draw attention to
- 17 any Aroclor being sewerred in our
- 18 production plant outfalls, we should
- 19 begin to protect ourselves."
- 20 And I just would like to ask you,
- 21 do you know what was meant by the author
- 22 of this letter when he wrote that we
- 23 should begin to protect ourselves?

REGIONAL REPORTING SERVICE, INC.

- 1 A. I can only guess.
- 2 MR. PECK: Object to the form of
- 3 the question.
- 4 Q. I'm sorry?
- 5 A. I can only guess.
- 6 Q. I don't want you to guess, then.
- 7 Do you recall having any
- 8 discussions with anyone about what was
- 9 written here, about this particular
- 10 sentence, about beginning to protect
- 11 ourselves?
- 12 A. No, I don't.
- 13 MR. ATKIN: Okay. Then let's move
- 14 on.
- 15 Let us mark for
- 16 identification purposes for
- 17 this deposition as Papageorge
- 18 Sixty-seven a -- It looks
- 19 like an eleven-page document,
- 20 but the last page has
- 21 absolutely nothing on it. So
- 22 it's probably a ten-page
- 23 document bearing Bate's

REGIONAL REPORTING SERVICE, INC.

- 1 number SCM 037621 through SCM
- 2 037630, a document authored
- 3 by Mr. Benignus on January
- 4 26th, 1970, regarding the PCB
- 5 pollution problem, January 21
- 6 and 22, 1970, St. Louis
- 7 meeting with General Electric
- 8 Company.
- 9 (Plaintiffs' Exhibit Number
- 10 Sixty-seven was marked for
- 11 identification.)
- 12 Q. I'd ask you to take a look at that, if
- 13 you could.
- 14 A. I have read item D on page two and
- 15 scanned the remainder of the exhibit.
- 16 Q. Okay. Let me ask you first. Did you
- 17 attend this -- Well, this memorandum
- 18 reflects that you attended a meeting
- 19 that was held with General Electric on
- 20 January 21st and 22nd, 1970?
- 21 A. Yes, I was there.
- 22 Q. Do you recall that meeting?
- 23 A. Yes.

REGIONAL REPORTING SERVICE, INC.

- 1 Q. On page two, D, it discusses the status
- 2 of Aroclor studies at IBT?
- 3 A. It does.
- 4 Q. And it mentions the fact that the
- 5 chronic animal toxicity test and animal
- 6 reproducibility studies that were being
- 7 done by IBT were not as favorable as
- 8 Monsanto had hoped or anticipated?
- 9 A. It does.
- 10 Q. And it also says that the studies on the
- 11 effect of PCBs on the hatchability and
- 12 production of eggshells of white leghorn
- 13 chickens was particularly alarming,
- 14 correct?
- 15 A. It does.
- 16 Q. Do you know exactly what the results
- 17 were that were considered to be
- 18 particularly alarming?
- 19 A. The fact that the eggs would not hatch,
- 20 and some of the eggs that were farmed
- 21 were so thin-shelled, which was another
- 22 new piece of information.
- 23 Q. Okay. Now, it then goes on to state,

REGIONAL REPORTING SERVICE, INC.

"The studies involved Aroclor 1242, 1254, and 1260. Some of the studies will be repeated to arrive at better conclusions."

Did Monsanto have PCB toxicity tests and animal reproducibility studies repeated by IBT in order to get better results?

A. I don't know that I would call them better results.

Q. Well, results that have better conclusions?

A. Yes. The tests were repeated to confirm the reliability of the first results. And by looking at both sets of tests, the intent was to arrive at a better conclusion.

Q. Okay. If you could look at page six for one second, I have one other question for you, under number eight there on page six.

A. Page six, number eight, I have it.

Q. It says, "To date and for the

REGIONAL REPORTING SERVICE, INC.

foreseeable future, our only effective disposal is to a landfill. While this is not desirable, it is better than indiscriminate dumping."

Why did Monsanto feel in 1970 that it was not desirable to dispose of PCBs in a landfill?

A. I don't know that it says it's not desirable in a landfill. That's the only effective method available.

Q. Well, why don't we just read the words, if we could. It says, "While this is not desirable, it is better than indiscriminate dumping."

A. The -- Although it's not specifically stated, what they are referring to here is liquid, unrecoverable scrap PCBs. And the hope at that time was that incineration would eventually be developed, incineration technology would be developed. So depositing in a landfill was perceived to be really make-do until the technology is

REGIONAL REPORTING SERVICE, INC.

available, lacking anything better.

Q. Okay.

A. The intent is to try to come up with something better than what was available.

MR. ATKIN: Okay. That's all I have on that.

(Discussion held off record.)

MR. ATKIN: Let us mark for identification purposes for the Papageorge deposition as Exhibit Number Sixty-eight a July 27th, 1970, letter from Mr. Papageorge to Mr. Fred R. Viland, senior buyer at Westinghouse Electric Corporation. And I don't know why I don't have any Bate's numbers on it, but I don't.

(Plaintiffs' Exhibit Number Sixty-eight was marked for identification.)

REGIONAL REPORTING SERVICE, INC.

A. I have read the exhibit.

Q. Okay. Now, you were telling Monsanto's customers in 1970 that landfills for PCBs should not be located near surface and underground water, correct?

A. Correct.

Q. And you're also telling your customers that it's important to monitor bodies of water near the landfill, especially after heavy rainfall, to assure that PCBs are not escaping into the environment?

A. I was.

Q. Did Monsanto ever monitor the bodies of water near the Anniston plant after heavy rainfall to ensure that PCBs were not escaping into the environment?

MR. PECK: Object to the form of the question.

A. Yes, once we got the methodology.

Q. When was that?

A. About 1969 or thereabouts.

Q. Okay. Do you recall the results of any

REGIONAL REPORTING SERVICE, INC.

1 monitoring of the bodies of the water
2 near the Anniston plant after heavy
3 rainfalls?

4 A. I don't at the moment.

5 Q. Do you recall specifically monitoring
6 being done after heavy rainfall?

7 A. I don't remember any specific events,
8 no.

9 Q. Let me ask you this: What PCB sampling
10 did Monsanto do near the landfills in
11 Anniston, Alabama?

12 A. The reason I'm hesitating a bit is I --
13 The sampling that was done included any
14 potential sources of PCBs, whether it be
15 a landfill or a soil on the outside of
16 the operating unit or the neutralizing
17 pit of the wastes that were coming from
18 the PCB unit.

19 If there were any PCBs in that
20 whole area, it would have shown up in
21 the sample where it was taken at the
22 lowest point.

23 Q. What about sampling done outside of the

REGIONAL REPORTING SERVICE, INC.

1 plant? What types of sampling were
2 done?

3 A. Well, I was not personally involved when
4 that program started, so I don't know
5 where they took all these samples beyond
6 the plant boundary line.

7 Q. When was that program started?

8 A. 19 -- late '70, '71, '72.

9 Q. As we sit here today, are you aware of
10 any specific sampling that was done,
11 either air, water, soil outside of the
12 Monsanto facility for PCBs?

13 A. I recall -- And it's not specific. I
14 recall references to sampling beyond the
15 plant boundary line, as I visualize it.

16 Q. Okay. And when?

17 A. The early '70 period I just mentioned.

18 Q. What type of samples do you recall?

19 A. Water and sediment samples is the best I
20 can recall.

21 Q. Do you recall where they were taken
22 from?

23 A. Again, not specifically, but I do recall

REGIONAL REPORTING SERVICE, INC.

1 that there is a natural drainage ditch
2 that runs from the plant boundary line
3 and eventually meanders down and meets
4 Snow Creek.

5 In plant terminology, that ditch
6 was called Snow Creek. It didn't have a
7 name. So when I would read reports that
8 samples were taken in Snow Creek, that
9 meant right beyond the plant boundary,
10 which as I remember was a mile or so
11 from Snow Creek, something like that.

12 Q. So it wasn't -- When you recall seeing
13 reports on sampling that was done of
14 Snow Creek, are you saying that it
15 wasn't of Snow Creek itself, that it was
16 of the ditch that was beyond the outside
17 -- just outside the plant?

18 A. That was my interpretation of the
19 report.

20 Q. Okay. Do you remember any air samples
21 being done by Monsanto at any point in
22 time beyond the boundaries of the plant?

23 A. I don't recall any.

REGIONAL REPORTING SERVICE, INC.

1 Q. When I say recall, I guess what I'm
2 asking you is do you know if there was
3 ever any air samples done in Anniston
4 outside the boundaries of the plant?

5 A. I just --

6 MR. PECK: Do you mean air
7 sampling for PCBs?

8 MR. ATKIN: Yes. Thank you.

9 A. I just don't remember any sampling of
10 that type.

11 MR. ATKIN: Okay. Let's move on,
12 then. Let's mark this for
13 identification purposes as
14 Papageorge Exhibit
15 Sixty-nine. This is a
16 September 27th, 1974,
17 memorandum from J. G. Bryant
18 to D. Wood. It's a five-page
19 memorandum bearing Bate's
20 number MONS 029193 through
21 029197.

22 (Plaintiffs' Exhibit Number
23 Sixty-nine was marked for

REGIONAL REPORTING SERVICE, INC.

identification.)

Q. I'd ask you to take a look at that, if you could.

To save you some time, I can tell you I'm going to ask you about page two. That's what I'm going to ask you about, just a little part of it.

A. I have scanned the exhibit.

Q. Okay. If you could, turn to page two. I just want to ask you one quick question

The question in the middle of the page or towards the latter part of the page says, "Ernie Bergenstein, Ferranti Packard." Is that a customer?

A. Don't know.

Q. Do you know who Mr. Bergenstein is?

A. No, I don't.

Q. It says that "He is concerned about spills we have had or that we are going to have; one, what should he do; two, can Monsanto make some distribution to the public on the fact that the askarel

REGIONAL REPORTING SERVICE, INC.

does not disburse." Answer, "W. B.

Papageorge replied that Monsanto plans to publish the data on the soil studies."

Now, what soil studies were you referring to?

A. Analyses of soil samples received by Monsanto's analytical laboratory.

Q. Which soil samples, or soil samples taken where?

A. Oh, it was over a period of time, starting in '70 up to this point, '74 --

Q. Okay.

A. -- from many sources.

Q. Did Monsanto in fact ever publish the data on the soil studies?

A. It seems to me we did. They were available. They were shared.

Q. They were shared with whom?

A. Well, I, for one, know that I shared the data with the members of the ANSI committee.

Q. Did Monsanto ever share the data on the

REGIONAL REPORTING SERVICE, INC.

soil studies with the public?

A. You mean through the popular media and so on?

Q. Through any means.

A. Well, we shared it, I know, with the EPA.

Q. When I say the public, I'm referring to private citizens.

A. Not directly, no.

MR. ATKIN: Okay. Thank you.

Let us mark for identification purposes Papageorge Seventy, a March 6, 1970, memorandum from Mr. Papageorge to J. R. Durland in Tokyo about the Aroclor environmental problem -- program. I'm sorry. (Plaintiffs' Exhibit Number Seventy was marked for identification.)

A. I have reviewed the exhibit.

Q. Okay. Now, Mr. Papageorge, you knew in

REGIONAL REPORTING SERVICE, INC.

March 1970 that disposing of PCBs in dumps wasn't the ultimate solution for disposing of PCBs because the PCBs could eventually enter the environment; isn't that right?

A. Could, yes, eventually, when disturbed and so on.

Q. Okay. Now, in -- On page two, the paragraph headed Aroclor Toxicity, Anniston Plant --

A. I see that.

Q. It states there, "Aroclors have been found in Snow Creek near the plant. There is no record of any water life observed in this creek for many years. We've assumed other plant wastes were to blame; for example, muriatic acid. Aroclors could be involved also."

Did Monsanto ever make a determination as to whether the fact that there was no water life in the creek -- whether that was due in part to muriatic acid that had been dumped into

REGIONAL REPORTING SERVICE, INC.

the creek?

A. No. That was just a guess on my part.

Q. Okay.

A. Now, recall earlier, I recalled the use of the term "Snow Creek" to describe that ditch, the unnamed ditch, which many times during the year would run dry. That ought to be telling us something about the viability of any life in a dry creek.

Q. Okay. Did Monsanto ever make a determination as to whether or not the fact that there was no water life observed in the creek was due in part to the Aroclors?

A. No. There was nothing to inform us that such a study would be meaningful.

MR. ATKIN: Okay. Let us mark for identification purposes for your deposition as Exhibit Seventy-one a one-page memorandum authored by Mr. Papageorge to J. R.

REGIONAL REPORTING SERVICE, INC.

Savage, dated October 20, 1970, bearing Bate's number MONS 21073.

(Plaintiffs' Exhibit Number Seventy-one was marked for identification.)

A. I have read the exhibit.

Q. Can you tell us the molecular difference between a PCB molecule and a furan molecule? Maybe I can make it a little easier for you.

Is a dioxin molecule basically a furan molecule with a second oxygen atom?

A. The dioxin does involve two oxygens. The furan involved one oxygen. Of course, there are various combinations of chlorine associated with the carbon and the hydrogen.

Q. Are furans a contaminant found in PCBs?

A. They were eventually found, yes, sir.

Q. Were they found in PCBs made in Anniston?

REGIONAL REPORTING SERVICE, INC.

A. No. The Anniston unit was shut down when the samples that were analyzed were determined to have furan. So I don't know anything about the furans in Anniston PCB.

Q. I'm a little unclear on your answer. I guess my question is were the PCBs manufactured at Anniston found at any point in time to contain furans?

A. I'm not aware of any furan analytical work being done on PCBs produced at Anniston, because the methodology that was finally successful was available in 1975, which was three or four years after the shutdown of the Anniston unit.

Q. Furans are highly toxic, aren't they?

MR. PECK: Object to the form of the question, lack of foundation for this witness.

A. When you say highly, I don't know what my yardstick is. It depends again on amount, type, and the creature that's exposed, whether it be a human or animal

REGIONAL REPORTING SERVICE, INC.

or insect or bird.

Q. Are furans toxic to humans?

MR. PECK: Object to the form of the question, lack of foundation for this witness.

A. Well, there again, sir, I'm under an impression that if you get enough of them, somebody is going to get sick.

Q. Okay. When did Monsanto first learn that furans could be present in PCBs?

A. We first were aware -- I'm trying to think of the dates. In 1970 I was present at a meeting at the University of Utrecht in the Netherlands where researchers there asked the question of why Monsanto's PCBs did not have furans and other PCBs manufactured by European companies did have them. So it was 1970.

Q. Okay. And was that question directed towards anyone in particular?

A. Well, it was directed at Monsanto, and we were represented by three of us.

REGIONAL REPORTING SERVICE, INC.

- 1 Q. Who were the three people?
- 2 A. Mr. Wheeler, Mr. Robert Keller, and me.
- 3 Q. Okay. Did you have an answer to that
- 4 question?
- 5 A. Yes, we had an answer.
- 6 Q. What was your answer?
- 7 A. And the answer was as follows: We
- 8 understood that the producers in Europe
- 9 in the manufacture of PCBs used sodium
- 10 hydroxide, which is lye, which is a very
- 11 strong, active chemical, to neutralize
- 12 any acid that was still in the mixture
- 13 of PCBs.
- 14 Monsanto's procedure used in the
- 15 United States, Japan, and Wales used
- 16 limestone or used lime, which is a
- 17 milder chemical. And we speculated that
- 18 the aggressive lye could well result in
- 19 adding the oxygen to make a furan. That
- 20 was our speculative hypothesis, if you
- 21 will.
- 22 Q. Was your hypothesis ever borne out?
- 23 A. I don't know of any study that attempted

REGIONAL REPORTING SERVICE, INC.

- 1 to do this. As the methodology became
- 2 more refined, where the analytical
- 3 chemists found a fine-tune knob, if you
- 4 will, they were able to finally find
- 5 some furans in Monsanto's material, and
- 6 this was in 1975.
- 7 Q. Okay. That is material that was
- 8 manufactured where?
- 9 A. The material that was tested then was
- 10 manufactured at Monsanto's W. G.
- 11 Krummrich plant in Illinois.
- 12 Q. Do you know if Monsanto ever conducted
- 13 any testing to determine whether there
- 14 were furans present near the Anniston
- 15 plant or the landfill in Anniston?
- 16 A. I'm not aware of any.
- 17 Q. If you look at this document that I just
- 18 gave you --
- 19 A. Yes, sir.
- 20 Q. -- as Papageorge Seventy-one --
- 21 A. I have it.
- 22 Q. Okay. The document is discussing -- In
- 23 the first paragraph it says -- discusses

REGIONAL REPORTING SERVICE, INC.

- 1 data from Dr. J. P. Mieure's work
- 2 indicates the presence of naphthalene
- 3 and biphenyl and anthracene or
- 4 phenanthrene and dibenzylfurans in
- 5 Santowax R used in the manufacture of
- 6 Aroclors.
- 7 Who is Dr. Mieure?
- 8 A. Dr. Mieure was an analytical chemist
- 9 working under Dr. Scott Tucker.
- 10 And while we are looking at that
- 11 paragraph, sir, I think it's appropriate
- 12 that we point out that the Aroclors
- 13 mentioned in that paragraph use the
- 14 ingredient Santowax R. Those are the
- 15 chlorinated terphenyls.
- 16 Q. Okay. Was that manufactured at
- 17 Anniston?
- 18 A. Yes, they were.
- 19 Q. Now, at the end of the -- in the last
- 20 paragraph it says, "The Anniston plant
- 21 should design and execute a program for
- 22 determining the source or sources of
- 23 these contaminants."

REGIONAL REPORTING SERVICE, INC.

- 1 Was the program that you refer to
- 2 here that was supposed to be designed
- 3 and executed, was such a program ever
- 4 designed or executed?
- 5 A. Yes.
- 6 Q. Okay. When?
- 7 A. Oh, shortly after the date of this
- 8 memorandum. I would suggest by the
- 9 middle or third quarter of 1971 programs
- 10 were underway.
- 11 Q. Who designed and executed the program?
- 12 A. It was all done under Dr. Keller's
- 13 group. I don't know the specific
- 14 individuals who were assigned this.
- 15 Q. Did they reach any Do you know what
- 16 the results were of the program that
- 17 they designed and executed for
- 18 determining the source or sources of
- 19 these contaminants?
- 20 A. I don't recall it now. I would have to
- 21 see reports.
- 22 MR. ATKIN: Okay. Let us mark for
- 23 identification purposes as

REGIONAL REPORTING SERVICE, INC.

1 Papageorge Seventy-two a
2 memorandum from D. Wood to
3 J. N. Haggart; subject,
4 chlorinated dibenzylfurans.
5 This bears Bate's number MONS
6 206969.
7 (Plaintiffs' Exhibit Number
8 Seventy-two was marked for
9 identification.)
10 A. I have read the exhibit.
11 Q. Okay. And this exhibit also discusses
12 the possibility of the existence of
13 dibenzylfurans in Aroclors, correct?
14 A. Yes.
15 Q. Okay. Now, who was D. Wood?
16 A. He was a Monsanto employee.
17 Q. Do you know what his title was?
18 A. I don't recall his title. He was a
19 marketing representative working with
20 PCB products, along with others, still
21 being supplied in June of 1975.
22 Q. Okay. And who was J. N. Haggart?
23 A. He was in essence Mr. Wood's counterpart

REGIONAL REPORTING SERVICE, INC.

1 in England, in Europe.
2 Q. Okay. Now, he mentions here the need to
3 develop our own methods to determine if
4 indeed the chlorinated dibenzylfurans
5 are present and what is the potential
6 hazard.
7 Let me ask you first. Did
8 Monsanto ever develop its own methods to
9 determine if furans were present in
10 PCBs?
11 A. Yes, they did.
12 Q. When did they do that?
13 A. Oh, golly, when did they succeed? I
14 would suggest at about this point in
15 time.
16 Q. Now, let me ask you something. The
17 previous exhibit talks about the
18 Anniston plant should design and execute
19 a program for determining the source or
20 sources of these contaminants in October
21 of 1970, correct?
22 A. Yes.
23 Q. Okay. Now, this seems to be referring

REGIONAL REPORTING SERVICE, INC.

1 to the need for Monsanto to develop its
2 own methods to determine the existence
3 of furans in 1975. Is that correct?
4 A. Yes.
5 Q. Okay. What happened in the interim
6 five-year period?
7 A. Dr. Keller's group in St. Louis was
8 working on methodology to determine the
9 presence of furan in Monsanto's PCBs.
10 And throughout that period they kept
11 coming up with non-detectable. And it's
12 only as we approached the year 1975,
13 with changes -- and I don't know the
14 details -- in their methodology, they
15 were able to detect the dibenzylfurans.
16 And this, coincidentally, happened at
17 about the time the U.S. Food and Drug
18 Administration thought they saw furans
19 in Monsanto's PCBs. And this was all
20 discussed at a meeting in Chicago in
21 November of 1975.
22 Q. Discussed by whom?
23 A. You mean by whom, Monsanto people, FDA

REGIONAL REPORTING SERVICE, INC.

1 people, informally and from the podium.
2 Q. Okay. This memo talks about the fact
3 that Monsanto also needed to develop not
4 only a method for determining whether
5 furans exist but also what is the
6 potential hazard.
7 A. Yes.
8 Q. Did Monsanto ever make the determination
9 of what the potential hazard was of
10 furans?
11 A. Not Monsanto.
12 Q. Okay. Who did?
13 A. I don't know of anybody that did
14 anywhere in the world.
15 Q. To your knowledge it was never done?
16 A. That's right.
17 MR. ATKIN: I'm done with that.
18 Let us mark for
19 identification purposes for
20 your deposition as Exhibit
21 Seventy-three a progress
22 report bearing Bate's numbers
23 MONS 202097 through MONS

REGIONAL REPORTING SERVICE, INC.

030358. No. That doesn't make sense. Let's just take that off for a second and take that back. Through MONS 202106.
(Plaintiffs' Exhibit Number Seventy-three was marked for identification)

Q. I had unfortunately another document attached at the end of it that I'm not going to ask you about now. I'm only going to ask you about the first page of this document.

A. I have scanned the exhibit.

Q. Okay. I have a couple of quick questions on that.

This report reports on an environmental analytical study undertaken by Monsanto in 1971, correct?

A. It does.

Q. And part of the purpose of the study was to identify, locate, and assess the magnitude of the PCB pollution problem;

REGIONAL REPORTING SERVICE, INC.

A. Yes.

Q. Do you know which plant that's referring to?

A. I didn't read it that carefully. On page seven, MONS 202103.

Q. Uh-huh (indicating yes).

A. At the top of the page is J. F. Queeny plant.

Q. Okay. And where was that?

A. That's located right -- in St. Louis.

Q. And it also reflected -- the summary reflects that PCBs typical of Monsanto's Aroclor products have been found in tissue turkey extracts from the USDA?

A. It does.

Q. And also in two competitive products. Do you know which competitive products it's referring to?

A. I thought I saw them. It was on page ten, which is MONS 202106, at the bottom section. You will see reference to Prodelec Phenoclor DP6, Prodelec Phenoclor DP6 again, and Bayer Clophen

REGIONAL REPORTING SERVICE, INC.

is that right?

A. Correct.

Q. Okay. And Monsanto's study showed that PCBs typical of Monsanto's Aroclor products had been found at levels below and above recommended guidelines in coated paper and paper coatings, correct?

A. Yes.

Q. And in machine oils and plant effluents?

A. From a customer's site.

Q. From a customer's site?

A. Yes.

Q. And from fourteen Monsanto Industrial Chemical Company products from manufacturing sites, from four different manufacturing sites?

A. Yes.

Q. And from chicken chow used as feed by IBT?

A. Yes.

Q. And from sewer effluents from a Monsanto plant?

REGIONAL REPORTING SERVICE, INC.

A60 and Kaneclor KC-300.

Q. Okay. Did this study that was done by Monsanto confirm for Monsanto the magnitude of the PCB problem?

A. I don't know that it confirmed it. It just -- it's just a little bit more information added to their -- let's call it data bank regarding PCB and presence.

MR. ATKIN: Okay. I'm done with that document.

Q. Were you involved in any of the toxicity testing that was done by IBT for Monsanto?

A. Well, I was involved to some degree. Of course, I'm not a toxicologist or a medical doctor, but I did get involved.

Q. What was the extent of your involvement, the nature of your involvement?

A. I got involved in the -- I'm going to call it the approval process, in terms of seeing to it that funds were available to pay for the study. I got involved in terms of requesting and

REGIONAL REPORTING SERVICE, INC.

getting status reports on where the studies were headed and what they were finding.

Q. Okay.

A. I made several trips to the laboratories and attended sessions at the laboratory.

Q. Where was the laboratory located?

A. The rat and dog studies were in Northbrook, Illinois. The poultry studies were in Decatur, Illinois.

Q. Okay. Who at IBT worked on the tests that were conducted for Monsanto?

A. There were several individuals involved. There was of course the head of the laboratory, Dr. Calandra --

Q. All right.

A. Then there was a Keplinger, Dr. Keplinger, and a Dr. Otis Fancher, Dr. Gordon. The pathologist -- I think his name was Richter or something like that, Dr. Richter, the pathologist. I'm sure there were others. I just can't remember them all.

REGIONAL REPORTING SERVICE, INC.

Q. Was Mr. Wright involved?

A. I understood he was, but I personally never saw him at the laboratory or didn't get to know him until he joined Monsanto.

Q. Do you know if a person named Philip Smith was involved in the studies?

A. Phil Smith, yes, yes. He was one that I forgot.

Q. Now, what types of studies were done for Monsanto by IBT regarding PCB toxicity. You told us about some rat studies.

A. Yes.

Q. Were there fish studies done?

A. IBT attempted some fish studies, which were not successful.

Q. What do you mean by not successful?

A. They just were not in the fish toxicity testing business, and they had some problems getting the tests going. It was complicated further by the fact that PCBs have a way of plating out on surfaces, so it turned out that the PCBs

REGIONAL REPORTING SERVICE, INC.

introduced into the waters that the fish were exposed to would be relatively free of PCBs because the PCBs had plated out on the walls of the aquarium.

Nevertheless, the final result was that the test results were not reliable at all.

Q. Okay. Now, who from Monsanto was involved with the studies that were done by IBT?

A. Of course, Dr. Kelly, as the director of the medical department, Elmer Wheeler, and Bill Hunt. Those are the people I worked with.

Q. How about Dr. Levinskas?

A. Oh, yeah. Dr. Levinskas came later, yes.

Q. Was what the nature of the involvement of Monsanto's -- of the people you told us about, the nature of their involvement with the IBT studies?

A. Well, they would keep tuned in as to what was going on and how well things

REGIONAL REPORTING SERVICE, INC.

were going and whether further studies would be proposed. They would supply the material to be tested. They would also help determine whether or not more animals should be added to the test population or the dosages be altered or changed. They would also review the drafts of the reports. That's the type of involvement that I'm aware of.

Q. Okay. Let us have you take a look at, if you would, a document that has been previously marked in this case as Levinskas One, Exhibit Number One to Dr. Levinskas' deposition. This is a March 4th, 1970, letter to Dr. Calandra from Elmer Wheeler.

A. I have scanned the exhibit.

Q. Okay. Now, you and Dr. French are listed as ccs on this letter, correct?

A. Dr. French or Fancher?

Q. Fancher, I'm sorry.

A. Yes, that's true.

Q. Do you remember receiving this letter?

REGIONAL REPORTING SERVICE, INC.

1 A. ice.

2 Q. Do you remember -- When was the last

3 time you reviewed this letter?

4 A. I'm sorry?

5 Q. When was the last time you reviewed this

6 letter? Let me make it easier. Was it

7 anytime in the recent past?

8 A. It is recent. I believe I saw this

9 yesterday.

10 Q. Okay. Now, item number one of this

11 letter discusses a proposal for

12 repeating fish toxicity studies done by

13 IBT for Monsanto. Do you see that?

14 A. I do.

15 Q. Do you know why Monsanto was asking IBT

16 to repeat the fish toxicity studies?

17 A. Because of the failure of the first try.

18 Q. Do you know what the results were of any

19 fish toxicity studies that were done for

20 Monsanto by IBT?

21 A. They were in every try a failure.

22 Q. Failure meaning what?

23 A. The results were meaningless. They

REGIONAL REPORTING SERVICE, INC.

1 could not be interpreted, didn't make

2 any sense.

3 Q. Do you know what fish were studied?

4 A. Today I don't, no.

5 Q. You can just put that to the side for a

6 second.

7 Now, let me ask you to take a look

8 at what has previously been marked as

9 Levinskis Two in this case.

10 A. I have scanned the exhibit.

11 Q. Okay. Who is Dr. Hunt?

12 A. He was a member of Monsanto's medical

13 department, working with Mr. Wheeler in

14 the monitoring of animal toxicity

15 testing.

16 Q. Okay. Now, the third paragraph

17 discusses fish toxicity studies?

18 A. Yes.

19 Q. Do you know if these studies are the

20 repeat studies that were referred in

21 Dr. Wheeler's March 4th, 1970, letter,

22 this one?

23 A. I have no way of knowing. I don't know

REGIONAL REPORTING SERVICE, INC.

1 if these are the original or the second

2 attempt.

3 Q. Okay. Did you review this document

4 yesterday?

5 A. I don't remember this one, no.

6 Q. Okay. This paragraph states that "The

7 time schedule for fish toxicity studies

8 for catfish and bluegills will be two to

9 three weeks behind because doses which

10 were believed to be okay produced a

11 hundred percent kill."

12 Do you know what Dr. Hunt was

13 referring to when he said that doses

14 that were believed to be okay produced a

15 hundred percent kill?

16 A. I can give you my understanding.

17 Q. That's all I'm asking for.

18 A. There were levels picked for testing

19 that were assumed, without any good

20 data, to be the kind that would show

21 results and the fish would survive long

22 enough to make the study meaningful.

23 Q. Right.

REGIONAL REPORTING SERVICE, INC.

1 A. As it turned out, the levels selected

2 resulted in the hundred percent kill

3 that's referred to here. So this study

4 was not productive.

5 Q. Do you know what the level was of PCBs

6 that the fish were fed that produced a

7 hundred percent kill?

8 A. I believe, the way I read it, is that

9 the two lines at the end, just above

10 Dr. Hunt's signature, tell you the

11 levels at which they all died.

12 Q. You mean you are referring to the part

13 that says, "At levels of one to ten

14 parts per million for both 1242 and 1254

15 for fifty fish per level all died"?

16 A. Yes.

17 Q. Do you know how long the fish were fed

18 or exposed to one to ten parts per

19 million of Aroclor 1242 and 1254?

20 A. I do not.

21 Q. Do you know if Monsanto reached any

22 conclusions as to the toxicity of PCBs

23 to fish as a result of this study

REGIONAL REPORTING SERVICE, INC.

1 conducted by IBT?
 2 A. Not from this study, no.
 3 Q. Do you know if there were any subsequent
 4 fish toxicity tests conducted by IBT for
 5 Monsanto?
 6 A. Not by IBT.
 7 Q. Were there any fish toxicity tests
 8 conducted by anyone else for Monsanto?
 9 A. Yes.
 10 Q. Who did that?
 11 A. I'm trying to remember the name of the
 12 laboratory up in the New England area.
 13 At the moment I can't recall the name of
 14 it.
 15 Q. Okay. When did they do those studies?
 16 A. It was after these studies proved
 17 failures. We found a laboratory up in
 18 the New England area to replace the
 19 studies with.
 20 Q. Okay.
 21 A. As I remember, they were good studies.
 22 I forget the name of the lab.
 23 Q. You mean good, meaning they produced

REGIONAL REPORTING SERVICE, INC.

1 reliable data?
 2 A. Yes.
 3 Q. And do you know what the results were of
 4 those studies?
 5 A. As I recall, PCBs were found in the
 6 tissues, but the fish survived and
 7 reproduced and all. There was no visual
 8 bad effect noted.
 9 Q. Do you know what the levels of PCBs were
 10 that the fish were exposed to on those
 11 studies?
 12 A. I don't remember today, no.
 13 Q. Do you know if Monsanto ever reached any
 14 conclusions as to the toxicity of PCBs
 15 to fish as a result of any studies that
 16 were done for Monsanto?
 17 MR. PECK: Object to the form of
 18 the question, no foundation.
 19 A. The impression Monsanto was left with
 20 was that PCBs are not considered highly
 21 toxic to fish.
 22 Q. What do you mean by highly toxic?
 23 A. They do not result in fish kills.

REGIONAL REPORTING SERVICE, INC.

1 Q. These are based on the studies that were
 2 done by the lab in New England?
 3 A. That's one of their pieces of
 4 information.
 5 Q. Were there any other pieces other than
 6 the fish toxicity study that had been
 7 done by IBT and by the lab in New
 8 England?
 9 A. I don't know of any formal studies, no.
 10 Q. Do you know of any informal studies that
 11 were done on the toxicity of PCBs to
 12 fish?
 13 MR. PECK: By Monsanto, Jack?
 14 MR. ATKIN: By or for Monsanto.
 15 A. No.
 16 Q. Do you know if Monsanto ever did PCB
 17 toxicity testing on the fish in the
 18 bodies of water in and near Anniston,
 19 Alabama?
 20 A. Toxicity studies, no.
 21 Q. If we can go back to Levinskas One for a
 22 second. In Roman numeral II -- Not
 23 Roman numeral. Number two, which

REGIONAL REPORTING SERVICE, INC.

1 says --
 2 MR. ATKIN: Off the record for a
 3 second.
 4 (Discussion held off record.)
 5 Q. In number two, it says, "Yours and
 6 Otis's views of the significance of the
 7 toxicity data developed to date on the
 8 three Aroclors in the rats, dogs, and
 9 chickens. I think we are surprised, in
 10 parenthesis, and disappointed, question
 11 mark, at the apparent toxicity at the
 12 levels studied."
 13 Did you ever have any discussions
 14 with Dr. Wheeler or anyone else at
 15 Monsanto about the fact that Monsanto
 16 was surprised and disappointed at the
 17 apparent toxicity of PCBs at the levels
 18 studied?
 19 A. Well, of course, I had many a discussion
 20 regarding toxicity studies. I don't
 21 personally recall any reference to
 22 surprise and disappointment. It's just
 23 new data.

REGIONAL REPORTING SERVICE, INC.

- 1 Q. Okay.
- 2 A. That's the flavor, if you will, I was
- 3 left with regarding our discussions.
- 4 Q. Okay. Let me ask you to take a look, if
- 5 you could, at what has been previously
- 6 marked as Levinskas Three for
- 7 identification in Dr. Levinskas'
- 8 deposition in this case.
- 9 A. I have read the exhibit.
- 10 Q. Have you ever seen this before?
- 11 A. Yes. Sometime ago, though.
- 12 Q. Not in the recent past?
- 13 A. That is true.
- 14 Q. Okay. This refers to a study done on
- 15 PCB toxicity on leghorn chickens,
- 16 correct?
- 17 A. Yes.
- 18 Q. And it discusses duplicating a study
- 19 that had been done previously but
- 20 changing the levels of ppm, parts per
- 21 million, in the diet.
- 22 A. Yes.
- 23 Q. Do you know what the results were of the

REGIONAL REPORTING SERVICE, INC.

- 1 prior leghorn chicken study that was now
- 2 being duplicated?
- 3 A. I don't remember now. I would have to
- 4 see the reports.
- 5 Q. Do you know why the study was being
- 6 duplicated?
- 7 A. Well, I'm under the impression that
- 8 they're looking for -- to establish a
- 9 no-effect level.
- 10 Q. What do you mean by a no-effect level?
- 11 A. This is the -- a level which the test
- 12 creature is exposed to but no adverse
- 13 effects are noted.
- 14 Q. Now, that is apparently what is
- 15 reflected in the last sentence of the
- 16 second paragraph, where Dr. Wheeler
- 17 states we would hope that we might find
- 18 a higher no-effect level with the sample
- 19 as compared to the previous work; is
- 20 that right?
- 21 A. That is correct.
- 22 Q. Do you know whether the second study in
- 23 fact resulted in a higher no-effect

REGIONAL REPORTING SERVICE, INC.

- 1 level compared to the previous study?
- 2 A. I have forgotten. I would have to see
- 3 the reports.
- 4 Q. Okay. Let me show you what was marked
- 5 at the Levinskas deposition as Levinskas
- 6 Four for identification. That's a
- 7 March-August 1971 progress report
- 8 prepared by Mees Litachgi,
- 9 L-i-t-s-c-h-g-i, Minchen, H-i-n-c-h-e-n,
- 10 and Tucker.
- 11 A. I have scanned the exhibit.
- 12 Q. Okay. You received a copy of this
- 13 exhibit, correct?
- 14 A. Yes.
- 15 Q. Not of the exhibit, of this report?
- 16 A. Yes.
- 17 Q. Okay. And it discusses the results of
- 18 the two-year toxicity studies of PCBs on
- 19 albino rats, correct?
- 20 MR. PECK: Object to the form of
- 21 the question.
- 22 A. Yes. But I didn't hear the first part
- 23 of your question.

REGIONAL REPORTING SERVICE, INC.

- 1 Q. What I said was this report discusses
- 2 the results of the two-year toxicity
- 3 study of PCBs on albino rats.
- 4 MR. PECK: Object to the form of
- 5 the question.
- 6 A. No. It discusses the findings of PCB in
- 7 the tissues from the tested animals.
- 8 Q. Okay. Did you have any involvement with
- 9 this study other than --
- 10 A. I was monitoring the results and
- 11 prodding to speed up the procedure a
- 12 bit.
- 13 Q. Do you recall the results of the study?
- 14 A. Not at this moment, no.
- 15 Q. Well, one of the results is -- If you
- 16 look in the third paragraph under
- 17 summary, it says, "PCB residues were
- 18 observed in all the tissues at all
- 19 levels fed one, ten, and a hundred parts
- 20 per million and at each sacrifice
- 21 interval." And then it goes on to
- 22 state --
- 23 Well, first of all, let me ask you

REGIONAL REPORTING SERVICE, INC.

about that. Do you recall discussing that result with anyone from IBT?

A. I didn't with IBT, no.

Q. Do you recall discussing that result with anyone from Monsanto?

A. Well, this was a general topic of discussion. I don't recall any specific individuals.

Q. Okay. What do you recall about the general topic of discussion regarding the results of this study?

A. That test animals exposed to certain levels exhibited a PCB content in their tissues higher than the feeding level, which indicated what was then referred to and still is as bio-accumulation.

Q. What do you mean by that?

A. It accumulates in the biological system. And I don't want to confuse by using that term to the phenomena that is created in nature, where the higher up the food chain living creatures are classified at, the higher the residual

REGIONAL REPORTING SERVICE, INC.

amount of PCB in their tissues. This is a single step in the feeding process, where the creature exposed still builds it up in its tissues.

Q. Okay. Do you recall any discussions at Monsanto concerning the fact that the residual -- I'm sorry -- that the residue levels found in the tissues of the animals fed one, ten, and a hundred parts per million of Aroclor 1260 continued to build up over the entire two year duration of the study, about the bio-accumulation that you were just talking about?

A. Well, it did for some of them at certain levels. If you will note, there are some exceptions also listed here.

Q. Do you recall discussions about that, about the bio-accumulation effect of PCBs?

A. Yes, that was part of our general discussions.

Q. What do you recall about those general

REGIONAL REPORTING SERVICE, INC.

discussions?

A. The only recollection I have is that this is expected in a biological system, especially that has fat involved in its tissues.

Q. Why is it expected?

A. Because the material is fat soluble. And once it finds its way into that part of the test animal's body, it stays put. It's again, inert, unreactive.

Q. Now, on the second page of this document, in the first full sentence on that page, it says, "Alteration of the homolog," h-o-m-o-l-o-g, "distribution of all products was also observed."

Do you know what that means? Do you have an understanding of what that means?

A. Yes.

Q. What do you understand that to mean?

A. This is really describing biodegradation, where the lower chlorinated PCBs, when digested, are

REGIONAL REPORTING SERVICE, INC.

destroyed to the point where they are no longer PCBs; therefore, the instrument, the analytical instrument can't identify them as a PCB. So this is why the result is observed as an alteration of the distribution.

Q. Okay. That's all I have on that document.

Now, I'll ask you -- I'll ask you to take a look for a second at Levinskas Five, if you could. I want you to read the whole thing. I'm going to ask you about one thing.

But before I do, let me just ask you this: Did you ever review these reports that were sent to Monsanto from IBT?

A. Yes.

Q. Then I'd ask you to take a look at this, if you could. And I'm only going to be asking you about page four, one of the results of the study.

A. I've glanced at the report.

REGIONAL REPORTING SERVICE, INC.

1 Q. Okay. And this reports on a study done
2 by IDT to determine the potential
3 teratogenic effects of Aroclor 1254 in
4 albino rats, correct?
5 A. That is correct.
6 Q. And you recall seeing this before?
7 A. Yes.
8 Q. Did you review this in the recent past?
9 A. No.
10 Q. Do you know what teratogenic means?
11 A. I believe I do.
12 Q. What do you think it means?
13 A. I'm going to call it a malformed fetus
14 or creature.
15 Q. Okay. On page four of the report, right
16 before the signature line, signatures,
17 it says, "Twelve percent of the fetuses
18 examined from females administered
19 thirty milligrams per kilogram had
20 caudal renal ectopia." Do you know what
21 caudal renal ectopia is?
22 A. If I took a guess, it would have
23 something to do with the kidney system.

REGIONAL REPORTING SERVICE, INC.

1 Q. That's the extent of your understanding?
2 A. Yes.
3 Q. Do you recall any discussions at
4 Monsanto about the results of this
5 report?
6 A. That I was involved in?
7 Q. Yes, or that you heard.
8 A. If I had heard it, I didn't grasp the
9 full significance as a medical person
10 would.
11 Q. Okay. Do you recall whether this ever
12 raised any concerns at Monsanto about
13 the toxicity of PCBs?
14 A. Not particularly, no.
15 MR. ATKIN: Moving right along.
16 MR. PECK: Can we take a break?
17 (A break was taken.)
18 Q. Okay. Let us have you take a look, if
19 you could, at what has been previously
20 marked as Levinskis Six for
21 identification. That's the November
22 12th, 1971, report to Monsanto Company
23 from IBT, IBT number B-7298, two-year

REGIONAL REPORTING SERVICE, INC.

1 chronic oral toxicity with Aroclor 1260
2 in albino rats.
3 MR. PECK: It looks like Six is
4 just kind of the executive
5 summary posted from the rest
6 of the report.
7 MR. ATKIN: Right? Well, again,
8 this is all I have. Yeah, I
9 think we had talked about
10 that before. It is the same
11 exhibit. This was the
12 exhibit that we used?
13 MR. DAVIDSON: Right.
14 MR. PECK: Yours is cut off. This
15 copy is not. It's the same
16 exhibit. It's just not cut
17 off on the right.
18 A. Oh, you mean on -- I was looking at the
19 bottom. Okay. I have reviewed the
20 exhibit.
21 Q. Okay. And when was the last time you
22 reviewed this exhibit?
23 A. Years ago. I don't recall exactly when.

REGIONAL REPORTING SERVICE, INC.

1 Q. Okay. On the second page, in the last
2 paragraph, it states, "Histologic
3 examination of the livers from T-3 group
4 revealed several animals with vacuolar
5 change," v-a-c-u-o-l-a-r, change.
6 Do you have an understanding what
7 that means?
8 A. Not really, no.
9 Q. The last sentence on that page states,
10 "Focal hypertrophy and focal hyperplasia
11 were also found in the livers from
12 animals fed Aroclor 1260."
13 Do you know what focal hypertrophy
14 means?
15 A. No.
16 Q. Do you know what focal hyperplasia
17 means?
18 A. No.
19 Q. When you got the copies of these
20 reports, did you ask anyone to explain
21 to you what that terminology meant?
22 A. Not the specific terminology, no.
23 Q. Do you recall any discussions at

REGIONAL REPORTING SERVICE, INC.

1 Monsanto about the results of this
2 study?

3 A. In general, yes.

4 Q. What do you recall?

5 A. I recall really that this report was
6 telling us or telling the reader that
7 exposure to Aroclor 1260 resulted in
8 enlarged livers.

9 Q. And did Monsanto reach any conclusions
10 about the toxicity of Aroclor 1260 as a
11 result of this study?

12 A. Yeah. The fact that at high levels of
13 the higher chlorinated type of PCB, you
14 can get liver effects.

15 MR. PECK: In rats?

16 MR. ATKIN: Huh?

17 MR. PECK: In rats?

18 MR. ATKIN: Are you testifying
19 here today? That's
20 completely improper. If you
21 want to ask the witness
22 questions after we're
23 through, you are welcome to

REGIONAL REPORTING SERVICE, INC.

1 do so. But you're not going
2 to testify at this
3 deposition.

4 MR. PECK: Well, it was unclear
5 what the question was.

6 MR. ATKIN: No, no, no. If he
7 didn't understand the
8 question, he could have asked
9 me. You're not to testify
10 here. That's improper.

11 Q. Let's take a look, if we would, at
12 Levinskas Seven for identification
13 purposes. And this is again apparently
14 an executive summary report to IB -- It
15 says report to IBT research. It's
16 actually a report to Monsanto from IBT
17 on the toxicity and reproduction study
18 with Aroclor 1242 on white leghorn
19 chickens dated June 7th, 1973, IBT
20 number J-1291.

21 MR. PECK: It also appears to be
22 missing the final signature
23 page, right?

REGIONAL REPORTING SERVICE, INC.

1 MR. ATKIN: Correct.

2 A. I have read the exhibit.

3 Q. Okay. And did you in fact read this
4 exhibit in or about June 1973?

5 A. Yes.

6 Q. Okay. And is this the study that you
7 were telling us about earlier, about the
8 white leghorn chickens that discussed
9 the hatchability -- the effect of PCBs
10 on the hatchability of eggs in white
11 leghorn chickens?

12 A. This is the -- Yeah. This reflects the
13 study of the effects of Aroclor 1242 on
14 the hatchability at the higher level.

15 Q. Okay. For the -- At the higher level,
16 meaning the group that was fed ten parts
17 per million?

18 A. That is correct.

19 Q. Do you recall any discussions at
20 Monsanto about the results of this
21 study?

22 A. Yes.

23 Q. What do you recall?

REGIONAL REPORTING SERVICE, INC.

1 A. I recall that, as we just said, the
2 higher feeding level of Aroclor 1242 to
3 white leghorn chickens affected their
4 hatchability of their eggs.

5 Q. Okay. And is that -- Was that also the
6 conclusion that Monsanto reached
7 regarding the toxicity of Aroclor 1260
8 as a result of this study?

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

11 A. 1260?

12 Q. I'm sorry. 1242.

13 A. 1242 at that higher level.

14 Q. Yes.

15 A. With this test animal, this bird.

16 Q. Thank you. Let us take a look at what
17 has been previously mark as Levinskas
18 Eight at Dr. Levinskas' deposition.
19 This is a -- Actually -- No. Let us
20 skip over Levinskas Eight. Okay? We
21 are not going to take a look at that
22 now. Let's take a look at --

23 Oh, I see. It had been marked as

REGIONAL REPORTING SERVICE, INC.

part of it. The second part of Levinskas Eight. How many pages do you have there, two?

A. Two, the title page and transmittal.

Q. Okay. The second part of Levinskas Eight was this two-page document, which actually has the summary, the exhibit, the introduction and the executive summary.

MR. PECK: So you are now showing DSW 03662 --

MR. ATKIN: 8 and DSW 036629.

MR. PECK: Which is continuing from 036626 and 27?

MR. ATKIN: Right.

A. I have read the exhibit.

Q. Okay. Now, this report begins in the introduction, "At the request of Dr. Levinskas of the Monsanto Company, additional sections of liver from a two-year chronic oral toxicity study of Aroclor 1260 in rats were processed into H and E stain sections and evaluated by

REGIONAL REPORTING SERVICE, INC.

light microscopy."

Do you know why Monsanto asked IBT to look at additional sections of liver from a study that had been done previously?

A. No. This was a toxicologist's request. I don't know the basis for it.

Q. Okay. If you look at the summary, it states, "In conclusion, Aroclor 1260 appears to be slightly tumorigenic at levels of a hundred parts per million when fed continuously in the diet for two years." Do you see that?

A. Yes.

Q. Okay. Did you ever become aware at any point in time that Monsanto -- Dr. Levinskas specifically asked IBT to change the words "slightly tumorigenic" in this report to noncarcinogenic?

A. Yes, I did.

Q. When did you become aware of that?

A. I don't remember the exact year. About five years ago.

REGIONAL REPORTING SERVICE, INC.

Q. Is that --

A. Five or eight years ago.

Q. How did you become aware of it?

A. Well, I was preparing myself for a deposition, as best I recall, and I saw some documents that I hadn't seen before that covered that subject.

Q. Okay. That was in another PCB case?

A. Yes.

Q. So you were unaware of that at the time, in other words; is that right?

A. That is right.

Q. Okay. And obviously you don't recall any discussions about that in or about 1975; is that right?

A. That is correct.

Q. Okay. Do you have any understanding why -- I know you only became aware of it approximately five to -- What did you say, five to eight years ago, somewhere in that time frame?

A. (Witness nods head affirmatively.)

Q. Do you have any understanding from any

REGIONAL REPORTING SERVICE, INC.

conversations with anyone at Monsanto as to why Dr. Levinskas asked IBT to change the language "slightly tumorigenic" to does not appear to be carcinogenic in certain studies that were done by IBT for Monsanto?

MR. PECK: Object to the form of the question.

A. I have an understanding. I don't know how valid it is. To me it makes sense.

Q. What is your understanding?

A. There were three studies underway at the time, one with Aroclor 1242, another with 1244, and then there was Aroclor 1260.

As I understood it, the results of the studies were pretty much alike. The concluding statements for two of them were noncarcinogenic. The third one for some reason, that I can only guess at -- and I don't want to guess -- ended up with a reference to the formation of tumors, tumorigenic. And Dr. Levinskas

REGIONAL REPORTING SERVICE, INC.

1 could not see the reason for the
2 difference in statements based on the
3 similar data and was seeking some
4 uniformity in conclusion statements.
5 Q. What do you base that understanding on?
6 A. Just by reviewing the documents that
7 were available to me many years ago.
8 Q. Did you ever talk to Dr. Levinskas about
9 it?
10 A. No, no.
11 Q. Okay. Do you know if IBT ever refused
12 to adopt any changes that Monsanto
13 proposed to any of the reports that were
14 submitted by IBT?
15 A. I have no idea of what transpired during
16 that review period.
17 Q. Okay. Did you ever become aware, sir,
18 of the fact that in or about 1975
19 Dr. Kimbrough published the results of
20 her toxicity study of PCBs?
21 A. Yes.
22 Q. And that she concluded that in fact
23 Aroclor 1260 did cause some liver tumors

REGIONAL REPORTING SERVICE, INC.

1 in rats?
2 A. That was her initial conclusion, yes.
3 Q. And her findings, in fact, were
4 confirmed by a Dr. Squires, the head of
5 the tumor pathology branch of the
6 National Cancer Institute; isn't that
7 right?
8 A. I don't know if they were confirming.
9 He is the one that arrived at those
10 findings, and Dr. Kimbrough stated his
11 findings.
12 Q. Monsanto asked IBT to examine the
13 lesions observed by Dr. Squires and
14 Dr. Kimbrough to determine if they were
15 carcinogenic, right?
16 A. Well, they were -- They asked for a
17 review of those slides. I don't know
18 that they used the word "carcinogenic."
19 They were asked to give an opinion.
20 Q. Okay. And what opinion did they give?
21 A. I don't remember the toxicology
22 terminology they used.
23 (Discussion held off record.)

REGIONAL REPORTING SERVICE, INC.

1 Q. Okay. I'll ask you to take a look, if
2 you could, at what was marked as
3 Levinskas Thirteen for identification at
4 Dr. Levinskas' deposition.
5 A. I have read the exhibit.
6 Q. Okay. Now, who was Dr. Roush?
7 A. Dr. Roush was, at this point "in time," in
8 April of '75, the Monsanto Company
9 medical director.
10 Q. Okay. And you received a copy of this
11 letter, correct?
12 A. Yes.
13 Q. Okay. And when was the last time you
14 looked at this document?
15 A. This multi-year period I tried to guess
16 at earlier, five to eight years, maybe
17 ten.
18 Q. You haven't reviewed it in the recent
19 past?
20 A. That is true.
21 Q. Okay. Now, in the first sentence of
22 this letter, Dr. Calandra says to
23 Dr. Roush, "I fully appreciate that the

REGIONAL REPORTING SERVICE, INC.

1 meeting on PCBs today was not completely
2 satisfactory and that many nagging
3 questions remain."
4 Were you at that meeting referred
5 to?
6 A. Yes.
7 Q. Do you recall what was discussed at that
8 meeting?
9 A. It was a discussion on the findings by
10 pathologists of liver samples from
11 Dr. Kimbrough's studies and Industrial
12 Bio-Test studies.
13 Q. Do you know what Dr. Calandra meant when
14 he said that the meeting wasn't
15 completely satisfactory?
16 MR. PECK: Object to the form of
17 the question, calls for
18 speculation.
19 A. He was referring to the fact that the
20 two laboratories -- or the
21 representatives of the two laboratories
22 left the meeting still disagreeing as to
23 the findings.

REGIONAL REPORTING SERVICE, INC.

1 Q. Okay. Now, at the end of the page four
2 summary -- I'm sorry -- at the end of
3 the four-page summary, one, two, three
4 four -- or is it five -- the last thing
5 he says -- number five, it says,
6 "Bio-Test studies on PCBs meet the
7 scientific standards of toxicology and
8 pathology, and we are prepared to assist
9 Monsanto in any adversary situation in
10 or out of government."

11 Do you know what Dr. Calandra
12 meant by that?

13 MR. PECK: Object to the form of
14 the question.

15 Q. Did you have an understanding -- Did you
16 have an understanding when you got this
17 letter as to what Dr. Calandra meant by
18 that?

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

21 A. I had an understanding, yes.

22 Q. What was it?

23 A. That he would join Monsanto individuals

REGIONAL REPORTING SERVICE, INC.

1 in any discussions on this subject
2 brought on by anyone.

3 Q. Brought on by anyone? Did you interpret
4 that to mean litigation also?

5 A. Yeah. I can see that as a possibility.

6 Q. Okay. Did Monsanto ever ask IBT to
7 assist it in any adversary situation in
8 or out of government?

9 A. I'm not aware of any such requests.

10 Q. Okay. Was it part of Monsanto's
11 agreement with IBT that IBT would be
12 prepared to assist Monsanto in any
13 adversary situation in or out of
14 government?

15 A. I don't know of any agreement of that
16 type.

17 Q. Okay. Is it possible to extrapolate
18 human carcinogenic effects from animal
19 toxicity studies?

20 MR. PECK: Object to the form of
21 the question, no foundation
22 for this witness to testify
23 about.

REGIONAL REPORTING SERVICE, INC.

1 A. I'm not qualified to have an answer to
2 that.

3 Q. Do you have an opinion on that subject?

4 MR. PECK: Object to the form of
5 the question, no foundation
6 for this witness to testify
7 on that issue.

8 A. I have an opinion. And this is just a
9 layman's viewpoint --

10 Q. Yeah.

11 A. -- of a highly technical field, that
12 test animals commonly used might be a
13 fair indicator of what could happen to
14 humans, but there is always a question
15 mark that follows the results obtained
16 in terms of good or bad or what have
17 you.

18 Q. Did Monsanto ever reach a conclusion,
19 one way or the other, whether PCBs can
20 cause cancer in humans?

21 A. Yes, they did reach a conclusion.

22 Q. And what was that conclusion?

23 A. That they do not cause cancer. And that

REGIONAL REPORTING SERVICE, INC.

1 is based on their forty years of
2 experience.

3 Q. Okay. And do you know whether the EPA
4 or any other governmental authority has
5 concluded that PCBs can cause cancer in
6 humans?

7 A. I know of no such entity that has
8 arrived at that conclusion.

9 Q. Do you know whether the EPA has listed
10 PCBs as probable human carcinogens?

11 MR. PECK: Object to the form of
12 the question, no foundation
13 for this witness.

14 A. I have not kept up to date. I don't
15 know what EPA is thinking today.

16 Q. Was Mr. Wright the person at IBT
17 responsible for the rat and dog studies
18 on PCBs that were done for Monsanto?

19 A. On the rat and what kind of study?

20 Q. Dog.

21 A. Not while I was involved. I never saw
22 the man.

23 Q. Do you have an understanding as to what

REGIONAL REPORTING SERVICE, INC.

1 Mr. Wright was responsible for at IBT in
2 connection with the studies that were
3 done for Monsanto?
4 A. Now, I can only speak for the PCB
5 studies.
6 Q. Okay. That is what I'm talking about,
7 the PCB studies.
8 A. Because there were many studies
9 conducted for Monsanto.
10 Q. No. The PCB studies. Do you have an
11 understanding of what Mr. Wright's role
12 was in the PCB studies that were
13 conducted --
14 A. It is my understanding he was not
15 involved.
16 Q. Did Mr. Wright work for Monsanto before
17 joining IBT?
18 A. I am told he was.
19 Q. You don't have any independent knowledge
20 about that?
21 A. That is true.
22 Q. Do you know -- Do you have an
23 understanding as to how Mr. Wright came

REGIONAL REPORTING SERVICE, INC.

1 to be employed by IBT?
2 A. No, I don't.
3 Q. Do you have an understanding as to
4 whether Mr. Wright ended up leaving IBT
5 and returning to work for Monsanto?
6 A. I understand that's what happened.
7 Q. Do you know Mr. Wright personally?
8 A. Yes.
9 Q. Did you ever work with him?
10 A. Yes.
11 Q. Did you ever work with him in connection
12 with the PCB studies that were done by
13 IBT for Monsanto?
14 A. No.
15 Q. What did you work with him in connection
16 with?
17 A. I forget the exact chemicals, but at one
18 point in time I was responsible for many
19 different Monsanto chemicals, and
20 Mr. Wright was involved with some
21 studies with them. I don't remember the
22 specific chemicals today.
23 Q. Is this before or after he worked for

REGIONAL REPORTING SERVICE, INC.

1 IBT?
2 A. I don't know the dates he worked for
3 IBT, but this was starting at about the
4 1974 or '75 period.
5 Q. Okay. Well, that was after IBT had
6 concluded its toxicity testing of PCBs
7 for Monsanto?
8 A. At least those that I was involved with.
9 I don't know if they started others.
10 Q. Did you ever become aware that
11 Mr. Wright was criminally indicted?
12 A. I read in the local newspapers, yes.
13 Q. When did you read that?
14 A. Golly, 1980, '81, somewhere in there.
15 Q. Do you know why he was indicted?
16 A. No.
17 Q. Have you ever heard that it was for
18 falsifying data in connection with IBT
19 studies?
20 MR. PECK: Object to the form of
21 the question.
22 A. I did not get that from the articles I
23 read.

REGIONAL REPORTING SERVICE, INC.

1 Q. Have you ever heard that?
2 A. I've never discussed it with anybody.
3 No, I have never heard.
4 Q. So as we sit here today that's the first
5 time you have ever heard of this?
6 A. Of what?
7 Q. Of Mr. Wright being indicted for
8 falsifying data in connection with
9 studies that were done by IBT
10 A. I heard he was indicted, but I don't
11 know what for. That's it.
12 THE VIDEOGRAPHER: Can I get a
13 quick tape change?
14 MR. ATKIN: Yes, you can.
15 (Discussion held off record.)
16 Q. Have you ever heard that part of the
17 reason that Mr. Wright was indicted was
18 for falsifying data in connection with
19 toxicity studies on TCC in albino rats
20 for Monsanto?
21 A. I never heard that.
22 Q. Okay. Have you ever heard that
23 Dr. Calandra and Dr. Keplinger were also

REGIONAL REPORTING SERVICE, INC.

1 indicted?
 2 A. Yes.
 3 Q. When did you hear that?
 4 A. In the same newspaper articles.
 5 Q. Did you ever have any discussions with
 6 anyone at Monsanto about the fact that
 7 Mr. Wright, Dr. Calandra, and
 8 Dr. Keplinger had been indicted?
 9 A. No, no. That never came up.
 10 Q. Okay. Did you ever hear that
 11 Mr. Wright, Dr. Calandra, and Dr. Morano
 12 were convicted?
 13 A. I believe I have, but I'm not certain.
 14 Again, my information came from the
 15 local press.
 16 Q. You had no other information about these
 17 indictments or convictions other than
 18 what you saw in the local press?
 19 A. That's right.
 20 Q. Have you ever heard from anyone that at
 21 his trial Mr. Wright refused to answer
 22 questions about the PCB studies that
 23 were done by IBT for Monsanto?

REGIONAL REPORTING SERVICE, INC.

1 A. I never heard that.
 2 Q. Have you ever heard from anyone, sir,
 3 that the raw data for the IBT PCB
 4 studies was falsified?
 5 A. No.
 6 Q. Are you aware, sir, that Mr. Smith
 7 testified under oath that he signed two
 8 Aroclor reports for Monsanto that
 9 contained false data?
 10 MR. PECK: Object to the form of
 11 the question, asks this
 12 witness to improperly comment
 13 on another witness'
 14 testimony.
 15 A. If my memory serves me right, I was
 16 present at a trial when Mr. Smith
 17 testified. And as best I recall, he did
 18 make some statement like that.
 19 Q. Which trial was that?
 20 A. Golly, I forget the name of it. It was
 21 down in Texas.
 22 Q. How long ago did it take place?
 23 A. Fifteen years ago, ten years ago.

REGIONAL REPORTING SERVICE, INC.

1 Q. Was it a PCB case?
 2 A. Yes.
 3 Q. Monsanto was a defendant?
 4 A. Yes.
 5 Q. And you testified at that trial on
 6 behalf of Monsanto?
 7 A. I did.
 8 Q. Mr. Smith has also testified in another
 9 case that Mr. Wright forged his name to
 10 one of the PCB studies that was done by
 11 IBT for Monsanto. Have you ever heard
 12 of that?
 13 MR. PECK: Object to the form of
 14 the question.
 15 A. No. I don't associate Mr. Wright with
 16 any of the PCB studies I was involved
 17 with.
 18 Q. Okay. Have you ever heard from anyone
 19 that approximately seventy percent of
 20 the animals which died during the course
 21 of the IBT studies were too badly
 22 decomposed to be included in the study
 23 results?

REGIONAL REPORTING SERVICE, INC.

1 A. Which studies are these?
 2 Q. The rat studies.
 3 A. PCB studies?
 4 Q. Yes.
 5 A. No way, no. I didn't see that anywhere.
 6 Q. And you never heard of it?
 7 A. That's true.
 8 Q. If in fact seventy percent or more of
 9 the animals in a study are too badly
 10 decomposed to be included in the study
 11 results, that would skew the study
 12 results, wouldn't it?
 13 MR. PECK: Object to the form of
 14 the question, no foundation
 15 for this witness to answer
 16 the question.
 17 A. I'm not qualified to comment one way or
 18 the other on that.
 19 Q. You have no opinion on it?
 20 A. No opinion.
 21 Q. Okay. Have you ever heard from anyone
 22 that Dr. Fancher was ashamed to publish
 23 the work done in the IBT studies?

REGIONAL REPORTING SERVICE, INC.

1 A. Wanted to change?
 2 Q. No. Was ashamed to publish the work
 3 done in the IBT studies.
 4 A. I never heard that.
 5 Q. Okay. Were the IBT studies done -- PCB
 6 studies done for Monsanto submitted to
 7 Monsanto's attorneys for their review
 8 before they could be published?
 9 A. There was a report -- I'm trying to
 10 remember just which one. There was a
 11 report which Mr. Wheeler was proposed as
 12 a co-author, and Mr. Wheeler sought the
 13 advice of a Monsanto attorney
 14 regarding --
 15 MR. PECK: You haven't done it
 16 yet. But I would remind you
 17 not to, in the course of your
 18 discussion, disclose any
 19 attorney-client confidences.
 20 THE WITNESS: Yeah.
 21 MR. PECK: Go ahead.
 22 THE WITNESS: See, I don't know
 23 the difference in

REGIONAL REPORTING SERVICE, INC.

1 attorney-client --
 2 MR. PECK: Anything the attorney
 3 told Mr. Wheeler that you may
 4 know about, don't disclose
 5 that.
 6 Q. Yes. And I'm not asking you that. I'm
 7 just asking you whether you know whether
 8 Monsanto's attorney reviewed the IBT
 9 studies before they were published.
 10 A. All I'm aware of is one report that was
 11 offered to an attorney for review.
 12 Q. Okay. That's the only one you're aware
 13 of?
 14 A. That's all I'm aware of.
 15 Q. Did you visit the IBT labs and observe
 16 the conditions of the animals in the
 17 labs?
 18 A. Yes, several times.
 19 Q. Do you know if Mr. Wright ever visited
 20 the IBT labs after returning to work for
 21 Monsanto?
 22 A. I do not.
 23 Q. Do you know if Mr. Wright, after he

REGIONAL REPORTING SERVICE, INC.

1 returned to work for Monsanto, continued
 2 to be involved in the Aroclor studies
 3 that IBT was doing for Monsanto?
 4 A. I don't associate Mr. Wright with any
 5 PCB studies.
 6 Q. Okay. Have you ever heard that Monsanto
 7 paid Mr. Wright's legal fees in
 8 connection with the charges that were
 9 brought against him?
 10 A. I have not.
 11 Q. Were the IBT Aroclor studies the only
 12 chronic toxicity studies conducted by
 13 Monsanto regarding PCBs?
 14 MR. PECK: Object to the form of
 15 the question.
 16 A. Those were the only chronic studies that
 17 I'm aware of.
 18 Q. Now, if the data and conclusions of the
 19 IBT studies were falsified, the results
 20 wouldn't be reliable, would they?
 21 MR. PECK: Object to the form of
 22 the question, assumes facts
 23 not in evidence.

REGIONAL REPORTING SERVICE, INC.

1 A. I find that hard to answer, because I
 2 can see falsification that would not
 3 change conclusions. It's the
 4 conclusions that are quite important in
 5 any report of this type.
 6 Q. Any conclusions in any report of this
 7 type are based on the data; isn't that
 8 right?
 9 A. They should be, yes, sir.
 10 Q. So if the data is falsified, then the
 11 conclusions aren't reliable, are they?
 12 MR. PECK: Object to the form of
 13 the question. This witness
 14 isn't qualified to discuss
 15 the conclusions of these
 16 subjects, no foundation.
 17 Sorry.
 18 A. I'm not a toxicologist. So I don't
 19 really have an understanding of what
 20 data, if falsified, would result in an
 21 erroneous conclusion.
 22 Q. Okay. Did Monsanto ever have any other
 23 laboratory repeat the IBT chronic

REGIONAL REPORTING SERVICE, INC.

1 toxicity studies?

2 A. Not to my knowledge.

3 Q. Okay. Do you know why not?

4 A. No, I don't.

5 Q. Okay. Did Monsanto ever conduct any PCB
6 studies on primates?

7 A. I understand there was some work
8 involving primates, but that's the
9 extent of my knowledge.

10 Q. Did you ever hear that those studies
11 showed that higher animals were more
12 susceptible to PCBs at lower doses than
13 rats?

14 A. I heard nothing about those reports
15 other than something was going on.

16 MR. ATKIN: I think I'm done.

17 Thank you very much.

18 MR. PECK: We may have one
19 question.

20 MR. ATKIN: Sure.

22 EXAMINATION

23 BY MR. PECK:

REGIONAL REPORTING SERVICE, INC.

1 Q. Mr. Papageorge, let me show you what was
2 marked as Plaintiffs' Exhibit
3 Seventy-one previously in your
4 deposition. Do you see in that document
5 there is discussion of a finding of
6 dibenzylfurans in Santowax R? Do you
7 see that reference?

8 A. Yes.

9 Q. Let me ask you. Is Santowax R a
10 chlorinated product?

11 A. No.

12 Q. Is Santowax R used to make
13 polychlorinated biphenyls?

14 A. No.

15 Q. Do you know if the finding of
16 dibenzylfurans was ever confirmed in
17 Santowax R?

18 A. Initially Dr. Mieure, who is mentioned
19 here, thought that he spotted
20 dibenzylfurans in Santowax R. And after
21 several weeks of further study, he
22 concluded that he had misidentified it.
23 And as I remember, there was some

REGIONAL REPORTING SERVICE, INC.

1 reports that he -- or publications that
2 he put out describing what he thought it
3 was and the fact that he had made an
4 error in his conclusions and that he had
5 modified his findings.

6 But in any case, this is not the
7 chlorinated dibenzylfurans. This is not
8 the toxic material that everybody is
9 concerned about. Santowax R is a
10 terphenyl. It's used to make an
11 Aroclor, but not a PCB kind of Aroclor.

12 MR. PECK: Thank you.

13 MR. ATKIN: I have a question
14 about that.

16 FURTHER EXAMINATION

17 BY MR. ATKIN:

18 Q. Did you review this document with
19 Monsanto's counsel when we took a break
20 before?

21 A. Yes.

22 MR. ATKIN: Thank you. I have
23 nothing further.

REGIONAL REPORTING SERVICE, INC.

1
2
3 (The deposition concluded at
4 3:33 p.m.)
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23

REGIONAL REPORTING SERVICE, INC.

1 I do hereby certify that the witness
2 whose attached deposition was taken before me
3 was by me first duly cautioned and sworn to
4 tell nothing but the truth in the cause
5 aforesaid; that the testimony contained herein
6 was by me reduced to writing in the presence
7 of said witnesses by means of stenography and
8 afterwards transcribed by means of computer
9 aided transcription. The foregoing is a true
10 and accurate transcript of the whole of the
11 testimony given by said witness, as aforesaid.

12 I do further certify that I am not
13 connected by blood or marriage with any of the
14 parties or their attorneys or agents and that
15 I am not an employee of any of them, nor
16 interested in the matter of controversy.

17 IN WITNESS WHEREOF, I have hereunto set
18 my hand and affixed my notarial seal at
19 Gadsden, Alabama, County of Etowah, this 2nd
20 day of June 1998.

21 Deborah Salers Garrett
22 Certified Shorthand Reporter
23 Registered Professional Reporter
Notary Public, Alabama-at-Large
My Commission expires: 3-7-2001

REGIONAL REPORTING SERVICE, INC.

----- '30s 66:10,20; 88:20 '40s 66:10,20; 88:20 '50s 66:22; 67:1; 69:1; 88:20 '60s 66:23; 83:17; 86:14 '66 46:1 '67 82:15 '68 82:15 '69 106:1 '70 122:8,17; 126:12 '70s 70:9,10; 84:23; 85:2, 3; 86:15 '71 122:8 '72 122:8 '73 32:13 '74 126:12 '75 179:8; 187:4 '81 187:14 ----- 0 ----- 0010322 23:16 0010324 23:16 001641 39:14 001648 39:15 018891 103:8 018894 103:9 029193 124:20 029197 124:21 030358 141:1 031181 111:23 03662 173:11 036626 173:14 036629 173:12 037621 115:1 037630 115:2 037756 61:15 037758 61:15 0913054 84:3 091681 29:23 091682 30:1 097308 44:20 099533 76:6 099534 76:7 ----- 1 ----- 10-29-69 103:7	100 1:18 10019 2:5 1016 10:13; 11:6 103 3:9 10th 16:4,16; 97:22 112 3:9.5 115 3:10 119 3:10.5 11:55 111:12 124 3:11 1242 117:1; 152:14,19; 170:18; 171:13; 172:2,12,13; 176:13 1244 176:14 1254 73:16; 117:2; 152:14,19; 165:3 1260 73:16,17; 117:2; 162:10; 167:1; 168:12; 169:7,10; 172:7,11; 173:22; 174:9; 176:15; 177:23 127 3:11.5 12th 166:22 130 3:12 1301 2:4.5 137 3:12.5 141 3:13 15 3:3 17th 56:18 18th 39:6 19 122:8 1930 19:6; 37:21 1930s 66:13; 67:10,22; 68:12 1940s 66:13; 67:11,23; 68:12 1950s 68:15; 69:9 1960s 67:5; 69:17; 70:12 1964 45:18 1965 49:1	1966 45:23; 48:10 1967 46:2 1969 44:13; 104:5,12; 105:1,17,23; 110:20; 111:20; 120:22 197 2:21.5 1970 56:18; 61:8; 63:8; 65:12; 72:15, 16; 75:21; 76:4,16; 80:18; 89:6, 16; 90:7; 92:15; 93:9; 99:17; 107:3, 5; 115:4,6, 20; 118:5; 119:13; 120:3; 127:14; 128:1; 130:2; 132:12,19; 138:21; 148:15; 150:21 1970s 37:23 1971 9:22; 14:21; 90:20; 93:3; 95:16; 96:3; 136:9; 141:19; 159:7; 166:22 1972 15:8; 17:3; 19:13, 22; 20:1,14; 23:10 1973 29:15; 32:12; 170:19; 171:4 1974 124:16; 187:4 1975 39:6; 97:22; 131:14; 134:6; 137:21; 139:3,12,21; 175:15; 177:18 1976 34:5 1980 187:14 1987 84:15,22 199 2:22.5 1998 1:17;	4:8; 5:1; 19:7; 201:20 1:00 111:13 ----- 2 ----- 201 2:16 202097 140:23 202103 143:5 202106 141:5; 143:20 206969 137:6 20th 2:9 21 1:17; 4:8; 5:1; 115:5 21073 130:3 21927 2:11.5 21st 115:20 22 115:6 22nd 23:10; 115:20 23 3:3.5 23rd 111:20 24th 89:6,16 25th 44:13 26 130:1 26th 9:22; 115:4 27 173:14 27420 2:12 27th 119:13; 124:16 29th 65:11; 84:15 2nd 15:7; 17:3; 201:19 ----- 3 ----- 3-7-2001 201:23.5 30 3:4 300 2:8.5 35203 2:9.5 35901-0755 1:22 39 3:4.5 3:33 200:4 3rd 61:8 ----- 4 ----- 4 2:15 44 3:5 4th 29:15; 32:12; 148:15; 150:21
--	---	--	--

----- 5 ----- 5 2:20.5 50 68:6,7,9 505 2:9 56 3:5.5 ----- 6 ----- 6 127:14 61 3:6 65 3:6.5 ----- 7 ----- 755 1:21.5 76 3:7 7th 75:21; 76:3; 170:19 ----- 8 ----- 8 173:12 84 3:7.5 89 3:8 ----- 9 ----- 98 3:8.5 9:00 1:16; 4:8 ----- A ----- A-p-p-e-l-h-o- -f 29:18 a.m 4:8 a.m. 1:16; 111:13 A60 144:1 able 33:16; 59:3; 134:4; 139:15 above 87:17; 142:6; 152:9 absolutely 114:21 absorb 34:22 accident 18:14 accidental 20:20 according 19:21; 72:20; 92:14 account 90:15, 19; 91:2,11; 93:2,16,17, 20,21; 94:1;	95:16 accumulates 161:18 accurate 17:13,14,15, 16; 19:15,21; 201:10 acid 22:22; 49:16; 128:17,23; 133:12 acronym 11:19 action 1:4.5; 78:2; 100:3, 13,16,23; 101:15; 102:4,8,15 active 133:11 activities 107:4 activity 24:10 actually 52:8; 74:4; 86:6; 107:10; 170:16; 172:19; 173:7 Acute 67:15 ADAM 2:7.5; 5:23 added 144:7; 148:5 adding 133:19 additional 74:15; 77:17; 97:4; 112:14; 173:20; 174:3 Additionally 34:7 address 38:5; 80:15 addressed 30:22,23; 31:3; 55:1; 80:14; 95:5; 112:21 addresses 12:1 addressing 40:19 adequacy 105:1 adequately 24:9 adjective 37:19 administered 165:18 Administration 139:18 administrative	108:20 adopt 177:12 adopted 81:6 adversary 181:9; 182:7, 13 adverse 35:21; 36:2,17; 47:8,14,23; 158:12 adversely 50:7; 51:20 advice 193:13 advising 85:9 affect 50:7; 51:20 affected 32:9, 10; 36:11; 68:2; 172:3 affecting 63:14 affirmatively 175:22 affixed 201:18 aforesaid 201:5,11 afterwards 201:8 agencies 70:21 Agency 29:6 agents 201:14 aggressive 133:18 ago 7:1; 9:2; 157:11; 167:23; 174:23; 175:2,20; 177:7; 190:22,23 agree 26:8; 90:18; 93:1; 95:22; 105:11 AGREED 4:2,9, 15,22 agreement 182:11,15 agricultural 82:12,16 ahead 100:4; 105:9; 107:1; 193:21 aided 201:9 air 57:20; 58:7,11; 59:18; 60:13; 122:11; 123:20;	124:3,6 al. 1:3,6.5 ALABAMA 1:1, 22; 2:9.5; 4:7; 44:2; 53:8,19; 54:17; 60:7; 65:2; 76:14; 121:11; 155:19; 201:19 Alabama-at-La- rge 201:23 alarming 116:13,18 Albert 39:8; 40:8,20,21; 41:6 albino 159:19; 160:3; 165:4; 167:2; 188:19 alike 176:17 allot 94:6 allow 81:15 allowing 20:12,21 alluded 78:2 almost 79:23 already 92:12; 97:13 alteration 163:13; 164:5 altered 148:6 although 50:5; 51:19; 74:6; 118:15 American 11:19 Americas 2:4.5 amount 20:22; 21:2,4,18; 64:10; 83:8; 90:9,14; 91:4,5,10,17, 18; 94:10; 95:23; 131:22; 162:1 amounts 38:23 analyses 63:3; 126:7 analysis 24:16; 25:10; 58:3,4; 64:2, 18,23 analytical 14:15; 48:4; 86:13; 126:8; 131:10; 134:2; 135:8;
--	---	---	---

141:18; 164:3	11:13,18;	11:11	178:9; 184:8
analyzed 57:5;	12:12,19,21;	appropriate	article 45:3;
59:21; 131:2	13:2,5,7,13;	27:7; 135:11	80:17
animal 65:23;	14:2,7; 16:4,	approval	articles
66:2,7,13;	16,20; 17:8;	144:20	187:22; 189:4
67:15,20;	126:21	approximately	ashamed
70:1; 71:21;	answer 16:2;	175:19;	192:22; 193:2
72:6; 116:5;	17:10,16;	191:19	askarel 125:23
117:6;	21:3,22;	April 56:18;	asks 21:21;
131:23;	22:20; 23:1;	72:14; 179:8	190:11
150:14;	28:23; 40:11;	aquarium 147:4	assess 141:22
172:15;	41:7; 42:22;	aquatic 48:15,	assign 4:19
182:18	49:12; 54:10,	18; 49:8	assigned
animal's 163:9	20,21; 88:2;	area 12:11,17;	136:14
animals 32:15;	126:1; 131:6;	21:19; 46:21;	assignment
67:17; 68:2,	133:3,5,6,7;	121:20;	79:21; 99:17
4; 70:12;	183:1;	153:12,18	assist 181:8;
73:12; 74:1,	189:21;	areas 26:9;	182:7,12
8; 148:5;	192:15; 196:1	57:15	assisted
160:7;	answers 17:8,	aren't 106:20;	107:18
161:12;	21; 19:13;	131:16;	associate
162:9; 168:4,	40:13,18	196:11	46:19;
12; 183:12;	anthracene	Aroclor 10:13;	191:15; 195:4
191:20;	135:3	11:6; 49:16;	associated
192:9;	anticipated	65:13; 82:3;	8:8,18;
194:16;	73:2,5,18;	94:4; 113:17;	57:14,15;
197:11	116:8	116:2; 117:1;	130:18
Anniston	anybody 22:14;	127:17;	assume 18:16;
18:10; 37:14;	106:13;	128:9; 142:4;	26:6
38:6; 44:1;	140:13; 188:2	143:13;	assumed 25:10;
49:7,20;	anytime 46:11;	152:19;	128:16;
53:8,14,18;	76:22; 149:7	162:10;	151:19
54:17; 60:7;	apart 63:1	165:3; 167:1;	assumes 195:22
77:12,20;	apparent	168:12;	assuming
80:10; 82:17;	156:11,17	169:7,10;	106:23
83:2; 91:13;	apparently	170:18;	assure 120:10
93:10; 94:7,	89:17;	171:13;	ATKIN 2:3.5,
13,21; 96:3;	158:14;	172:2,7;	20.5,22.5;
112:22;	170:13	173:22;	5:8,11; 9:18;
120:15;	appear 13:12;	174:9;	15:3,14;
121:2,11;	176:4	176:13,14;	17:3,6; 23:4,
124:3;	appeared 80:17	177:23;	8; 29:11;
128:10;	appears 39:12;	190:8; 195:2,	39:2; 44:8;
130:23;	89:19; 92:15;	11; 199:11	56:8; 61:2,
131:1,5,8,12,	170:21;	Aroclors	23; 65:4;
15; 134:14,	174:10	77:11,19;	75:18; 78:8;
15; 135:17,	Appelhof	80:9; 81:13;	83:20; 89:2,
20; 138:18;	29:17; 30:18;	111:21;	9,12; 96:13,
155:18	31:18	113:15;	23; 97:14,18;
annually 110:2	apply 36:14	128:12,18;	102:22;
another 18:14;	appointment	129:15;	106:21;
42:13; 87:7;	107:2	135:6,12;	111:8,14;
112:4;	appreciate	137:13; 156:8	114:13;
116:21;	179:23	around 9:2;	119:6,9;
141:9; 175:8;	approach 12:12	49:11	124:8,11;
176:13;	approached	arrive 117:3,	127:10;
190:13; 191:8	80:23; 139:12	16	129:18;
ANSI 10:10,17;	approaching	arrived 50:2;	136:22;

140:17;	119:1,5;	196:7	5,8; 149:8;
144:9;	126:18;	basically	152:8;
155:14;	131:13;	130:12	165:11;
156:2;	144:22; 177:7	basin 53:3	189:13
166:15;	Avenue 2:4.5	basis 109:6,9,	believed 28:7;
167:7;	avoid 34:15;	17; 174:7	88:14,21;
169:16,18;	36:14; 102:6	Bate's 23:15;	151:10,14
170:6; 171:1;	avoiding 53:4	29:22; 39:13;	bellies 82:21
173:12,15;	aware 38:3,7,	44:20; 61:14;	below 142:5
188:14;	8; 43:12;	76:6; 84:3;	beneficial
197:16,20;	76:16; 97:1,	103:7;	78:4
199:13,17,22	5; 104:6;	111:22;	Benignus 10:4,
atom 130:14	107:4,6;	114:23;	8; 14:4;
attached	122:9;	119:19;	15:5; 23:12;
3:15.5; 16:1;	131:10;	124:19;	115:3
17:7; 141:10;	132:11;	130:2; 137:5;	Benignus'
201:2	134:16;	140:22	14:13
attachment	148:9;	bay 62:8;	BENSON 2:4
16:8,9; 39:21	174:15,21;	63:13,15,22;	Bergen 108:5
attempt 64:13;	175:3,18;	64:3,6,15,16,	Bergenstein
151:2	177:17;	19; 65:1	125:14,17
attempted	182:9;	Bayer 143:23	best 24:3;
133:23;	187:10;	beagle 70:14	30:23; 47:12;
146:15	190:6;	bear 69:11	62:17; 66:8;
attend 115:17	194:10,12,14;	bearing 29:22;	10,15; 68:15;
attended	195:17	39:13; 44:19;	69:21; 80:18;
115:18; 145:6	awareness 48:3	61:14; 76:5;	122:19;
attention	AWIC 78:5,19;	84:2; 103:7;	175:5; 190:17
79:6,13;	81:1,3,15,19	114:23;	better 117:3,
110:13;	-----	124:19;	7,10,11,16;
113:14,16	B	130:2; 140:22	118:3,13;
attorney-clie-	-----	bears 23:15;	119:1,4
nt 7:20;	B-7298 166:23	76:4; 137:5	between 24:6;
193:19; 194:1	B-e-n-i-g-n-u-	became 134:1;	93:15; 130:9
attorneys	-s 10:5	175:18	beyond 18:9,
5:14,21;	B-o-k 109:1	become 47:21;	19,20; 122:5,
6:10; 8:22;	babies 24:23;	174:15,21;	14; 123:9,16,
193:7; 201:14	26:18; 27:11	175:3;	22
audience 85:11	babies' 27:2,4	177:17;	Bill 55:2;
audiences	back 111:16;	187:10	147:13
100:14;	141:4; 155:21	bed 51:8	billion 59:13
102:13,16	back-up 12:19	began 49:19;	bins 34:14
August 46:2	backyard 21:13	89:1	bio-accumulat-
author 95:5;	bacteria 13:22	begin 113:19,	ion 161:16;
113:21	bacteriologist	23	162:13,19
authored 22:5;	14:14	beginning	Bio-Test 67:6;
84:17; 115:2;	bad 154:8;	41:8; 42:17;	180:12; 181:6
129:22	183:16	58:19; 114:10	biodegradable
authorities	badly 191:21;	begins 17:10;	11:6
64:20	192:9	173:17	biodegradation
authority	bank 144:8	behalf 191:6	10:12,20;
26:15; 65:2;	BAPTIST 1:3;	behind 151:9	11:10; 13:14;
184:4	38:11	belief 74:1;	14:10; 15:1;
authorized	barrels 35:9	79:19; 86:11;	163:22
37:6	base 177:5	87:3	biological
available	based 68:10;	believe 9:10,	45:7,11;
10:15; 14:5;	86:11; 155:1;	12; 55:1,13;	161:18; 163:3
37:5; 118:10;	177:2; 184:1;	56:11; 86:3,	biopsy 59:22;

60:4	broad 28:23;	came 29:6;	Central 29:20
biphenyl	31:1; 100:2	38:11; 105:7;	certain 22:2;
35:19; 81:17;	brought 31:14;	147:16;	81:15; 85:9;
135:3	182:2,3;	185:23;	91:16;
biphenyls	195:9	189:9,14	161:12;
32:5; 41:9,	Brussels 65:11	Cameron 65:10	162:15;
18; 198:13	Bryant 124:17	cancer 178:6;	176:5; 189:13
bird 132:1;	Buckley 113:2,	183:20,23;	certainly
172:15	4	184:5	30:10; 35:6;
birds 32:8,9;	budget 90:6,	cannot 19:8;	50:9; 52:1,
36:14	23; 92:10,15;	43:21; 71:17;	17; 106:8
Birmingham	93:5,9; 94:6,	90:18; 93:1	Certificate
2:9.5	20; 96:1	capable 33:18	2:16
birth 21:21	budget-setting	capacitor	Certified
Bishop 99:4	96:8	9:23; 25:22	1:14; 201:22
bit 121:12;	budgeted 90:9,	capacitors	certify 201:1,
144:6; 160:12	14; 91:4,17,	34:18	12
blame 128:17	18; 96:1	capital 91:4,	chain 161:22
blood 201:13	build 162:11	9,11,13;	chairman 13:4
bluegills	builds 162:3	92:7,16;	chance 112:17
151:8	bunch 100:6	93:10,21	change 20:9;
bodies 26:10;	business	carbon 22:23;	168:5;
120:8,14;	24:10; 55:6;	130:18	174:18;
121:1; 155:18	107:19;	carcinogenic	176:2;
body 27:17;	108:6; 109:5,	176:4;	188:13;
29:2; 40:1;	8,16,22;	178:15,18;	193:1; 196:3
41:11,20;	110:8,12,14,	182:18	changed 37:20;
163:9	15; 111:1;	carcinogens	68:19,21;
Bok 109:1	146:19	184:10	148:7
borne 133:22	buyer 119:15	care 20:15	changes
both 42:5;	-----	carefully	139:13;
78:4; 117:15;	C	143:4	177:12
152:14	-----	Carlton 1:18	changing
bottom 55:1;	C-107 13:7;	Carolina 2:12	19:11; 157:20
98:2; 112:8;	16:4,16	Carondet 1:18	characterizat-
143:20;	C-a-m-e-r-o-n	case 7:4; 9:8;	ion 51:14;
167:19	65:10	10:17; 14:7;	52:14
boundaries	Calandra	148:12;	charges 195:8
10:9,19,21;	145:15;	150:9; 157:8;	chart 58:18,19
123:22; 124:4	148:15;	175:8; 191:1,	chemical
boundary	179:22;	9; 199:6	20:15; 82:13,
122:6,15;	180:13;	catch 53:3	16; 83:3;
123:2,9	181:11,17;	catfish 151:8	133:11,17;
Box 2:11.5	188:23;	caudal 165:20,	142:15
branch 178:5	189:7,11	21	chemicals
break 22:22;	CALHOUN 1:1.5	cause 21:21;	62:23; 95:12;
111:11,12;	call 51:10;	22:8; 28:20;	98:19;
166:16,17;	86:15; 117:9;	44:2,6;	186:17,19,22
199:19	144:7,20;	110:22;	chemist 14:15;
breast 25:15;	165:13	177:23;	135:8
26:12	called 62:16;	183:20,23;	chemistry
Breeze 33:4;	92:1; 98:21;	184:5; 201:4	47:9; 48:1
62:15	103:5;	caused 104:7	chemists 134:3
bring 79:5,12	108:18; 123:6	caution 8:5	Chicago 139:20
brings 56:9;	calls 53:21;	cautioned	chicken 74:22;
103:1	72:2; 78:12;	201:3	142:19; 158:1
Britain 71:18,	110:4; 111:3;	ccs 148:19	chickens
23; 72:8	180:17	Center 2:8.5	32:21; 36:11;

70:15;	collect 35:4	complicated	confirm 25:20;
116:13;	collected 35:6	146:21	75:9,15;
156:9;	collecting	composed	117:13; 144:3
157:15;	34:8; 35:12	107:14	confirmed
170:19;	collection	computer 201:8	75:17; 79:19;
171:8,11;	51:7	concerned	88:12;
172:3	combinations	42:9; 47:21;	104:23;
Chief 31:1	130:17	100:20;	105:1; 144:5;
chloracne	come 18:22;	101:12;	178:4; 190:10
42:7; 43:2	38:16,18;	109:23;	confirming
chlorinated	39:1; 92:10;	125:19; 199:9	178:8
73:14,15;	119:3	concerning	confuse 161:19
81:16; 86:17,	comes 80:20	162:6	connected
23; 87:12;	coming 36:5;	concerns	201:13
135:15;	48:6; 121:17;	166:12	connection
137:4; 138:4;	139:11	conclude 47:11	9:4; 12:7;
163:23;	commencing	concluded	13:1; 92:2;
169:13;	1:16	47:12; 63:11;	185:2;
198:10; 199:7	comment	177:22;	186:11,15;
chlorine	190:12;	184:5; 187:6;	187:18;
130:18	192:17	198:22; 200:3	188:8,18;
chloro 87:16	commercial	concluding	195:8
chloros 87:18	33:5,17;	176:18	consider 28:14
Choccolocco	62:16	conclusion	considerable
45:7; 46:16,	Commission	27:10;	86:8
21; 55:8;	76:15;	117:17;	considered
58:17; 59:1,	201:23.5	172:6; 174:9;	27:2,3,19;
6; 60:9	Commissioner	177:4; 178:2;	35:18; 100:2;
chow 142:19	1:16; 4:6,23	183:18,21,22;	116:17;
chronic 73:1;	committee	184:8; 196:21	154:20
116:5; 167:1;	13:4,6,8;	conclusions	consistent
173:21;	16:20; 24:21;	26:4; 117:4,	94:11; 100:17
195:12,16;	29:20;	12; 152:22;	constituted
196:23	107:22;	154:14;	20:14
CHURCH 1:3;	108:1,16,19,	169:9;	consultants
38:11	21; 126:22	195:18;	45:15; 47:15;
CIRCUIT 1:1.5	commonly	196:3,4,6,11,	66:7
citizens 127:8	183:12	15; 199:4	consulting
City 62:14;	companies	conditions	65:22; 66:3
98:12	16:13; 132:18	11:7; 46:10;	contact 36:5
CIVIL 1:4.5	company 1:6.5;	50:20; 194:16	contacted
clarifying	15:11; 24:5;	conduct 45:6,	40:21
58:5	31:2; 95:13;	11,15; 66:7;	contacts 77:6;
classified	98:19; 115:8;	197:5	82:2
161:23	142:15;	conducted	contain 131:9
clay 34:20	166:22;	13:19; 33:3;	contained
clear 34:11	173:19; 179:8	47:6; 87:6,7;	190:9; 201:5
Clophen 143:23	compared	134:12;	contains 57:12
clothing	158:19; 159:1	145:12;	contaminant
34:23; 35:7	compensated	153:1,4,8;	130:20
co-author	6:8	185:9,13;	contaminants
193:12	competitive	195:12	32:7; 53:4;
co-producers	143:16,17	confidence	135:23;
72:18	completely	86:9	136:19;
coated 142:7	169:20;	confidences	138:20
coatings 142:7	180:1,15	193:19	contaminated
coincidentally	compliance	confidential	34:13
139:16	4:13	56:21	contamination

25:19	63:5,23;	158:12;	87:3,4;
content 62:8;	69:7; 77:13;	162:3; 165:14	126:3,16,21,
64:3; 161:13	84:18; 85:8;	creatures	23; 135:1;
contents 101:7	94:18;	13:23; 161:22	144:8;
continuation	103:19;	creek 45:8;	151:20;
1:9.5,11	104:1,8;	46:16,20,21;	154:1; 156:7,
continue 34:1;	105:14;	48:16,19,23;	23; 177:3;
66:21	106:12;	49:8,15,18;	187:18;
continued	109:6; 110:2;	50:7,8,11,20,	188:8,18;
42:6; 43:19;	113:8;	23; 51:3,11,	190:3,9;
162:11; 195:1	116:14;	21,23; 52:15;	195:18;
continuing	120:5,6;	53:6,9,15;	196:7,10,20
64:12; 173:13	137:13;	54:4,18;	date 8:18;
continuously	138:21;	55:8,11;	17:1; 20:11;
174:12	139:3;	58:17,23;	30:12; 32:2;
contribute	141:19;	59:1,6,7;	45:17,22;
50:19	142:2,8;	60:9; 77:12,	46:8; 48:2;
control 44:15;	148:19;	21; 80:11;	82:14;
51:2; 90:6,	157:16;	81:17; 123:4,	117:23;
13; 93:17;	158:21;	6,8,11,14,15;	136:7; 156:7;
94:7,11,21;	159:13,19;	128:13,15,22;	184:14
96:2	165:4,5;	129:1,5,10,14	dated 9:21;
controlled	171:1,18;	criminally	23:9; 56:18,
22:21	175:16;	187:11	20; 65:11;
controlling	179:11	Crockett	76:3; 89:15;
92:2	couldn't 17:4;	76:14; 77:7,	97:21; 103:6;
controversy	97:7	10; 78:2,23;	130:1; 170:19
201:16	Council 29:22	79:10; 80:22;	dates 132:12;
convene 12:14	counterpart	81:4; 82:3,7,	187:2
conversations	113:5; 137:23	11	DAVIDSON
176:1	country 27:17;	CSR 4:6	2:10.5; 6:1;
convicted	29:3	customer	167:13
189:12	COUNTY 1:1.5;	70:19,23;	day 201:20
conviction	201:19	71:7; 125:15	days 6:20;
10:16; 14:6,	couple 76:23;	customer's	7:13; 8:12;
10,17,23	77:2; 141:15	142:11,12	9:1
convictions	course 53:1;	customers	DDT 74:9
189:17	66:23;	16:14; 71:10,	deacidified
convincing	130:17;	15; 72:17;	51:8
10:11; 11:14	144:15;	85:6,15;	deal 73:9
copies 23:13;	145:14;	88:6; 120:3,7	dealings 82:6
70:18; 168:19	147:11;	cut 167:14,16	Deborah 1:13;
copy 65:21;	156:19;	CV-96-243	4:5; 201:21.5
76:19; 99:11,	191:20;	1:5.5	decades 19:7;
13; 159:12;	193:17	cycles 22:1	37:19
167:15;	courses 100:3	-----	Decatur 145:10
179:10	cover 12:10;	D	December 16:4,
corporate	61:22; 107:8	-----	16; 61:8;
102:10;	covered 77:17;	damage 40:2	89:6,16;
108:18,20	175:7	damaged 43:21	97:21
Corporation	cows' 24:20	Dan 39:8; 99:4	decision 94:3,
39:11; 119:17	created 86:15;	danger 25:2;	20; 100:11,
correct 19:13;	104:13;	26:20; 27:13	22; 101:14;
22:3; 33:13;	105:18;	data 69:11;	102:1,7;
55:15; 57:6,	161:21	70:19,23;	111:7
7,16,21;	creature	71:3,5,22;	decomposed
50:12,13;	28:21;	74:15,17;	191:22;
59:22; 62:9;	131:22;	75:1; 86:12;	192:10

defects 21:22	4:14; 8:8	dibenzylfurans	disclose
defendant	describe 24:9;	135:4; 137:4,	193:18; 194:1
191:3	42:12; 129:5	13; 138:4;	disclosed
Defendants	described	139:15;	83:10,12
1:7.5; 2:6.5	10:21; 24:11;	198:6,16,20;	discouraging
define 42:3	42:8	199:7	74:16; 75:2
definite	describing	die 68:4	discretion
20:11; 49:4	163:21; 199:2	died 152:11,	71:18,23;
definition	design 135:21;	15; 191:20	72:8,12
19:10; 20:6;	138:18	diet 24:21;	discuss 7:18;
42:15; 47:3;	designation	157:21;	13:13; 101:7;
104:22	68:21	174:12	196:14
degradation	designed	difference	discussed
86:22; 87:21	136:2,4,11,17	93:22; 130:8;	7:19; 8:4,6;
degrade 85:7,	desirable	177:2; 193:23	77:10;
16; 86:4,9;	118:3,6,9,13	differences	139:20,22;
88:7	destroyed	96:9	171:8; 180:7;
degrading	164:1	different	188:2
86:20	detail 7:10	37:1,23;	discusses
degredate	details 38:8;	54:8; 62:18,	22:20; 76:12;
13:21	88:1; 139:14	22; 93:20;	116:1;
degree 72:23;	detect 57:8;	100:7;	134:23;
73:4; 144:14	139:15	108:16;	137:11;
deliberate	detected 18:9,	109:20;	149:11;
20:20	18,20; 58:10	142:16;	150:17;
deny 75:9,15	determination	186:19	157:18;
department	27:18;	difficult	159:17;
10:1; 41:3;	128:20;	45:4; 92:21	160:1,6
147:12;	129:12; 140:8	digested	discussing
150:13	determine	163:23	13:15; 43:17;
dependent	22:8; 47:6;	dioxide 22:23	59:3; 79:9;
20:19,21;	59:4; 134:13;	dioxin 130:12,	85:5; 134:22;
21:3	138:3,9;	15	161:1,4
depending 74:7	139:2,8;	directed	discussion
depends 14:18;	148:4; 165:2;	132:20,22	5:12; 96:7,
21:5; 131:21	178:14	direction	15; 119:8;
depositing	determined	24:16; 25:7;	156:4,19;
118:21	18:16; 68:8;	81:3	161:7,10;
deposition	81:21; 131:3	directly 127:9	178:23;
1:10,12; 4:4,	determining	director 81:4;	180:9;
10,11,20;	135:22;	147:11; 179:9	188:15;
5:15; 6:11,	136:18;	dirty 54:9	193:18; 198:5
19; 7:3;	138:19; 140:4	disagree 51:13	discussions
8:23; 9:5;	detrimental	disagreeing	49:2; 114:8;
29:15; 61:7;	22:1; 81:13,	180:22	156:13;
75:20;	20	disappointed	157:3; 162:5,
114:17;	develop 40:4;	156:10,16	18,22; 163:1;
119:11;	138:3,8;	disappointment	166:3;
129:20;	139:1; 140:3	156:22	168:23;
140:20;	developed	disburse 126:1	171:19;
148:14;	48:5; 81:12;	discarded 35:8	175:14;
157:8; 159:5;	118:20,21;	discharge	182:1; 189:5
170:3;	156:7	52:5,21; 83:1	disorders 22:9
172:18;	developing	discharged	disposal
175:5; 179:4;	48:3	51:9; 64:10	17:12; 19:20;
198:4; 200:3;	development	discharging	21:19; 33:11;
201:2	108:19	51:6; 53:11,	35:10; 118:2
depositions	di 87:16	14; 54:4,9,18	dispose 52:18;

118:6
 disposed
 18:12; 19:1;
 22:19
 disposing
 128:1,3
 distinction
 93:15
 distinguished
 92:11
 distributing
 75:10
 distribution
 125:22;
 163:14; 164:6
 disturbed
 128:6
 ditch 51:10;
 123:1,5,16;
 129:6
 division 95:12
 doctor 144:16
 document 8:18;
 9:11; 10:6;
 15:19; 17:2;
 23:21; 29:12;
 39:3; 44:9;
 50:1,15;
 52:7,9;
 56:10,13;
 61:3; 65:5,
 18; 83:21;
 84:2,16;
 87:23; 89:3;
 96:18,19;
 101:10;
 102:23;
 103:5,13;
 104:17,19;
 105:6; 107:8;
 112:5,19;
 114:19,23;
 115:2;
 134:17,22;
 141:9,13;
 144:10;
 148:11;
 151:3;
 163:12;
 164:8; 173:7;
 179:14;
 198:4; 199:18
 documented
 47:14
 documents 7:6;
 8:20; 9:3;
 175:6; 177:6
 dog 145:8;

184:17,20
 dogs 70:14;
 156:8
 doing 195:3
 dollars 90:20,
 22; 92:17;
 93:3,5,11;
 95:17; 110:1
 done 7:23;
 9:2; 32:18,
 20; 38:8;
 63:2,3,6,12;
 66:3,12,20;
 67:10,13,22;
 68:14,16;
 69:1,9,17;
 70:9,11,13;
 85:20,22;
 101:20;
 116:7; 121:6,
 13,23; 122:2,
 10; 123:13,
 21; 124:3;
 131:11;
 136:12;
 140:15,17;
 144:2,9,12;
 146:10,14;
 147:9;
 149:12,19;
 154:16;
 155:2,7,11;
 157:14,19;
 165:1; 174:4;
 176:5;
 184:18;
 185:3;
 186:12;
 188:9;
 189:23;
 191:10;
 192:23;
 193:3,5,6,15;
 197:16
 dosage 70:6
 dosages 148:6
 doses 151:9,
 13; 197:12
 down 22:22;
 45:21; 123:3;
 131:1; 190:21
 downstream
 26:9
 DP6 143:22,23
 draft 17:20;
 40:12; 41:3
 drafted 40:17
 drafts 148:8

drainage 123:1
 draw 113:16
 drink 24:23;
 26:18; 27:11
 Drs. 47:19
 Drug 139:17
 dry 37:6,15;
 129:8,10
 DSW 173:11,12
 due 128:22;
 129:14
 duly 5:4;
 201:3
 dump 50:8;
 51:23; 52:4
 dumped 50:22;
 128:23
 dumping 50:11;
 51:3,15;
 52:13; 53:9,
 11; 118:4,14
 dumps 128:2
 duplicated
 158:2,6
 duplicating
 157:18
 duration
 162:12
 during 96:8;
 100:3; 129:7;
 177:15;
 191:20
 Durland 127:16
 dyes 50:18

 E

 each 14:19;
 48:13; 160:20
 earlier 62:12;
 75:9,16;
 93:12;
 112:23;
 129:4; 171:7;
 179:16
 early 66:20;
 67:11,23;
 68:12; 70:10;
 75:10; 85:1;
 86:14; 88:19;
 122:17
 easier 130:11;
 149:6
 ecological
 104:6,14;
 105:3,19,21;
 110:23
 ecology 47:8;

48:1
 ectopia
 165:20,21
 Ed 109:1
 effect 4:12;
 42:11,14,15;
 70:3,4;
 81:20; 94:5;
 109:7,13;
 116:11;
 154:8;
 162:19; 171:9
 effective
 118:1,10
 effects 32:16;
 35:21; 36:2,
 18; 39:23;
 41:10,19,21;
 42:18; 47:8,
 14,23; 55:7;
 63:19;
 158:13;
 165:3;
 169:14;
 171:13;
 182:18
 effluent
 111:22
 effluents
 47:7,22;
 142:10,22
 efforts 34:2;
 35:3
 egg 36:12
 eggs 32:23;
 75:5; 116:19,
 20; 171:10;
 172:4
 eggshells
 116:12
 eight 22:18;
 110:1;
 117:20,22;
 172:18,20;
 173:2,6;
 175:2,20;
 179:16
 eight-page
 39:12
 either 80:23;
 100:13;
 122:11
 Electric 9:23;
 15:11; 39:11;
 115:7,19;
 119:16
 electrical
 13:11; 16:11;

41:15	120:12,17;	199:8	90:4; 96:20;
elevated	128:4	everything	98:4,7;
25:14; 26:11	environmental	31:23	103:10;
eleven 57:13;	29:5,19;	evidence 4:21;	111:18;
110:1,10	32:6; 57:5,9;	10:11; 11:14;	112:10,16;
eleven-page	82:7; 107:3;	32:5; 105:5;	115:9,15;
114:19	127:17;	195:23	119:12,21;
eliminated	141:18	evolved 48:11	120:1;
35:23	EPA 127:6;	evolving 48:3;	124:14,22;
Elmer 40:16;	184:3,9,15	88:19	125:8;
108:6;	equipment	exact 68:3;	127:19,22;
147:12;	13:11; 16:12;	71:12; 82:14;	129:20;
148:16	41:16	109:11;	130:4,7;
emphasis 11:5	Ernie 125:14	174:22;	137:7,10,11;
employed 186:1	erroneous	186:17	138:17;
employee	196:21	exactly	140:20;
98:13;	error 199:4	116:16;	141:6,14;
137:16;	Escambia	167:23	148:13,17;
201:15	63:13,15,22;	examination	150:10;
employees	64:3,6,14,18,	5:7; 168:3;	157:9;
107:15	23	197:22;	159:11,13,15;
enclosing	escape 20:13	199:16	167:11,12,16,
65:20	escaping	examine 178:12	20,22; 171:2,
end 21:6;	120:11,17	examined 5:5;	4; 173:8,16;
37:1; 135:19;	especially	165:18	179:5; 198:2
141:10;	120:9; 163:4	example 21:8;	exhibited
152:9; 181:1,	Esq 2:3.5,7.5,	36:6,9;	161:13
2	10.5	42:10; 92:9;	exhibiting
ended 51:11;	essence 137:23	128:17	72:23
176:21; 186:4	essentially	exceed 6:18;	exhibits 3:15,
Engineer	35:22	110:10	16
44:15; 51:2	establish	except 4:17	exist 140:5
England 138:1;	12:13,15;	exceptions	existence
153:12,18;	13:9,20;	162:17	137:12; 139:2
155:2,8	16:21; 68:1;	Excuse 42:2	expect 6:8,12
enlarged	70:5; 158:8	execute	expected
42:13; 169:8	established	135:21;	36:19; 73:23;
enough 31:16;	33:6	138:18	79:23; 163:3,
132:7; 151:22	et 1:3,6.5	executed	6
ensure 120:16	Etowah 201:19	136:3,4,11,17	experience
enter 81:17;	Eugene 44:14	executive	79:19; 184:2
111:6; 128:4	Europe 71:19,	103:5,14,16,	experiments
entering	23; 72:9,19;	20; 104:2;	75:8,13
77:12,20;	133:8; 138:1	106:9,14;	expires
80:11	European	110:19;	201:23.5
entire 162:11	132:17	167:4;	explain 40:4;
entitled 7:21;	evaluated	170:14; 173:9	168:20
8:3	173:23	exhibit 15:15,	explaining
entity 184:7	even 53:10;	18; 23:5,17,	85:15
environment	105:6; 110:10	20; 29:13;	expose 69:23
13:21,23;	events 121:7	30:2,7;	exposed 13:22;
17:10; 18:5;	eventually	39:16,19;	35:20; 36:16;
19:19; 20:13;	16:22; 29:5;	44:21; 45:16;	48:23; 62:21;
35:22; 36:3,	51:11; 76:17,	56:23; 57:3;	131:23;
18; 85:8,17;	18; 118:19;	61:6,18;	147:2;
86:4,10,19;	123:3; 128:4,	65:15; 76:8,	152:18;
87:22; 88:8,	6; 130:21	11; 84:5,8;	154:10;
15; 92:8;	everybody	89:8,11,23;	158:12;

161:12; 162:3	failed 34:19	84:3	21; 41:7;
exposing 33:11	failure	field 183:11	45:14; 46:4;
exposure	149:17,21,22	Fifteen 190:23	47:21; 48:17;
28:21; 36:15;	failures	fifth 42:21	22,23; 49:18;
42:6; 68:5;	153:17	fifty 29:9;	55:16; 58:19;
69:21,22;	fair 31:16;	37:20; 152:15	66:6; 68:22;
73:13; 169:7	51:12; 183:13	Fifty-eight	69:19; 70:22;
exposures	false 190:9	3:5.5; 56:12;	77:6; 84:9;
43:20; 62:19	falsification	57:1	86:3; 98:8;
expression	196:2	Fifty-five	104:22;
50:17; 57:22;	falsified	3:4; 29:14;	113:13;
94:16	190:4;	30:3	115:16;
extended 36:13	195:19;	Fifty-four	117:14;
extent 144:17;	196:10,20	3:3.5; 23:6,	132:9,11;
166:1; 197:9	falsifying	18	134:23;
external 43:3	187:18;	Fifty-nine	138:7;
extra 11:2	188:8,18	3:6; 61:6,19	141:12;
extracts	familiar 84:11	Fifty-seven	149:17;
143:14	Fancher	3:5; 44:12,22	159:22;
extrapolate	145:18;	Fifty-six	160:23;
182:17	148:20,21;	3:4.5; 39:6,	163:12;
-----	192:22	17	179:21;
F	far 42:8	Fifty-three	188:4; 201:3
-----	farmed 116:20	3:3; 15:5,7,	fish 48:15,18;
facilities	fat 57:20;	16	49:8; 57:20;
91:19,20,23	58:7,11;	Fifty-two 9:9	58:7,11;
facility 92:9;	59:22; 60:4,	filing 4:23	59:19; 60:15;
122:12	17; 163:4,7	final 21:19;	62:19; 82:13,
fact 9:15;	favorable	147:5; 170:22	19,21,22;
18:17; 38:7;	116:7	finally	83:5,16;
43:2; 48:14;	FDA 139:23	131:13; 134:4	146:14,15,18;
50:7; 51:23;	FDA's 24:19	Financial	147:1;
52:13; 53:1;	February 15:7;	2:8.5	149:12,16,19;
58:10; 63:13,	17:3	find 26:3;	150:3,17;
14,20; 79:9;	fed 32:15;	37:12; 77:14;	151:7,21;
80:8; 86:22;	152:6,17;	90:16; 134:4;	152:6,15,17,
104:12;	160:19;	158:17; 196:1	23; 153:4,7;
116:4,19;	162:9;	finding 51:16;	154:6,10,15,
125:23;	168:12;	92:21;	21,23; 155:6,
126:15;	171:16;	109:10;	12,17
128:20;	174:12	145:3; 198:5,	Fisheries
129:13;	federal 33:4;	15	33:5; 62:16
140:2;	64:19; 65:1	findings 75:9,	fit 12:14
146:21;	feed 142:19	16; 160:6;	tive 81:9;
156:15;	feeding	178:3,10,11;	87:18;
158:23;	161:14;	180:9,23;	164:11;
162:6;	162:2; 172:2	199:5	174:23;
169:12;	feel 118:5	finds 53:5;	175:2,19,20;
171:3;	fees 195:7	163:8	179:16;
177:18,22;	felt 91:22	Fine 30:13	181:4,5
178:3;	females 165:18	fine-tune	five-page
180:19;	Ferguson 47:18	134:3	124:18
189:6; 192:8;	Ferranti	first 5:4;	five-year
199:3	125:14	6:20; 7:12;	139:6
factors 50:6;	fetus 165:13	8:11; 9:1;	flavor 157:2
51:20; 111:6	fetuses 165:17	11:17; 15:23;	Florida 33:4;
facts 77:18;	few 46:12	25:4; 30:8;	62:15; 64:7,
195:22	FGL 23:15;	33:9; 39:20,	11; 65:1

focal 168:10, 13,16	181:13,19; 182:20;	181:1,4 four-page	6:1 getting 18:4;
focus 20:23	183:4;	56:13; 103:4;	145:1; 146:20
focused 113:15	184:11;	181:3	give 10:10;
follow 80:4	187:20;	fourteen	11:13; 40:11;
following	190:10;	142:14	79:3,11;
77:18	191:13;	fourth 45:21	151:16;
follows 5:5;	192:13;	frame 175:21	178:19,20
25:11; 133:7;	195:14,21;	FRANKLIN 2:8	given 7:4;
183:15	196:12	Fred 119:14	70:18; 71:1,
food 139:17;	formal 155:9	free 81:1;	3; 201:11
161:22	formation	147:2	giving 13:15;
force 4:12	176:22	French 148:18,	40:7
forced 100:11,	formed 11:9;	20	glanced
21; 101:14,	101:9	FRIEDMAN 2:4	103:13;
18; 102:1,6	formerly 69:2	full 4:12;	164:23
foregoing	formulate	163:12; 166:9	golly 138:13;
201:9	101:6	fully 179:23	187:14;
foreseeable	formulating	funds 144:21	190:20
118:1	12:10	furan 130:9,	Gordon 145:19
forged 191:9	formulation	13,16; 131:3,	gosh 88:18
forget 68:3;	12:1	10; 133:19;	got 25:14;
82:22;	forth 1:20	139:9	34:12; 76:19;
153:22;	forty 37:20;	furans 130:20;	88:15;
186:17;	184:1	131:4,9,16;	101:16;
190:20	forwarded 41:5	132:2,10,16;	120:20;
forgot 146:9	found 42:19;	134:5,14;	144:19,22;
forgotten	59:5,12;	138:9; 139:3,	168:19;
82:14; 159:2	60:4,8;	18; 140:5,10	181:16
form 4:18;	62:20; 86:18;	further 100:2;	government
19:2; 20:17;	87:11,12;	146:21;	24:15; 25:7;
26:13; 28:10,	128:13;	148:1;	99:1; 100:13,
16; 36:20;	130:20,21,22;	198:21;	23; 101:15;
37:16; 38:13,	131:8; 134:3;	199:16,23;	102:4,8;
19; 41:22;	142:5;	201:12	181:10;
46:17; 49:21;	143:13;	future 55:11,	182:8,14
50:13; 53:20;	153:17;	19; 56:3;	governmental
54:5; 55:20;	154:5; 162:8;	81:11; 118:1	184:4
56:5; 60:18,	168:11	-----	gradually
22; 63:17;	foundation	G	20:10
72:1; 73:6,	38:21; 60:23;	-----	grasp 166:8
19; 74:11,19;	73:8; 105:7;	Gadsden 1:22;	great 50:9;
75:3; 78:11;	131:19;	201:19	52:1
91:6; 92:4,	132:5;	Garrett 1:14;	greater 72:23;
19; 94:14;	154:18;	4:5; 201:21.5	73:4; 86:18
96:4; 101:1,	182:21;	gave 13:17;	Greensboro
11; 104:9,16;	183:5;	134:18	2:12
105:5; 106:5,	184:12;	GBRN 39:14	gross 110:2
10; 110:3;	192:14;	general 9:22;	ground 68:3
111:2; 114:2;	196:16	15:11; 95:7;	grounds 4:19
120:18;	foundry 50:19	115:7,19;	group 11:23;
131:17;	four 6:7;	161:6,10;	12:11,13,18;
132:3;	17:7; 42:21;	162:21,23;	55:6; 97:21;
154:17;	131:14;	169:3	98:18,20,21.
159:20;	142:16;	generally	22,23; 99:8,
160:4; 172:9;	159:6;	31:17,20;	15,21; 100:1,
176:7;	164:21;	58:13	20; 101:3,12;
180:16;	165:15;	GERARD 2:10.5;	107:14;

136:13;	28:22; 36:7;	201:17	151:12
139:7; 168:3;	54:7	hesitate 42:3;	Hunt's 152:10
171:16	hatch 33:1;	68:18	hydrochloric
groups 107:19;	116:19	hesitating	22:22
108:6	hatchability	19:4; 121:12	hydrogen
growth 25:3;	75:5; 116:11;	high 22:20;	130:19
27:14	171:9,10,14;	32:14; 33:12,	hydrologist's
guess 64:5;	172:4	19; 43:19;	47:2
91:1,15;	hatching 36:12	73:13; 169:12	hydroxide
102:19;	hazard 138:6;	higher 73:14,	133:10
114:1,5,6;	140:6,9	15; 158:18,	hyperplasia
124:1; 129:2;	head 145:14;	23; 161:14,	168:10,16
131:7;	175:22; 178:4	21,23;	hypertrophy
165:22;	headed 109:7;	169:13;	168:10,13
176:20,21;	128:9; 145:2	171:14,15;	hypothesis
179:15	heading 109:13	172:2,13;	86:16;
guessing	health 26:21;	197:11	133:20,22
38:23; 64:4;	27:4; 29:19,	highly 131:16,	-----
99:22; 102:11	21; 41:20;	20; 154:20,	I
guideline 68:5	42:11	22; 183:11	-----
guidelines	healthy 25:2;	HILL 1:2.5	IB 170:14
142:6	27:13	Hills 38:10	IBT 32:18,20;
Gulf 33:3;	hear 106:13,	Hinchen 159:9	66:4; 67:7,8;
62:15,20	16; 159:22;	hire 45:10,14;	69:17; 70:11;
Gunning 47:19,	189:3,10;	66:6	116:2,7;
20	197:10	hired 47:16	117:7;
-----	heard 31:22;	Histologic	142:20;
H	32:1; 166:7,	168:2	144:12;
-----	8; 187:17;	homolog 163:14	145:11;
H-i-n-c-h-e-n	188:1,3,5,10,	honestly 19:9	146:11,15;
159:9	16,21,22;	hope 118:18;	147:10,21;
h-o-m-o-l-o-g	189:20;	158:17	149:13,15,20;
163:14	190:1,2;	hoped 116:8	153:1,4,6;
Haggart 137:3,	191:11,18;	Hotel 1:18	155:7; 161:2,
22	192:6,21;	hourly 6:13	3; 164:17;
half 68:4	193:4; 195:6;	hours 6:7,18	166:23;
hand 90:3;	197:14	Howard 108:5	170:15,16,19;
201:18	heavy 120:10,	human 40:1;	174:2,17;
handled 19:10;	16; 121:2,6	41:10,19;	176:2,5;
78:14	held 5:12;	57:20; 58:7,	177:11,14;
handling 13:9;	16:20; 91:14;	11; 59:21;	178:12;
17:11; 19:20	96:15;	60:4,17;	182:6,11;
handwritten	115:19;	131:23;	184:16;
54:23	119:8; 156:4;	182:18;	185:1,17;
happen 88:16;	178:23;	184:10	186:1,4,13;
183:13	188:15	humans 22:9,	187:1,3,5,18;
happened	HELMS 2:11	10; 44:3;	188:9;
139:5,16;	help 45:5;	132:2;	189:23;
186:6	51:17; 55:10;	183:14,20;	190:3;
happening	77:14; 90:16;	184:6	191:11,21;
24:14; 25:6,8	93:15; 94:23;	hundred 90:22;	192:23;
happens 20:10	148:4	92:17; 93:4,	193:3,5;
Harbison	helpful 54:15	11; 151:11,	194:8,15,20;
97:23; 98:15,	hereby 201:1	15; 152:2,7;	195:3,11,19;
16	herein 1:20;	160:19;	196:23
hard 51:16;	201:5	162:9; 174:11	idea 36:12;
109:10; 196:1	hereto 3:16	Hunt 147:13;	69:23; 83:7;
harm 21:17;	hereunto	150:11;	177:15

Ideally 33:10	169:20;	indiscriminate	inquiry 30:22
identification	170:10	118:4,14	insect 132:1
3:15.5; 9:9;	improperly	individual	installed 53:2
15:4,17;	18:11,23;	14:19; 31:7,	Institute
23:5,19;	19:9; 190:12	14; 98:11	11:20; 178:6
30:4; 39:5,	Improvement	individuals	instruct 7:17
18; 44:11,23;	76:15	72:17; 79:20;	instrument
56:10; 57:2;	inactive 88:14	136:14;	164:2,3
61:5,20;	Inc 1:21	145:13;	insufficient
65:7,17;	incineration	161:8; 181:23	14:9
75:19; 76:10;	22:21; 33:12;	industrial	insurance
83:23; 84:7;	37:4; 118:19,	12:2; 57:14;	55:12; 56:4
89:5,13;	20	67:6; 98:19;	intent 47:10;
90:2; 97:15;	incinerator	142:14;	71:13;
98:6; 103:2,	33:17,21;	180:11	101:19;
12; 111:15;	34:2	industry	117:16; 119:3
112:12;	incinerators	11:23; 12:3,	interest
114:16;	33:18	4,8,9; 20:16;	12:11,18;
115:11;	include 34:18,	49:10	50:9; 52:1,
119:10,23;	19,21	inert 88:14,	15,17,22;
124:13;	included	21; 163:10	53:3,18
125:1;	42:14; 52:21;	Inerteen	interested
127:12,21;	57:19; 58:6;	39:23; 41:9,	12:9; 31:20;
129:19;	121:13;	12,13,18	52:20; 55:6;
130:6;	191:22;	inertness	201:16
136:23;	192:10	88:23	interesting
137:9;	including	inform 129:16	54:1
140:19;	10:2; 23:14;	informal	interim 74:15;
141:8; 157:7;	27:6; 44:18;	155:10	139:5
159:6;	98:3	informally	intermediate
166:21;	Incorporated	140:1	88:5
170:12; 179:3	6:3	information	interpret
identified	increased	10:14; 14:1,	182:3
32:6	43:10,13	4,8,16,22;	interpretation
identify	increasing	31:18; 33:8;	72:22; 123:18
141:22; 164:3	32:4	48:5,11;	interpreted
IDT 165:2	indeed 138:4	54:3,12,14;	14:19; 150:1
II 155:22	independent	55:9; 71:17;	interrupt 86:7
Illinois	59:17; 185:19	72:6,17;	interval
134:11;	indicate	77:17; 81:12;	160:21
145:9,10	22:15; 27:6;	83:9; 108:8;	introduce 21:9
image 100:5	73:22	116:22;	introduced
impact 100:5	indicated	144:7; 155:4;	21:12; 147:1
imply 105:21	32:22; 93:12;	189:14,16	introduction
important	161:15	ingredient	173:8,18
120:8; 196:4	indicates	135:14	involve 130:15
impression	135:2	initial 47:17;	involved
25:16,21;	indicating	178:2	20:22; 31:9,
49:4; 69:4;	65:22; 81:12;	Initially	13; 34:5;
80:1,3;	143:6	198:18	72:13; 83:3;
101:16,21;	indicator	initiated	107:20;
132:7;	183:13	77:6; 100:15;	117:1; 122:3;
154:19; 158:7	indicted	102:14	128:18;
impressions	187:11,15;	injuries 44:3	130:16;
79:16; 88:19	188:7,10,17;	injury 36:7;	144:11,14,16,
improper	189:1,8	43:4,9,15	19,23;
17:11; 19:5,	indictments	inquiries	145:13;
6,19; 20:6;	189:17	16:3,7,11	146:1,7;

147:9; 163:4;	10	184:19;	landfill 38:6,
166:6;	JR. 2:10.5	199:11	12; 118:2,7,
184:21;	July 119:13	knob 134:3	9,22; 120:9;
185:15;	jump 26:3	knowing 50:3;	121:15;
186:20;	June 137:21;	53:23; 54:13;	134:15
187:8;	170:19;	88:1; 150:23	landfilling
191:16; 195:2	171:4; 201:20	knowledge	23:2
involvement	juvenile	11:8; 35:15;	landfills
12:21,23;	21:10; 33:6;	42:1; 55:10;	37:7,13;
13:2; 144:17,	36:7	64:21; 68:15;	120:3; 121:10
18; 147:18,	-----	140:15;	Landwehr
21; 148:9;	K	185:19;	55:13,18;
160:8	-----	197:2,9	56:1; 76:13;
involving	K-a-t-a-y-a-m-	known 22:14;	82:4; 89:20,
82:1; 197:8	-a 23:11	69:2; 88:23	22; 95:3,4,6,
irrational	K-u-h-n 44:17	Krummrich	15
49:9	Kaneclor 144:1	94:5; 113:2,	language
isn't 28:18;	KASOWITZ 2:4	6; 134:11	52:14; 176:3
50:11; 51:4;	Katayama	Kuhn 44:16;	Large 4:7
104:14;	23:10; 24:2,	55:4	last 5:14;
111:1; 128:4;	13; 25:5;	-----	6:16; 9:11;
178:6; 196:7,	28:1,6	L	24:13; 26:1;
14	KC-300 144:1	-----	27:23; 30:11;
issue 31:13;	keep 147:22	L-i-t-s-c-h-g-	35:16; 46:12;
77:7; 85:14;	Keller 56:17;	-i 159:9	54:22; 75:6;
87:20; 107:3,	133:2	lab 153:22;	77:2; 88:4;
18; 183:7	Keller's	155:2,7	90:17; 92:23;
issues 73:9	136:12; 139:7	labeling 12:17	99:23; 100:8;
item 109:19;	Kelly 5:23;	laboratories	102:12;
115:14;	147:11	66:16; 67:6,	104:21;
149:10	Keplinger	11,23; 68:10,	114:20;
itself 64:16;	145:17,18;	17,19; 69:3;	135:19;
104:18;	188:23; 189:8	145:5;	149:2,5;
108:16;	kept 19:11;	180:20,21	158:15;
123:15	139:10;	laboratory	167:21;
-----	184:14	33:5; 58:2;	168:1,9;
J	key 100:14;	62:13,17;	179:13; 181:4
-----	102:13,16;	65:22; 66:3,	late 45:23;
J-1291 170:20	108:8	15; 67:3;	66:10,13,20;
JACK 2:3.5;	kidney 165:23	68:16,21;	67:10,22;
15:12; 96:16;	kill 82:13,19,	69:2,6;	68:11; 85:2;
111:10;	21; 83:5,16;	86:12; 87:3,	86:14; 122:8
155:13	151:11,15;	4; 126:8;	later 47:18,
James 108:5	152:2,7	145:6,7,15;	19; 70:6;
January 65:11;	killed 83:6	146:3;	71:8,11;
72:13,15;	kills 154:23	153:12,17;	147:16
111:20;	kilogram	196:23	latest 24:14;
115:3,5,20	165:19	labs 194:15,	25:5
Japan 24:5;	Kimbrough	17,20	latter 20:23;
27:10; 133:15	177:19;	lack 18:3;	125:13
Jensen 105:2	178:10,14	38:20; 73:7;	laundry 54:9
Jessee 75:23	Kimbrough's	131:18; 132:4	laws 4:13
Jim 99:4	180:11	lacked 14:17	lawyers 7:7
Joe 55:16	kind 33:8;	lacking 14:9;	layman's 183:9
join 181:23	41:20; 54:14;	37:4; 119:1	LD 68:6,7,9
joined 146:4	72:16;	lacks 10:16;	lead 86:8;
joining 185:17	151:20;	14:6	101:20
joint 24:6,8,	167:4;	Lake 28:2	leading 4:18

learn 48:17, 22; 132:9	154:9; 156:12,17;	little 125:7; 130:11;	looking 8:7; 31:18; 37:8;
learning 31:20; 79:8	157:20; 160:19;	131:6; 144:6	69:12; 78:16,
least 187:8	161:13;	live 26:9	20; 94:9;
leaving 186:4	162:8,16;	liver 42:13;	117:15;
left 9:10;	169:12;	43:4,9,10,13,	135:10;
50:17;	174:11	14,20; 44:3;	158:8; 167:18
154:19;	Levinskas	169:14;	looks 46:1;
157:3; 180:22	147:15,16;	173:20;	96:18;
legal 195:7	148:13;	174:3;	114:18; 167:3
legally 24:11	150:9;	177:23;	lose 109:5
leghorn 70:15;	155:21;	180:10	loss 24:22;
116:12;	157:6; 159:5;	livers 73:12;	109:22;
157:15;	164:10;	168:3,11;	110:8,17;
158:1;	166:20;	169:8	111:1
170:18;	170:12;	living 13:22;	losses 34:15
171:8,11;	172:17,20;	28:21; 161:22	lot 49:10
172:3	173:2,6,19;	local 51:10;	Louis 1:18;
lesions 178:13	174:17;	80:17;	4:7; 5:1;
letter 15:8,	176:2,23;	187:12;	6:4; 115:6;
21,23; 16:9;	177:8; 179:3	189:15,18	139:7; 143:10
19:12,16;	Levinskas'	locality 12:6	lower 86:16,
23:8,9;	148:14;	locate 33:17,	23; 87:12;
25:13; 29:16;	157:7;	20; 34:2;	163:22;
30:9,11,12,	172:18; 179:4	141:22	197:12
14; 31:5,11;	life 32:8,10;	located 62:13;	lowest 121:22
32:4,11;	33:2; 48:16,	98:12; 120:4;	lunch 111:17
39:7,13;	18; 49:8;	143:10; 145:7	lye 133:10,18
40:22; 44:13;	128:14,21;	long 6:6;	-----
46:6,8; 61:8;	129:10,13	34:1; 35:18;	M
76:19;	lifeless 49:5	40:2; 151:21;	-----
113:22;	lifetime 70:7	152:17;	machine 142:10
119:13;	light 174:1	190:22	made 4:17;
148:15,19,23;	LIGHTFOOT 2:8	long-term 55:7	21:1; 27:18;
149:3,6,11;	likelihood	longer 164:2	33:11; 45:17;
150:21;	113:14	look 9:14;	78:23; 80:22;
179:11,22;	lime 133:16	10:7; 11:1,3;	88:23; 94:19;
181:17	limestone	21:20; 22:17;	107:4,21,23;
level 24:20;	51:7; 53:2;	30:5; 45:1;	108:10;
27:19; 28:13,	133:16	52:8,11;	130:22;
19; 29:6,8;	line 45:21;	54:22; 62:6;	145:5; 199:3
64:14; 68:1,	122:6,15;	77:2,15;	magnitude
8,9; 152:5,	123:2; 165:16	112:17;	141:23; 144:4
15; 158:9,10,	lines 152:9	115:12;	mail 16:3
11,18; 159:1;	liquid 34:21;	117:18;	maintaining
161:14;	94:4; 118:17	125:2;	55:10
171:14,15;	liquids 41:14	134:17;	make-do 118:23
172:2,13	list 16:2;	148:10;	malformed
levels 24:17;	35:2; 40:22;	150:7; 157:4;	165:13
25:14; 26:11;	102:18	160:16;	mammals 32:7,
27:1; 29:4;	listed 99:6;	164:10,19;	9; 74:9
32:15; 59:4,	148:19;	166:18;	man 184:22
8,12,18;	162:17; 184:9	170:11;	managed 37:6,
60:3; 70:6;	lists 100:6	172:16,21,22;	14
73:13; 142:5;	litigation	174:3,8;	management
151:18;	182:4	179:1	91:21; 107:7,
152:1,11,13;	Litschgi 159:8	looked 8:2;	21; 108:1,12
		179:14	manager 80:14;

95:11	136:22;	139:23;	meets 123:3
managers	140:18;	146:17;	member 41:2;
107:19	156:11;	152:12;	150:12
manner 100:16	172:17;	153:23;	members 126:21
manufacture	183:15	154:22;	memo 50:10,23;
94:12;	marked 3:2,15;	158:10;	56:20; 57:11;
100:12,23;	9:8,16;	161:17;	65:19; 89:18;
101:15;	15:16; 23:18;	163:20;	95:1; 109:3;
102:2,8;	30:3; 39:17;	167:18; 182:4	140:2
133:9; 135:5	44:22; 57:1;	meanders 123:3	memoranda 76:2
manufactured	61:19; 65:16;	meaning	memorandum
19:8; 82:17;	76:9; 84:6;	149:22;	9:21; 10:4;
131:8;	90:1; 96:20;	153:23;	46:5; 56:14;
132:17;	98:5; 103:11;	171:16	57:4; 61:9;
134:8,10;	112:11;	meaningful	13; 62:2,7;
135:16	115:10;	27:8; 129:17;	63:4; 65:8;
manufacturers	119:22;	151:22	70:16; 71:6;
13:11; 16:12	124:23;	meaningless	72:7,21;
manufacturing	127:20;	149:23	75:7,22;
95:11;	130:5; 137:8;	means 127:4;	76:3,5,20,21;
142:16,17	141:7;	163:16,18;	78:17; 79:2;
many 26:5;	148:12;	165:10,12;	81:10; 89:15;
50:6; 51:19;	150:8; 157:6;	168:7,14,17;	90:15; 95:20;
83:5; 102:18;	159:4;	201:7,8	96:14; 97:20;
105:20;	166:20;	meant 43:8;	98:2; 99:14;
107:17;	172:23;	55:18,23;	100:1; 101:5;
126:14;	179:2; 198:2	56:1,3;	7; 111:21;
128:15;	marketing	71:20; 72:4;	113:8;
129:7;	31:8; 107:15;	74:10; 78:6;	115:17;
156:19;	137:19	113:21;	124:17,19;
173:2; 177:7;	marriage	123:9;	127:14;
180:2; 185:8;	201:13	168:21;	129:22;
186:18	MARS 1:2.5;	180:13;	136:8; 137:2
March 23:9;	38:10	181:12,17	memory 190:15
39:6; 44:13;	Mary 29:17	media 80:23;	mention 23:1;
127:13;	material 34:8;	83:13; 98:23;	48:14; 63:19
128:1;	16; 35:13;	127:2	mentioned
148:15;	97:4; 134:5;	medical 41:2;	8:17; 122:17;
150:21	7,9; 148:3;	107:16;	135:13;
March-August	163:7; 199:8	108:7;	198:18
159:7	materials	144:16;	mentions
marine 32:8,	35:5; 57:5,9	147:12;	116:4; 138:2
10; 33:2	matter 5:18,	150:12;	met 5:13,21;
mark 9:19;	20; 6:21;	166:9; 179:9	7:7; 82:11
15:3,13;	7:13; 201:16	medically-ori-	method 52:21;
23:4; 29:13;	matters 5:19;	ented 40:23	118:10; 140:4
39:4; 44:10,	82:8,10	medio 98:11	methodology
11; 56:22;	maximum 24:20;	Mees 159:8	120:20;
61:4,16;	81:16	meet 5:22;	131:12;
65:6; 75:18;	McKee 99:5	6:2,6; 181:6	134:1; 139:8,
83:22; 89:4;	mean 18:1,11,	meeting 16:5,	14
97:14;	23; 21:7;	16,17; 115:7,	methods 138:3,
111:14;	34:10; 36:23;	18,22;	8; 139:2
114:15;	43:16; 59:8;	132:13;	Mexico 62:20
119:9;	76:18,23;	139:20;	Michigan 29:21
124:12;	82:20; 86:6;	180:1,4,8,14,	microscopy
127:11;	110:16;	22	174:1
129:18;	124:6; 127:2;	meetings 16:20	mid 104:12;

105:1,17	misread 45:20	60:6; 63:11;	171:20;
middle 42:16;	missing 170:22	64:1,6,9,13,	172:6;
48:12; 85:3;	MISSIONARY	17,22; 66:6;	173:19;
125:12; 136:9	1:2.5; 38:10	71:7,9;	174:2,16;
Mieure 135:7,	Missouri 1:19;	75:12; 77:6;	176:1,6;
8; 198:18	4:7; 5:1	78:5,15;	177:12;
Mieure's 135:1	Mister 43:7	79:11; 80:4;	178:12;
might 19:6;	Mitsubishi	81:1,7,14,18;	179:8; 181:9,
25:22; 50:22;	24:4,7	82:2,5;	23; 182:6,12;
53:17; 69:11;	mixture 133:12	83:15; 84:14;	183:18;
109:5;	modified	85:5; 86:3;	184:18;
158:17;	37:22; 199:5	87:8; 88:7;	185:3,9,16;
183:12	molecular	90:5; 94:6,9,	186:5,13,19;
migration	130:8	19; 95:12;	187:7;
10:12; 11:5;	molecule	98:11,13,18,	188:20;
13:14; 14:11;	130:9,10,12,	19,21;	189:6,23;
15:1	13	100:10,15,20;	190:8; 191:3,
Mike 5:23	moment 8:19;	101:13,17,20;	6,11; 193:6,
milder 133:17	85:11; 121:4;	102:5,14;	13; 194:21;
mile 123:10	153:13;	104:6,13,23;	195:1,3,6,13;
milk 24:17,21,	160:14	105:17;	196:22; 197:5
23; 25:10,15;	money 91:18	106:4; 107:7,	Monsanto's
26:12,18;	monitor 120:8,	14; 108:11,	5:14; 6:10;
27:2,3,11,20,	14	15,22; 109:4,	7:7; 8:22;
22; 57:21;	monitoring	8,14,23;	12:20,22;
58:8,12;	121:1,5;	110:20;	13:2; 14:16;
60:21	150:14;	116:8; 117:5;	18:10; 37:13;
Miller 75:22;	160:10	118:5;	38:11,17;
76:13; 82:4	MONS 29:23;	120:14;	41:2; 47:7;
milligrams	44:20; 76:6;	121:10;	49:11,20;
165:19	124:20;	122:12;	58:1; 85:6,
million 24:19;	130:3; 137:5;	123:21;	14; 86:12;
25:1; 26:19;	140:23;	125:22;	100:5; 120:2;
27:12; 28:5,	141:4; 143:5,	126:2,15,23;	126:8;
8; 29:10;	20	128:19;	132:16;
59:13; 110:1,	MONSANTO	129:11;	133:14;
11; 152:14,	1:6.5; 10:9;	132:9,22;	134:5,10;
19; 157:21;	13:12,16,20;	134:12;	139:9,19;
160:20;	14:8,21;	137:16;	142:3,4;
162:10;	18:11,15,17,	138:8; 139:1,	143:12;
171:17;	23; 22:7,15;	23; 140:3,8,	147:19;
174:11	24:4,7;	11; 141:19;	150:12;
mind 20:11;	26:17,23;	142:14,22;	182:10;
21:2; 78:14;	27:6; 30:19,	144:3,13;	193:7; 194:8;
80:20	21; 31:2,8,	145:12;	199:19
minds 101:4	19; 32:13;	146:5,11;	month 90:20;
minimize	33:20; 34:1;	147:8;	92:17; 93:3,
64:10; 94:9,	35:3; 38:4;	149:13,15,20;	11; 95:17
20; 100:4	43:23; 44:16;	152:21;	monthly 6:14,
minimum 91:14	45:6,10,14;	153:5,8;	17,18; 90:9
Minister	47:21; 48:17,	154:13,16,19;	months 71:14;
24:22; 27:9	21; 49:6;	155:13,14,16;	77:1
minute 7:16	50:10; 51:1,	156:15;	MOORE 2:11
mischaracteri-	3,5; 52:13,	161:5; 162:6;	Morano 189:11
zation 49:23;	16; 53:1,7,	164:16;	morning 5:9
50:14	10,13; 54:3,	166:4,12,22;	mothers'
misidentified	16; 57:6,8,	169:1,9;	24:17; 27:3,
198:22	19,23; 59:21;	170:16;	20,22

motor 44:6	necessary	no-effect	127:19;
move 94:3;	4:16; 33:22;	158:9,10,18,	130:2,4;
114:13;	34:3	23	137:5,7;
124:11	need 22:15;	nods 175:22	141:6;
moved 24:15;	52:9; 78:8;	non-contamina-	148:13;
25:6	81:21; 91:22;	ted 34:13	149:10;
Moving 166:15	138:2; 139:1	non-detectable	155:23;
Ms. 29:17;	needed 140:3	139:11	156:5;
30:18; 31:18	needs 92:12	non-industrial	166:23;
much 21:11,16;	negative 100:5	57:16	170:20; 181:5
71:11;	neighborhood	noncarcinogen-	numbers 59:8;
176:17;	44:5	ic 174:19;	119:19;
197:17	neither 99:10	176:19	140:22
MULLISS 2:11	Netherlands	nor 201:15	numeral
multi-year	132:14	normal 13:23;	155:22,23
179:15	network 99:19	96:7	-----
Municipal 83:2	neutralization	North 2:9,12	O
muriatric	53:2	Northbrook	-----
128:17,23	neutralize	145:9	oath 190:7
must 100:10,	133:11	notarial	object 19:2;
14; 102:13	neutralizing	201:18	20:17; 26:13;
myself 48:21;	121:16	Notary 4:6;	28:10,16;
175:4	NEV 111:23	201:23	36:20; 37:16;
-----	never 78:14;	note 54:23;	38:13,19;
N	81:20;	84:13; 162:16	41:22; 46:17;
-----	106:22;	noted 70:4;	49:21; 50:13;
N-i-c-h-i-c-o-	140:15;	154:8; 158:13	53:20; 54:5;
-n 28:3	146:3;	nothing 22:14;	55:20; 56:5;
nagging 180:2	184:21;	27:5; 73:21;	60:18,22;
name 46:20;	188:2,3,21;	88:16;	63:17; 72:1;
55:16; 67:2;	189:9; 190:1;	114:21;	73:6,19;
69:5; 123:7;	192:6; 193:4	129:16;	74:11,19;
145:20;	Nevertheless	197:14;	75:3; 78:11;
153:11,13,22;	147:5	199:23; 201:4	91:6; 92:4,
190:20; 191:9	new 2:5;	notice 4:22	19; 94:14;
named 146:6	91:19,20,23;	November	96:4; 101:1;
names 68:19;	92:8,9;	139:21;	104:9,16;
108:16	98:12;	166:21	105:4; 106:5,
naphthalene	116:22;	number 1:4.5;	10; 110:3;
135:2	153:12,18;	15:15; 23:6,	111:2; 114:2;
National	155:2,7;	15,17; 29:23;	120:18;
11:20; 178:6	156:23	30:2; 39:13,	131:17;
natural	news 80:23;	16; 44:20,21;	132:3;
113:16; 123:1	83:13	56:19,23;	154:17;
naturally	newspaper	61:14,18;	159:20;
52:20; 94:8	83:14; 189:4	65:15; 76:6,	160:4; 172:9;
nature 144:18;	newspapers	8; 77:16,18;	176:7;
147:18,20;	187:12	79:3; 81:9;	180:16;
161:21	next 34:6;	84:3,5;	181:13,19;
near 57:13;	49:14; 50:5;	89:23; 98:4;	182:20;
64:6; 120:4,	56:9; 71:16;	100:2; 103:8,	183:4;
9,15; 121:2,	74:3,5,14;	10; 109:19;	184:11;
10; 128:13;	77:23; 90:17;	111:18,23;	187:20;
134:14;	92:23	112:10;	190:10;
155:18	Nichicon 28:2,	115:1,9;	191:13;
necessarily	3	117:20,22;	192:13;
18:13; 36:23;	ninety-day	119:12,21;	195:14,21;
110:7	69:22; 70:2	124:20,22;	196:12

objection 78:9	29:11; 30:8,	127:10,23;	70:19,20;
objections	13,21; 31:5,	128:8; 129:3,	77:9; 79:2;
4:16,19	16; 32:3;	11,18; 132:9,	88:4,5,18;
objective	33:9; 35:1,	20; 133:3;	96:21; 100:8;
64:12	11; 36:16;	134:7,22;	109:8,16,19;
observation	38:16; 39:2;	135:16;	112:2,15;
49:2; 86:13	40:11,17;	136:6,22;	113:7;
observations	41:7,17;	137:11,15,22;	117:19;
85:6,15	42:16,23;	138:2,23;	125:10,21;
observe 194:15	43:12; 44:8;	139:5; 140:2,	126:20;
observed	45:10,19;	12; 141:15;	130:16;
73:11;	46:4,15,22;	142:3; 143:9;	146:6;
128:15;	47:15; 48:8,	144:2,9;	148:13;
129:14;	12,22; 49:14;	145:4,11;	149:10;
160:18;	50:5; 51:12;	147:8;	150:22;
163:15;	52:6; 53:7;	148:10,18;	151:5;
164:5; 178:13	54:22; 56:8;	149:10;	152:13,18;
obtained	57:4,11;	150:11,16;	155:3,21;
183:15	58:15,22;	151:3,6,10,	160:15,19;
obviously	59:21; 60:6;	14; 153:15,	162:9;
84:15;	61:2; 62:6;	20; 157:1,4,	164:13,21;
105:14;	63:11,20;	14; 159:4,12,	176:13,19;
175:13	64:1,5; 65:4,	17; 160:8;	178:9; 181:3;
occur 36:19	19; 66:6;	161:9; 162:5;	183:19;
occurring	67:4,19;	164:7; 165:1,	186:17;
55:19	69:16; 70:16;	15; 166:11,	191:10;
occurs 55:12;	71:16; 72:20;	18; 167:19,	192:17;
56:4	74:3,23;	21; 168:1;	193:10;
October 9:21;	75:6,15,18;	171:3,6,15;	194:10,12;
14:20; 130:1;	76:12,21;	172:5,20;	197:18
138:20	77:5,9,23;	173:5,17;	one-page 65:8;
offered 3:2,	78:22; 79:8,	174:8,15;	84:2; 89:15;
15:5; 4:21;	18; 80:1,4,7,	175:8,13,17;	129:21
9:17; 13:3;	21; 81:9,23;	177:11,17;	ones 32:18
16:3; 194:11	83:9; 85:1,4,	178:20;	only 21:18;
office 41:5;	12,19; 86:21;	179:1,6,10,	22:15; 28:18;
95:8; 99:4	87:2,10;	13,21; 181:1;	37:4; 38:23;
Officer 31:2	89:2; 92:14;	182:6,10,17;	48:21; 66:20;
offices 6:3	94:3,19;	184:3; 185:6;	88:22; 114:1,
official 98:17	95:7; 98:8,	187:5;	5; 118:1,10;
offshore 62:13	20; 99:2,20,	188:22;	139:12;
often 85:19	23; 102:5,12,	189:10;	140:4;
oils 44:6;	20,22;	191:18;	141:11;
142:10	103:14;	192:21;	163:2;
okay 6:2,8,13,	104:2;	193:5;	164:20;
19; 7:2;	108:10;	194:12;	175:18;
8:10,14,20;	112:17;	195:6;	176:20;
9:7; 10:7;	114:13;	196:22;	185:4;
11:17,21;	115:16;	197:3,5	194:12;
12:20; 13:12;	116:23;	once 85:20;	195:11,16
15:3,19;	117:18;	87:17; 88:15;	operating
16:15; 17:20,	119:2,6;	120:20; 163:8	31:2; 106:18;
23; 18:7;	120:2,23;	one 9:2;	121:16
20:12; 21:20;	122:16;	16:19; 24:18;	opinion 19:22;
22:17; 23:4,	123:20;	26:7; 28:5;	20:8,12;
21; 24:12;	124:11;	36:8; 37:10;	35:18; 38:18;
25:12; 26:17,	125:9;	39:22; 42:21;	96:10;
23; 27:23;	126:13;	47:17; 62:23;	101:11;

178:19,20;
 183:3,8;
 192:19,20
opinions
 101:6,9
oral 167:1;
 173:21
order 117:7
organic 50:18;
 95:12
organisms 11:8
organization
 11:21; 12:12
original
 84:16; 151:1
Osaka 24:17;
 25:15,23
other 3:15;
 7:2; 8:20;
 9:3; 18:15;
 38:1; 43:13,
 16; 48:6,15;
 50:6; 51:19;
 56:19; 57:15;
 58:23; 61:12;
 68:16; 70:20;
 71:7; 82:7;
 117:19;
 128:16;
 132:17;
 155:5; 160:9;
 175:11;
 183:19;
 184:4;
 189:16,17;
 192:18;
 196:22;
 197:15
others 54:1;
 58:1; 105:2;
 106:4,7;
 137:20;
 145:22; 187:9
Otherwise 18:5
Otis 145:18
Otis's 156:6
ought 129:8
ourselves
 113:19,23;
 114:11
out 50:17;
 88:22; 92:10;
 94:17; 99:3;
 133:22;
 135:12;
 146:22,23;
 147:3; 152:1;
 181:10;

182:8,13;
 199:2
outfalls
 113:18
outside 45:10,
 14; 47:15;
 121:15,23;
 122:11;
 123:16,17;
 124:4
over 31:5;
 90:22; 93:5;
 126:11;
 162:11;
 172:20
overexposure
 43:3
own 16:13;
 101:9; 138:3,
 8; 139:2
oxygen 130:13,
 16; 133:19
oxygens 130:15

 P

p-a-r-a-t-h-i-
-o-n 83:4
p.m 111:13;
 200:4
Packard 125:15
page 2:14,
 19.5; 8:13,
 14; 24:12;
 26:2; 28:1;
 33:9; 39:20,
 21; 42:16;
 58:20; 96:22;
 99:23; 109:3,
 19; 112:4,15;
 114:20;
 115:14;
 116:1;
 117:18,21,22;
 125:5,9,13,
 14; 128:8;
 141:12;
 143:5,7,19;
 163:11,13;
 164:21;
 165:15;
 168:1,9;
 170:23;
 173:4; 181:1
pages 112:14;
 173:2
paid 195:7
PAPAGEORGE

1:10,13;
 2:19.5; 4:4;
 5:3,9,13;
 9:9; 10:3;
 15:6,9; 18:8;
 23:14; 29:14,
 16; 39:5,7,
 20; 44:12,19;
 56:11,15,17;
 61:7,11;
 65:7; 75:20;
 76:1; 84:1,4;
 89:14,17;
 97:16; 98:3;
 103:1;
 111:18;
 114:17;
 119:11,14;
 124:14;
 126:2;
 127:13,15,23;
 129:23;
 134:20;
 137:1; 198:1
paper 80:17;
 142:7
paragraph
 10:7,8; 11:2,
 4; 15:23;
 24:13; 26:2;
 27:23; 32:3;
 33:10; 35:17;
 37:3; 42:17,
 22; 48:13;
 70:18; 72:21;
 74:3,6,14;
 77:16,23;
 79:1; 81:9;
 90:17; 93:1;
 102:12;
 109:7,12;
 113:13;
 128:9;
 134:23;
 135:11,13,20;
 150:16;
 151:6;
 158:16;
 160:16; 168:2
parathion
 83:4,18
parenthesis
 90:21; 93:4;
 156:10
parenthetical
 50:17; 51:22
part 99:7,18;
 101:2;

102:19;
 125:7,13;
 128:22;
 129:2,14;
 141:21;
 152:12;
 159:22;
 162:21;
 163:8; 173:1,
 5; 182:10;
 188:16
partial 35:2
particular
 12:9; 31:14;
 109:18;
 114:9; 132:21
particularly
 116:13,18;
 166:14
parties 4:3;
 45:11; 201:14
parts 24:19;
 25:1; 26:19;
 27:12; 28:5,
 7; 29:9;
 59:13;
 152:14,18;
 157:20;
 160:19;
 162:10;
 171:16;
 174:11
past 46:12;
 76:22,23;
 100:17;
 149:7;
 157:12;
 165:8; 179:19
pathologist
 145:19,21
pathologists
 180:10
pathology
 178:5; 181:8
Paton 99:9
pay 144:22
PCB 16:2,7;
 17:8,9; 21:9,
 21; 22:19,22;
 24:17; 25:2;
 26:11; 34:20;
 36:4,16;
 37:13; 38:5;
 55:7; 62:7;
 63:2; 64:2,
 18,23; 77:7;
 90:6,12,13;
 91:3,9,12,13;

92:3,6,16; 93:9,20; 94:7,10,12, 20; 96:2; 97:20; 98:21, 22; 99:7,15, 20; 100:12, 19,22; 101:15; 102:2,7; 103:6,15; 104:7; 106:14; 107:3; 110:14,15,21; 115:4; 117:5; 121:9,18; 130:9; 131:5; 137:20; 141:23; 144:4,8; 146:11; 155:16; 157:15; 160:6,17; 161:13; 162:1; 164:4; 169:13; 175:8; 185:4, 7,10,12; 186:12; 189:22; 190:3; 191:1, 10,16; 192:3; 193:5; 195:5; 197:5; 199:11 PCBs 10:13; 13:1,10,14, 21; 14:11; 15:1; 16:8; 18:4,8,12,15, 18,20; 19:1, 8,18; 20:13; 22:8; 25:14; 26:5,9,20; 27:1,13,19, 22; 28:5,8, 13; 29:4; 31:9,21,22; 32:14,22; 36:11; 38:10; 44:2; 47:13; 50:11; 53:9, 11,14; 54:4, 18; 57:6,8; 58:10; 59:5, 12; 60:4,8; 62:23; 63:14,	21; 64:10,14; 66:8,14; 72:22; 73:14, 22; 74:8; 82:1; 85:7, 16; 86:4,9, 17,23; 87:13, 14,22; 88:7, 14; 92:8; 99:17,19; 104:13,23; 105:18,20; 109:5,21; 116:11; 118:6,17; 120:4,11,16; 121:14,19; 122:12; 124:7; 128:1, 3; 130:20,22; 131:7,11; 132:10,16,17; 133:9,13; 138:10; 139:9,19; 142:4; 143:12; 146:22,23; 147:3; 152:5, 22; 154:5,9, 14,20; 155:11; 156:17; 159:18; 160:3; 162:20; 163:23; 164:2; 166:13; 171:9; 177:20; 180:1; 181:6; 183:19; 184:5,10,18; 187:6; 195:13; 197:12 PECK 2:7.5, 21.5; 5:23; 7:16; 9:15; 15:12; 16:23; 17:4; 19:2; 20:17; 23:7; 26:13; 28:10, 16; 36:20; 37:16; 38:13, 19; 41:22; 46:17; 49:21;	50:13; 53:20; 54:5; 55:20; 56:5; 60:18, 22; 61:21; 63:17; 72:1; 73:6,19; 74:11,19; 75:3; 78:10; 89:7,10; 91:6; 92:4, 19; 93:6; 94:14; 96:4, 16; 97:17; 101:1; 104:9, 16; 105:4; 106:5,10,18, 22; 110:3; 111:2,10; 112:2,13; 114:2; 120:18; 124:6; 131:17; 132:3; 154:17; 155:13; 159:20; 160:4; 166:16; 167:3,14; 169:15,17; 170:4,21; 172:9; 173:10,13; 176:7; 180:16; 181:13,19; 182:20; 183:4; 184:11; 187:20; 190:10; 191:13; 192:13; 193:15,21; 194:2; 195:14,21; 196:12; 197:18,23; 199:12 Pensacola 62:8,14; 64:7,11 pentas 87:17 people 10:2; 23:13; 49:3; 99:6; 108:2; 113:7; 133:1;	139:23; 140:1; 147:13,19 per 24:19; 25:1; 26:19; 27:12; 28:5, 7; 29:9; 59:13; 152:14,15,18; 157:20; 160:20; 162:10; 165:19; 171:17; 174:11 perceive 100:15; 102:14 perceived 69:11; 99:18; 101:18; 118:22 percent 151:11,15; 152:2,7; 165:17; 191:19; 192:8 perhaps 74:16; 75:2; 89:21; 97:3; 112:3 period 19:23; 20:1,4; 37:18,21; 40:2; 63:9; 69:19; 70:2; 71:12; 82:15; 100:4; 122:17; 126:11; 139:6,10; 177:16; 179:15; 187:4 periods 108:17 permanent 39:23; 40:2; 41:10,19,20; 42:4,10,11,15 permit 81:15, 19,22 person 31:4, 10; 42:8,9; 99:16; 106:8; 146:6; 166:9; 184:16 personal 39:9; 49:2; 56:21 personally 38:22; 46:19;
--	---	--	---

52:3; 72:10, 12; 82:11; 106:1; 122:3; 146:2; 156:21; 186:7	91:21; 94:13; 111:22; 113:6,18; 120:15; 121:2; 122:1, 6,15; 123:2, 5,9,17,22; 124:4; 128:10,13,16; 134:11,15; 135:20; 138:18; 142:10,23; 143:2,8	positions 78:5 possibility 137:12; 182:5 possible 26:5; 40:5; 182:17 possibly 36:13; 71:22 posted 167:5 potential 28:20; 42:18; 109:4,8,16, 22; 110:23; 121:14; 138:5; 140:6, 9; 165:2 Potter 99:10 poultry 32:21; 145:9 pound 21:9,11, 12 ppm 157:20 practice 50:3 practices 100:18 preceding 43:4 preparation 9:4 prepared 84:10; 103:15; 106:8; 107:6, 13; 159:8; 181:8; 182:12 preparing 6:10; 107:20; 175:4 presence 28:19; 46:20; 47:13; 63:21; 105:20; 113:15; 135:2; 139:9; 144:8; 201:6 present 10:17; 14:7; 90:23; 92:15; 93:5; 132:10,13; 134:14; 138:5,9; 190:16 presentation 107:6,10,12, 20,23; 108:11 presenters 108:9 president 98:17; 108:14,22	presidents 108:15 press 83:15, 19; 189:15,18 pressure 100:14; 102:2,9 presume 91:16 pretty 34:11; 176:17 prevented 36:4 preventing 36:4 previous 11:1, 3; 138:17; 158:19; 159:1 previously 9:8; 51:18; 148:12; 150:8; 157:5, 19; 166:19; 172:17; 174:5; 198:3 primarily 98:23 primates 197:6,8 principal 98:17 Principally 100:10 principles 100:3 prior 4:21; 82:6; 107:5; 158:1 private 127:8 privilege 7:21 probable 184:10 probably 17:11,18,23; 18:2; 114:22 problem 17:6; 34:7; 35:12, 14; 104:14, 22; 105:3,19, 22; 110:23; 115:5; 127:17; 141:23; 144:4 problems 104:7; 146:20 procedure 133:14; 160:11 procedures 48:4
personnel 66:20; 87:9 phaseout 94:12 phasing 94:17 phenanthrene 135:4 Phenoclor 143:22,23 phenomena 161:20 Phil 146:8 Philip 146:6 picked 151:18 piece 21:13; 110:11,14,15; 116:22 pieces 155:3,5 Pierre 98:9 pinpoint 48:7 pit 51:7; 121:17 place 55:8; 68:22; 84:11; 96:8; 107:5, 11; 190:22 Plaintiffs 1:4,17; 2:2.5 Plaintiffs' 3:2; 15:15; 23:17; 30:2; 39:16; 44:21; 50:23; 61:18; 65:15; 76:8; 84:5; 89:7, 10,23; 96:20; 98:4; 103:10; 112:10; 115:9; 119:21; 124:22; 127:19; 130:4; 137:7; 141:6; 198:2 Planning 29:21 plans 126:2 plant 18:10, 15,18,19,21, 22; 38:17; 49:3,11,20; 64:7,11; 77:12,20; 80:10,14; 82:17; 83:2;	plants 25:23 plated 147:3 plating 146:22 please 15:14 podium 140:1 point 21:19; 24:18,20; 25:1; 26:19; 27:12; 43:21; 48:10; 49:1; 70:1; 73:21; 85:12; 88:9, 10,11,13,17; 121:22; 123:21; 126:12; 131:9; 135:12; 138:14; 164:1; 174:16; 179:7; 186:18 pollution 44:15; 51:1; 82:4; 90:6, 12,13; 91:4, 9,12,13; 92:3,7,16; 93:10,17,21; 94:7,11,21; 96:2; 103:6, 15; 104:7; 106:15; 115:5; 141:23 polychlorinat- ed 32:5; 35:19; 41:9, 18; 198:13 popular 127:2 population 148:6 Posefsky 15:10 position 78:15,19		

process 49:17; 96:9; 144:20; 162:2	13:10; 95:15, 23; 96:1; 148:2;	puts 11:4 ----- Q -----	190:11; 191:14; 192:14,16; 195:15,22; 196:13; 197:19; 199:13
processed 173:22	177:13; 193:11	qualified 183:1; 192:17; 196:14	questionable 25:16
prodding 160:11	protect 78:16, 20; 113:19, 23; 114:10	quantities 81:16; 86:18; 109:20	questioned 89:1
Prodelec 143:22	protection 29:6; 78:4	quarter 136:9	questioning 105:8
produce 78:3	proved 153:16	Queeney 143:7	questions 4:17,18; 9:13; 11:5; 17:8,20; 40:7,13,22; 41:1; 141:16; 169:22; 180:3; 189:22
produced 82:16; 97:6, 8; 131:11; 151:10,14; 152:6; 153:23	public 4:6; 79:22; 80:8; 83:10,12; 100:13; 102:2,9; 107:16; 125:23; 127:1,7; 201:23	question 16:1; 17:7,17; 19:3; 20:18; 21:20; 22:18; 26:14; 28:11, 17,22; 36:21; 37:17; 38:1, 14,20; 39:22; 40:18; 41:7, 23; 42:23; 46:18; 49:22; 50:14,21; 53:21; 54:6; 55:21; 56:6; 57:10; 60:19, 23; 63:18; 72:2; 73:7, 20; 74:12,20; 75:4; 78:12; 88:3; 91:7; 92:5,20; 93:6; 94:15; 96:5; 104:10, 17; 105:10; 106:6,11; 110:4; 111:3; 114:3; 117:19; 120:19; 125:11,12; 131:7,18; 132:4,15,20; 133:4; 154:18; 156:10; 159:21,23; 160:5; 170:5, 8; 172:10; 176:8; 180:17; 181:14,20; 182:21; 183:5,14; 184:12; 187:21;	quick 111:11; 125:10; 141:15; 188:13 quite 31:23; 196:4 quotes 28:4 ----- R -----
producers 133:8	public's 79:5, 13		Raab 15:10
producing 47:7,23; 110:21	publications 79:4,12; 199:1		radio 83:13
product 12:16; 198:10	publish 126:3, 15; 192:22; 193:2		rags 34:23
production 20:16; 94:4; 113:18; 116:12	published 177:19; 193:8; 194:9		rainfall 120:10,16; 121:6
productive 152:4	pump 92:9,11		rainfalls 121:3
products 41:14; 110:10,22; 137:20; 142:5,15; 143:13,16,17; 163:15	purpose 13:8; 16:17; 47:5; 67:21; 69:8, 18; 99:20; 141:21		raised 166:12
Professional 1:15; 201:22.5	purposes 15:4; 29:7; 61:5; 75:19; 83:23; 89:5,13; 97:15; 103:3; 111:15; 114:16; 119:10; 124:13; 127:12; 129:19; 136:23; 140:19; 170:13		rapidly 11:11
profit 110:2			rat 32:17; 67:18; 145:8; 146:12; 184:17,19; 192:2
program 122:4, 7; 127:18; 135:21; 136:1,3,11, 16; 138:19			rate 6:13,18; 13:20
programs 92:1; 136:9			rather 45:3; 61:9; 100:14; 102:13
progress 13:15; 140:21; 159:7			rats 68:11; 70:14; 156:8; 159:19; 160:3; 165:4; 167:2; 169:15,17; 173:22;
proper 19:6, 11; 20:6,15; 34:14; 37:4, 21,22			
properly 37:6, 14,19			
proposal 149:11			
proposed			

178:1;	23; 31:7,9,	76:22,23;	referred 8:9;
188:19;	17; 46:5,7,9,	149:7,8;	13:7; 26:1;
197:13	11; 47:12,13;	157:12;	31:5,11;
raw 190:3	48:2; 62:17;	165:8; 179:18	46:15; 47:17;
reach 33:21;	66:11,16;	recently-hatc-	51:22; 63:4,
34:3; 136:15;	67:12; 68:8,	hed 62:22	8; 67:15;
169:9;	22; 69:13;	receptacles	69:20; 71:5;
183:18,21	71:12; 79:8,	34:14	72:7; 78:16,
reached 27:10;	14,15; 80:13,	recipient	23; 90:14;
152:21;	18,21; 85:10;	76:1; 89:18	91:2; 92:6;
154:13; 172:6	88:6; 93:14;	recipients	98:18,22;
reaching	95:14,19,20,	44:18; 56:19;	102:16;
33:18; 77:11,	21; 103:20;	61:12; 98:1;	112:23;
19; 80:9	108:2;	99:7	150:20;
read 14:12;	113:10,11;	recognition	152:3;
17:4; 23:20,	114:7;	51:2	161:15; 180:4
22; 30:7;	115:22;	recognize	referring
37:10; 45:4;	120:23;	15:19; 23:21;	25:8; 27:21;
51:18; 65:18;	121:5;	30:13	34:16; 36:3;
84:8; 90:4;	122:13,14,18,	recollection	41:21; 42:2;
115:14;	20,21,23;	59:16,17;	43:9,14;
118:11;	123:12,23;	66:9; 80:16;	45:19; 47:1;
120:1; 123:7;	124:1; 129:4;	84:19; 93:8;	50:18; 56:3;
130:7;	136:20;	163:2	62:11; 66:1,
137:10;	137:18;	recommendation	4; 73:15;
143:4; 152:8;	153:13;	80:5,22;	74:17,21;
157:9;	154:5;	81:6,11	75:1; 78:1;
164:11;	156:21;	recommendatio-	83:17; 86:23;
171:2,3;	160:13;	ns 78:22	87:4,14;
173:16;	161:1,4,7,9;	recommended	91:16; 94:1;
179:5;	162:5,18,23;	79:3,10;	99:14;
187:12,13,23	165:6; 166:3,	142:6	104:21;
reader 169:6	11; 167:23;	reconfirmation	108:12;
reading 4:10;	168:23;	69:10	109:7;
17:14; 25:9;	169:4,5;	record 5:11,	118:16;
46:8,11;	171:19,23;	12; 9:19;	126:6; 127:7;
101:9; 105:12	172:1; 175:5,	16:23; 96:15;	138:23;
realistic 11:7	13; 180:7;	111:16;	143:2,18;
really 7:14,	190:17	119:8;	151:13;
23; 28:23;	recalled 129:4	128:14;	152:12;
30:20; 48:6;	receive 99:11,	156:2,4;	180:19
50:4; 101:3;	13; 103:23	178:23;	refers 19:23;
118:22;	received	188:15	25:5, 43:2,
163:21;	23:13; 25:13;	recourse 37:5	45:17; 62:2,
168:8; 169:5;	83:1; 84:14;	recover 43:22	7; 91:12;
196:19	101:5; 107:2;	reduce 64:14	157:14
reason 19:4;	113:8; 126:7;	reduced 201:6	refined 134:2
26:22; 54:19;	159:12;	refer 16:15;	reflect 74:1;
68:18; 86:16;	179:10	20:3; 33:14;	95:1
121:12;	receives 49:15	43:10; 86:21;	reflected
176:20;	receiving	136:1	33:2; 58:18;
177:1; 188:17	16:12; 23:23;	reference	107:15;
reasons 18:4	46:5,7;	77:14; 90:16;	143:11;
recall 8:7,13,	49:19; 86:14;	143:21;	158:15
14,16,19;	103:20;	156:21;	reflection
13:15; 16:17;	113:10;	176:22; 198:7	59:11
23:23; 24:4;	148:23	references	reflects 18:3;
27:21; 30:16,	recent 46:12;	122:14	50:10,23;

53:3; 57:11;	196:11	164:23;	requesting
63:20; 104:5;	relocated	165:15;	12:18; 144:23
109:3;	36:23	166:5,22;	requests 182:9
110:20;	relocation	167:6; 169:5;	required
115:18;	37:2	170:14,15,16;	10:16; 14:6;
143:12;	remain 180:3	173:17;	33:19; 38:4;
171:12	remainder	174:19;	81:14
refresh 84:19;	115:15	193:9,11;	research 87:8;
93:8	remains 34:9;	194:10;	107:16;
refused	35:13	196:5,6	170:15
177:11;	remember 7:10;	reported	researchers
189:21	8:17; 15:21;	32:14; 59:14	62:18; 132:15
regarding	29:9; 60:5;	Reporter 1:14,	residents
10:13; 14:10,	67:2; 68:18;	15; 201:22,	44:1; 49:6;
23; 16:7;	69:5,15,22;	22.5	53:8,13,18;
27:1; 65:12;	72:14; 83:7,	Reporter's	54:17; 60:7
66:8; 82:3;	19; 90:11;	2:16	residual
83:16; 85:7;	91:8; 95:18;	Reporting 1:21	161:23; 162:7
87:21; 99:19;	96:6,11;	reports 13:16;	residue 162:8
115:4; 144:8;	99:3; 121:7;	48:14; 65:21;	residues
146:11;	123:10,20;	71:9; 109:19;	160:17
156:20;	124:9;	123:7,13;	resistant
157:3;	145:23;	136:21;	87:19
161:10;	148:23;	141:17;	respective 4:3
172:7;	149:2; 151:5;	145:1; 148:8;	respond 16:10;
193:14;	153:11,21;	158:4; 159:3;	38:1
195:13	154:12;	164:16;	responding
regardless	158:3;	165:1;	16:2,6
50:21	174:22;	168:20;	response 40:19
Regional 1:21	178:21;	177:13;	responses
Registered	186:21;	190:8;	40:6; 41:4
1:15;	193:10;	197:14; 199:1	responsible
201:22.5	198:23	represent 12:8	26:6; 100:16;
regulation	remind 193:16	representative	102:15;
27:21	reminds 45:16	24:3; 31:8;	184:17;
regulatory	renal 165:20,	137:19	185:1; 186:18
27:17; 29:2,7	21	representativ-	rest 167:5
related 5:20;	repairing	es 180:21	result 28:4,9,
19:5; 25:18;	92:11	represented	15,22; 32:15,
107:18	repairs 92:13	33:7; 132:23	23; 37:1;
relating 4:14;	repeat 149:16;	representing	42:7; 43:20;
107:9	150:20;	108:6	68:4; 133:18;
relations	196:23	represents	147:5;
39:10; 98:11;	repeated	11:23; 12:3,	152:23;
99:1; 107:16	66:22; 75:13;	4; 14:13	154:15,23;
relatively	117:3,7,13	reproduced	161:2,4;
147:2	repeating	154:7	164:5;
release 83:15,	75:8; 149:12	reproducibili-	169:11;
16,19	replace 153:18	ty 116:6;	172:8; 196:20
released	replaced 110:9	117:6	resulted
26:10; 71:18,	replied 126:2	reproduction	82:13; 83:18;
22; 72:8,11	report 71:13;	170:17	152:2;
releases 38:5	97:20; 99:14;	reproductive	158:23; 169:7
reliability	123:19;	22:1,9	results 57:12;
117:14	140:22;	reputation	64:17,22;
reliable	141:17;	100:17	69:13; 73:3,
147:6; 154:1;	159:7,15;	request 79:23;	11,18,23;
195:20;	160:1;	173:18; 174:6	74:21,23;

75:10; 86:13; 87:3; 116:16; 117:8,10,11, 14; 120:23; 136:16; 147:6; 149:18,23; 151:21; 154:3; 157:23; 159:17; 160:2,10,13, 15; 161:11; 164:22; 166:4; 169:1; 171:20; 176:16; 177:19; 183:15; 191:23; 192:11,12; 195:19 retainer 6:15 returned 195:1 returning 186:5; 194:20 revealed 79:22; 168:4 revealing 85:5 review 7:6,9, 11; 8:22; 148:7; 151:3; 164:15; 165:8; 177:16; 178:17; 193:7; 194:11; 199:18 reviewed 6:19; 7:2,14; 8:21; 9:3; 15:18; 57:3; 113:11; 127:22; 149:3,5; 167:19,22; 179:18; 194:8 reviewing 177:6 Richter 145:20,21 rights 54:13 risk 26:11; 110:21 Ritz 1:17 Robert 133:2 Robin 87:8 role 185:11	Roman 155:22, 23 Roush 179:6,7, 23 RPR 4:6 rules 4:13; 68:3 run 69:19; 129:7 runs 123:2 ----- S ----- sacrifice 160:20 safe 27:3,19 Salers 1:13; 4:5; 201:21.5 sales 24:3 same 4:12; 25:11; 63:7; 68:20; 70:3; 74:9; 91:3; 167:10,15; 189:4 sample 58:14; 121:21; 158:18 samples 28:2, 14; 57:12,18, 19,23; 58:6, 16,22; 59:5, 19; 60:8,11; 105:21; 122:5,18,19; 123:8,20; 124:3; 126:7, 9; 131:2; 180:10 sampling 121:9,13,23; 122:1,10,14; 123:13; 124:7,9 Santowax 135:5,14; 198:6,9,12, 17,20; 199:9 satisfactory 180:2,15 Savage 89:21; 95:3,4,5,7, 19,21; 130:1 save 112:1; 125:4 saw 139:18; 143:19; 146:3; 149:8;	175:5; 184:21; 189:18 sawdust 34:21; 35:8 saying 97:2; 123:14 says 11:4; 14:4; 22:4; 28:1; 42:18; 48:13; 49:14; 50:5; 55:2,5; 70:17; 71:16; 75:7; 77:16; 81:11; 84:13; 86:7; 90:18, 21; 100:9; 102:12; 113:13; 116:10; 117:23; 118:8,12; 125:14,19; 134:23; 135:20; 152:13; 156:1,5; 160:17; 163:13; 165:17; 170:15; 179:22; 181:5 scanned 10:6; 39:19; 45:3; 76:11; 98:7; 112:16; 115:15; 125:8; 141:14; 148:17; 150:10; 159:11 scenario 82:22 schedule 151:7 scientific 181:7 SCM 61:14,15; 115:1 Scott 87:6; 135:9 scrap 118:17 seal 201:18 second 24:12; 26:2; 32:3; 33:9; 48:12; 67:9; 70:17; 77:15; 117:19;	130:13; 141:3; 150:6; 151:1; 155:22; 156:3; 158:16,22; 163:11; 164:10; 168:1; 173:1, 5 Secondly 74:6 section 104:22; 143:21 sections 173:20,23; 174:3 secure 81:14, 18,21 sediment 57:20; 58:7, 11; 59:18; 60:11; 122:19 see 10:17,20; 11:15; 12:14; 30:11; 35:23; 37:7; 38:22; 55:2; 58:20; 63:19; 71:17; 79:6,7; 97:2; 109:13; 128:11; 136:21; 143:21; 149:13; 158:4; 159:2; 172:23; 174:13; 177:1; 182:5; 192:5; 193:22; 196:2; 198:4, 7 seeing 123:12; 144:21; 165:6 seeking 177:3 seems 107:8; 126:17; 138:23 seen 30:9; 76:21; 104:19; 157:10; 175:6 segregate 34:12; 35:4 segregated 35:7 segregating
---	--	--	---

34:7; 35:12 selected 152:1 senior 119:15 sensationally 24:15; 25:6 sense 141:2; 150:2; 176:10 sensitive 33:7; 79:21 sent 41:5; 58:1; 104:3; 164:16 sentence 10:21; 25:11; 34:6,11; 35:16; 37:10; 49:14; 50:5; 51:19; 71:16; 74:5,18; 75:6; 104:21; 114:10; 158:15; 163:12; 168:9; 179:21 separate 63:1 separately 97:9 September 46:2; 124:16 series 69:20; 70:5 serious 43:4, 9,14; 44:2 seriously 68:2 serve 13:3 serves 190:15 service 1:21; 34:19; 44:4; 92:12 sessions 145:6 set 1:19; 29:3; 201:17 sets 117:15 seven 24:18; 25:1; 26:19; 27:12; 143:5; 170:12 seventy 3:11.5; 127:13,20; 191:19; 192:8 Seventy-one 3:12; 129:21; 130:5; 134:20; 198:3 Seventy-three 3:13; 140:21; 141:7	Seventy-two 3:12.5; 137:1,8 several 16:19; 44:17; 61:11; 98:1; 108:15; 145:5,13; 168:4; 194:18; 198:21 sewer 142:22 sewered 49:16; 113:17 shall 4:16 share 64:17, 22; 71:15; 79:16; 126:23 shared 14:1; 71:6,9; 126:18,19,20; 127:5 sharing 72:16 Shorthand 1:14; 201:22 shortly 72:13; 136:7 show 9:7; 151:20; 159:4; 198:1 showed 24:17; 73:4; 142:3; 197:11 showing 28:4; 173:10 shown 18:22; 21:23; 121:20 shrimp 21:10; 33:6; 36:7; 62:3,9,11,19, 22; 63:12,15, 21; 64:3,18, 23 shut 131:1 shutdown 131:15 sick 132:8 side 150:5 signature 4:10; 112:8; 152:10; 165:16; 170:22 signatures 165:16 signed 55:13; 190:7 significance 156:6; 166:9	similar 177:3 similarly 101:23 since 5:14; 36:10; 38:22; 40:23; 46:8; 101:2 sincerely 88:13,20 single 162:2 sir 7:8; 8:15; 14:12; 17:22; 19:14; 20:2, 19; 22:4,12; 25:9; 26:8, 15; 27:5; 28:18; 29:8; 30:5; 33:15; 37:9,18; 38:3,12,18; 43:1; 45:2,6; 50:16,21; 51:5,12,17; 52:12; 53:23; 62:10; 63:16; 64:4,16; 72:10; 73:17; 78:15; 79:14; 82:18; 88:9; 93:9,12,18; 99:22; 102:18; 104:11; 107:2; 108:4; 130:21; 132:6; 134:19; 135:11; 177:17; 190:2,6; 196:9 sit 122:9; 188:4 site 142:11,12 sites 57:14, 16; 142:16,17 situation 55:11; 78:3; 79:5,13; 81:2; 82:1, 12; 181:9; 182:7,13 six 10:8; 21:20; 71:14; 117:18,21,22; 166:20; 167:3 Sixty 3:6.5; 65:8,16	Sixty-eight 3:10.5; 119:12,22 Sixty-five 3:9; 103:2,11 Sixty-four 3:8.5; 97:17, 18; 98:5 Sixty-nine 3:11; 124:15, 23 Sixty-one 3:7; 75:21; 76:9 Sixty-seven 3:10; 90:22; 93:4; 114:18; 115:10 Sixty-six 3:9.5; 111:19; 112:11 Sixty-three 3:8; 89:8,11, 14; 90:1; 96:21; 97:16 Sixty-two 3:7.5; 84:1,6 skew 192:11 skip 172:20 slides 178:17 slightly 174:10,18; 176:3 slowly 48:11 SMITH 2:11; 146:7,8; 190:6,16; 191:8 Snow 48:16,19, 23; 49:8,14, 18; 50:7,8, 11; 51:3,11, 21,23; 52:15; 53:6,9,15; 54:4,18; 58:16,23; 59:6; 60:9; 77:12,21; 80:11; 81:17; 123:4,6,8,11, 14,15; 128:13; 129:5 so-called 93:16 sodium 133:9 soil 21:13; 28:1,13,14, 19,20; 29:4;
--	--	---	---

121:15;	specific 12:6;	12:10; 20:15	stenography
122:11;	17:19; 18:1,	standards	201:7
126:3,5,7,9,	3; 21:2;	11:20; 12:2,	step 11:2;
16; 127:1	31:4,10;	15; 13:9;	162:2
soiled 35:7	48:2,7; 59:8;	16:21; 181:7	steps 64:9
sold 86:17	80:12; 107:8;	start 55:9	still 8:10;
solid 33:14	121:7;	started 18:6;	34:8; 35:13;
soluble 163:7	122:10,13;	48:9; 50:4;	102:19;
Solutia 6:3	136:13;	122:4,7;	133:12;
solution 128:2	161:7;	187:9	137:20;
solved 34:9;	168:22;	starting	161:16;
35:14	186:22	126:12; 187:3	162:3; 180:22
somebody	specifically	state 1:1;	STIPULATED
85:10; 132:8	8:10; 74:23;	5:1; 16:1;	4:2,9,15,22
somehow 25:18	87:15; 96:6,	32:4; 33:10;	stipulations
something 8:1;	11; 118:15;	34:6; 35:17;	1:19; 2:15;
31:3; 68:3;	121:5;	64:19; 65:1;	106:19
119:4;	122:23;	70:20; 81:1;	STR 103:8
123:11;	174:17	116:23;	stream 51:6;
129:9;	specifics	160:22	55:7
138:16;	25:20; 69:15;	stated 118:16;	Street 1:21.5;
145:20;	87:10	178:10	2:9
165:23;	specimen 59:22	statement	strong 133:11
197:15	speculated	14:12; 17:13;	studied 67:17;
Sometime	133:17	19:15,21;	150:3;
157:11	speculation	20:5,23;	156:12,18
somewhere	53:22; 72:3;	101:22;	studies 13:16,
52:19;	78:13; 110:5;	190:18	18,19; 21:23;
175:20;	111:4; 180:18	statements	22:7; 26:18;
187:14	speculative	79:4,11;	27:1; 32:13,
soon 10:9	133:20	80:8; 176:18;	17,19,20,22;
sorry 15:6;	speed 160:11	177:2,4	33:3; 45:7,
17:5; 37:9;	spell 109:2	states 10:9;	12,15; 47:5,
42:20; 43:23;	spent 6:9;	17:9; 22:18;	11,16; 62:3,
56:16; 89:9;	94:10	24:13; 39:22;	11; 63:2,6,7,
99:12; 114:4;	spill 34:22	41:8,17;	12; 65:14,23;
127:18;	spills 125:20	65:20; 72:21;	66:2,4,8,22;
148:21;	spoke 108:7	74:3,6,14;	67:1,4,10,12,
149:4; 162:7;	sponsorship	77:22; 78:1;	14,16,21;
172:12;	13:5	100:1;	68:10,14,23;
181:2; 196:17	spotted 198:19	104:11,12;	69:8,14,16,
sought 193:12	Springgate	105:14;	18; 70:7,8;
source 18:14,	108:5	128:12;	73:4; 74:22;
17; 26:7;	sprinkled	133:15;	87:11; 88:12,
135:22;	34:22	151:6;	22; 116:2,6,
136:18;	Squires 178:4,	158:17;	10; 117:1,2,
138:19	13	168:2,9;	6; 126:4,5,
sources 26:5;	St. 1:18; 4:7;	174:9	16; 127:1;
48:6; 121:14;	5:1; 6:4;	stating 95:22	145:2,8,10;
126:14;	115:6; 139:7;	station 44:4	146:7,10,12,
135:22;	143:10	status 65:12,	14,15; 147:9,
136:18;	staff 39:8;	23; 71:9,13;	21; 148:1;
138:20	81:3	116:1; 145:1	149:12,16,19;
South 29:20	stain 173:23	stay 21:15	150:17,19,20;
speaking 5:18	stake 109:9,16	stays 163:9	151:7;
speaks 104:18	stand 10:10,	steel 35:9	153:15,16,19,
species 22:2;	22; 11:12	stenographic	21; 154:4,11,
33:7; 74:8	standard	1:12	15; 155:1,9,

10,20;	183:3	suspect 112:13	terms 11:7;
156:20;	subjects	suspicion	36:12;
159:18;	107:9; 196:16	88:12	144:20,23;
176:5,12,17;	submitted	Suttkus 47:19,	183:16
180:11,12;	177:14; 193:6	20	terphenyl
181:6;	subsequent	Sweden 88:22	199:10
182:19;	87:20,22;	Swedish 48:9	terphenyls
184:17;	153:3	switched 97:12	135:15
185:2,5,7,8,	substitute	switching	test 32:15;
10,12;	110:9	97:10	67:20; 69:23;
186:12,21;	succeed 138:13	sworn 5:4;	70:2; 73:12,
187:19;	successful	201:3	23; 116:5;
188:9,19;	131:13;	symptom 43:3	147:6; 148:5;
189:22;	146:16,17	system 82:23;	158:11;
190:4;	sufficient	161:18;	161:12;
191:10,16,21;	10:15; 14:5,	163:3; 165:23	163:9;
192:1,2,3,23;	17,21,23	-----	172:15;
193:3,5,6;	suggest 51:5;	T	183:12
194:9; 195:2,	85:3; 136:8;	-----	tested 134:9;
5,11,12,16,	138:14	T-3 168:3	148:3; 160:7
19; 197:1,6,	summaries	talked 7:14;	testified 5:5;
10	85:14; 87:21	36:8; 71:21;	190:7,17;
study 22:16;	summary 84:4,	167:9	191:5,8
27:7; 45:17;	10,21; 85:4,	talks 138:17;	testify 170:2,
73:1; 81:2;	21; 88:1;	140:2	9; 182:22;
87:6,7;	103:6,14,16,	tape 188:13	183:6
97:21; 98:21,	21; 104:3,5;	tapes 97:10	testifying
22; 99:8,15,	106:9,14;	TCC 188:19	169:18
21; 100:20;	110:19;	team 99:1,2	testimony
129:17;	143:11;	technical	6:21; 7:3,13;
133:23;	160:17;	81:4; 183:11	8:12; 9:1;
141:18,21;	167:5;	technology	190:14;
142:3; 144:2,	170:14;	118:20,23	201:5,11
22; 151:22;	173:8,9;	temperature	testing
152:3,23;	174:8; 181:2,	22:21; 33:12	134:13;
153:2; 155:6;	3	temperatures	144:12;
157:14,18;	Supervisor	33:19,22;	146:19;
158:1,5,22;	39:9	34:3	150:15;
159:1; 160:3,	supplied	ten 90:19;	151:18;
9,13; 161:11;	77:17; 137:21	93:2; 95:16;	155:17; 187:6
162:12;	supply 148:2	143:20;	tests 69:19;
164:22;	support 12:19	152:13,18;	70:5,11;
165:1; 169:2,	supposed 16:9;	160:19;	117:6,13,15;
11; 170:17;	91:10;	162:9;	145:11;
171:6,13,21;	105:11; 136:2	171:16;	146:20;
172:8;	surface 120:4	179:17;	153:4,7
173:21;	surfaces	190:23	tetra 87:16
174:4;	146:23	ten-page	Texas 190:21
177:20;	surmise 112:3	114:22	themselves
184:19;	surprise	teratogenic	32:13
191:22;	156:22	165:3,10	thereabouts
192:9,10,11;	surprised	term 129:5;	120:22
198:21	156:9,16	161:20	thereby 35:20
subchronic	survive 151:21	terminology	therefore
69:20	survived 154:6	93:13,14;	54:19; 79:22;
subject 9:22;	survives 70:1	123:5;	81:21; 164:2
57:4; 137:3;	susceptible	168:21,22;	thereto 4:21
175:7; 182:1;	197:12	178:22	thin-shelled

116:21	184:15;	toxicological	159:10
thing 164:12,	186:22; 188:4	65:13; 90:15,	tumor 178:5
13; 181:4	together	19; 91:2;	tumorigenic
things 44:7;	16:22; 107:17	93:2,16,19,	174:10,18;
79:2; 100:7;	Tokyo 127:16	23; 95:16;	176:3,23
147:23	took 21:12;	96:2	tumors 176:23;
thinking 56:7;	68:22; 107:5,	toxicologist	177:23
102:10;	11; 122:5;	144:15;	tuned 147:22
184:15	165:22;	196:18	turkey 143:14
third 45:21;	199:19	toxicologist's	turn 125:9
79:1; 136:9;	top 84:13;	174:6	turned 146:23;
150:16;	107:21;	toxicology	152:1
160:16;	108:1; 143:7	178:21; 181:7	Twelve 165:17
176:19	topic 8:16;	trademark	two 6:20; 7:1,
Thirteen 179:3	95:20; 161:6,	41:13	12; 8:12;
thirty 165:19	10	transcribed	9:1,2; 24:20;
thirty-three	topics 77:9	201:8	42:21; 58:20;
92:17; 93:11	TORRES 2:4	transcript	70:20;
though 84:20;	towards	7:11; 201:10	107:19;
157:11	125:13;	transcription	109:3,19;
thoughts	132:21	201:9	115:14;
101:4; 107:17	toxic 42:18;	transcripts	116:1; 125:5,
thousand 28:5,	131:16;	6:20; 7:3,12;	9,21; 128:8;
7; 90:20;	132:2;	8:11,23	130:15;
93:3; 95:17	154:21,22;	transmittal	143:16;
three 42:21;	199:8	173:4	150:9; 151:8;
77:16,18;	toxicity	transpired	152:9;
79:3; 131:14;	65:23; 66:2,	177:15	155:23;
132:23;	7,14; 67:15;	transport	156:5;
133:1; 151:9;	71:21; 72:6,	34:15	162:12;
156:8; 157:6;	23; 73:5,10;	transported	173:3,4;
176:12; 181:3	116:5; 117:5;	35:21; 36:17	174:13;
three-page	128:9;	treat 34:20	176:18;
23:9; 61:13;	144:11;	treated 53:12	180:20,21;
97:19	146:11,18;	Treatment 83:2	181:3; 190:7
threshold 29:3	149:12,16,19;	tri 87:16	two-page 76:5;
throughout	150:14,17;	trial 4:20;	173:6
19:7; 139:10	151:7;	189:21;	two-year
time-wise	152:22;	190:16,19;	159:18;
84:12	153:4,7;	191:5	160:2;
Timing 104:23	154:14;	tried 62:18;	166:23;
tissue 143:14	155:6,11,17,	179:15	173:21
tissues 154:6;	20; 156:7,11,	trips 145:5	two-year-plus
160:7,18;	17,20;	true 148:22;	70:8
161:14;	157:15;	157:13;	tying 94:17
162:1,4,8;	159:18;	179:20;	type 11:21;
163:5	160:2;	185:21;	20:20; 31:17;
title 31:1;	166:13;	192:7; 201:9	40:1,23;
62:10; 95:10;	167:1;	truth 201:4	67:12; 79:20;
137:17,18;	169:10;	try 38:5;	96:7; 122:18;
173:4	170:17;	119:3;	124:10;
today 5:10;	172:7;	149:17,21	131:22;
9:5; 93:13,	173:21;	trying 21:8;	148:8;
22; 122:9;	177:20;	32:1; 42:3;	169:13;
150:4;	182:19;	132:11;	182:16;
154:12;	187:6;	153:11; 193:9	196:5,7
169:19;	188:19;	Tucker 61:10;	types 57:18;
180:1;	195:12; 197:1	87:7; 135:9;	67:17; 70:12;

73:14; 82:10; 87:13; 91:20; 122:1; 146:10 typewritten 105:15 typical 67:18; 142:4; 143:12 typically 67:14 ----- U ----- U.S. 70:19,23; 139:17 ultimate 128:2 unaware 175:10 unclear 131:6; 170:4 under 13:4; 22:20; 39:20, 22; 42:14; 46:9; 49:3; 69:4; 81:2, 10; 106:18; 117:20; 132:6; 135:9; 136:12; 158:7; 160:16; 190:7 underground 120:5 Underline 85:23 understand 18:7; 31:23; 43:19; 57:10; 105:10; 110:18; 163:20; 170:7; 186:6; 197:7 understandable 10:11; 11:13 understanding 14:13; 25:12; 55:22; 56:2; 93:18; 105:16; 151:16; 163:17; 166:1; 168:6; 175:17,23; 176:9,11; 177:5; 181:15,16,21; 184:23; 185:11,14,23; 186:3; 196:19	understood 14:18; 42:5; 133:8; 146:2; 176:16 undertake 22:7; 26:17, 23; 38:4 undertaken 141:19 undertook 64:2 underway 136:10; 176:12 undesirable 53:4 unfortunate 28:4,8,15 unfortunately 141:9 uniformity 177:4 unit 121:16, 18; 131:1,15 United 133:15 University 132:13 unless 6:17 unnamed 129:6 unreactive 163:10 unrecoverable 118:17 until 118:23; 146:4 up 10:10,22; 11:12; 21:6; 29:6; 32:1; 51:11; 73:21; 82:21; 119:3; 121:20; 126:12; 139:11; 153:12,17; 160:11; 161:21; 162:4,11; 176:21; 184:14; 186:4; 189:9 upper 107:7; 108:11 upset 55:12, 19; 56:4 upstream 25:23 USDA 143:14 USFDA 70:20 using 161:19 usual 106:19	Utrecht 132:14 ----- V ----- v-a-c-u-o-l-a- -r 168:5 vacuolar 168:4 valid 176:10 value 109:20; 110:8 variable 20:7, 9 variations 74:7 various 10:1; 23:12; 130:17 venture 24:6,9 versions 71:8 versus 1:5; 20:20 via 40:21 viability 129:9 vice 98:16; 108:15 VIDEOGRAPHER 97:12; 188:12 videographic 1:11 view 14:20 viewed 100:11, 21; 101:13; 102:6 viewpoint 183:9 views 156:6 Viland 119:15 violation 20:14 visit 76:12, 16; 194:15 visited 194:19 visual 154:7 visualize 122:15 vivid 80:16 ----- W ----- Wait 7:16 waived 4:11,23 Wales 87:8; 133:15 walls 147:4 Walnut 1:21.5 wanted 43:5; 102:5; 193:1 Warren 99:3	Washington 99:4 waste 33:12, 14; 34:8,16; 35:4,13,19; 36:4,16; 49:15,19; 50:19; 51:8; 53:12 wastes 121:17; 128:16 water 21:10; 22:23; 25:19; 26:10; 35:20; 36:5,17; 49:15,19; 51:6,8; 52:18; 53:5, 12; 54:9; 57:19; 58:6, 11; 59:18; 60:8; 76:14; 82:23; 120:5, 9,15; 121:1; 122:11,19; 128:14,21; 129:13; 155:18 waters 113:16; 147:1 watershed 45:8; 46:16; 47:1,3,9; 48:1; 77:11, 19; 80:10 watersheds 81:13 waterway 52:22 waterways 57:13,15 way 17:14; 40:12; 41:12; 42:4,6; 50:3; 53:5,23; 59:14; 97:6; 107:9; 109:1; 146:22; 150:23; 152:8; 153:8; 183:19; 192:5,17 Wealey 99:3 week 7:1 weeks 9:2; 46:13; 77:3; 151:9; 198:21 weighing 110:21
---	--	--	---

weight 43:13	whole 100:6;	witness'	187:11;
weights 43:11	121:20;	190:13	188:7,17;
welcome 169:23	164:12;	witnesses	189:7,11,21;
Welfare 24:22;	201:10	201:7	191:9,15;
27:9	whom 126:19;	women 25:15;	194:19,23;
Westinghouse	139:22,23	26:8	195:4
39:10; 40:9;	Widmark 105:2	Wood 124:18;	Wright's
41:13,15;	wild 36:14	137:2,15	51:13; 52:14;
84:14; 119:16	wildlife 22:2	Wood's 137:23	113:5;
whatever	Wilkins 97:22;	word 17:18;	185:11; 195:7
12:17; 50:22;	98:9,10	18:2,6; 19:5;	writing 15:21;
62:20; 91:21;	will 10:22;	42:4; 51:14,	30:16,18;
92:1; 101:17	11:12; 12:13;	17; 52:4;	201:6
Wheeler 40:16,	35:22; 62:1;	72:12; 86:5,	written 40:8;
17; 41:1,4,	74:15; 77:14;	7,11; 178:18	56:14,16;
21; 43:6,8;	81:14; 89:7,	words 10:19;	89:19,20;
65:9,20;	10; 90:19;	24:8; 80:12;	95:2,3; 114:9
70:17; 71:20;	93:2; 99:19;	118:11;	wrote 19:12,
72:4; 74:10,	112:1;	174:18;	16,18; 30:10,
17; 75:7;	113:16;	175:11	22; 32:11;
108:7; 133:2;	117:3;	work 38:3,7;	84:20;
147:12;	133:21;	48:9; 57:8;	112:19;
148:16;	134:4;	66:2,12,19,	113:22
150:13;	143:21;	21; 105:2;	-----
156:14;	151:8; 157:2;	131:11;	Y
158:16;	162:16	135:1;	-----
193:11,12;	WILLIAM 1:10,	158:19;	Y-o-u-n-g-e-r
194:3	12; 2:19.5;	185:16;	66:18
Wheeler's	4:4; 5:3	186:5,9,11,	yardstick
150:21	willing 94:6	15; 192:23;	131:21
WHEREOF 201:17	withdraw	193:2;	year 37:20;
whether 12:15;	100:12,22;	194:20;	110:1; 129:7;
22:8; 26:18;	101:14;	195:1; 197:7	139:12;
27:11; 47:6,	102:1,7	worked 145:11;	162:12;
22; 84:20;	Withdrawn 74:4	147:14;	174:22
85:7,16;	within 6:14,	186:23; 187:2	years 128:15;
93:19; 95:14;	17; 7:20;	workers' 34:23	131:14;
101:12;	13:19; 16:13;	working 12:13;	167:23;
105:13,17;	46:12; 98:18	106:13;	174:13,23;
121:14;	without 25:2;	135:9;	175:2,20;
128:20,22;	26:20; 27:13;	137:19;	177:7;
129:12;	151:19	139:8; 150:13	179:16;
131:23;	witness	workplace	184:1; 190:23
134:13;	2:19.5; 4:11;	12:16	yesterday
140:4; 148:1,	73:9; 110:6;	world 140:14	5:21; 6:9;
4; 158:22;	111:5;	world-wide	7:6; 8:21;
166:11;	131:19;	104:14;	149:9; 151:4
183:19;	132:5;	105:3,18,21;	York 2:5;
184:3,9;	169:21;	109:6,9,17;	98:12
186:4; 194:7	175:22;	110:22	Younger 66:16,
white 2:8;	182:22;	worried 109:4	17,18; 67:11,
32:17; 62:8;	183:6;	Wright 44:14;	23; 68:9,17,
67:18; 68:11;	184:13;	51:1; 76:13;	19; 69:3
70:14;	190:12;	82:5; 112:21,	-----
116:12;	192:15;	22; 146:1;	Z
170:18;	193:20,22;	184:16;	-----
171:8,10;	196:13;	185:1,16,23;	zero 24:18,20;
172:3	201:1,11,17	186:4,7,20;	25:1; 26:19;

27:12

/ 1:8

201:21