

EXHIBIT 18

FILED UNDER SEAL

Patterson

APW

TIMOTHY PATTERSON VOLUME VI 1/22/2021

Page 1	Page 3
<p>1 IN THE CIRCUIT COURT 2 TWENTIETH JUDICIAL CIRCUIT 3 ST. CLAIR COUNTY, ILLINOIS 4 -o0o- 5 DIANA HOFFMANN,) 6 Individually and as) 7 Independent Administrator 8 of the Estate of THOMAS) 9 R. HOFFMANN, Deceased,) 10 et al.,) 11) 12 Plaintiffs,) 13) 14 vs.) No. 17-L-517 15) 16 SYNGENTA CROP) 17 PROTECTION, LLC, et al.,) 18) 19 Defendants.) 20 _____) 21 22 VIDEO-RECORDED VIDEOCONFERENCE DEPOSITION OF 23 TIMOTHY PATTERSON 24 CORPORATE REPRESENTATIVE FOR CHEVRON USA VOLUME VI January 22, 2021 (Beginning at 9:34 a.m.)</p>	<p>1 Exhibit 98 July 13th, 1976 letter from Dr. 125 Braunholtz at ICI/Syngenta to J. 2 N. Ospenson at Chevron 3 Exhibit 99 August 4th, 1976 document from J. 130 T. Braunholtz at ICI to J. N. 4 Ospenson at Chevron Chemical 5 Company 6 Exhibit 100 September 24th, 1976 memo from R. 138 D. Cavalli to J. N. Ospenson 7 Exhibit 101 CUSA-00088470 through 8475 147 8 Exhibit 102 September 24th, 1976 letter from 149 Dr. Rose at ICI to Dr. Cavalli at 9 Chevron 10 Exhibit 103 Document entitled "Chevron 151 Chemical Company, Ortho Division, 11 Research and Development 12 Department" dated October 4th, 13 1976 14 Exhibit 104 Document from Cavalli to Ospenson 159 discussing emetic data related to 15 its efficacy and potential 16 toxicity 17 Exhibit 105 October 19, 1976 letter from ICI, 182 D. M. Foulkes, to Dr. N. 18 Ospenson, Chevron Chemical 19 Company 20 21 22 23 24</p>
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<p>1 INDEX 2 PAGE 3 EXAMINATION BY MR. TILLERY12 4 EXHIBITS 5 Exhibit 89 Photo of paraquat jug 36 6 Exhibit 90 Gramoxone Super jug with label 42 7 Exhibit 91 Letter to Mr. Tanner from Chevron 50 8 Chemical Company dated 10/19/82 9 Exhibit 92 Document from the U.S. EPA that 52 10 discusses how the EPA reviews and 11 enforces labels and the 12 requirements for labels 13 Exhibit 93 May 23rd, 1973 letter to D. B. 61 14 Barlow from R. D. Wessel copying 15 J. A. Spence, W. G. Toland, and 16 R&D managers 17 Exhibit 94 SYNG-PQ-01843764 through 01843766 89 18 Exhibit 95 Syngenta-PQ-02514781, two-page 98 19 memo dated March 29, 1976 20 Exhibit 96 CUSA-00305755 through 5762 102 21 Exhibit 97 CUSA 00305765 through 66, July 115 22 27th, 1976, entitled "Company 23 Secret. Emetic Formulation of 24 Paraquat"</p>	<p>1 Exhibit 106 October 21, 1976 telex from Dr. 190 Cavalli at Chevron to Dr. Rose at 2 ICI 3 Exhibit 107 Telex dated October 26th, 1976, 192 communication from Dr. Rose to 4 Cavalli re on clinical data on 5 PP-796 6 Exhibit 108 Letter from Dr. Rose to Dr. 202 Cavalli enclosing a final copy of 7 the emetic report CTL/R/390 8 Exhibit 109 October 2nd, 1976 communication 204 9 from Dr. Rose to Dr. Cavalli 10 regarding the vomiting function 11 of the rate of absorption 12 Exhibit 110 November 3rd, 1976 letter from 212 Dr. Slade at ICI to Dr. Ospenson 13 at Chevron 14 Exhibit 111 Letter dated November 11, 1976 216 15 from R. D. Cavalli, toxicologist, 16 to M. S. Rose, Ph.D., Imperial 17 Chemical Industries in Alderley 18 Park, England 19 Exhibit 112 November 16, 1976 Chevron 217 20 internal memo from J. N. Ospenson 21 to D. B. Barlow on the subject, 22 "Paraquat Registration, Safened 23 Formula" 24</p>

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1 Exhibit 113 November 16th, 1976 letter from 222
 2 Mr. Ospenson at Chevron to Dr.
 3 Braunholtz at ICI on the subject
 4 of paraquat emetic formulation
 5 Exhibit 114 November 29th, 1976 letter from 223
 6 Mr. Ospenson at Chevron to Peter
 7 Slade at ICI
 8 Exhibit 115 Copy of Chevron's filed portions 226
 9 of a November 1976 ICI report
 10 entitled "Paraquat: Reduction of
 11 Hazard"
 12 Exhibit 116 January 24th, 1997 letter from D. 230
 13 M. Foulkes at ICI to Dr. Hans
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 15 Company
 16 Exhibit 117 Two-page letter from H. G. Franke 232
 17 at ICI to Alan Calderbank
 18 Exhibit 118 March 17th, 1997 letter from Dr. 234
 19 Rose to Dr. Cavalli on the
 20 subject of the toxicity of PP-796
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1 IN THE CIRCUIT COURT
 2 TWENTIETH JUDICIAL CIRCUIT
 3 ST. CLAIR COUNTY, ILLINOIS
 4 -oOo--
 5 DIANA HOFFMANN,)
 6 individually and as)
 7 Independent Administrator)
 8 of the Estate of THOMAS)
 9 R. HOFFMANN, Deceased,)
 10 et al.,)
 11)
 12 Plaintiffs,)
 13)
 14 vs.) No. 17-L-517
 15)
 16 SYNGENTA CROP)
 17 PROTECTION, LLC, et al.,)
 18)
 19 Defendants.)
 20 _____)
 21 -oOo--
 22 VIDEO-RECORDED VIDEOCONFERENCE DEPOSITION
 23 OF TIMOTHY PATTERSON, CORPORATE REPRESENTATIVE FOR
 24 CHEVRON USA, VOLUME VI, produced, sworn, and examined
 on Friday, January 22, 2021, taken on behalf of the
 Plaintiffs, with the witness appearing from Benicia,
 California, before RENEE COMBS QUINBY, a Certified
 Court Reporter (MO) #1291, Certified Shorthand
 Reporter (IL) #084-004867, Certified Shorthand
 Reporter (CA) #11867, Registered Diplomate Reporter,
 and a Certified Realtime Reporter.

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1 (The original exhibits were provided to the court
 2 reporter electronically to be attached to the
 3 original and copies of the transcript.)
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2 (Pages 5 to 8)

TIMOTHY PATTERSON VOLUME VI 1/22/2021

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14 COURT REPORTER:

15 Renee Combs Quinby, RDR, CRR

16 Missouri CCR #1291

17 Illinois CSR #084-004867

18 California CSR #11867

19 Arkansas CSR #821

20 Alaris Litigation Services

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24

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1 Would the attorneys present please

2 introduce themselves and the parties they represent.

3 MR. TILLERY: For the plaintiffs,

4 Stephen Tillery of Korein Tillery.

5 MR. ORLET: Joe Orlet on behalf of

6 Chevron.

7 MS. KIMBALL: Anne Kimball --

8 MS. NOBORIKAWA: Kari Noborikawa.

9 MS. KIMBALL: Go ahead.

10 MS. NOBORIKAWA: Kari Noborikawa on

11 behalf of Syngenta.

12 MS. KIMBALL: Anne Kimball on behalf of

13 Growmark, Inc.

14 THE VIDEOGRAPHER: Would the court

15 reporter please read the stipulation and swear in

16 the witness.

17 THE REPORTER: This is Renee Quinby. I

18 am a Certified Court Reporter. This deposition is

19 being taken remotely, and those participating in

20 these proceedings today are attending via

21 videoconference with the witness appearing from

22 Benicia, California.

23 Counsel acknowledge their understanding

24 that I am not physically present with the witness

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1 --oOo--

2 IT IS HEREBY STIPULATED AND AGREED by and

3 between counsel for the Plaintiffs and counsel for

4 the Defendants that this deposition may be taken in

5 machine shorthand by RENEE COMBS QUINBY, a Certified

6 Court Reporter and Notary Public, and afterwards

7 transcribed into typewriting and the signature

8 reserved until the conclusion of the deposition by

9 agreement of counsel and consent of the witness.

10 --oOo--

11 P R O C E E D I N G S 9:34 a.m.

12 THE VIDEOGRAPHER: We're going on the

13 record. Today is January 22nd, 2021 and the time is

14 9:34 a.m. This is the video-recorded deposition

15 of Tim Patterson, Volume 6, in the matter of Diana

16 Hoffmann, et al., vs. Syngenta Crop Protection, LLC,

17 et al., Case Number 17-L-517, in the Circuit Court,

18 20th Judicial -- 20th Judicial Circuit, St. Clair

19 County, Illinois.

20 This deposition is being held at remote

21 locations. The reporter's name is Renee Quinby. My

22 name is Shaun Steele. I'm the certified legal

23 videographer. We're with Alaris Litigation

24 Services.

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1 and that I will be reporting this proceeding

2 remotely. Counsel further acknowledge that I will

3 not be administering the oath in person but am doing

4 so remotely. The parties and counsel consent to

5 this arrangement and waive any objections to this

6 manner of proceeding.

7 Counsel, please indicate your agreement

8 verbally on the record by stating your name and that

9 you stipulate to these terms, after which, I will

10 swear in the witness and we may begin.

11 MR. TILLERY: For the plaintiffs, Steve

12 Tillery. We agree and stipulate to these terms.

13 MR. ORLET: So stipulated on behalf of

14 Chevron.

15 MS. NOBORIKAWA: So stipulated on

16 behalf of Syngenta.

17 MS. KIMBALL: So stipulated on behalf

18 of Growmark.

19 TIMOTHY PATTERSON,

20 of lawful age, having been first duly sworn to

21 testify to the truth, the whole truth, and nothing

22 but the truth in the case aforesaid, deposes and

23 says in reply to oral interrogatories propounded as

24 follows, to-wit:

TIMOTHY PATTERSON VOLUME VI 1/22/2021

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1 boots on the ground, so to speak, with two
2 individuals who were responsible for setting up
3 meetings with the farmers and the growers, the
4 outreach that Chevron did for safety training so I
5 can better understand, you know, what was done and
6 their interactions with the farmers.
7 Because they were very close to the
8 farmers, and they were farmers themselves, so I
9 could get a clearer picture of what was being done.
10 **Q. Where does Mr. Schwartz live today?**
11 A. Sir, I don't know.
12 **Q. Where does Mr. Haddad live today?**
13 A. Sir, I don't know.
14 **Q. How were you participating in a**
15 **conversation with them? By phone?**
16 A. Yes, sir, it was by phone.
17 **Q. Who was on the call?**
18 A. Sir, it was Jennifer Cecil of Husch
19 Blackwell and also Brandon Black of Husch Blackwell.
20 **Q. And did you talk to both Schwartz and**
21 **Haddad by your – together?**
22 A. No, sir, it was separate conversations.
23 Separate phone calls.
24 **Q. What did Mr. Haddad tell you?**

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1 A. Sir, similarly to Mr. Schwartz, we
2 discussed how Chevron set up multiple outreach
3 meetings in cooperation with the university
4 extensions to reach farmers to ensure that they were
5 using paraquat appropriately and effectively, as
6 well as the different safety meetings that were a
7 part of those seminars and outreach programs.
8 **Q. Okay. Where did they hold the outreach**
9 **programs?**
10 A. Sir, my understanding is they were
11 responsible for – their jurisdiction, so to speak,
12 where they covered was around the Southern Illinois
13 area for Mr. Schwartz, if I recall correctly. And
14 then for Mr. Haddad, similarly – similarly his area
15 that he was responsible for as a sales rep which I
16 recall as being Ohio, but I would need to
17 double-check that.
18 **Q. What years of service did they have**
19 **with Chevron?**
20 A. It's my understand-- If I recall
21 correctly, Mr. Schwartz started in the early '70s,
22 perhaps 1972, and he continued through the time that
23 paraquat was being – through the time that
24 paraquat -- through the time that Chevron was out of

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1 the business of paraquat. And Mr. Haddad, I believe
2 he started in 1969 and also continued through the
3 1986 time period when Chevron got out of the
4 paraquat business.
5 **Q. What was their official position with**
6 **the company?**
7 A. Sir, I believe that they were sales
8 representatives. I don't know if that was their
9 official title or not though.
10 **Q. By whom were they employed?**
11 A. Sir, my understanding is they were
12 employed by Chevron.
13 **Q. When you say "Chevron," what does that**
14 **mean?**
15 A. I'm sorry. I believe it would have
16 been Chevron Chemical Company and Ortho, but I
17 can't -- I don't know the specific entity.
18 **Q. Okay. During what years did**
19 **Mr. Schwartz work in Southern Illinois?**
20 A. Sir, I don't know exactly. I would
21 assume it was his entire tenure at Chevron, but I
22 don't know for sure.
23 **Q. Do you have any notes or recording of**
24 **that communication?**

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1 A. Sir, no, I do not.
2 **Q. What percentage of the Southern**
3 **Illinois farmers attended these meetings that**
4 **Mr. Schwartz participated in?**
5 A. Sir, I did not ask him about a
6 percentage of farmers that attended.
7 **Q. Did you ask him how many farmers**
8 **attended?**
9 A. Sir, I only asked about how many
10 meetings they set up, but I did not ask about how
11 many farmers attended.
12 **Q. How many meetings did they set up?**
13 A. I believe Mr. Schwartz said about 30
14 meetings a year, and Mr. Haddad gave a number
15 higher. It was approximately 60 to 70.
16 **Q. And did any of the plaintiffs in this**
17 **case attend those meetings?**
18 A. Sir, I'm not aware of whether they
19 attended the meetings or not.
20 **Q. Did any of the farmers in plaintiffs'**
21 **counties attend the meetings?**
22 A. Sir, I did not ask them that question.
23 **Q. Were there -- strike that.**
24 **Were there handout materials that were**

5 (Pages 17 to 20)

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1 used for the farmers?
2 A. Sir, yes, I believe that they mentioned
3 that there were handouts that were provided.
4 Q. They did -- did Chevron create those
5 handouts?
6 A. That's my understanding, yes, sir.
7 Q. Have you ever seen the handouts?
8 A. Not specifically those handouts, sir,
9 no.
10 Q. Have you been through the production
11 materials that had been sent on to the plaintiffs
12 where you've seen any of these handouts?
13 A. Sir, I don't recall at this time.
14 Q. Was one of the purposes of these
15 meetings to market paraquat to farmers, to sell it?
16 A. Sir, my impression was that the purpose
17 was not for selling paraquat but to educate about
18 no-till farming, the benefits of no-till farming, as
19 well as how to use paraquat appropriately and
20 successfully for different applications.
21 Q. So you're saying that the people you
22 hired as representatives throughout the country, how
23 many of these people do we have?
24 A. Sir, I'm sorry. Would you please

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1 clarify how many people for --
2 Q. It was a bad question. I'll start
3 over.
4 How many of these sales reps did you
5 have?
6 A. Sir, I don't recall seeing the number
7 of sales reps in the documents I reviewed.
8 Q. Which documents did you review about
9 this topic?
10 A. Sir, just the documents that I reviewed
11 in general about the business and the outreach
12 programs.
13 Q. Did these people that you've referred
14 to, Mr. Haddad and Mr. Schwartz, get paid based on a
15 percentage of sales of paraquat?
16 A. Sir, I don't know. I didn't ask them
17 that question.
18 Q. Were any of these meetings held with
19 the plaintiffs' counties of application, let's say,
20 Madison County, Illinois; St. Clair County,
21 Illinois; or Monroe County, Illinois?
22 A. Sir, I recall that Mr. Schwartz said it
23 would have been, but I would need to double-check.
24 Q. So he says he did presentations in

Page 23

1 St. Clair County?
2 A. Sir, I would need to double-check the
3 exact counties where these seminars were held.
4 Q. Right. Is that another way of saying
5 you don't know the answer to my question?
6 A. That's correct, sir. I don't know what
7 counties.
8 Q. Right. Okay. Now, wasn't promoting
9 no-till farming part of marketing paraquat, sir?
10 A. Sir, my understanding is that paraquat
11 was a tool that was used in no-till farming.
12 Q. Right. So to the extent you're
13 promoting no-till farming, you're also
14 simultaneously promoting the use of a chemical that
15 allows you to engage in no-till farming, correct?
16 A. Sir, would you please repeat the
17 question?
18 Q. I will. To the extent that you're
19 promoting no-till farming, the farmers have to have
20 the means by which they can undertake it which would
21 include a chemical like paraquat, correct?
22 A. Yes, sir. Paraquat was a chemical that
23 was used as a tool in no-till farming.
24 Q. Were these farmers -- strike that.

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1 Were these two people, Haddad and
2 Schwartz, dealing with any other chemical other than
3 paraquat?
4 A. That was my understanding that they
5 were.
6 Q. Which other chemicals were they selling
7 besides paraquat?
8 A. Sir, I don't recall the exact
9 chemicals, but I do remember them indicating that
10 they had multiple products that they were
11 responsible for.
12 Q. Do you know what presentations
13 consisted of?
14 A. Sir, my understanding, and one of the
15 areas that I was asking about was related to the
16 hazards and safety precautions from handling
17 paraquat and ensuring that they understood and
18 followed and read very carefully the label. That
19 was one part.
20 Another part was ensuring that the use
21 and application of paraquat was correct and that the
22 equipment -- it was understood how the equipment
23 should be calibrated.
24 Q. Okay. And does Mr. Schwartz have

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1 copies of any of the handouts he used?
2 A. Sir, I don't know.
3 Q. Did he tell you one way or another
4 whether he did?
5 A. Sir, I did not ask for the handouts.
6 Q. Did he say one way or another whether
7 he was referring to a handout or presentation when
8 he answered your questions?
9 A. Sir, I recall that it would have been a
10 presentation.
11 Q. Okay. That's what I'm asking. Does he
12 have a copy of the presentation?
13 A. Sir, I do not know.
14 Q. Do you have a copy of the presentation?
15 A. Sir, I don't recall coming across a
16 copy of the presentations in the materials that I
17 reviewed.
18 Q. And you've been looking at these
19 materials for months and months and months, haven't
20 you?
21 A. Yes, sir.
22 Q. You started doing this a year ago,
23 didn't you?
24 A. Yes, sir.

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1 Q. And what would be your best guess to
2 the number of hours you spent reviewing Chevron
3 documents?
4 A. I'm sure it's in the hundreds of hours.
5 Q. Maybe a thousand hours, right?
6 A. Perhaps, but probably not that high.
7 Q. Close, right? Would you agree?
8 A. Sir, it's probably -- it's probably
9 around the 500-hour range.
10 Q. Okay. In the 500 hours you spent
11 reviewing Chevron documents, have you ever seen this
12 presentation that Mr. Schwartz used?
13 A. No, sir, I don't recall seeing it.
14 Q. And during the time period that he was
15 doing this, you said he was working in conjunction
16 with the University of Illinois, right?
17 A. Sir, that was my understanding that he
18 would work with university extensions.
19 Q. Okay. And he was doing this through
20 1986?
21 A. Sir, the date I recall is 1988, so I
22 believe it would have been through 1986, yes.
23 Q. Okay. So he would have been in touch
24 with the people from the University of Illinois who

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1 were involved in that process, right?
2 MR. ORLET: Object to the form.
3 THE WITNESS: Sir, can you clarify the
4 process that you're speaking to?
5 BY MR. TILLERY:
6 Q. I was -- the process you described.
7 You told us that he held meetings and went through
8 Southern Illinois and had presentations and did --
9 how many of them did you say a year? How many was
10 that?
11 A. Sir, it was approximately 30 a year.
12 Q. 30 presentations a year he did, so he's
13 doing roughly two or just slightly over two a month,
14 right?
15 A. Yes, sir.
16 Q. And you said he did that in conjunction
17 with the University of Illinois, right?
18 A. Sir -- sir, my understanding is that
19 this was commonly done with university extension and
20 university outreach programs.
21 Q. Okay. Did either Mr. Haddad or
22 Schwartz report to you what, if anything, they
23 observed in the field about how farmers used
24 paraquat?

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1 A. Yes, sir.
2 Q. What did they tell you?
3 A. Sir, what they told me is that farmers
4 understood the labels and the hazards and respected
5 the label and the potential toxicity of paraquat if
6 it wasn't used appropriately.
7 Q. Did they tell you that farmers wore
8 protective equipment when they put it on?
9 A. Yes, sir, they said that farmers would
10 wear various forms of protective equipment.
11 Q. Okay. And was this a full-time job for
12 these gentlemen?
13 A. Sir, I don't know if it was a full-time
14 or part-time job.
15 Q. So you're saying they were farmers and
16 doing this at the same time?
17 A. Sir, what they told me is that they
18 were farmers, that they themselves also used
19 paraquat, and were also sales representatives for
20 Chevron. I didn't get into the details about
21 whether they were full time or part time.
22 Q. Did you get into the details of knowing
23 whether they were farmers while they were acting as
24 sales reps for Chevron?

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1 A. Sir, just that they were farmers, and I
2 believe they told me some of the crops that they
3 would use, but I don't recall exactly the crops. I
4 believe Mr. Schwartz had some fruit trees, but I
5 don't remember exactly.

6 Q. Have you ever seen any documents that
7 even refer to these meetings in the Chevron
8 documents you've reviewed over 500 hours?

9 A. Yes, sir, I've -- I've seen documents
10 that address that these meetings were taking place
11 and that -- that we're discussing the meetings in
12 general, but I don't believe they refer to the
13 specific meetings that Mr. Schwartz or Mr. Haddad
14 would have had, but I definitely have some documents
15 discussing these types of meetings and the outreach
16 and education programs.

17 Q. Okay. And what were those documents?
18 Were they produced to us?

19 A. Sir, I believe they would have been in
20 the documents that were produced. I can consult my
21 reliance materials briefly and see if I can see if
22 there's anything in there, and if not then I can
23 collect some of the ones or look for them again. I
24 do remember seeing them.

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1 Q. All right. I'd ask you to do that. We
2 have a whole host of those things that you've agreed
3 to do additional research on, and we'll just add to
4 that list, okay?

5 A. Yes, sir.

6 Q. All right. Now, did either of these
7 gentlemen tell you that farmers were aware of the
8 risks of chronic exposure to paraquat?

9 A. Sir, they did not use the words --
10 any -- use the words "chronic toxicity." They used
11 the words "the toxicity of paraquat."

12 Q. Okay. But I'm trying to get an answer
13 for these, so I would like an answer to my question.
14 Did either Mr. Schwartz or Mr. Haddad
15 tell you that the farmers they interacted with who
16 used paraquat were aware of the risks of chronic
17 exposure to paraquat, chronic exposure?

18 A. Sir, we did not discuss the chronic
19 exposure or toxicity to paraquat.

20 Q. So the answer to my question would be
21 they did not tell you anything one way or another
22 about whether farmers were aware of the risks of
23 chronic exposure to paraquat, correct?

24 A. Yes, sir, they did not tell me about

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1 the discussions they had with farmers about chronic
2 toxicity.

3 Q. Did the farmers -- strike that.
4 Did they tell you, Mr. Haddad and
5 Mr. Schwartz, whether the farmers were aware of the
6 risks of paraquat because it was neurotoxic?

7 A. Sir, we did not discuss neurotoxicity.

8 Q. Okay. So the answer would be no one,
9 to your knowledge, of any of the farmers they
10 interacted with was aware of the fact that the
11 chronic exposure to paraquat could lead to
12 neurotoxicity, correct?

13 A. Sir, I don't believe that paraquat was
14 labeled as a neurotoxic entity because there was a
15 lack of evidence at the time that it was neurotoxic,
16 so they wouldn't have -- that wouldn't have been a
17 fact at the time.

18 Q. I move to strike your answer as
19 unresponsive.

20 Did Mr. Haddad or Mr. Schwartz tell you
21 whether the farmers were aware that paraquat was
22 neurotoxic?

23 A. No, sir, they didn't.

24 Q. Did Mr. Schwartz or Mr. Haddad tell you

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1 whether or not they knew from talking to farmers
2 that paraquat could cause Parkinson's disease?

3 A. No, sir, they didn't.

4 Q. Okay. What was the risks that they
5 told you that the farmers were aware of?

6 A. The acute toxicity from paraquat.

7 Q. What does that mean?

8 A. The lethality and damage to the lungs
9 upon ingestion.

10 Q. Okay. If they ingested it, it would
11 kill them or damage their lungs? That's what they
12 knew about it, right?

13 A. Yes, sir. They knew that it could be
14 very toxic, and so they respected it and handled it
15 appropriately is what they told me.

16 Q. Okay. Acute toxicity, correct?

17 A. Yes, sir.

18 Q. All right. Was there any other health
19 risks that they told you that the farmers were aware
20 of about the use of paraquat other than acute
21 toxicity from getting it in their mouth and
22 swallowing it?

23 A. Yes, sir. They also told me that it
24 was well-known that overexposure from inhalation in

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1 the spray mist would cause throat irritation and
 2 possibly nosebleeds.
 3 **Q. Okay. And who told you that? Both of**
 4 **them?**
 5 A. Mr. Schwartz for sure. And possibly
 6 Mr. Haddad.
 7 **Q. Where does Mr. Schwartz live?**
 8 A. Sir, I don't recall.
 9 **Q. Okay. I want to show you something**
 10 **here. Could you describe for me the appearance of**
 11 **paraquat containers when Chevron first sold them?**
 12 A. Sir, I recall multiple documents
 13 describing the containers that paraquat were sold
 14 in. What comes to mind is -- I don't recall if it
 15 was when they first sold them, but my understanding
 16 is that it was typically in a box with four
 17 individual jugs and then the labeling would have
 18 been on the box as well as the jugs themselves. And
 19 there would have been a pamphlet and a poster that
 20 was added at some point into the box.
 21 **Q. What did the -- strike that.**
 22 **Were they only sold four -- four at a**
 23 **time?**
 24 A. Sir, I'd have to check the documents to

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1 confirm exactly how they were sold, but that is what
 2 I recall reviewing and seeing.
 3 **Q. So you -- you don't believe that a**
 4 **farmer could walk into a store and buy one**
 5 **container, right? They had to buy a whole boxful?**
 6 MR. ORLET: Object to the form.
 7 THE WITNESS: Sir, no, at one point it
 8 became a restricted-use pesticide and they would not
 9 have been able to walk into a store at that time and
 10 buy it. Before that, I would either consult the
 11 documents about how it was sold in stores.
 12 BY MR. TILLERY:
 13 **Q. I move to strike your answer as**
 14 **nonresponsive.**
 15 **Did farmers have to buy a whole boxful**
 16 **of this or could they buy a bottle at a time?**
 17 A. Sir, I don't know. I would have to
 18 consult the documents.
 19 **Q. Again, I'm going to ask you to do that.**
 20 **And we're unfortunately not going to be able to**
 21 **finish this because I need an answer to that**
 22 **question. And it's on your list of topics in**
 23 **packaging, and I need an answer to that question.**
 24 **So you're going to have to do some more research.**

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1 **Okay?**
 2 A. Yes, sir, I will.
 3 **Q. Let's go back to what the bottles**
 4 **looked like. What did the container look like? You**
 5 **said it was a jug. What did it look like?**
 6 A. Sir, I believe it was -- it had a
 7 bright orange or red cap with a skull and crossbones
 8 on the top of it that said "Poison." And then it
 9 would have had the label affixed to it.
 10 **Q. And what was the product called?**
 11 A. Sir, my understanding is it was --
 12 there may have been -- well, it was Ortho Paraquat
 13 CL, and then later on there would have been
 14 additional names when the emetic and stench were
 15 added.
 16 **Q. And that was 1983?**
 17 A. I believe it was '82 or '83 that the
 18 emetic and stench were added.
 19 **Q. And what was the change in the product**
 20 **after that time?**
 21 A. Sir, I believe it was called Ortho
 22 Paraquat Plus.
 23 **Q. Okay. And did the bottle configuration**
 24 **change?**

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1 A. Sir, my understanding is that there
 2 were multiple iterations of the label that changed
 3 over time to either add additional phrases,
 4 warnings, to make the warnings more clear, as well
 5 as different layouts to ensure the best readability
 6 and understanding of the hazards.
 7 **Q. I move to strike your answer as**
 8 **unresponsive.**
 9 **I'm not asking you about labels. My**
 10 **question is --**
 11 A. Sir, I apologize.
 12 **Q. -- Is bottle configuration, the**
 13 **container, what it looked like. That's what I asked**
 14 **you. So let me start over. Okay?**
 15 **After this product you described as a**
 16 **jug that is sold four at a time in a box called**
 17 **Paraquat CL, you -- some years later, that would**
 18 **have been in 1966, right?**
 19 A. Sir, excuse me, what would have been in
 20 1966?
 21 **Q. That would have been marketed in 1966,**
 22 **the one you described?**
 23 A. Sir, I don't recall the exact year that
 24 it would have been marketed the way I've described.

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1 Q. Okay. So that's another thing you're
2 going to have to find out.
3 Do you remember a description of the –
4 of this bottle different than the one you described
5 at an earlier time?
6 A. Sir, I just don't recall, but I can
7 definitely prepare you – prepare for you different
8 descriptions and documents that describe how the
9 packaging changed over time.
10 Q. Okay. Well, let's – let's do one just
11 to confirm on the record so your research is clear,
12 and this would be Plaintiffs' Exhibit Number 89. If
13 you'd pull this up and take a look at it.
14 (Exhibit 89 was identified for
15 the record.)
16 THE WITNESS: Yes, sir, it's on my
17 screen.
18 BY MR. TILLERY:
19 Q. Does that refresh your recollection of
20 what the paraquat – Ortho Paraquat CL bottle looked
21 like?
22 A. Yes, sir. It's a brown jug.
23 Q. It was a brown jug with a red cap,
24 right?

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1 A. Yes, sir.
2 Q. As far as you know – strike that.
3 And you'll notice if you read the label
4 it's a one-gallon container, right?
5 A. Yes, sir.
6 Q. Is this what you're referring to being
7 sold four to a box, four gallons?
8 A. Yes, sir. Four one-gallon containers.
9 Q. All right. Was this the way, as far as
10 you know, the product was presented for sale through
11 the distribution centers in Southern Illinois? This
12 one here?
13 A. Yes, this would be my understanding
14 that this would have been how it would have been
15 distributed for use.
16 Q. All right. And this is a – I don't
17 know how you would describe this, but it's a bottle
18 with a little handle on it, isn't it?
19 A. Yes, sir.
20 Q. All right. Built into the bottle.
21 Did that design configuration remain
22 the same in terms of the container for the product
23 until Chevron got out of the business in 1986?
24 A. Sir, in terms of the design and the

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1 form and the handle of the bottle, I don't know. I
2 do know that there were iterations of the cap,
3 including addition of a child-resistant cap.
4 Q. Okay. But what I'm trying to say is,
5 Mr. Patterson, is the bottle itself in general form,
6 whether it had changes to the label or maybe a
7 slight wording to the cap, but the sale or
8 configuration of this was the same throughout this
9 period, correct?
10 MR. ORLET: Object to the form.
11 THE WITNESS: Sir, I would need to
12 double-check and make sure that that is the case. I
13 don't know how many iterations of a jug that you can
14 have. I do recall documents that discuss this and I
15 would be happy to confirm that for you.
16 BY MR. TILLERY:
17 Q. Well, let's say this. Do you ever
18 remember this product being sold in a
19 different-sized container?
20 A. Sir, I would need to go back to the
21 documents and check that.
22 Q. So you have today no recollection of
23 any other container for paraquat sold by Chevron
24 other than what is marked here as Exhibit 89; would

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1 that be fair?
2 MR. ORLET: Object to the form.
3 THE WITNESS: Sir, I have recollections
4 of other -- of different sizes that may have been
5 used, but I would need to double-check the documents
6 to see what those sizes were and if they were just
7 discussions or they actually had those
8 different-size bottles, containers.
9 BY MR. TILLERY:
10 Q. And to your knowledge, did the product
11 continue in the one-gallon size from 1966 for the
12 next 20 years until Chevron got out of the business?
13 A. Sir, my understanding was that the
14 one-gallon size was one of the ways it was
15 distributed and sold, yes.
16 Q. All through that period is what I'm
17 asking.
18 A. Sir, I would need to double-check the
19 documents to make sure that that is correct.
20 Q. Well, you're going to have to do that
21 because we need an answer to that question. That's
22 on your list of topics. You're agreeing to go back
23 and check the documents and tell us and produce any
24 documentation showing if there was a different

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1 configuration of the bottle and size of the bottle
 2 during the 20-year period from 1966 until Chevron
 3 got out of the business in 1986, correct?
 4 A. Yes, sir.
 5 Q. All right. What happened to the
 6 label – strike that.
 7 What happened to the container cap?
 8 You said that there was a change in the cap. What
 9 did –
 10 A. I --
 11 Q. What did Chevron do to change it?
 12 A. Sir, I recall two iterations in terms
 13 of the function of the cap. One was an anti-reverse
 14 cap, so sort of like a – my understanding is it
 15 would be similar to an aspirin bottle to make it
 16 more difficult to open, and then there was also a
 17 child-resistant cap, and then I believe also there
 18 were changes in possibly the color and the warnings
 19 that were on there.
 20 Q. Color of the warnings on the label?
 21 A. On the – on the cap itself.
 22 Q. Okay –
 23 A. I believe that also changed over time.
 24 Q. Did the cap always stay red?

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1 A. Sir, I would need to double-check that.
 2 Q. Do you have any recollection of ever
 3 seeing a picture of the product that it didn't have
 4 a red cap?
 5 A. I don't recall that, no, sir.
 6 Q. Okay. Did Chevron ever sell Ortho
 7 Paraquat CL in a two-and-a-half-gallon container?
 8 A. Sir, possibly. I would need to
 9 double-check.
 10 Q. That's another one you're going to
 11 check for me, agreed?
 12 A. Yes, sir. Yes, sir.
 13 Q. We're going to get an answer to that
 14 question. All right.
 15 Now, you know that at some point
 16 Chevron started formulating product for ICI, didn't
 17 they?
 18 A. Yes, sir.
 19 Q. And that was in 1982, wasn't it?
 20 A. Yes, sir.
 21 Q. And that product was called?
 22 A. Sir, my understanding is that was
 23 called Gramoxone.
 24 Q. And what did those containers look

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1 like?
 2 A. Sir, I don't recall seeing any
 3 documents or pictures of what the Gramoxone
 4 containers would look like.
 5 Q. Okay. Let's pull up Exhibit Number 90.
 6 (Exhibit 90 was identified for
 7 the record.)
 8 BY MR. TILLERY:
 9 Q. Would you please take a look at this?
 10 A. Yes, sir. It's opening now. Yes, sir,
 11 I see the picture loaded on my screen.
 12 Q. All right. And this is a product, at
 13 least from the label, that says it's called
 14 Gramoxone Super.
 15 Do you see that?
 16 A. Yes, sir.
 17 Q. Was that the name of the product that
 18 you formulated for ICI between 1982 and 1986?
 19 A. Sir, I don't recollect if it was called
 20 "Super" or not, but I know we formulated ICI
 21 Gramoxone products for them.
 22 Q. And do you know what the
 23 label -- strike that.
 24 Do you know what the container looked

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1 like for that product?
 2 A. No, sir, I don't know what the
 3 container looked like.
 4 Q. But you would have the container
 5 information at – strike that.
 6 You would have the container
 7 information for the work you did with ICI on their
 8 Gramoxone products that you could review, correct?
 9 MR. ORLET: Object to the form.
 10 THE WITNESS: Sir, I didn't look to see
 11 if that's in the documents, but I don't recall
 12 seeing – seeing that.
 13 BY MR. TILLERY:
 14 Q. Well, beginning in 1982, Chevron
 15 formulated a product for ICI Americas, correct?
 16 A. Yes, sir.
 17 Q. And did Chevron also package that
 18 product or did it deliver the formulated product
 19 back to ICI Americas in bulk?
 20 A. Sir, I recall a document discussing the
 21 Gramoxone label between Chevron and ICI, so I would
 22 assume based on that that they were packaging it for
 23 ICI, but I would need to confirm.
 24 Q. And true – strike that.

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1 **And shipping it from a Chevron facility**
 2 **for distribution, correct?**
 3 A. Sir, that would be my understanding.
 4 If it was formulated at a Chevron facility and then
 5 packaged, it would have been sent for further
 6 distribution, yes.
 7 **Q. All right. So what I'm interested in**
 8 **during your research as we go through this is the**
 9 **same information about that packaging process and**
 10 **what those boxes and labels looked liked. In other**
 11 **words, what was the product called in that four-year**
 12 **period that you were formulating it? What did it**
 13 **look like? What shape was the container? What**
 14 **color was the container, et cetera. Do you**
 15 **understand?**
 16 A. Yes, sir.
 17 **Q. All right. And you'll agree to look**
 18 **for those documents as well, correct?**
 19 A. Yes, sir.
 20 **Q. All right. Do you know if the shape,**
 21 **size, or appearance of the Gramoxone containers**
 22 **changed over time?**
 23 A. Sir, I don't know.
 24 **Q. Do you know if Gramoxone was typically**

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1 **sold in a two-and-a-half-gallon container?**
 2 A. Sir, I don't know.
 3 **Q. You indicated at the beginning of the**
 4 **deposition that you also read depositions to get**
 5 **ready for this deposition. Do you remember that?**
 6 MR. ORLET: Object to the form.
 7 THE WITNESS: Sir, if I said that I may
 8 have misspoke. I read expert reports.
 9 BY MR. TILLERY:
 10 **Q. Okay. So you didn't read depositions**
 11 **then at all, right?**
 12 A. Sir, I also believe I read one
 13 deposition.
 14 **Q. Which one?**
 15 A. Dr. James Bus.
 16 **Q. Okay. And what, if anything, are you**
 17 **relying on from that deposition as a basis for any**
 18 **of your statements in this deposition?**
 19 A. Sir, to clarify do you mean the
 20 deposition or the expert reports?
 21 **Q. You said you read the deposition of**
 22 **Dr. James Bus. I'm asking you how did Dr. James**
 23 **Bus's deposition inform any of your answers in this**
 24 **deposition?**

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1 A. Sir, I think it's unlikely that it
 2 would inform any of my answers in the deposition. I
 3 read the deposition to -- because -- mostly because
 4 I was interested in what the experts had to say
 5 about paraquat and the science from their
 6 perspective.
 7 **Q. You didn't ask to read any other**
 8 **depositions I guess, did you?**
 9 A. No, sir. That was it.
 10 **Q. What other reports did you read?**
 11 A. Sir, I read a handful of reports, about
 12 five expert reports from Dr. Bus, Dr. Olanow, a
 13 report by Sunding, a report by Young, a report by
 14 Rodricks. And there may have been one more, but I
 15 don't recall.
 16 **Q. Did any of those reports cause you**
 17 **to -- strike that.**
 18 **Did anything you read in those reports**
 19 **inform any of your testimony here today?**
 20 A. Sir, I don't believe they informed it
 21 directly, no, sir. It was mostly, again, because I
 22 was interested in the science and what the experts
 23 had to say about the science of paraquat.
 24 **Q. How did you decide what depositions and**

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1 **expert reports to read?**
 2 A. Sir, I discussed with counsel the
 3 different topics and what was available from the
 4 different experts that they had and then they
 5 provided me those reports.
 6 **Q. Okay. Now, you also late yesterday**
 7 **through your counsel turned over five additional**
 8 **documents as were referred to me as supplemental**
 9 **reliance, okay?**
 10 A. Yes, sir.
 11 **Q. And one of those is CUSA-00044544. I**
 12 **don't know whether to spend the time actually going**
 13 **through these and putting them on the thing. I**
 14 **think it may make sense for to you tell me by just**
 15 **the description of the document, and then we'll --**
 16 **if there's -- and that's a need to put it on the**
 17 **screen and so you can explain it further, fine. If**
 18 **not, it may be not worth us spending much time on**
 19 **it.**
 20 **So why don't you pick these in the**
 21 **order in which you want to pick them. I presume you**
 22 **have brought them to the deposition with you,**
 23 **correct?**
 24 A. Yes, sir.

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1 Q. All right. Why don't you pick them and
2 tell us why you gave these to us yesterday.
3 A. Sir, the number 77, the one you
4 referred to, the CUSA-00044544.
5 Q. Yes.
6 A. It clarifies that the emetic and stench
7 were added by ICI at Bayport, and it clarifies a
8 mistake that I made in the last deposition about
9 where that was added in the formulation chain.
10 Q. So this is a document dated
11 October 19th, 1982. It's CUSA-00044544, right?
12 A. Yes, sir.
13 Q. All right. And it's a multipage
14 document, right?
15 A. Yes, sir.
16 Q. And what's the last Bates number of the
17 document?
18 A. Sir, one second. Let me pull it up. I
19 just closed it by accident. So this is a one-page
20 document so it's only CUSA-00044544.
21 Q. Okay. And the takeaway from that
22 document is that you believe that Chevron did not
23 add the emetic to the active ingredient, correct?
24 A. Yes, sir, the emetic as well as the

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1 stench, valeric acid.
2 Q. And both of those were added by
3 Syngenta, correct?
4 A. Yes, sir, by ICI at their Bayport,
5 Texas facility.
6 Q. Did Chevron ever add the emetic to the
7 chemical, to the formulated product?
8 A. Sir, based on this document, no, my
9 understanding is it always came to us already part
10 of the paraquat concentrate.
11 Q. And was the stench agent always
12 provided in the product when it arrived to Chevron?
13 A. Sir, based on this document that is
14 also my understanding, yes.
15 Q. So what did Chevron add to this
16 material that was shipped to you?
17 A. Sir, they would have formulated it with
18 water to dilute it to the product specifications.
19 Q. And they would have put a foaming agent
20 in too, right?
21 A. A defoamer, yes, sir.
22 Q. So they would add a defoamer. What
23 else would they do?
24 A. Sir, that's my understanding of

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1 essentially what they would do.
2 Q. Okay. Now, if you'd go to
3 CUSA-00044545. Do you see that one?
4 A. Um.
5 Q. It's another one of the documents that
6 was sent to me last night.
7 A. Sir, I apologize, I only have one page
8 in my documents.
9 Q. You don't have the number --
10 Bates-numbered document?
11 A. No, sir, I just have 00044544.
12 Q. Well, let's pull up this exhibit.
13 We'll pull up the whole thing. What number would
14 that be? Number 91? Okay. We'll call this Exhibit
15 Number 91, and then we'll remove any mystery about
16 it. Okay? So you can see it.
17 (Exhibit 91 was identified for
18 the record.)
19 BY MR. TILLERY:
20 Q. Okay. This is the document you're
21 referring to, first page, and this is CUSA-00044544,
22 and this is Exhibit 91.
23 Do you see that?
24 A. Yes, sir.

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1 Q. And what was provided to us, if you go
2 to the next page as part of the single document is
3 CUSA-00044545, 46, 47, 48 -- I think that's it. So
4 we got a document consisting of multiple pages.
5 Do you have that document?
6 A. Yes, sir. I see it up on the screen in
7 the eDepoze.
8 Q. Well, is this a document that you
9 turned over to counsel as an additional reliance
10 document? That's what we were told it is.
11 A. Sir, I was only -- I had only reviewed
12 specifically the first page and not the other four
13 pages in terms of preparing my reliance documents.
14 Q. So you don't know what these other four
15 pages relate to, right? So I'm representing to
16 you -- your counsel can confirm this at the break --
17 that these were sent to me last night, late
18 afternoon, about 4:30 yesterday afternoon Central
19 Time, and we were told that these were additional
20 reliance documents that you were going to talk to us
21 about. So you don't know what this is, right?
22 A. Sir, I would need to look at them.
23 Q. Okay. Can you without looking at them
24 tell me do you know what these are?

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1 A. Without looking at them, sir, no, I was
 2 only aware of the – the one page.
 3 Q. Okay. All right. Now, let's go to
 4 Exhibit 92 – 91, I'm sorry. This is actually
 5 Exhibit 92, right? Right.
 6 (Exhibit 92 was identified for
 7 the record.)
 8 BY MR. TILLERY:
 9 Q. This is another document that was sent
 10 to us by your attorney last night. Tell me in what
 11 way you relied upon this.
 12 A. Sir, this is a document from the
 13 U.S. EPA that discusses how the EPA reviews and
 14 enforces labels and the requirements for labels, as
 15 well as a part of this discusses paraquat toxicity
 16 and use.
 17 Q. So why don't you direct this to what
 18 you're relying on for the purposes of your testimony
 19 on the topics that I sent to your counsel and you've
 20 reviewed. Tell me what page. There's ten pages of
 21 the documents. Just tell us which page to go to,
 22 please.
 23 A. Okay. Sir, at the top of page 2 where
 24 it says "Development of the pesticide product label

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1 is an important component of the registration
 2 process."
 3 Q. Okay.
 4 A. So that paragraph.
 5 Q. That paragraph. Any other paragraphs
 6 you're directing us to in the document?
 7 A. Yes, sir, the following paragraph where
 8 it describes how a label -- what information a label
 9 should contain.
 10 Q. Okay. And anything else in the
 11 document?
 12 A. The middle of page 3 regarding the
 13 EPA's statement about how they monitor and evaluate
 14 the health risks of pesticides.
 15 Q. Okay.
 16 A. And then at the bottom of page 7 it is
 17 discussing paraquat.
 18 Q. And so you're talking about this
 19 paragraph on page 7 that begins "The last herbicide
 20 I will discuss"?
 21 A. Yes, sir. That is where they describe
 22 the uses of paraquat and they describe the toxicity,
 23 and at the bottom of page 8, "Because paraquat is
 24 highly toxic, EPA has restricted its use to

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1 certified applicators."
 2 And then it goes on to talk about the
 3 paraquat label and it how it contains very explicit
 4 statements to alert the user to the potential
 5 dangers of the chemical and the need to observe
 6 extreme precautions when using the product, and if
 7 the user strictly adheres to label directions,
 8 paraquat use should not result in unreasonable
 9 adverse effects.
 10 Q. Okay. So let me ask you, sir, how did
 11 you find this in your research? When did you find
 12 it?
 13 A. Sir, I believe this would have been in
 14 a set of documents that counsel has provided to me.
 15 Q. You didn't research and find this, did
 16 you?
 17 A. This specific one I did not search for,
 18 no.
 19 Q. So the answer to my question would be
 20 yes. You did not research and find this yourself,
 21 did you?
 22 A. I did not specifically search for this
 23 document, no, sir.
 24 Q. Well, did you find it or did your

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1 lawyer give it to you? Which one?
 2 A. Sir, I believe my lawyer would have
 3 given it to me.
 4 Q. All right. When did he do that?
 5 A. Sir, I'm thinking, because I believe I
 6 would have seen this document sometime last year in
 7 multiple preparations, but counsel provided this to
 8 me I believe in the last two weeks.
 9 Q. Okay. So you got it within two weeks
 10 of this deposition date today, correct?
 11 A. Yes, sir.
 12 Q. Okay.
 13 MR. ORLET: Object to the form.
 14 BY MR. TILLERY:
 15 Q. All right. All right. Now, let's go
 16 to -- actually, strike that.
 17 What is that document, by the way, that
 18 you just referenced? It's Plaintiffs' Deposition
 19 Exhibit 92. What was it?
 20 A. Sir, this is a statement of Edwin
 21 Johnson, the director of Office of Pesticide
 22 Programs by the U.S. EPA.
 23 Q. Okay.
 24 A. It's a statement that he made to the --

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1 to the House of Representatives Committee.
 2 **Q. Okay. All right. Now, if you can, if**
 3 **we can speed this up a little bit, you also have**
 4 **another document that is three pages long, and it's**
 5 **a Chevron Chemical document from Mr. F. X.**
 6 **Kamlenski, and it's CUSA-00425728 through 25730.**
 7 **What is that document?**
 8 A. Sir, this is a status summary of the
 9 IBT audit.
 10 **Q. Okay. Why was this provided?**
 11 A. Sir, it was provided because it
 12 provides an overview of what Chevron was doing in
 13 response to questions about the validity of the IBT
 14 data that was generated on multiple pesticide
 15 products.
 16 **Q. Okay. Including paraquat, right?**
 17 A. Yes, sir, paraquat is one of them.
 18 **Q. They included Orthene, Captan,**
 19 **Difolatan, Phaitan, Monitor, paraquat, diquat,**
 20 **Bolero, right?**
 21 A. Yes, sir.
 22 **Q. And that's to replace the IBT studies**
 23 **which were ordered to be redone or replaced, right?**
 24 A. Sir, this is in the -- the beginning

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1 stages of where Chevron was evaluating the situation
 2 and the data that was available to understand what
 3 the extent of the -- of the data in the records
 4 looked like.
 5 **Q. The extent of the fraud associated with**
 6 **IBT, correct?**
 7 MR. ORLET: Object to the form.
 8 THE WITNESS: So they were looking to
 9 understand -- to validate and understand what data
 10 and records were available to support the study.
 11 BY MR. TILLERY:
 12 **Q. Right. To replace the IBT studies,**
 13 **correct?**
 14 A. Sir, this was part of the process that
 15 they undertook to determine whether or not they
 16 needed to replace the IBT studies.
 17 **Q. Okay. So are you saying that -- that**
 18 **Chevron decided which studies to replace?**
 19 A. Sir, my understanding is that Chevron
 20 worked very closely with the EPA to audit the data
 21 and the records that were available for the studies
 22 to determine which studies needed to be conducted
 23 again.
 24 **Q. And -- so we're clear, this refers to**

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1 **the IBT studies that were done and had to be**
 2 **replaced because of the fraud associated with their**
 3 **studies, correct?**
 4 MR. ORLET: Object to the form.
 5 THE WITNESS: Sir, I don't understand
 6 the fraud, but the study --
 7 BY MR. TILLERY:
 8 **Q. You knew that three of the owners of**
 9 **the business went to federal prison. Did you know**
 10 **that?**
 11 A. Sir, I knew there was criminal activity
 12 associated with IBT, yes, sir.
 13 **Q. Did you know that three of their owners**
 14 **went to federal prison?**
 15 A. Sir, I don't recall that it was three.
 16 I knew someone went to prison from IBT.
 17 **Q. And did you understand in general terms**
 18 **why they went to prison?**
 19 A. In general terms, yes.
 20 **Q. What did you understand in general**
 21 **terms that they did that caused them, the three of**
 22 **them, to go to prison?**
 23 A. Sir, my understanding is that it was
 24 due to falsifying data.

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1 **Q. All right. And the studies you're**
 2 **talking about in this exhibit related to those IBT**
 3 **studies, correct?**
 4 MR. ORLET: Object to the form.
 5 THE WITNESS: These studies in this
 6 exhibit were studies that were conducted at IBT that
 7 Chevron was auditing.
 8 BY MR. TILLERY:
 9 **Q. Right. Okay. All right. Let's go to**
 10 **the last one of these additional reliance documents.**
 11 **Okay? And this is CUSA-00176621 through 176630.**
 12 **Could you identify on the record what**
 13 **that document is?**
 14 A. Yes, sir. So this is a letter from the
 15 United States EPA to Chevron in September of 1980,
 16 and so the reason why this was included is because
 17 it provides a summary of EPA's assessment of the
 18 studies that were submitted for paraquat and their
 19 status and which studies needed to be repeated,
 20 which studies could be used as part of registration.
 21 **Q. And is that -- the end of it is in**
 22 **terms of what you're relying on it for?**
 23 A. Yes, sir. It's a summary that goes
 24 through all these different studies.

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1 Q. Okay.

2 A. All the different studies that are

3 required for U.S. EPA registration.

4 Q. Now, is there anything else you haven't

5 told me about what you're relying on these documents

6 for in this case?

7 A. Sir, nothing else that I recall at this

8 time.

9 MR. TILLERY: All right. Let's take

10 a -- say, a ten-minute break and we're moving to a

11 new topic now. Okay?

12 THE WITNESS: Yes, sir.

13 MR. TILLERY: Thank you.

14 THE VIDEOGRAPHER: We're going off the

15 record. The time is 10:45. This ends Media Unit

16 Number 1.

17 (Recess taken.)

18 THE VIDEOGRAPHER: We're going back on

19 the record. The time is 11:02. This begins Media

20 Unit Number 2.

21 MR. ORLET: Hey, Steve, before you get

22 started I want to just put on the record and ask you

23 to -- look at the email I sent you last night which

24 did not have those other pages of that document. It

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1 only had -- the document that I list as the first

2 one is CUSA-00044544 and no other pages.

3 MR. TILLERY: You mean the other ones

4 weren't there?

5 MR. ORLET: The other ones were not

6 there. Someone must have given you more than we

7 listed on the sheet.

8 MR. TILLERY: Okay. All right. They

9 tried to help Dr. Patterson. Okay. All right. So

10 let's go back on the record. Are you ready to go,

11 Dr. Patterson?

12 MR. ORLET: Was that on the record?

13 THE REPORTER: Yes.

14 MR. TILLERY: It was.

15 MR. ORLET: We're good.

16 THE WITNESS: Yes, sir.

17 BY MR. TILLERY:

18 Q. All right. Let's pull up Plaintiffs'

19 Deposition Exhibit Number 93.

20 (Exhibit 93 was identified for

21 the record.)

22 BY MR. TILLERY:

23 Q. And while you're pulling that up, I

24 will announce on the record what this is. Okay?

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1 And Exhibit 93 is a May 23rd, 1973 letter to D. B.

2 Barlow from a Mr. Wessel, R. D. Wessel copying J. A.

3 Spence, W. G. Toland, and R & D managers. Okay?

4 Do you see that?

5 A. Yes, sir.

6 Q. Okay. Would you take some time and

7 familiarize yourself, unless you know the document

8 from your prior research.

9 A. Yes, sir, I will.

10 Q. Thank you.

11 A. Yes, sir, I've reviewed the document.

12 Q. Okay. Have you seen the document

13 before in your research?

14 A. Sir, I've seen documents similar

15 discussing -- addressing similar topics, but I don't

16 recall seeing this specific one.

17 Q. Okay. Do you see it's got a CUSA

18 number on it. Do you see that?

19 A. Yes, sir.

20 Q. Okay. And this is a CUSA number

21 bearing 00046656, okay, through 57, right?

22 A. Yes, sir.

23 Q. And it's a May 23rd, 1973 letter,

24 right?

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1 A. Yes, sir.

2 Q. And you understand this is from R. D.

3 Wessel who was at ICI, correct? We've talked about

4 him in the past.

5 A. The name sounds familiar.

6 Q. All right. And who is Mr. D. B.

7 Barlow?

8 A. He's a Chevron employee.

9 Q. And what was his job?

10 A. I don't recall his exact job title.

11 Q. Well, it's a reference to Mr. Spence

12 and Mr. Toland. What were their jobs in May of

13 1973?

14 A. My recollection is that Mr. Toland was

15 a vice president of Chevron Chemical.

16 Q. Okay. And Mr. Spence?

17 A. I recognize the name but I don't recall

18 his exact title.

19 Q. Okay. Did their titles and

20 responsibilities change over the next 13 years?

21 A. Sir, I don't know.

22 Q. Okay. Now, this memo or report,

23 letter, reports on a discussion with J. T.

24 Brauholtz of PPL, ICI, right?

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1 A. Yes, sir, that's what the document
2 states.
3 **Q. And it's during a visit with Mr. Wessel
4 and others that occurred on May 16th, 1973, correct?**
5 A. Yes, sir.
6 **Q. All right. Now, please read for the
7 record subparagraph C under the topic "Formulations"
8 on the very first page of the document.**
9 A. So part C, "Emetic"?
10 **Q. Yes.**
11 A. The formulated --
12 **Q. Starts off with the word "Emetic,"
13 doesn't it?**
14 A. Yes. Part C, "Emetic," you'd like me
15 to read that paragraph, sir, yes?
16 **Q. Into the record very clearly and
17 understandably.**
18 A. Yes, sir. "The formulated product is
19 already quite a strong emetic; PPL feels this aspect
20 is not worth pursuing. (Ortho discussions with
21 Industrial Bio-Test and SOCAL, S-O-C-A-L, Industrial
22 Hygiene Toxicology Consultants confirmed the opinion
23 that further research in this area is probably not
24 warranted.)"

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1 **Q. Okay. So as of 1973, the consensus was
2 there's no further need to do any emetic research,
3 right? At least according to this document?**
4 A. Sir, yes. According to this document,
5 it states that further research is probably not
6 warranted into the area of an emetic.
7 **Q. Right. And then Chevron --
8 but -- strike that.**
9 Chevron's formulated paraquat product
10 wasn't a strong enough emetic to prevent it from
11 killing a person who ingested a quantity of it that
12 contained a lethal dose of paraquat, was it?
13 MR. ORLET: Object to the form.
14 THE WITNESS: Sir, would you please
15 repeat the question?
16 BY MR. TILLERY:
17 **Q. Yes, at that time that this letter was
18 written, if a person ingested two teaspoonsful of
19 paraquat, it would kill them, wouldn't it?**
20 A. Sir, there's a possibility that two
21 tablespoons of the material could be lethal, yes.
22 **Q. Yeah, I said "teaspoons" --**
23 A. I apologize. Two teaspoons --
24 **Q. -- but if we go to tablespoons, there's**

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1 **hardly any doubt in your mind, is there?**
2 A. I'm sorry, sir. I misspoke. It was
3 teaspoons.
4 **Q. Okay. Two tablespoons would seal the
5 deal, wouldn't it?**
6 A. Yes, sir.
7 **Q. Likely --**
8 A. Yes, sir.
9 **Q. So however strong the emetic effect of
10 Chevron's formulated paraquat product was, it didn't
11 induce vomiting -- vomiting quickly enough to
12 prevent the product from killing anyone who ingested
13 it -- ingested at least a lethal dose, correct?**
14 MR. ORLET: Object to the form.
15 THE WITNESS: Sir, my understanding is
16 that the vomiting response after paraquat ingestion
17 was variable among individuals.
18 BY MR. TILLERY:
19 **Q. Right. And in most instances it wasn't
20 sufficient to cause, if there was a vomiting
21 response in the individual, it wasn't sufficient if
22 you drank enough to constitute a lethal dose to save
23 you, correct?**
24 MR. ORLET: Object to the form.

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1 THE WITNESS: Sir, my understanding is
2 that you would still -- it was still recommended to
3 seek emergency treatment even if vomiting was
4 occurring, yes.
5 BY MR. TILLERY:
6 **Q. Well, can you answer my question? The
7 active ingredient, formulated product, paraquat
8 product by itself, forget emetics, okay, in 1973
9 would not induce vomiting sufficiently to save a
10 person's life if they had taken a lethal dose by
11 ingestion; would you agree?**
12 A. Sir, I agree that's likely, but the
13 dataset isn't large enough to make that statement
14 conclusively.
15 **Q. So are you saying that Chevron didn't
16 know in 1973 whether the product was lethal if it
17 was ingested?**
18 A. Sir, that's not correct. In 1973,
19 Chevron understood that if the product was ingested
20 at a certain dose it could be lethal, yes.
21 **Q. And what dose was it that made it
22 lethal?**
23 A. Sir, approximately 15 milliliters was
24 the low end of a dose that could cause lethality.

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1 Q. And "lethality" means you die, right?
2 Just so we're clear.
3 A. Yes, sir, that's correct.
4 Q. Okay. So what do you understand from
5 your review of the documents from Chevron's files
6 about why PPL felt that adding an emetic to paraquat
7 formulations wasn't worth pursuing?
8 A. Sir, at this time I don't recall any
9 other documents describing why PPL didn't think
10 pursuing the emetic was not worthwhile.
11 Q. Okay. Why did Industrial Bio Test,
12 that same company we talked about whose leaders were
13 put in federal prison and who were obviously
14 advising Chevron, why did Industrial Bio Test and
15 SOCAL Industrial Hygiene technology consultants
16 confirm the opinion that further research on adding
17 an emetic to paraquat wasn't warranted?
18 MR. ORLET: Object to the form.
19 THE WITNESS: Sir, I don't recall any
20 additional documents describing or discussing why
21 IBT or SOCAL Industrial Hygiene did not want to
22 pursue this research further.
23 BY MR. TILLERY:
24 Q. Okay. Let's turn to the second page.

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1 A. Yes, sir.
2 Q. And do you see the statement "On the
3 other hand" if you look for that?
4 A. Is it in the first paragraph, sir,
5 or --
6 Q. It's the 16th line if you go down --
7 actually from the first paragraph it's about five
8 lines up. It says, "On the other hand, our files on
9 Paraquat show." Do you see that? "On the other
10 hand, our files on Paraquat show only 1 child
11 involved out of 5 reported fatalities."
12 Do you see that?
13 A. Yes, sir, I see that.
14 Q. This statement refers only to
15 fatalities in the United States, doesn't it?
16 A. Sir, it doesn't clarify whether it's
17 referring to the United States or globally.
18 Q. Okay. Do you know which one it was
19 referring to?
20 A. Sir, if I go back up in the paragraph
21 it says, "We cannot be highly optimistic since U.S.
22 Poison Control Center records show that 90 percent
23 of all cases of accidental poisoning involve
24 children under 5 years of age," so I would assume

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1 this is based on U.S. Poison Control from their
2 records.
3 Q. All right. And Chevron's files
4 included only fatalities that in one way or another
5 were brought to Chevron's attention, correct?
6 A. Sir, that were brought to Chevron's
7 attention or that they learned about through their
8 literature reviews and keeping abreast of the
9 literature.
10 Q. When did Chevron's poisoning hotline
11 begin operation?
12 A. Sir, my understanding is it started in
13 1974.
14 Q. Who operated that poisoning hotline?
15 A. Sir, it would have been the
16 toxicologists at Chevron.
17 Q. Were the toxicologists themselves the
18 people who answered the phone?
19 A. Yes, sir, that is my understanding.
20 Q. When Chevron operated its poisoning
21 hotline, it learned through calls to that hotline
22 about incidents of paraquat exposure, didn't it?
23 A. Yes, sir.
24 Q. Were some of those calls reports of

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1 dermal exposure, some about inhalation exposure, and
2 some about ingestion?
3 A. Yes, sir, they would have been calls
4 from any route of exposure.
5 Q. And was a record kept of all of those
6 calls?
7 A. Yes, sir, based on my understanding of
8 reviewing the documents, there are records of those
9 calls.
10 Q. Do you -- strike that.
11 Have you seen records of those calls?
12 A. Yes, sir, I have, and a list of them
13 are in my reliance materials.
14 Q. In which section of your reliance
15 materials?
16 A. Sir, would you like me to give you the
17 Bates numbers or the reference number from the index
18 of my reliance materials?
19 Q. The reference number is fine.
20 A. Okay. Reference number 1, reference
21 number 4, reference number 15, reference number 31,
22 reference number 35, reference number 41. So that's
23 all that I put in my reliance materials, but there
24 may be more documents in the collection.

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1 Q. Okay. In some of these incidents
 2 reported to the hotline, the person who ingested the
 3 paraquat product died and in others the plaintiff or
 4 the person survived. Let me strike the question.
 5 In some of the call-ins, some of the
 6 people who ingested it had died and some survived,
 7 correct?
 8 A. Yes, sir, that's my understanding.
 9 Q. Okay. How did Chevron learn about
 10 incidents of paraquat poisoning before it began
 11 running the poisoning hotline?
 12 A. Sir, I don't recall the specifics.
 13 Q. Okay. During the years that Chevron
 14 sold paraquat, would you agree that Chevron had more
 15 information about the toxicity of paraquat than the
 16 EPA?
 17 A. Sir, based on my review of the
 18 documents, I would say that the EPA and Chevron had
 19 a similar amount of information on paraquat as
 20 Chevron provided the EPA all the information --
 21 relevant information that they had on paraquat
 22 toxicity.
 23 Q. So it's your understanding that Chevron
 24 gave them everything they knew about paraquat

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1 toxicity; that is, the EPA, correct?
 2 MR. ORLET: Object to the form.
 3 THE WITNESS: Sir, my understanding is
 4 that Chevron provided everything they knew about
 5 paraquat toxicity or an explanation of what
 6 information they were not providing and why.
 7 BY MR. TILLERY:
 8 Q. Had they known through studies, animal
 9 studies, that paraquat could be neurotoxic to
 10 laboratory animals? Would Chevron have turned that
 11 over to the U.S. EPA?
 12 MR. ORLET: Object to the form.
 13 THE WITNESS: So you're asking if
 14 Chevron discovered that paraquat was neurotoxic,
 15 would they have turned it over to the U.S. EPA?
 16 BY MR. TILLERY:
 17 Q. Correct.
 18 A. Yes, sir, I believe that they would
 19 have turned that over to the U.S. EPA.
 20 Q. Would they have done it immediately?
 21 A. Sir, I don't see why they wouldn't have
 22 done it immediately or within a certain amount of
 23 time after they reviewed it to ensure they
 24 understood it and had a full picture of the

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1 toxicology.
 2 Q. Right. Here's what I'm trying to say.
 3 If you had done laboratory science studies to
 4 determine the neurotoxicity of paraquat on
 5 laboratory animals by IP injections, let's say, and
 6 found that it caused a loss of dopaminergic neurons
 7 in the substantia nigra portion of the mouse brain,
 8 of a statistically significant amount -- okay? --
 9 indicating by the conclusion of the study that the
 10 chemical is neurotoxic, is that something you think
 11 that should be reported to regulators, including the
 12 EPA?
 13 MR. ORLET: Object to the form.
 14 THE WITNESS: Yes, sir, I believe that
 15 a study identifying adverse effects such as that you
 16 described should be reported to the U.S. EPA.
 17 BY MR. TILLERY:
 18 Q. And without any significant delay;
 19 would you agree?
 20 MR. ORLET: Object to the form.
 21 THE WITNESS: Sir, I believe there's a
 22 regulatory criteria for the timeline in which you
 23 have to submit adverse effects, and I believe that
 24 would be what would be followed by Chevron.

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1 BY MR. TILLERY:
 2 Q. So whether that's 30 days or 60 days or
 3 90, that's what you'd follow, right?
 4 A. Yes, sir.
 5 Q. Have you ever heard of one that gives
 6 you 16 years to report a finding?
 7 A. No, sir, I haven't.
 8 Q. Would you agree that while Chevron was
 9 selling paraquat in the United States, that Chevron
 10 had more information about the toxicity of paraquat
 11 than the medical and scientific community?
 12 MR. ORLET: Object to the form.
 13 THE WITNESS: I would expect that they
 14 would have more, but how much more and how relevant
 15 that information was to the safety of paraquat, I
 16 don't know if it was more in that context.
 17 BY MR. TILLERY:
 18 Q. Okay. Well, are you telling me they
 19 did or didn't have more information than the medical
 20 community and scientific community?
 21 A. Sir, I haven't done a comparison of
 22 what was completely known in the scientific
 23 community.
 24 Q. Okay. You can't answer that then,

Page 77

1 right?

2 A. Sir, I do know that there were multiple

3 physician references manuals provided and multiple

4 information on the toxicity of paraquat provided.

5 I'm not sure if that answers your question.

6 Q. Well, are you talking about the

7 understanding of redox cycling, which was an answer

8 you gave me earlier in this deposition – in an

9 earlier day in the deposition? I believe you said

10 it was in the public domain, right?

11 A. I'm sorry, sir, can you repeat the

12 question?

13 Q. Yes. You told me in an earlier day of

14 this deposition that some aspects of the mode of

15 action of paraquat were known and in the published

16 literature, right?

17 A. Sir, that was my understanding that

18 paraquat undergoing redox cycling was in the

19 published literature.

20 Q. And the fact that it didn't metabolize,

21 you told me, I think, was known as well, correct?

22 A. Sir, in terms of the metabolism not

23 related to redox cycling, I believe that was known

24 possibly in the literature but also by the EPA for

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1 you think was publicly known?

2 A. Sir, I would need to consult the

3 documents to see if it was included in publications

4 from that time period. It may have been in that --

5 the Clark study.

6 Q. Okay.

7 A. I would need to double-check that.

8 Q. And Chevron became aware in the '60s

9 that paraquat accumulated in various mammalian

10 tissues as well, didn't they?

11 A. I'm sorry, sir. Would you please

12 repeat the question.

13 Q. Absolutely. Chevron became aware in

14 the 1960s that paraquat accumulated in mammalian

15 tissues, didn't they?

16 A. Sir, I believe it was later that they

17 really understood the accumulation in lung tissue as

18 part of the reason why the lung was a selective

19 target organ toxic in paraquat.

20 Q. You knew, however, that from cadaver

21 studies that there was an accumulation process in

22 certain tissues, didn't you, at Chevron?

23 A. Sir, what cadaver studies are you

24 referring to?

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1 sure.

2 Q. Okay. But you're saying it was

3 publicly known, right?

4 A. To the best of my understanding, sir,

5 yes.

6 Q. Okay. And it was certainly known by

7 Chevron, wasn't it?

8 A. That paraquat was not metabolized --

9 Q. It did not metabolize in mammalian

10 tissues. You know that?

11 A. Yes, sir, that it's -- when paraquat is

12 excreted, it's excreted unchanged which indicates

13 that it doesn't undergo metabolism.

14 Q. Exactly. So that was known from before

15 it was marketed by -- by Chevron, wasn't it?

16 A. Sir, it would have been around that

17 time that I believe that data was collected.

18 Q. Okay. So around that time, meaning in

19 the mid 1960, Chevron knew that paraquat was not

20 metabolized either in the human body or other

21 mammalian tissues, right?

22 A. I believe that information was known

23 either the mid or the late '60s.

24 Q. Okay. And was that information that

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1 Q. The ones that we've talked about at

2 earlier stages. The very first two days of your

3 deposition.

4 A. Sir, no, I don't believe that's

5 accurate that it was accumulating in other tissues.

6 Q. Okay. Would you agree with me that

7 while Chevron was selling this product all over the

8 United States for 20 years, it had more information

9 about the toxicity of paraquat than its customers?

10 A. Sir, yes, I would agree that we had

11 more details of the toxicity information and the

12 specifics on the toxicity than the customers.

13 Q. Okay. And would you agree with me that

14 while Chevron was selling this for 20 years in the

15 United States, it had more information about the

16 toxicity of paraquat than the general public,

17 correct?

18 A. Sir, yes, I would also agree that we

19 had more specific information on the details of the

20 toxicity studies and the toxicity than the general

21 public.

22 Q. At any time during the 20 years that

23 Chevron sold paraquat in the United States, did it

24 ever disclose all of the information it had about

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1 the toxicity of paraquat to the medical community or
 2 the scientific community?
 3 A. Sir, we provided numerous documents to
 4 the U.S. EPA. We provided a physician's guide to
 5 the medical community, but in terms of disclosing
 6 all of the documents that we had to them, I don't
 7 recall if that was done.
 8 Q. Okay. At any time during the 20 years
 9 Chevron sold paraquat in the United States, did it
 10 ever disclose all of the information it had about
 11 the toxicity of paraquat to its customers or to the
 12 public?
 13 A. Sir, I don't recall documents showing
 14 that they disclosed all of the information that they
 15 had on the toxicity to the general public.
 16 Q. At any time during the 20 years Chevron
 17 sold paraquat in the United States, did it ever
 18 disclose to the EPA any concerns it had about gaps
 19 in the scientific evidence regarding the toxicity of
 20 paraquat?
 21 A. Sir, there were multiple documents back
 22 and forth between Chevron and the EPA discussing the
 23 toxicology, the available toxicity data on paraquat,
 24 and I believe that those would have discussed any

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1 gaps as well.
 2 Q. Well, are you telling us, the ladies
 3 and gentlemen of the jury -- you're under oath --
 4 that Chevron told the U.S. EPA about their concern
 5 about the absence of long-term chronic studies,
 6 exposure studies, the absence of that?
 7 A. Sir, I don't recall a specific passage
 8 in the documents where they would have said that,
 9 but my recollection of the documents are that they
 10 had numerous discussions with the EPA on the
 11 toxicity dataset.
 12 Q. Yeah, that's not my question and I move
 13 to strike your answer as unresponsive.
 14 Did Chevron ever tell the U.S. EPA that
 15 it had concerns about the absence of long-term
 16 chronic exposure studies of paraquat?
 17 A. Sir, I don't recall seeing that
 18 specific statement made to the EPA in the documents
 19 that I reviewed.
 20 Q. Didn't ICI do research studies that
 21 Chevron received and didn't disclose to the EPA, the
 22 scientific medical community, customers, or the
 23 public?
 24 MR. ORLET: Object to the form.

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1 THE WITNESS: Sir, would you please
 2 repeat the question?
 3 BY MR. TILLERY:
 4 Q. Didn't ICI do research studies that
 5 Chevron received under your agreement with ICI, and
 6 which Chevron didn't disclose to the EPA, scientific
 7 medical community, customers, or the U.S. public?
 8 MR. ORLET: Same objection.
 9 THE WITNESS: Sir, I'm not aware of any
 10 toxicology studies that I saw that were not provided
 11 to the U.S. EPA, at least.
 12 BY MR. TILLERY:
 13 Q. Okay. So you're saying every bit of
 14 research that Chevron received from ICI was then
 15 disclosed to the EPA, right?
 16 MR. ORLET: Object to the form.
 17 THE WITNESS: Sir, I don't know about
 18 every bit of research, but I don't recall seeing any
 19 toxicity studies that were conducted that were then
 20 not submitted to the EPA that would have informed on
 21 the toxicity or adverse effects potential of
 22 paraquat.
 23 BY MR. TILLERY:
 24 Q. Okay. Did you ever do a chronic or

Page 84

1 long-term exposure study to paraquat?
 2 A. Sir, when you say "did you," do you
 3 mean did Chevron?
 4 Q. Yes.
 5 A. Sir, Chevron was -- cooperated with ICI
 6 in conducting multiple repeat dose studies in
 7 response to the RPAR.
 8 Q. Okay.
 9 THE WITNESS: Sir, when you finish this
 10 line of questioning, can we take a very brief
 11 bathroom break?
 12 MR. TILLERY: We can -- of course. We
 13 can do that right now if you'd like. That's fine.
 14 THE WITNESS: Okay.
 15 MR. TILLERY: That's fine.
 16 THE WITNESS: Can we come back at just
 17 9 -- 40 after the hour, 41 after the hour?
 18 MR. TILLERY: Yeah, that's fine.
 19 THE WITNESS: Okay. Thank you, sir.
 20 THE VIDEOGRAPHER: We're going off the
 21 record. The time is 11:38. This ends Media Unit
 22 Number 2.
 23 (Recess taken.)
 24 THE VIDEOGRAPHER: We're going back on

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1 the record. The time is 11:45. This begins Media
 2 Unit Number 3.
 3 BY MR. TILLERY:
 4 **Q. Did Chevron ever submit any paraquat**
 5 **toxicity study to the EPA that the EPA didn't**
 6 **require Chevron to submit in order to maintain**
 7 **paraquat's registration for sale in the United**
 8 **States?**
 9 A. Sir, I'm not aware of any studies that
 10 Chevron conducted that they did not submit to the
 11 EPA, any toxicity studies.
 12 **Q. You know that's not the answer to the**
 13 **pending question I asked.**
 14 A. Sir, I apologize. Would you please
 15 repeat the question?
 16 **Q. Yes. Did Chevron ever submit any**
 17 **paraquat toxicity study to the EPA that the EPA**
 18 **didn't require Chevron to submit in order to**
 19 **maintain paraquat's registration for sale in the**
 20 **United States?**
 21 A. Sir, I'm not sure. We submitted a lot
 22 of data, and so I would have to go through the --
 23 each piece of data and see if it was an actual
 24 requirement of the EPA at the time. Because I know

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1 we submitted a lot of data on exposure, on the
 2 emetic, so I would need to match that up with what
 3 the requirements were to be able to fully answer
 4 your question.
 5 **Q. Okay. Can you today think of any study**
 6 **ever submitted by Chevron, any paraquat toxicity**
 7 **study ever submitted by Chevron to the EPA that**
 8 **wasn't required by the EPA in order to maintain**
 9 **paraquat's registration for sale in the United**
 10 **States? Can you think of one?**
 11 A. Yes, sir. I believe I can think of
 12 one.
 13 **Q. Tell me the one you can think of.**
 14 A. Sir, if you give me 30 seconds I could
 15 find it in my reliance material.
 16 **Q. Okay. Go ahead and find it.**
 17 A. Sir, in the reliance materials it is
 18 reference 4.
 19 **Q. Okay. What's the study you submitted**
 20 **that wasn't requested by the EPA?**
 21 A. Sir, this is a set of documents that
 22 Chevron submitted to the EPA, so that is on the
 23 first page of the document -- of that document set
 24 described. This is a letter from Ospenson to the

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1 U.S. EPA and in that set of documents, the number is
 2 CHEV SJ0089832, and that is treatment of rats given
 3 a lethal oral dose of paraquat. And this -- the
 4 purpose of this study, sir, was to look at different
 5 treatment regimens and antidotes in response to
 6 acute toxicity of -- from paraquat.
 7 **Q. And the EPA didn't ask for this. You**
 8 **just submitted it on your own?**
 9 A. To the best of my knowledge, sir, the
 10 EPA did not ask for this study.
 11 **Q. What year was that?**
 12 A. It would have been submitted in 1975.
 13 **Q. 1975. Who did -- who did he submit it**
 14 **to?**
 15 A. So this is -- this study is in a
 16 package of documents that was submitted to the
 17 director of the registration division of the
 18 U.S. EPA from Ospenson.
 19 **Q. And you're saying this was just**
 20 **unsolicited, had nothing to do with maintaining the**
 21 **registration of the chemical, right?**
 22 A. To the best of my knowledge, yes, sir.
 23 **Q. Okay. If we go back to this exhibit**
 24 **which is number 94 -- 93, and if you pull up the**

Page 88

1 **last, the last sentence. Do you see the very last**
 2 **sentence of the last paragraph it says "Antidote**
 3 **Studies"? That's the topic of the paragraph.**
 4 A. Yes, sir.
 5 **Q. Okay. And the very last one, would you**
 6 **read into the record inside the parentheses, that**
 7 **sentence.**
 8 A. Yes, sir. It states, "(The discovery
 9 of a practical antidote for treatment of Paraquat
 10 poisoning appears to be our best defense for
 11 satisfying Paraquat critics, particularly EPA and
 12 the Medical Community.)"
 13 **Q. Was there ever a practical antidote**
 14 **established for treating paraquat poisoning?**
 15 A. Sir, when you say "practical
 16 antidote" --
 17 **Q. Yeah, is there an antidote that saves**
 18 **everybody?**
 19 A. Sir, there's no direct antidote but
 20 there's a treatment regimen that can be used.
 21 **Q. So there's no -- if you were answering**
 22 **my question directly you would say there was no**
 23 **antidote, right?**
 24 A. Sir, I apologize. I know I frustrated

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1 you last time with this question as well as a few
 2 depositions ago, and I think it really depends on
 3 your definition of "antidote." And my understanding
 4 is that an antidote can also include a treatment
 5 regimen.
 6 **Q. Now, you mentioned this Ospenson letter**
 7 **that was sent to the EPA along with some other**
 8 **documents that were sent.**
 9 A. Yes, sir, it was a package of documents
 10 that was sent.
 11 **Q. Didn't Chevron submit those studies**
 12 **because it was concerned EPA might subject paraquat**
 13 **to a rebuttal – Rebuttable Presumption Against**
 14 **Registration due to the lack of available treatment**
 15 **for poisoning?**
 16 A. Sir, my recollection is that the RPAR,
 17 their Rebuttable Presumption Against Registration,
 18 was not a concern in 1975.
 19 **Q. Okay. So you hadn't heard about that,**
 20 **right?**
 21 A. Sir, based on the documents I read, it
 22 came after 1975. That's my recollection.
 23 **Q. Okay. So when after '75 did it happen?**
 24 A. Sir, my understanding was that it was

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1 1978.
 2 **Q. Okay. Well, let's look at the next**
 3 **exhibit. We'll call this Exhibit 94, and this is**
 4 **SYNG-PQ-01843764 is the beginning page, and it goes**
 5 **through 01843766. Please take a look at that.**
 6 **(Exhibit 94 was identified for**
 7 **the record.)**
 8 BY MR. TILLERY:
 9 **Q. And familiarize yourself with the**
 10 **document, please. This is actually a Chevron**
 11 **Chemical Company document, isn't it?**
 12 A. Sir, there's three pages. Would you
 13 like me to read all of them?
 14 **Q. I do. I'm going to ask you a lot of**
 15 **questions about this document because of how it**
 16 **directly relates to your last answer. Go ahead.**
 17 A. Sir, I've reviewed the document.
 18 **Q. All right. This is a December 11th,**
 19 **1975 Chevron Internal memo from L. R. Stelzer to**
 20 **J. N. Ospenson on the subject matter of paraquat**
 21 **registrations, isn't it?**
 22 A. Yes, sir.
 23 **Q. That's what it talks about at the top**
 24 **of the page, paraquat registrations?**

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1 A. Yeah, that's what the document states.
 2 **Q. Just for the court and jury, who's**
 3 **J. N. Ospenson now?**
 4 A. Sir, my recollection is that Ospenson
 5 had two positions. I believe he was a Chevron Ortho
 6 R & D manager as well as a manager or vice president
 7 of the Chevron Environmental Health Center, which
 8 would have housed the toxicologists.
 9 **Q. And who was L. R. Stelzer?**
 10 A. I believe Stelzer is the regulatory and
 11 registration manager for -- for Chevron Ortho.
 12 **Q. Now, that you've looked at this letter,**
 13 **you know that the answer you gave me about 1978 and**
 14 **RPAR was off by three years, wasn't it?**
 15 MR. ORLET: Object to the form.
 16 THE WITNESS: Sir, not necessarily.
 17 RPAR came into -- the official RPAR was 1978.
 18 BY MR. TILLERY:
 19 **Q. Right. But you led me and the ladies**
 20 **and gentlemen of the jury to believe that those**
 21 **documents that Ospenson sent in didn't relate to**
 22 **anything about keeping the chemical on the market.**
 23 **That's how I interpreted your answer.**
 24 MR. ORLET: Object to the form.

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1 THE WITNESS: No, sir, I don't believe
 2 that's accurate.
 3 BY MR. TILLERY:
 4 **Q. In fact, let's go through this and see**
 5 **if you might have maybe gilded a lily there just a**
 6 **little bit. Okay? Let's go through it.**
 7 **In the first paragraph, what does it**
 8 **say here? It says, "This is in response to the**
 9 **information you received indicating that Mr. John B.**
 10 **Ritch, Jr., Director, Registration Division, Office**
 11 **of Pesticide Programs, EPA, during his late November**
 12 **visit to Plant Protection Division in the U.K. told**
 13 **them that Ortho Paraquat CL had been placed on the**
 14 **list of products which will be denied reregistration**
 15 **under the rebuttable presumption clause of Section 3**
 16 **Regulations."**
 17 **Is that what it says?**
 18 MR. ORLET: Object to the form.
 19 THE WITNESS: Yes, sir, this letter of
 20 December 11th, 1975 says that.
 21 BY MR. TILLERY:
 22 **Q. So in fact Chevron knew about this**
 23 **three years before what you just told us under oath,**
 24 **correct, Dr. Patterson?**

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1 MR. ORLET: Object to the form.
 2 THE WITNESS: Sir, this letter is
 3 December 10th, 1975, so they knew about it on
 4 December 10th, 1975. The study in the package they
 5 submitted was in July of 1975, which means they
 6 would have had to conduct a study well before that.
 7 BY MR. TILLERY:
 8 Q. So you're saying you didn't know
 9 anything about it before this date, right? Is that
 10 what – is your testimony now under oath that this
 11 is when you first knew it, the first date?
 12 A. Sir, that's not what I said.
 13 Q. All right. So let's keep going, okay?
 14 So here in this – in this communication Chevron and
 15 ICI were concerned at the time of this letter that
 16 the EPA would deny reregistration of Ortho Paraquat
 17 CL based on something called the Rebuttable
 18 Presumption Against Registration, correct? That's
 19 what it says in the letter?
 20 A. Yes, that's what it states.
 21 Q. Okay. And that's what you referred to
 22 as an RPAR, right?
 23 A. Yes, sir.
 24 Q. When you in this deposition use the

Page 94

1 word "RPAR," you refer to Rebuttable Presumption
 2 Against Registration, right?
 3 A. Yes, sir, that's correct.
 4 Q. And what's the effect of that if it is
 5 not reregistered? What happens?
 6 A. Sir, if the RPAR is not successfully
 7 addressed, the EPA can revoke the registration of
 8 the chemical.
 9 Q. Okay. It can or will?
 10 A. It can. I don't necessarily know that
 11 it will.
 12 Q. Well, if the RPAR is not addressed and
 13 the registration is revoked, can you sell the
 14 product legally?
 15 A. If the registration is revoked, no, you
 16 cannot sell the product legally.
 17 Q. All right. So this is the life or
 18 death of this chemical, isn't it? If the RPAR comes
 19 back and says your registration is revoked, all
 20 paraquat is gone in the United States; would you
 21 agree with me? Can't sell it?
 22 A. If you don't register with the EPA,
 23 then, no, you cannot sell it.
 24 Q. All right. Now, in fact, based upon

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1 and from this internal memo, what an individual from
 2 the U.K. had told it during a visit to ICI in the –
 3 in the United Kingdom, ICI had told Chevron that
 4 this was going to happen, correct?
 5 MR. ORLET: Object to the form.
 6 THE WITNESS: Sir –
 7 BY MR. TILLERY:
 8 Q. I'm talking about from ICI.
 9 A. Sorry, sir, would you please repeat
 10 that last part?
 11 Q. ICI told Chevron that based upon a
 12 visit they had received from a representative of the
 13 U.S. EPA, that there was going to be a revocation,
 14 correct?
 15 MR. ORLET: Object to the form.
 16 THE WITNESS: Sir, what this letter
 17 states is that that's what the Plant Protection
 18 Division is telling Chevron which is contrary to
 19 their understanding and the information that they
 20 had from the U.S. EPA.
 21 BY MR. TILLERY:
 22 Q. Well, actually the memo that your
 23 company wrote – okay? – and that would be
 24 Mr. Stelzer writing to Mr. Ospenson said, and I

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1 quote, "During his late November visit with Plant
 2 Protection Division in the U.K. – U.K., told them
 3 that Ortho Paraquat CL has been placed on the list
 4 of products which will be denied reregistration
 5 under the rebuttable presumption clause of the
 6 Section 3 Regulations."
 7 Did I read that correctly?
 8 A. Yes, sir, that's what the document
 9 states.
 10 Q. All right. Now, was Ortho Paraquat CL
 11 the paraquat concentrate that Chevron sold in the
 12 United States?
 13 A. Yes, sir, Ortho Paraquat CL was the
 14 product that Chevron sold in the United States.
 15 Q. Okay. And fatalities caused by the
 16 ingestion of paraquat concentrates were the reason
 17 the EPA was considering putting Ortho Paraquat CL on
 18 the list of pesticides subject to a Rebuttable
 19 Presumption Against Registration, correct?
 20 A. Sir, my recollection is that was one of
 21 the triggers that EPA listed in their Rebuttable
 22 Presumption Against Registration, but I would need
 23 to confirm. I've got a document that discusses the
 24 different triggers if you'd like me to review that.

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1 **Q. And do you remember any other trigger**
 2 **besides fatalities from ingestion?**
 3 A. Sir, one of them was, I believe, lack
 4 of teratogenic data. I believe oncogenicity was
 5 also another trigger, but I would have to consult a
 6 document to provide you a full list.
 7 **Q. But when was the EPA RPAR regulation**
 8 **published?**
 9 A. For paraquat?
 10 **Q. Yeah.**
 11 A. Sir, my recollection it was 1978 is
 12 when the RPAR for paraquat started.
 13 **Q. Okay. The EPA's actual concern was**
 14 **that there was no effective medical treatment for**
 15 **paraquat poisoning, wasn't it? That was the real**
 16 **concern?**
 17 A. Sir, I believe that was one of the
 18 triggers as well.
 19 **Q. And according to this memo, the**
 20 **concern, that wasn't going to go away just because**
 21 **the EPA had not put Chevron -- strike that.**
 22 And according to this memo, that
 23 concern wasn't going to go away just because, as it
 24 turned out, the EPA had not put Chevron's product on

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1 **the RPAR list, correct?**
 2 A. I'm sorry. Sir, would you please
 3 repeat the question?
 4 **Q. I'll withdraw it.**
 5 Chevron and ICI were still concerned
 6 that the EPA might deny registration under
 7 procedures other than the RPAR registration from
 8 this letter, correct?
 9 A. Sir, other than the RPAR from this
 10 letter?
 11 **Q. Yeah, was there anything in here that**
 12 **would tell you that they were concerned, Chevron and**
 13 **ICI were concerned that the EPA might deny**
 14 **re-registration under procedures other than the RPAR**
 15 **regulation?**
 16 A. Yes, sir, that's what this letter is
 17 discussing, is a possible cancellation action
 18 against paraquat.
 19 **Q. And so it was important for Chevron and**
 20 **ICI to find a solution to the problem of paraquat**
 21 **poisonings or the treatment of people who have**
 22 **ingested paraquat, correct?**
 23 A. Yes, sir, I think it would be important
 24 for many reasons, not just the -- this letter, but

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1 just to ensure of safety of the product.
 2 **Q. Right, but that's exactly what I'm**
 3 **referring to in the letter, and the letter bears**
 4 **that out, doesn't it?**
 5 A. Yes, sir, the letter is discussing
 6 possible cancellation against paraquat and the
 7 reasons why.
 8 **Q. Right. Now, let's go to Exhibit 94.**
 9 **I'm sorry. It's 95.**
 10 (Exhibit 95 was identified for
 11 the record.)
 12 BY MR. TILLERY:
 13 **Q. And this is Syngenta-PQ-02514781.**
 14 A. It's loading.
 15 **Q. And this is a two-page letter dated**
 16 **March 29, 1976. It's actually I think an internal**
 17 **memorandum. It says, "Paraquat Toxicology Meeting,**
 18 **February, 1976." And it's to J. N. Ospenson,**
 19 **Chevron Chemical Company.**
 20 Do you see that?
 21 A. Yes, sir.
 22 **Q. Okay. So tell me, is this a report**
 23 **from Dr. R. D. Cavalli?**
 24 A. Sir, it appears to be a note, a letter

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1 from Cavalli to Ospenson.
 2 **Q. Okay. Giving him a report of a meeting**
 3 **held between himself and Ken Fletcher of ICI on**
 4 **February 17th and 18th, 1976, correct?**
 5 A. That's what this document states, yes,
 6 sir.
 7 **Q. Okay. Go to paragraph 3. Do you see**
 8 **that?**
 9 A. Yes, sir, I do.
 10 **Q. Why don't you read that -- well, I can**
 11 **do it. You follow along with me and make sure I**
 12 **read it correctly for the folks who are listening to**
 13 **this, okay?**
 14 A. Yes, sir.
 15 **Q. Number 3, "We discussed at some length,**
 16 **the gaps in our knowledge of the chronic effects of**
 17 **paraquat exposure. The animal studies available are**
 18 **old and do not meet current standards. Some are**
 19 **poorly done. In fact, the cause of death from**
 20 **chronic exposure to paraquat could not be determined**
 21 **from these studies. Dr. Fletcher agreed to review**
 22 **these and to consider repeating certain of the**
 23 **studies. I have recently received a letter from him**
 24 **(enclosed) in which he states that he has**

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1 received – reviewed this area with Allen Calderbank
 2 and Arthur Waitt, and they do not believe it
 3 warranted to repeat any of this work."
 4 Do you see that? Did I read that
 5 correctly?
 6 A. Yes, sir, you did.
 7 Q. All right. Now, let's go to the next
 8 page under number 8. And why don't you read that
 9 paragraph into the record.
 10 A. Yes, sir. Under number 8 it says, "CTL
 11 has renewed their interest in adding an emetic to
 12 paraquat. ICI Pharmaceuticals has discovered a new
 13 compound with remarkable emetic properties. As
 14 little as 5 milligrams can cause vomiting. ICI is
 15 looking into the possible use of this compound, but
 16 cost may be high."
 17 Q. Okay. Now, at the bottom of that page,
 18 there's a group of cc's. Who are those people?
 19 A. So Barlow, Brown – I'm not sure I know
 20 how to pronounce this one, C-z-u-f-i-n -- Dye,
 21 McCraith, Spence, Stripling, Calderbank, Litchfield,
 22 and Fletcher.
 23 Q. Yeah, who are those? What were their
 24 jobs at Chevron?

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1 A. Sir, I believe Calderbank, Litchfield,
 2 and Fletcher were ICI. I don't recognize Brown or
 3 Czufin. Dye I recognize. I believe he was involved
 4 with registrations but I would need to confirm.
 5 Q. Now, what was his title and
 6 responsibility at Chevron?
 7 A. Sir, I don't recall all the specific
 8 titles.
 9 Q. This is a person who leads people who
 10 were involved in this discussion or people who we
 11 need to understand what their role and function and
 12 the hierarchy is at Chevron was. Is that something
 13 you can undertake to identify?
 14 A. Sir, yes, I believe I can –
 15 Q. And you can – I need to know who the
 16 people are, what they did.
 17 A. Yes, sir. I understand in an
 18 interrogatory that was provided we have a list of
 19 all the people and their titles.
 20 Q. Okay. And responsibilities. Do you
 21 think their responsibilities, their titles at each
 22 time were set out, right?
 23 MR. ORLET: Object to the form.
 24 THE WITNESS: Sir, I just know that an

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1 interrogatory was provided with the names, and the
 2 titles were available.
 3 BY MR. TILLERY:
 4 Q. Now, let's go to Exhibit 96.
 5 (Exhibit 96 was identified for
 6 the record.)
 7 BY MR. TILLERY:
 8 Q. And please familiarize yourself with
 9 that exhibit, please. This is CUSA-00305755 through
 10 5762.
 11 A. Yes, sir. Would you like me to read
 12 the entire eight pages or just skim through them?
 13 Q. Have you read this document before?
 14 A. Sir, I believe I've seen either this
 15 document or something similar in the past.
 16 Q. If you've seen it before, then just
 17 familiarize yourself with it again and then I'll ask
 18 you questions about it.
 19 A. Yes, sir. Sir, I completed skimming
 20 through this document.
 21 Q. Well, if you need more time, take it.
 22 This is an important one for us to go through. I
 23 want to make sure you are able to answer my
 24 questions fully, truthfully.

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1 A. Yes, sir. Of course. If it's okay
 2 with you, you can ask the question, and if I need
 3 more time to go back to the document at that time
 4 I'll ask for that, if that's acceptable to you, sir.
 5 Q. That's fine. All right.
 6 Exhibit 96 is a copy of a document and
 7 it's entitled "Toxicological Assessment of Efficacy
 8 of Paraquat Emetic Formulation."
 9 Do you see that?
 10 A. Yes, sir.
 11 Q. What's the date of the document?
 12 A. June 14th, 1976.
 13 Q. Okay. And it's a report from M. S.
 14 Rose, head of Biochemical Mechanisms Unit at ICI
 15 Central Toxicology Laboratory, correct?
 16 A. Yes, sir.
 17 Q. And do you know who he was?
 18 A. Sir, I've seen the name on numerous
 19 documents from ICI.
 20 Q. And he's reporting on a toxicological
 21 assessment of the efficacy of paraquat emetic
 22 formulation, right?
 23 A. Yes, sir, this is a preliminary report.
 24 Q. In other words, he's reporting on how

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1 well it works, right?

2 A. Yes, sir.

3 Q. And this is a preliminary report of a

4 formulation, an emetic formulation used on dogs,

5 rats, and monkeys, right?

6 A. Yes, sir.

7 Q. Who at Chevron received this document?

8 A. Sir, this appears to be an ICI document

9 from ICI to ICI people, so I do not know who at

10 Chevron would have received this.

11 Q. Well, you know it was produced by your

12 lawyers bearing a CUSA number. If you want to look

13 at the bottom of the document, you'll see it.

14 A. Yes, sir, I saw it.

15 Q. Okay. So who would have normally seen

16 this?

17 A. Sir, my understanding it was most

18 likely Richard Cavalli.

19 Q. Are you thinking he's the only person

20 at Chevron who received this? How many people at --

21 at ICI/Syngenta saw it?

22 MR. ORLET: Object to the form.

23 THE WITNESS: Sir, it looked like one,

24 two, three, four, five, six, seven, eight people at

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1 ICI saw this document or were sent this document.

2 BY MR. TILLERY:

3 Q. Did you understand that some of these

4 people occupied central high-level roles at ICI?

5 Did you know that one way or another?

6 A. Sir, no, I recognize some of their

7 names, Swan, Litchfield, and Schmidt, as being

8 involved with the toxicology of paraquat, but many

9 of the other names I don't recognize.

10 Q. Based upon your review of all these

11 documents and 500 hours of review of them, did ICI

12 regularly inform Chevron of progress in studies it

13 was doing related to the safety of paraquat?

14 A. I'm sorry, sir. Would you please

15 repeat the question?

16 Q. Yes. Based upon your review, which you

17 described as something like 500 hours of document

18 review in preparation for this deposition, did ICI

19 regularly inform Chevron of progress in studies it

20 was doing related to the safety of paraquat?

21 A. Sir, I wouldn't characterize that as

22 most of the time. There were a few instances in the

23 documents where Chevron had to inquire and ask for

24 more frequent meetings and exchange of information.

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1 Q. But most of the time my statement would

2 be correct, right?

3 A. I would say that most of the time it

4 appeared that there was somewhat regular

5 communication from ICI to Chevron.

6 Q. And that -- and that included the

7 sharing of the scientific studies and -- and

8 preliminary results, correct?

9 A. Sir, I would say that that would occur,

10 but I don't know if I would characterize it was

11 regularly. I think there were incidents where it

12 dropped off and then Chevron inquired to get it to a

13 more frequent state, and then after that it seemed

14 like Chevron was satisfied with the cooperation on

15 the studies and the -- the data and preliminary

16 results and decisions on those that was being made.

17 Q. If you go to the second paragraph under

18 the heading, okay?

19 A. Yes, sir.

20 Q. Okay. It says one question the studies

21 in dogs and monkeys have been set up to answer is

22 whether the emetic is effective in causing vomiting

23 in the presence of an excess of paraquat.

24 Do you see that?

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1 A. I'm sorry, sir. Are we still on the

2 first page?

3 Q. Yes, "Studies in dogs and monkeys have

4 been set up." Do you see that?

5 A. Yes, sir, I see that. Yes, sir, I

6 agree, that's what it says.

7 Q. All right. So actually the quote is,

8 "The studies in dogs and monkeys have been set up to

9 answer the questions, 1, is the emetic effective in

10 causing vomiting in the presence of a vast excess of

11 paraquat? And, 2, does the emetic action alter the

12 toxicity of paraquat?"

13 Is that what it says?

14 A. Yes, sir.

15 Q. All right. Do the results of the

16 studies described in this report suggest the emetic

17 is effective in causing vomiting and reducing the

18 toxicity of paraquat in monkeys and dogs when it's

19 given to them with a vast excess of paraquat?

20 A. Yes, that appears to be the conclusion

21 of the study.

22 Q. Okay. Where do you see that? Where do

23 you see in the body of this?

24 A. Sir, in the summary on part 2 it says,

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1 "When vomiting occurs within an hour, animals
 2 survive an otherwise lethal dose of paraquat."
 3 Q. Okay. Let's go through this if we can
 4 just a little bit here. Okay? Let's go to monkeys.
 5 Do you see that?
 6 A. Yes, sir.
 7 Q. Okay. "Four monkeys were dosed with
 8 Gramoxone at 100 milligrams of paraquat ion per
 9 kilogram of body weight."
 10 Do you see that?
 11 A. Yes, sir.
 12 Q. "All animals died within three to four
 13 days. Four monkeys were dosed with the same amount
 14 of Gramoxone plus emetic (at 2 milligrams per
 15 kilogram body weight). All four animals vomited,
 16 two about 20 minutes after dosing, one after
 17 approximately 45 minutes, and one not for
 18 approximately 8 hours. The three animals that
 19 vomited – vomited early survived but the animal
 20 that vomited later died a delayed death from
 21 pulmonary damage."
 22 Do you see that?
 23 A. Yes.
 24 Q. Now, what is that ratio of Gramoxone to

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1 emetic? Can you tell?
 2 A. Sir, the ratio -- so 100 milligrams of
 3 paraquat per body weight versus 2 milligrams per
 4 kilogram of body weight.
 5 Q. Right.
 6 A. Right. So it's 50 times less emetic
 7 than paraquat. Is that what you're asking, sir?
 8 Q. 50 to 1, isn't it?
 9 A. Yes, sir.
 10 Q. Okay. All right. And then it says in
 11 the next paragraph, "The concentration of paraquat
 12 in the plasma of both groups of animals is shown in
 13 Figure 1."
 14 Do you see that?
 15 A. Yes, sir.
 16 Q. Okay. Now, let's go to the next page,
 17 if you don't mind, under "Dogs."
 18 A. Yes, sir.
 19 Q. That's four dogs were dosed with
 20 20 milligrams of paraquat cation per kilogram.
 21 Do you see that?
 22 A. Yes, sir.
 23 Q. Three of the animals died in the first
 24 week of poisoning.

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1 A. Yes, sir.
 2 Q. And it says "Four dogs were dosed with
 3 the same amount of Gramoxone plus emetic (2
 4 milligrams per kilogram body weight)," right?
 5 A. Yes, sir.
 6 Q. And then it says, "All four animals
 7 vomited within 15 minutes," right?
 8 A. Yes, sir.
 9 Q. And "All four animals survived."
 10 A. Yes, sir.
 11 Q. What is the ratio there? The one
 12 before that you looked at in monkeys was 50 to 1.
 13 A. Uh-huh. This one is 10 to 1, sir.
 14 Q. Ten to one. So this one is actually
 15 five times greater than the monkeys, right?
 16 A. The ratio is five times greater, yes,
 17 sir.
 18 Q. Okay. Now, what is the ratio in the
 19 product that you sold of the emetic to the Gramoxone
 20 ion? What was the -- what was that ratio?
 21 A. Sir, I don't recall what the ratio was,
 22 but I remembered the concentration.
 23 Q. Well, can you tell me what -- in terms
 24 of these ratios, how it would compare?

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1 A. No, sir, I never looked at it from the
 2 point of view of ratio.
 3 Q. Okay. And then what -- how did you
 4 look at it?
 5 A. Sir, when I was reviewing the
 6 documents, my recollection is a concentration of
 7 .05 percent of the emetic was added.
 8 Q. You understood it was one-half gram per
 9 liter, right?
 10 A. I believe so, but I'd have to do the
 11 math.
 12 Q. Okay. How does that compare with these
 13 numbers?
 14 A. Sir, I would have to do the math to
 15 figure out the milligrams per kilogram body weight
 16 that was being delivered --
 17 Q. Okay.
 18 A. -- from the milliliters.
 19 Q. It's just a function of math, though,
 20 isn't it? It shouldn't be any dispute about this?
 21 A. So --
 22 Q. If I told you it was 400 to 1. Okay?
 23 A. I --
 24 Q. And it's just you at the break doing

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1 the math at .5. Do you know how many pounds of this
 2 or what the number of grams were added to a liter
 3 of – of concentrate?
 4 A. Sir, I believe that's in a document,
 5 yes.
 6 Q. Okay. If you wanted to know whether
 7 the emetic is effective at the same ratio of
 8 paraquat to emetic in causing vomiting and reducing
 9 the toxicity of paraquat when the emetic is given to
 10 them along with the respective minimum lethal dose
 11 of paraquat, at least for monkeys and dogs, you'd
 12 have to do a different study than this one, wouldn't
 13 you?
 14 A. I'm sorry, sir. I don't understand the
 15 question. Would you please repeat it?
 16 Q. Do you believe that this study answers
 17 the question that I just suggested – let me start
 18 over.
 19 If you wanted to know whether the
 20 emetic is effective at the same ratio of paraquat to
 21 emetic in causing vomiting and reducing the toxicity
 22 of paraquat when the emetic is given to them along
 23 with the respective minimum lethal dose – minimum
 24 lethal dose of paraquat for monkeys and dogs, you'd

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1 have to do a different study, wouldn't you?
 2 A. Sir, not necessarily, but I don't think
 3 I completely understand that question.
 4 Q. Well, what's a minimum lethal dose of
 5 paraquat for a monkey?
 6 A. Sir, I have to look at the data. I
 7 don't remember what the -- what the LD50 or the
 8 minimum lethal dose is for a monkey.
 9 Q. Do you know what it is for a dog?
 10 A. No, sir, I'd have to look at the data.
 11 Q. Okay. These studies in monkeys and
 12 dogs don't provide any evidence of whether a
 13 specific dose of the emetic will induce vomiting in
 14 humans who ingest that dose of the emetic together
 15 with a minimum lethal dose of paraquat, do they?
 16 A. Sir, I don't believe that's a
 17 completely accurate statement.
 18 Q. Okay. You don't -- then you tell me
 19 how these studies tell you that a specific dose of
 20 emetic will induce vomiting in humans who ingest a
 21 minimum lethal dose of paraquat.
 22 A. I'm sorry. I think a critical aspect
 23 of what this information informs upon is the dose of
 24 the emetic that's going to cause vomiting in the

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1 presence of paraquat. I don't think that the ratio
 2 is necessarily as critical as what the effective
 3 dose is for vomiting caused by the emetic.
 4 Q. Okay. Then use your terms. What is
 5 the minimum lethal dose of paraquat for a human
 6 being?
 7 A. Sir, my understanding is it could be as
 8 low as 5 milligrams per kilogram.
 9 Q. Okay. Five milligrams per kilogram is
 10 what you're saying, right? Okay.
 11 A. Sir, I believe that's -- a minimum
 12 dose. I think it corresponds to about
 13 15 milliliters, which is the lowest dose that I read
 14 in the documents.
 15 Q. Okay. And -- and what is the dose of
 16 emetic that will induce vomiting in a human being,
 17 PP-796 specifically?
 18 A. Sir, I don't recall. The doses that
 19 were used, I believe that there was another study
 20 where they administered PP-7 -- what was it? PP --
 21 Q. PP-796.
 22 A. Thank you. PP-796 to humans obviously
 23 without paraquat, so there's that data as well.
 24 Q. Okay.

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1 A. But I'd have to review the data to tell
 2 you the dose.
 3 Q. Assuming some specific dose of the
 4 emetic will induce vomiting in humans who ingest
 5 it -- that dose, together with the minimum lethal
 6 dose of paraquat, these studies in monkeys and dogs
 7 don't provide any evidence of how long that dose
 8 will take to do it, do they?
 9 A. I'm sorry. How long that dose will
 10 take to -- to kill the animal or for them to vomit?
 11 Q. Induce vomiting.
 12 A. I believe that the studies do put a
 13 time course with when the animal vomited.
 14 Q. Okay. So you think that is
 15 extrapolatable to human population, right?
 16 A. Not necessarily one to one, but it's
 17 information that can be used to make a decision for
 18 humans.
 19 Q. Okay. Let's go to -- Is it 97? Let's
 20 go to Exhibit 97.
 21 (Exhibit 97 was identified for
 22 the record.)
 23 BY MR. TILLERY:
 24 Q. Take a look at Exhibit Number 97, and

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1 this is another CUSA document 00305765 through 66,
 2 July 27th, 1976. Document entitled "Company Secret.
 3 Emetic Formulation of Paraquat."
 4 First of all, who are these people? Do
 5 you know who they are?
 6 A. Sir --
 7 Q. Dr. Rose. Who is D. M. Foulkes?
 8 A. Sir, based on this document he's
 9 someone at ICI, but I don't know exactly.
 10 Q. Okay. Go ahead and familiarize
 11 yourself with this preliminary report. Note on the
 12 first page the statement by Rose, "As promised, I
 13 enclose a summary of all the survival data we now
 14 have on dogs and monkeys."
 15 Do you see that? All of the survival
 16 data.
 17 A. Yes, that's what the document says.
 18 Q. Did you undertake at Syngenta any
 19 independent studies on PP-796?
 20 A. Sorry, sir, you said at Syngenta?
 21 Q. No. Did you -- excuse me. Yeah.
 22 You're right. Thank you for correcting me. Strike
 23 that.
 24 Did you undertake at Chevron any

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1 independent studies on PP-796?
 2 A. No, sir, not that I recall from the
 3 documents I reviewed.
 4 Q. Did you at Chevron ever undertake any
 5 studies or ask anyone to do any studies on any other
 6 emetic that would be used in conjunction with
 7 paraquat?
 8 A. Sir, briefly may I consult my reliance
 9 materials, please?
 10 Q. Sure, of course.
 11 A. Sir, to answer your question, no, based
 12 on the documents I reviewed, I do not believe that
 13 we did.
 14 Q. Okay. Could you familiarize yourself
 15 with the document that we just marked?
 16 A. Yes, sir, I will. Yes, sir, I've
 17 reviewed the document.
 18 Q. All right. Now, I want you to
 19 read -- strike that.
 20 I want you to listen to this question.
 21 It's a little lengthy, and I'm going to read it so I
 22 get it exactly correct, and I want you to listen to
 23 it carefully. If you don't understand it, please
 24 ask me and I'll present it to you again, okay?

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1 A. Yes, sir.
 2 Q. How do the milligram per kilogram doses
 3 of the emetic given to the monkeys and dogs in these
 4 studies compare to the milligram per kilogram dose
 5 of the emetic an average adult human would get in a
 6 minimum lethal dose of paraquat product formulated
 7 to include the emetic?
 8 A. Sir, if I may repeat the question back
 9 to you as I understand it.
 10 Q. I'll say it again. How do the
 11 milligram per kilogram doses of the emetic given to
 12 the monkeys and dogs in the studies compare to the
 13 milligram per kilogram dose of the emetic an average
 14 adult human would get in a minimum lethal dose of
 15 paraquat product formulated to include the emetic --
 16 the emetic?
 17 A. Sir, I'll attempt to answer it, and
 18 please let me know if I'm not answering it
 19 correctly.
 20 So my understanding is the emetic is
 21 given in a milligram per kilogram dose, so it's
 22 adjusted for the body weight of the monkey or the
 23 dog. So assuming -- it would be adjusted to reach
 24 that same amount of milligram per kilogram basis in

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1 humans, it would be the same -- it would be the same
 2 dose. I guess I'm confused as to what you're
 3 asking.
 4 Q. So what you're saying is these doses
 5 are the same doses that a human would get for
 6 minimum lethal dose of the paraquat product
 7 formulated to include the emetic, correct?
 8 A. No, sir. I'm sorry. I don't
 9 understand the question.
 10 Q. Okay. It's very simple. How would
 11 these studies that Dr. Rose is sending you that he's
 12 done in the U.K. on a milligram per kilogram dose of
 13 emetic given to monkeys and dogs compare to the
 14 milligrams per kilogram dose of an emetic to the
 15 average human adult in the formulated product that
 16 would achieve a minimum lethal dose to that human?
 17 MR. ORLET: Show an objection to the
 18 form.
 19 BY MR. TILLERY:
 20 Q. How do they compare?
 21 A. Well, sir, I would have to do that
 22 comparison, but I'll do my best to answer what I
 23 think -- what I understand you're asking.
 24 So what you would do is you would

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1 assume that 15 milliliters, for example, as a dose
 2 that someone would take in that could be lethal of
 3 paraquat, and then in that 15 milliliters you would
 4 then adjust -- you would then calculate an amount of
 5 emetic that you believe would be able to induce
 6 vomiting in that 15 milliliters that would be
 7 ingested.
 8 But to do the math would probably take
 9 me a lot longer than we have since math isn't my
 10 strong suit and I would need to write it out and
 11 spend some time working through it and looking at
 12 some documents.
 13 **Q. Which documents would you look at?**
 14 **A.** I would need to look at the amount of
 15 emetic added, so I know that -- my -- my
 16 understanding is that the concentration is
 17 .05 percent, so I would just need to do some math
 18 and then also take a look at how much emetic was
 19 added on a per-pound basis and maybe do math a
 20 couple of ways just to do -- just to do some
 21 calculations.
 22 **Q. Okay. Well, let's take our lunch break**
 23 **now to allow you to do that. Okay? We'll come back**
 24 **in half an hour.**

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1 **A.** Sir, I'm not going to be able to eat
 2 lunch in 30 minutes and do calculations.
 3 **Q. Well, then let's just -- if you can't**
 4 **do the calculations, just eat your lunch. We'll**
 5 **come back and do them on the record together. Okay?**
 6 **So we'll break for a half hour. All**
 7 **right?**
 8 **A.** Thank you, sir.
 9 THE VIDEOGRAPHER: We're going off the
 10 record. The time is 12:49. This ends Media Unit
 11 Number 3.
 12 (Recess taken.)
 13 THE VIDEOGRAPHER: We're going back on
 14 the record. The time is 1:44. This begins Media
 15 Unit Number 4.
 16 BY MR. TILLERY:
 17 **Q. Dr. Patterson, before the lunch break,**
 18 **we were looking at Plaintiffs' Deposition Exhibit**
 19 **Number 97, which is a July 27th, 1976 report by**
 20 **Dr. Rose regarding the emetic formulation of**
 21 **paraquat, right?**
 22 **A.** Yes, sir.
 23 **Q. We were in the process of describing or**
 24 **doing a comparison of the emetic in monkey and dog**

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1 **studies versus a human. Do you remember that?**
 2 **A.** Yes, sir.
 3 **Q. All right. Now, earlier today you had**
 4 **differentiated between a teaspoon or a tablespoon**
 5 **and said that there were two tablespoons necessary**
 6 **to cause the minimum lethal dose. Is it two**
 7 **tablespoons or two teaspoons, for clarification?**
 8 **A.** I prefer to use 15 milliliters as a
 9 more exact value as opposed to teaspoons or
 10 tablespoons if that's okay.
 11 **Q. Okay. 15 milliliters is what you think**
 12 **that number is, right?**
 13 **A.** Sir, that's correct. Based on the
 14 documents I've reviewed, that seems to be the lowest
 15 dose that could cause lethality in humans.
 16 **Q. Okay. 15 milliliters.**
 17 **A.** Yes, sir.
 18 **Q. Okay. Now, I want you to assume -- do**
 19 **you have a piece of paper and a pencil so you can**
 20 **write down the notes?**
 21 **A.** Yes, sir.
 22 **Q. I want you to assume a 70-kilogram man**
 23 **swallows a 15 milligrams lethal dose of paraquat**
 24 **including the emetic. Okay? Including the emetic.**

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1 **A.** Yes, sir.
 2 **Q. And where the emetic is at the**
 3 **concentration you told us before the break which is**
 4 **.05 emetic weight to volume number.**
 5 **A.** Yes, sir.
 6 **Q. Okay. So the .05 percent emetic weight**
 7 **to volume equals 500 milligrams emetic per**
 8 **1,000 milliliters of formulated product; would you**
 9 **agree with that?**
 10 **A.** I believe so, yes, sir.
 11 **Q. Okay. So 500 milligrams emetic per**
 12 **1,000 milliliters formulated product equals**
 13 **5 milligrams emetic per 10 milligrams formulated**
 14 **product, right?**
 15 **A.** Yes, sir, 10 milligrams or I suppose 10
 16 milliliters for ingestion purposes.
 17 **Q. Ten milliliters. Let's say 10**
 18 **milliliters. That's an apples-to-apples comparison.**
 19 **Okay?**
 20 **A.** Yes, sir.
 21 **Q. So 5 milligrams emetic -- no, I'm**
 22 **sorry. Let's start over.**
 23 **500 milligrams emetic per**
 24 **1,000 milliliters of formulated product equals 5**

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1 milligrams emetic per 10 milliliters of formulated
 2 product, correct?
 3 A. Yes, sir.
 4 Q. All right. So if we take that number
 5 to – I think you said it should actually be 15,
 6 right?
 7 A. Yes, sir. So we're at 7.5 milligrams.
 8 Q. So it's 7.5 milligrams. Okay. So
 9 7.5 milligrams emetic per a 70-kilogram body weight
 10 equals what?
 11 A. 0.107 milligrams per kilogram.
 12 Q. 0.1?
 13 A. 0.107 milligrams per kilogram, sir.
 14 Q. Okay. Now, 0.107 milligrams per
 15 kilogram. That's your number?
 16 A. Yes, sir, that's what I calculated.
 17 Q. And what did the monkeys end up getting
 18 at 2 milligrams per kilogram?
 19 A. I apologize, sir. Would you please
 20 clarify the question in terms of what did they –
 21 what did they get?
 22 Q. Yeah, by comparison if you did the same
 23 analysis, okay, and 2 milligrams per kilogram equals
 24 in the same analysis with a monkey, how do you come

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1 off or compare the numbers?
 2 A. So it's 2 milligrams per kilogram is
 3 what the monkeys were dosed at in the study in this
 4 document compared to 0.107 milligrams per kilogram
 5 which is the dose of emetic if you ingested
 6 15 milliliters of paraquat at a .05 percent emetic.
 7 Q. So how much more were they getting at
 8 2 milligrams per kilogram? Because we know from
 9 your number if you use the minimum lethal dose, that
 10 that number is substantially lower. How many more
 11 times higher did the monkeys get in their study at
 12 2 milligrams per kilogram?
 13 A. Sir, in this particular study in this
 14 document, they were given a dose approximately 20
 15 times higher. I can do the specific math, but it's
 16 approximately 20.
 17 Q. 20 times higher, right?
 18 A. Yes, sir.
 19 Q. Okay. Now, let's go to Exhibit 98.
 20 (Exhibit 98 was identified for
 21 the record.)
 22 BY MR. TILLERY:
 23 Q. And please look at this and review it.
 24 A. Sir, this is a July '76 document?

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1 Q. It's July 13th, 1976 letter from
 2 Dr. Brauholtz at ICI/Syngenta to J. N. Ospenson at
 3 Chevron. And it's CUSA-00088288 and it extends
 4 to –
 5 A. Sir, I apologize. What CUSA is it?
 6 Q. Actually on mine it's CUSA-0088523.
 7 A. Yes, sir.
 8 Q. Is that correct?
 9 A. Yes, sir.
 10 Q. And I believe the reason that first
 11 number was read is because it was part of a
 12 collective group that was delivered to us as one
 13 massive document, and this was the page from that at
 14 8523, okay?
 15 A. Understood, sir. I will review it.
 16 Q. Please review it.
 17 A. Sir, I've read the document.
 18 Q. And Mr. – strike that.
 19 Dr. Brauholtz tells Chevron, "Clinical
 20 trial data sent to you is all we have. We believe
 21 this fixes level of addition of compound with
 22 reasonable certainty but are considering what more
 23 can be done to substantiate it."
 24 Correct? Is that what he says?

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1 A. Yes, sir, that's what the document
 2 states.
 3 Q. And this is in reference to emetic,
 4 isn't it?
 5 A. Sir, it's possible that it's in
 6 response to the emetic, but it doesn't specify that
 7 it is from anywhere that I can see.
 8 Q. Is it a reasonable inference given the
 9 time frame and the subject matter that this is
 10 referencing emetic?
 11 A. It's definitely possible, but I can't
 12 say for certain that it is.
 13 Q. Well, why did Chevron ask for this
 14 information; do you know?
 15 A. Sir, based on the documents that I
 16 review and recall, Chevron had inquired further for
 17 additional justification for the – the emetic dose
 18 that demonstrated its efficacy.
 19 Q. Right. They wanted to know that it
 20 worked, right?
 21 A. Yes, sir.
 22 Q. Okay. In this time frame if you look
 23 at this period of time, this is July of 1976.
 24 You've been through all these documents, thousands

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1 and thousands of them, haven't you?
 2 A. Yes, sir, I've been through quite a few
 3 documents.
 4 Q. Are you aware of any communications
 5 between ICI and Chevron at this time, during this
 6 time frame, involving clinical trial data that
 7 didn't pertain to emetic in July of 1976?
 8 A. No, sir, I don't recall any other
 9 clinical trial data that would have been discussed.
 10 Q. So if I can summarize, you tell me if
 11 you agree or disagree. Chevron wasn't satisfied
 12 that the clinical trial data ICI had sent was
 13 sufficient to substantiate the level of addition of
 14 the emetic to paraquat formulations, correct?
 15 A. Sir, I don't know if they weren't
 16 satisfied, but I believe they were asking for
 17 additional information and additional justification.
 18 Q. Okay. To Chevron's knowledge, did ICI
 19 ever do any other human trial to estimate the level
 20 of addition of the emetic to paraquat formulations
 21 that was necessary to prevent someone who ingested
 22 the minimum lethal dose from dying?
 23 A. Sir, it's difficult to answer that
 24 question because I don't know what clinical trial

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1 the record, this is an August 4th, 1976 document
 2 from J. T. Braunholtz at ICI to J. N. Ospenson at
 3 Chevron Chemical Company.
 4 (Exhibit 99 was identified for
 5 the record.)
 6 BY MR. TILLERY:
 7 Q. Can you agree with me that that's what
 8 the document purports to be, sir?
 9 A. My apologies, sir, it's still loading.
 10 Q. Okay. Sure.
 11 A. Okay. It just loaded.
 12 Q. Please review it and tell me if
 13 that's -- if you agree with my description.
 14 A. Yes, sir, it's a letter from Braunholtz
 15 at ICI to Ospenson at Chevron Chemical.
 16 Q. Okay. And Dr. Braunholtz is enclosing
 17 a copy of ICI's draft internal statement summarizing
 18 the present position on the emetic formulation of
 19 paraquat, right?
 20 A. Yes, sir.
 21 Q. Okay. This is an August 4, 1976
 22 document, correct?
 23 A. Yes, sir.
 24 Q. So if you look at page 1, the first

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1 this is referring to. I am aware of some data in a
 2 report that ICI provided to Chevron that had human
 3 data.
 4 Q. You're referring to the Bayliss data,
 5 aren't you?
 6 A. Sir, I believe it's a -- it's an
 7 assessment by ICI that includes that information,
 8 yes.
 9 Q. It's Mike Rose's assessment of the
 10 Bayliss data; is that what you have? Is that what
 11 you're thinking of?
 12 A. Sir, it's an assessment of -- it's got
 13 that data as well as data from, I believe, monkey
 14 and dog and perhaps pig as well with some human
 15 data.
 16 Q. Well, let me ask you: Did Chevron ever
 17 do or have any other contract laboratory do any
 18 human trial to estimate the level of the emetic to
 19 be used in a paraquat formulation that was necessary
 20 to prevent someone who ingested the minimum lethal
 21 dose of paraquat from dying?
 22 A. No, sir, not that I'm aware of.
 23 Q. Okay. Let's go to number 99 now. This
 24 is Plaintiffs' Deposition Exhibit Number 99. For

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1 paragraph, does he say, "I am sending you as
 2 promised, a copy of our draft internal statement
 3 summarizing the present position on the emetic
 4 formulation of paraquat."
 5 Is that what he said?
 6 A. Yes, sir.
 7 Q. And the rest of this exhibit is a copy
 8 of the draft statement entitled "PP. 796 Status
 9 Summary July 1976," correct?
 10 A. Yes, sir.
 11 Q. Okay. And if you look at that summary,
 12 date of summary is July 1976 which is a month before
 13 he sent it. The first paragraph discusses ICI
 14 Pharmaceutical Divisions's attempt between 1968 and
 15 1972 to develop PP-796 as a drug for the treatment
 16 of asthma, including that clinical trials were
 17 undertaken.
 18 Do you see that?
 19 A. Yes, sir. That's a fair summary of the
 20 first two lines.
 21 Q. And if you look at the last two
 22 sentences of that first paragraph, read those into
 23 the record, please.
 24 A. Starting at "it became clear"?

<p style="text-align: right;">Page 133</p> <p>1 Q. Yeah, that's fine.</p> <p>2 A. Okay. "It became clear from these</p> <p>3 trials and from data being simultaneously generated</p> <p>4 in monkeys that PP. 796 was an effective and</p> <p>5 reliable emetic agent of considerable potency. For</p> <p>6 this reason, the development of the compound as a</p> <p>7 therapeutic agent was abandoned."</p> <p>8 Q. Okay. Did Chevron actually review the</p> <p>9 data from the clinical trials that ICI had provided</p> <p>10 to confirm that it "made clear" that PP-796 was an</p> <p>11 effective and reliable emetic agent of considerable</p> <p>12 potential?</p> <p>13 A. Sir, my understanding is that, yes,</p> <p>14 Chevron reviewed the data, including clinical trial</p> <p>15 or human data, to evaluate and understand the</p> <p>16 efficacy.</p> <p>17 Q. And did all of Chevron's questions get</p> <p>18 answered?</p> <p>19 A. Sir, I believe so based on the fact</p> <p>20 that they concluded that the .05 percent was a</p> <p>21 reasonable dose of the emetic to include. I'm</p> <p>22 assuming they must have gotten their questions</p> <p>23 answered.</p> <p>24 Q. Okay. Did the report of the clinical</p>	<p style="text-align: right;">Page 135</p> <p>1 draft statement under the heading "Formulation," if</p> <p>2 you look at it says that after careful consideration</p> <p>3 of human data, the level of inclusion of PP-796 has</p> <p>4 been established as 0.05 percent weight to volume.</p> <p>5 Do you see that?</p> <p>6 A. Yes, sir.</p> <p>7 Q. Okay. To Chevron's knowledge, the only</p> <p>8 human data available at that time was the clinical</p> <p>9 data that had been provided to Chevron, right? Was</p> <p>10 there anything else?</p> <p>11 A. Sir, based on my review of the</p> <p>12 documents, the – the study that we described</p> <p>13 earlier with the humans, the monkeys, the study by</p> <p>14 Rose, that's the only one that I recall seeing.</p> <p>15 Q. Okay. This paragraph goes on to say</p> <p>16 that 0.05 weight to volume "will give a dose of</p> <p>17 5 milligrams in 10 milliliter of Gramoxone which is</p> <p>18 likely to produce emesis within 15 minutes in</p> <p>19 80 percent of those ingesting such a quantity,"</p> <p>20 doesn't it?</p> <p>21 Do you see that?</p> <p>22 A. Yes, sir, I see that. That's what it</p> <p>23 states.</p> <p>24 Q. That's referring to people, isn't it?</p>
<p style="text-align: right;">Page 134</p> <p>1 trial say that PP-796 was an effective emetic?</p> <p>2 A. Sir, I would have to look at the report</p> <p>3 of the clinical trials to confirm that.</p> <p>4 Q. Okay. Do you know if it said it was a</p> <p>5 reliable emetic?</p> <p>6 A. Sir, I don't know. I'd have to look at</p> <p>7 the report to see the language that was used.</p> <p>8 Q. Do you know if the clinical trials were</p> <p>9 designed to determine the dose of the emetic that</p> <p>10 would be effective in inducing vomiting within a</p> <p>11 certain percentage of people within a certain period</p> <p>12 of time?</p> <p>13 A. Sir, again, I would need to look at the</p> <p>14 study designs, but I believe that that was at least</p> <p>15 partly the goal. I don't know -- I don't recall the</p> <p>16 period of time being addressed so I would need to</p> <p>17 look at the document.</p> <p>18 Q. Did Chevron review the data ICI</p> <p>19 Pharmaceuticals generated in monkeys to confirm that</p> <p>20 it made clear that PP-796 was effective and</p> <p>21 reliable?</p> <p>22 A. Sir, my understanding is that they did</p> <p>23 review data from monkeys, yes.</p> <p>24 Q. The paragraph on that same page of the</p>	<p style="text-align: right;">Page 136</p> <p>1 A. Yes, sir, that's my understanding.</p> <p>2 Q. Okay. So the percentage, .05 percent</p> <p>3 weight to volume in a concentrated bottle of</p> <p>4 paraquat would cause eight out of ten people</p> <p>5 ingesting that amount to throw up within 15 minutes,</p> <p>6 right? That's what you read that to be?</p> <p>7 A. Yes, sir.</p> <p>8 Q. Okay. Did Chevron at that time believe</p> <p>9 the clinical trial data were sufficient to support</p> <p>10 that statement?</p> <p>11 A. Sir, I recall documents that I reviewed</p> <p>12 where they were further inquiring about any</p> <p>13 additional data to better understand, and ultimately</p> <p>14 they decided that this was a reasonable dose to use.</p> <p>15 Q. Who decided?</p> <p>16 A. Chevron, sir. I saw discussions or</p> <p>17 letters from Cavalli inquiring further -- inquiring</p> <p>18 for further information from ICI on this.</p> <p>19 Q. And who made the decision at Chevron</p> <p>20 that this was an adequate dose?</p> <p>21 A. Sir, based on the documents that I</p> <p>22 reviewed, I believe it would have been Cavalli that</p> <p>23 would have made the decision, but likely with input</p> <p>24 from other members of the staff, other</p>

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1 toxicologists.

2 **Q. You're not suggesting, though, that**

3 **they made the decision on behalf of the Chevron**

4 **corporate structure, are you?**

5 MR. ORLET: Object to the form.

6 THE WITNESS: Sorry, sir, I don't

7 understand the question.

8 BY MR. TILLERY:

9 **Q. That they made the ultimate decision.**

10 **You're not saying that Richard Cavalli made the**

11 **decision on behalf of Chevron, are you, sir?**

12 MR. ORLET: Object to the form.

13 THE WITNESS: Sir, I believe he would

14 have made the recommendation.

15 BY MR. TILLERY:

16 **Q. Right. That's what I'm getting at.**

17 **And who would have made the decision?**

18 A. Sir, I believe it would have been

19 Chevron Chemical that ultimately would have made the

20 decision.

21 **Q. All right. Now, let's go to the last**

22 **paragraph of 0003 in that document, if you can.**

23 A. Okay. The summary?

24 **Q. It's called "Summary."**

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1 A. Yes, sir, it is.

2 **Q. And then it's followed up by your –**

3 **what you read, right?**

4 A. Yes, sir.

5 **Q. Now, let's go to Exhibit 100. And this**

6 **is CUSA-00289880.**

7 (Exhibit 100 was identified

8 for the record.)

9 THE WITNESS: It is open, sir.

10 BY MR. TILLERY:

11 **Q. All right. Take a – please take a**

12 **look at this. Does Exhibit 100 consist of a**

13 **September 24th, 1976 memo from R. D. Cavalli to**

14 **J. N. Ospenson enclosing a copy of notes on meetings**

15 **with ICI regarding paraquat toxicology?**

16 A. Yes, sir.

17 **Q. Pages 2 through 6 of the exhibit are**

18 **the notes and page 7 is the meeting agenda, correct?**

19 **Go ahead and take your time and look through it.**

20 A. Sir, would you like me to look through

21 it to confirm what you just stated or –

22 **Q. Yeah, just go through and confirm what**

23 **I said. The last page you'll see is an agenda for**

24 **Chevron liaison meeting.**

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1 A. Yes, sir.

2 **Q. Do you have that?**

3 A. Yes, sir.

4 **Q. And what does the last sentence read,**

5 **if you'd read that into the record.**

6 A. "It is our current view that, by

7 September of this year we will have sufficient data

8 to consider the extension of such a formulation to

9 all territories following the U.K. introduction in

10 February 1977."

11 **Q. Okay. So the plan was for Syngenta/ICI**

12 **to launch this product into all territories,**

13 **apparently every place where they sold it, by**

14 **February the following year, right?**

15 A. Sir, yes, it says formulation to all

16 extension -- "extension of such a formulation to all

17 territories following the U.K. introduction," yes,

18 sir.

19 **Q. Okay. At the beginning of that same**

20 **paragraph it says, "On the basis of evidence to date**

21 **there's every reason to be optimistic in the**

22 **realization of a reduction of fatalities by means of**

23 **an emetic formulation containing PP. 796."**

24 **Is that what it says?**

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1 A. Yes, sir, I can confirm that this is --

2 that these are meeting notes followed by the agenda

3 on the last page.

4 **Q. And the meeting notes were those of**

5 **Dr. Richard Cavalli, weren't they?**

6 A. Yes, sir.

7 **Q. Please turn to the first page of the**

8 **notes. It's at 9881, third paragraph. That begins**

9 **"The most significant discussion occurred."**

10 A. Yes, sir, I'm there.

11 **Q. Okay. Are you there?**

12 A. Yes, sir.

13 **Q. And that says, "The most significant**

14 **discussion occurred regarding the new emetic**

15 **formulation for paraquat. The emetic is commonly**

16 **referred to as PP796," right?**

17 A. Yes, sir.

18 **Q. "The original work on the toxicity of**

19 **PP796 was done in the late '60s and early '70s in**

20 **order to determine its suitability, efficacy, and**

21 **safety as an anti-asthmatic drug and later as a drug**

22 **for use in a topical ointment in the treatment of**

23 **psoriasis," right?**

24 A. Yes, sir.

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<p>1 Q. "None of this work was done with the</p> <p>2 intent of using the material as an ingredient in a</p> <p>3 pesticide formulation. Because of the very</p> <p>4 pronounced emetic effect of this compound,</p> <p>5 development was stopped shortly after the</p> <p>6 preclinical human trials with it were initiated."</p> <p>7 Did I read that correctly?</p> <p>8 A. Yes, sir, you did.</p> <p>9 Q. Did — did Chevron report the clinical</p> <p>10 trials to confirm the accuracy of that statement?</p> <p>11 A. I'm sorry, sir, would you please repeat</p> <p>12 the question?</p> <p>13 Q. Did ICI give Chevron reports of the</p> <p>14 clinical trials so Chevron could confirm the</p> <p>15 accuracy of that statement?</p> <p>16 A. Sir, I don't recall seeing the reports</p> <p>17 themselves. They might be in the documents, but I</p> <p>18 don't recall seeing -- I recall seeing the document</p> <p>19 we previously discussed prepared by Rose summarizing</p> <p>20 the human data.</p> <p>21 Q. Okay. If you would read the paragraph</p> <p>22 that begins on page 9883 and ends on page 9884 to</p> <p>23 yourself and let me know when you're finished.</p> <p>24 A. That starts with "Our meeting</p>	<p>1 this at specified intervals it says, right?</p> <p>2 A. Yes, sir.</p> <p>3 Q. "This should enable us to keep an</p> <p>4 up-to-date running file on worldwide intoxication</p> <p>5 cases," correct?</p> <p>6 A. Yes, sir.</p> <p>7 Q. Did you receive that?</p> <p>8 A. Sir, I don't recall receiving a</p> <p>9 specific printout that's described here. I do</p> <p>10 believe that there were human injury cases that we</p> <p>11 received from ICI, but I don't recall ever seeing a</p> <p>12 printout like this. I would need to look further in</p> <p>13 the documents but I don't recall seeing it.</p> <p>14 Q. Did Chevron keep a database of all the</p> <p>15 people who had died ingesting your paraquat</p> <p>16 products?</p> <p>17 A. Sir, I believe they kept all the data.</p> <p>18 I don't know how it was necessarily kept, but they</p> <p>19 kept a running track of all the cases that were</p> <p>20 reported to them from the poison control line.</p> <p>21 Q. In the 20 years that Chevron sold</p> <p>22 paraquat in the United States, how many people died</p> <p>23 from ingestion of your paraquat products?</p> <p>24 A. Sir, I don't have that exact number. I</p>
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<p>1 reconvened Thursday"?</p> <p>2 Q. Yes.</p> <p>3 A. I've finished reading that paragraph,</p> <p>4 sir.</p> <p>5 Q. So this paragraph refers to a database</p> <p>6 of accidental or suicidal poisoning cases, right?</p> <p>7 A. Yes, sir, I believe a database that ICI</p> <p>8 was going to use.</p> <p>9 Q. Okay. So Chevron and -- and ICI</p> <p>10 discussed ways of improving the reporting of British</p> <p>11 and European cases it says, right?</p> <p>12 A. Yes, sir.</p> <p>13 Q. And ICI had gone to a computerized data</p> <p>14 retrieval system in which the cases are being filed</p> <p>15 and coded by the country, the patient's name, the</p> <p>16 doctor's name, whether or not it was fatal, and</p> <p>17 whether or not appropriate treatment was provided,</p> <p>18 right?</p> <p>19 A. Yes, sir, that's what it states.</p> <p>20 Q. And this file would be constantly</p> <p>21 updated and follow-up information as received will</p> <p>22 be added to it, right?</p> <p>23 A. Yes, sir.</p> <p>24 Q. And Chevron would receive a printout of</p>	<p>1 would need to go in and count.</p> <p>2 Q. How would you count it?</p> <p>3 A. I would probably start by looking at</p> <p>4 the human injury cases that have been documented</p> <p>5 from the poison control line.</p> <p>6 Q. So what database would you search to</p> <p>7 answer that question?</p> <p>8 A. Sir, I would have to look into the</p> <p>9 Chevron documents.</p> <p>10 Q. Which ones would you look at?</p> <p>11 A. Sir --</p> <p>12 Q. If I was there with you and we were</p> <p>13 going to look to verify all of the Chevron sources,</p> <p>14 what Chevron sources would we look at to answer how</p> <p>15 many people died from ingestion of your product in</p> <p>16 the 20 years you sold it?</p> <p>17 A. Sir, to the best of my knowledge, these</p> <p>18 documents were kept in a Chevron library.</p> <p>19 Q. Okay. And where are they now?</p> <p>20 A. Sir, I don't know exactly where they</p> <p>21 are now.</p> <p>22 Q. So in this 500 hours, these are</p> <p>23 documents you haven't looked at?</p> <p>24 A. Which documents, sir?</p>

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<p>1 Q. The ones about how many people died 2 ingesting your product, your paraquat product? 3 A. Sir, I looked at those documents. They 4 were documents with CUSA numbers that I would have 5 reviewed. 6 Q. Okay. Have those been turned over as 7 reliance documents? 8 A. Sir, there's a -- there are definitely 9 some in the reliance documents. 10 Q. I know there are, but have all of the 11 ones that -- a number, a summary of all the people 12 who died from ingestion one way or another, not 13 intentional, accidental, et cetera, ingesting your 14 paraquat products, is there a database of those 15 people? 16 MR. ORLET: Object to the form. 17 THE WITNESS: I don't know if there's a 18 database, but there's a set of documents that tracks 19 it. 20 BY MR. TILLERY: 21 Q. What are the documents called? 22 A. Sir, the documents that I have are 23 documents that we submitted to the EPA. 24 Q. And that's all you have?</p>	<p>1 THE WITNESS: Sir, I can look in the 2 documents as well. There might be a summary with a 3 number; otherwise, I'd have to go through and count 4 them up based on the documents we do have. 5 BY MR. TILLERY: 6 Q. Why don't you describe the document 7 source for the record that contains this 8 information. 9 A. Yes, sir. So, for example, sir, 10 reference number 1 in my reliance material is a 11 document that was sent to the EPA that summarizes -- 12 so, for example, sir, so this is Chevron SJ0035350, 13 and there's a summary table. And, again, this was 14 submitted to the U.S. EPA. 15 And it says "Listed below are the 16 tabulation of paraquat injuries in the United States 17 from February 1966 through July 1980. Summaries of 18 the individual incidents from July 1979 through 19 July 1980 are attached." 20 Q. And that gives us -- 21 A. And that -- sorry, sir. 22 Q. And that gives a summary, right? 23 A. And that gives a summary, and then 24 there would be multiple -- multiples of these</p>
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<p>1 A. Sir, the documents that I reviewed, 2 that's where I found the human injury cases. 3 Q. What about the human death cases? 4 A. Those -- the human injury would include 5 death as well. 6 Q. Okay. So you mean to include any 7 ingestion with any kind of problems following 8 ingestion, right? 9 A. Yes, sir, that's my understanding of 10 the document -- of the cases that were collected was 11 any injury. 12 Q. How many of those are there? How many 13 incidents are there total? 14 A. Sir, I didn't count them all up. 15 Q. How many volumes or document boxes or 16 other way of describing how -- how much volume of 17 material is there to go through to answer that 18 question? 19 A. Sir, I don't know. I would have to go 20 through the documents and see. It's hard to 21 estimate. 22 Q. So you have no way of telling me 23 whether it's two or whether it's 2,000, do you? 24 MR. ORLET: Object to the form.</p>	<p>1 reports submitted to the U.S. EPA. 2 Q. Okay. And were the reports kept 3 up-to-date through 1986? 4 A. That is my understanding, yes, sir. 5 Q. Have you gone through the actual 6 database to compare it with the disclosure to the 7 EPA to confirm that it's accurate? 8 MR. ORLET: Object to the form. 9 THE WITNESS: No, sir, I have not. 10 BY MR. TILLERY: 11 Q. Do you know if anybody certified or 12 verified that the statements made to the EPA about 13 the number of deaths were accurate? 14 A. Certified? 15 Q. Yes. 16 A. So it's a letter from Stelzer, the 17 registration and regulatory affairs manager, so I 18 imagine it would be him that would be certifying 19 this information is correct, in conjunction probably 20 with the folks running the poison control line. 21 Q. Okay. Let's go to Exhibit 101. 22 (Exhibit 101 was identified 23 for the record.) 24 MR. TILLERY: For the record, this is</p>

37 (Pages 145 to 148)

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1 CUSA-00088288, and we're looking specifically on
 2 this document at 8470 through 8475.
 3 **Q.** Sir, is Exhibit 101 Chevron's copy, or
 4 one of them, of minutes Dr. Rose of ICI prepared of
 5 the same meeting that we looked at a few minutes ago
 6 reported by Dr. Cavalli?
 7 **A.** Sir, it does look like an ICI-prepared
 8 minutes and summary of the meeting.
 9 **Q.** Of the same meeting, right?
 10 **A.** Yes, sir, the dates I believe match up.
 11 **Q.** All right. The first paragraph on the
 12 second page states, "It was agreed that
 13 Dr. Litchfield would review the toxicology which
 14 would – which had been carried out on PP-796 by
 15 Pharmaceuticals Division and recommend further work
 16 required for registration. It was agreed that
 17 copies of the data would be passed to Chevron for
 18 them to carry out an assessment"; is that correct?
 19 **A.** Yes, sir, that's what the document
 20 states.
 21 **Q.** Was it Chevron's policy and consistent
 22 practice to carry out its own assessment of the
 23 toxicology and other data about paraquat that ICI
 24 provided as opposed to simply rubber-stamping what

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1 they provided?
 2 **MR. ORLET:** Object to the form.
 3 **THE WITNESS:** Yes, sir, it's my
 4 understanding that Chevron would critically evaluate
 5 the toxicology data that ICI provided.
 6 **BY MR. TILLERY:**
 7 **Q.** Okay. And on the last page of the
 8 document it shows who was present at the meeting,
 9 doesn't it?
 10 **A.** Yes, sir.
 11 **Q.** And that's Calderbank, Braunholtz,
 12 K. Howard, T. D. Browne, A.A.B. Swan, and J. H.
 13 Sanderson, correct?
 14 **A.** Yes, sir, I believe those are people
 15 from ICI.
 16 **Q.** Right. And these minutes of the
 17 liaison meeting were circulated to Ospenson,
 18 Cavalli, Walitt, Litchfield, and -- actually, I'm
 19 sorry. These -- these indicate present at the
 20 meeting was Ospenson, Cavalli, Walitt, Litchfield,
 21 Rose, Smith, Whitaker, and Purchase, correct?
 22 **A.** And Steel, yes, sir.
 23 **Q.** Let's go to Exhibit 102.
 24 (Exhibit 102 was identified

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1 for the record.)
 2 **BY MR. TILLERY:**
 3 **Q.** Is this a September 24th, 1976 letter
 4 from Dr. Rose at ICI to Dr. Cavalli at Chevron about
 5 studies to be carried out with Chevron's U.S.
 6 paraquat formulation?
 7 **A.** I'm sorry. Sir, would you please
 8 repeat the question.
 9 **Q.** Yes. Is this a September 24th, 1976
 10 letter from Dr. Rose at ICI to Dr. Cavalli at
 11 Chevron about studies to be carried out with
 12 Chevron's U.S. paraquat formulation?
 13 **A.** Yes, sir.
 14 **Q.** And this is Syngenta-PQ-02450670,
 15 correct?
 16 **A.** Yes, sir. It looks like it's a
 17 Syngenta document.
 18 **Q.** That's right. Dr. Rose says the
 19 present intention is for CTL to carry out the emetic
 20 studies, correct?
 21 **A.** Yes, sir, that's what the document
 22 states.
 23 **Q.** And just to clarify, he's referring to
 24 CTL carrying out the emetic studies with the U.S.

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1 formulation, right?
 2 **A.** Yes, sir, that's my understanding.
 3 **Q.** Let's look at the next exhibit, 103.
 4 (Exhibit 103 was identified
 5 for the record.)
 6 **BY MR. TILLERY:**
 7 **Q.** And this is CUSA-00046646, and that's
 8 the group document number provided to us, and this
 9 appears at 6671 through 6672, correct?
 10 **A.** Yes, sir.
 11 **Q.** All right. And this is entitled
 12 "Chevron Chemical Company, Ortho Division, Research
 13 and Development Department." It's dated
 14 October 4th, 1976. Confidential meeting on paraquat
 15 formulations, right?
 16 **A.** Yes, sir.
 17 **Q.** And can you go through the list of
 18 people in attendance and tell us who they were?
 19 **A.** There's Abell, Assad -- I don't know
 20 who they are. Richard Cavalli, who's a Chevron
 21 toxicologist. H. G. Franke, I don't recall; I've
 22 never seen the name. There's Quisenberry, who I've
 23 seen the name before, I believe from Chevron.
 24 Ospenson, Stelzer, Chevron -- Ospenson, Chevron, and

<p style="text-align: right;">Page 153</p> <p>1 Tanner, who I don't recall.</p> <p>2 Q. It also mentions a Mr. Barlow, doesn't</p> <p>3 it? Go to the second paragraph you'll see a</p> <p>4 reference in the fourth line, presented by both</p> <p>5 R & D and marketing, which can then be presented for</p> <p>6 Mr. Barlow's approval. He was going to make the</p> <p>7 decision. Was he the president of the company?</p> <p>8 A. Sir, I don't recall.</p> <p>9 Q. You don't know who Mr. Barlow was,</p> <p>10 right?</p> <p>11 A. The name sounds familiar but I don't</p> <p>12 recall his title or responsibilities.</p> <p>13 Q. But would you agree with me that the</p> <p>14 second paragraph has a sentence that says, "Our</p> <p>15 purpose is to define a development program agreeable</p> <p>16 to both R & D and Marketing which can then be</p> <p>17 presented for Mr. Barlow's approval," right?</p> <p>18 A. Yes, sir.</p> <p>19 Q. Read the next sentence into the record,</p> <p>20 please.</p> <p>21 A. "PPD is under severe pressure in many</p> <p>22 areas of the world and, particularly in –</p> <p>23 particularly in Japan and Malaysia, to reduce or</p> <p>24 eliminate the use of Paraquat in human suicides.</p>	<p style="text-align: right;">Page 155</p> <p>1 A. Sir, no, I don't.</p> <p>2 Q. Well, if I told you that Dr. Botham –</p> <p>3 represented to you that Dr. Botham said over 5,000</p> <p>4 alone in one country, would you have any reason to</p> <p>5 dispute that?</p> <p>6 A. Sir, I haven't looked at the practices</p> <p>7 in Thailand, so I would have no basis to dispute</p> <p>8 that or evaluate it.</p> <p>9 Q. All right. But in any event, the</p> <p>10 sentence says "PPD." That's really another acronym</p> <p>11 for ICI, the same company, isn't it? Syngenta,</p> <p>12 right?</p> <p>13 A. Plant Protection Division.</p> <p>14 Q. And of ICI?</p> <p>15 A. I guess they're part of ICI.</p> <p>16 Q. Okay. "Is under severe pressure in</p> <p>17 many areas of the world and, particularly in Japan</p> <p>18 and Malaysia, to reduce or eliminate the use of</p> <p>19 Paraquat in human suicides," correct?</p> <p>20 A. Yes, sir.</p> <p>21 Q. That's what it says. And they – it</p> <p>22 says in the next sentence they definitely plan to</p> <p>23 proceed with emetic formulations the next year,</p> <p>24 right? The next spring?</p>
<p style="text-align: right;">Page 154</p> <p>1 PPD definitely plans" --</p> <p>2 Q. Go ahead. Keep reading, that's fine.</p> <p>3 A. I apologize.</p> <p>4 Q. No, keep reading.</p> <p>5 A. "PPD definitely plans to proceed with</p> <p>6 the emetic formulation and will make formal</p> <p>7 application to the U.K. government this month, with</p> <p>8 plans to initiate sales in the Spring of 1977."</p> <p>9 Q. They were under horrendous pressure,</p> <p>10 weren't they?</p> <p>11 A. It says "severe pressure."</p> <p>12 Q. ICI was under pressure because of all</p> <p>13 the people dying all over the world from this</p> <p>14 product, right? Is that a fair inference from what</p> <p>15 your folks wrote at Chevron?</p> <p>16 MR. ORLET: Object to the form.</p> <p>17 THE WITNESS: Sir, I don't necessarily</p> <p>18 agree with the way you stated it about all the</p> <p>19 people. It doesn't refer to just how many. Just</p> <p>20 that it wants to reduce and eliminate but it doesn't</p> <p>21 say how many there are.</p> <p>22 BY MR. TILLERY:</p> <p>23 Q. Do you know how many died in Thailand</p> <p>24 alone?</p>	<p style="text-align: right;">Page 156</p> <p>1 A. Yes, sir.</p> <p>2 Q. Okay. Now, let's go to the next</p> <p>3 paragraph. "Dr. Cavalli reviewed the toxicology</p> <p>4 data on PP-796, which was given to him on the last</p> <p>5 day of his departure from the U.K. following the</p> <p>6 liaison meetings the first week in September."</p> <p>7 Is that what it says?</p> <p>8 A. Yes, sir.</p> <p>9 Q. And then it says, "The data do not</p> <p>10 support PPD's contention that 5 milligrams of PP-796</p> <p>11 in 10 milliliters of formulated product will produce</p> <p>12 emesis within 15 minutes in 80 percent of those</p> <p>13 ingesting such a quantity."</p> <p>14 Is that what else it says?</p> <p>15 A. Yes, sir, that's what's stated there.</p> <p>16 Q. Had you read this document before?</p> <p>17 A. Yes, sir, I believe I have.</p> <p>18 Q. Okay. You've prepared by reading this</p> <p>19 document, haven't you?</p> <p>20 A. Yes, sir, I reviewed this document.</p> <p>21 Q. Okay. And it continues on, "The animal</p> <p>22 and human data made available by PPD would indicate</p> <p>23 that PP-796 would have to be administered at 2 to</p> <p>24 5 milligrams per kilogram and even then the rate of</p>

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1 individuals responding and the time to response is
2 such that the survival rate of ingestion cases may
3 not be significantly improved."
4 Is that what it says?
5 A. Yes, sir, that's what it states.
6 Q. "There are" – continuing – "There are
7 serious discrepancies between the actual data
8 provided and what PPD has been telling us verbally."
9 Does it say that?
10 A. Yes, sir, it does.
11 Q. Okay. And then it continues, "In light
12 of this information, Ospenson and Cavalli will call
13 Brauhnoltz the morning of Tuesday, October 5,"
14 right?
15 A. Yes, sir.
16 Q. Okay. Then it continues on,
17 "Discussions then continued on the basis of two
18 assumptions: The added cost to the product would be
19 50 cents per gallon," right?
20 A. Yes, sir, that's what it states.
21 Q. And that would be the .05 level, right?
22 The anticipated level of PP-796 would be 50 cents
23 per gallon at that level.
24 A. That would be my assumption of what

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1 that refers to, but I don't see it specifically
2 stated, sir.
3 Q. And then it says, "PPD has real data to
4 back up their submission and the effectiveness," and
5 then look at the last paragraph. "It was decided we
6 should submit a package to EPA which would be an
7 exact duplicate of the data which PPD will send to
8 the U.K. government."
9 Is that what it says?
10 A. Yes, sir, it does.
11 Q. "Our submission to the EPA will be a
12 request to register an alternate formula containing
13 PP-796 and asking for an exemption from tolerance
14 when used in Paraquat herbicide formulations at up
15 to .1 percent weight to volume." Is that it?
16 A. Yes, sir.
17 Q. Okay. And that was signed by Loren
18 Stelzer, right?
19 A. Yes.
20 Q. And who was Loren Stelzer again, remind
21 me?
22 A. I believe he was the registration and
23 regulatory manager at Chevron Chemical but I would
24 need to double-check that.

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1 Q. He was head of regulatory affairs for
2 Chevron Chemical at that time, wasn't he?
3 MR. ORLET: Object to the form.
4 THE WITNESS: I believe he was
5 something similar to that title at that time period,
6 yes.
7 BY MR. TILLERY:
8 Q. Okay. Let's go to paragraph – strike
9 that.
10 Let's go to Exhibit 104.
11 THE WITNESS: Sir, can we have a brief
12 bathroom break when you feel comfortable?
13 MR. TILLERY: Excuse me, this is not a
14 test of problem. If you need to go to the bathroom,
15 you go right now, sir. No problem. No issue.
16 Let's take a break, okay?
17 THE WITNESS: Thank you.
18 THE VIDEOGRAPHER: We're going off the
19 record. The time is 2:41. This ends Media Unit
20 Number 4.
21 (Recess taken.)
22 THE VIDEOGRAPHER: We're going back on
23 the record. The time is 2:47. This begins Media
24 Unit Number 5.

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1 BY MR. TILLERY:
2 Q. Dr. Patterson, we're now going to put
3 on the eDepoze screen Plaintiffs' Deposition
4 Exhibit 104 which is CUSA-00305753.
5 (Exhibit 104 was identified
6 for the record.)
7 BY MR. TILLERY:
8 Q. I'm sure you're familiar with this
9 document, but please take a look at it to confirm
10 that fact.
11 A. Yes, sir, I've reviewed the document
12 and I believe I've seen this before.
13 Q. You looked at this one in your
14 preparation, haven't you, sir?
15 A. Yes, sir, I reviewed it.
16 Q. Okay.
17 A. Before today.
18 Q. Yeah. Why don't you describe on the
19 record what this is.
20 A. So this is a document from Cavalli to
21 Ospenson discussing Cavalli's review of the -- of
22 emetic data related to its efficacy as well as
23 potential toxicity.
24 Q. And it's an internal document where

40 (Pages 157 to 160)

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1 Cavalli is looking at ICI's data and reporting to
2 his superior, isn't it?
3 A. Yes, sir, I believe Ospenson is a
4 superior, but I'm not 100 percent sure of that.
5 Q. Okay. And Ospenson was the recipient
6 or the person to whom the memo was directed, but it
7 was copied to Mr. Franke, Rodman, and Stelzer as
8 well, correct?
9 A. Yes, sir.
10 Q. Okay. Now, let's go through the
11 document closely. It references paraquat emetic,
12 and then it has a file number 152.31. What does
13 that represent? Paraquat?
14 A. Sir, I don't know.
15 Q. Okay. And let's go through this almost
16 line by line, if we can, to understand this
17 document. Mr. Cavalli says, "I have reviewed the
18 information given to us by ICI on P.P. 796 (the
19 paraquat emetic). This compound is referred to in
20 the reports as ICI 63,197, and the structure has
21 been verified by Hans Franke as that given to him at
22 Jealott's Hill."
23 Is that a fair statement?
24 A. Yes.

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1 Q. That's what it says?
2 A. That's what the document says.
3 Q. In other words, the pharmaceutical
4 division at ICI referred to it as ICI 63,197, but it
5 was also referred to as PP-796, correct?
6 A. Yes, sir.
7 Q. So in other words, those two numbers
8 refer to exactly the same emetic formula, right?
9 A. Yes, sir.
10 Q. To your knowledge, has the emetic
11 formula remained unchanged throughout the period of
12 time that Chevron was associated with it?
13 A. To my knowledge, sir, it was always
14 PP-796.
15 Q. With no alterations or modifications of
16 the formula, correct?
17 A. The formula of PP-796?
18 Q. Yes.
19 A. As far as I know and after reviewing
20 the document, I didn't see anything that discussed
21 changing the chemical structure or the formula of
22 PP-796.
23 Q. Okay. In the second paragraph he says,
24 "I am somewhat confused by my review. On page 1 of

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1 the draft attached to John Braunholtz's letter of
2 4 August 1976, the following statement is made:
3 "The level of inclusion of P.P. 796 in Gramoxone
4 has, after careful consideration of human data, been
5 established at – or as .05 – 0.05 percent weight
6 by volume. This will give a dose of 5 milligrams in
7 10 milliliters of Gramoxone which is likely to
8 produce emesis within 15 minutes in 80 percent of
9 those ingesting such a quantity."
10 Did I read that right?
11 A. Yes, sir, you did.
12 Q. All right. The next paragraph he says,
13 "The only information we have regarding human
14 experience with this drug is a report entitled 'A
15 Summary of Clinical Results of the Phosphodiesterase
16 Inhibitor ICI 63,197 in a Variety of Disease States'
17 dated 23 July 1973 and authored by P.F.C. Bayliss."
18 Did I read that correctly?
19 A. Yes, sir.
20 Q. Is that the only information that
21 Chevron has up to this date about human experience
22 with PP-796?
23 A. Yes, sir, as far as I recall it's the
24 Bayliss human data that's included in that Rose

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1 assessment, so I believe that that's the entirety of
2 the human data.
3 Q. Right. And what I want to make sure is
4 that there's no other human data analysis ever
5 undertaken by either Chevron or Syngenta to your
6 knowledge other than the Bayliss July 23rd, 1973
7 study?
8 A. Yes, sir, if the Bayliss is the
9 entirety of the human data on that Rose document,
10 then, yes, sir.
11 Q. Okay. And it's been confirmed by Peter
12 Slade in the next paragraph I'm reading, "It has
13 been confirmed by Peter Slade (by telex) that this
14 report is the sole documentation of emetic action in
15 humans."
16 Is that what it says?
17 A. Yes, sir.
18 Q. And then he goes on to say, "This
19 report summarizes 11 different experiments in normal
20 and diseased human volunteers. A summary of the
21 induction of emesis follows."
22 Okay? Do you see that?
23 A. Yes, sir.
24 Q. Okay. So this is the human data

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1 they're relying on, right? And Cavalli is reviewing
 2 it, correct?
 3 A. Yes, sir. Again, if that would – just
 4 with the caveat that this is all from that Rose
 5 document.
 6 Q. Well, you know, I wasn't there. You
 7 weren't there. Do you know after reading 500 hours
 8 of paperwork, have you seen anything else? They say
 9 there isn't. Is there any other human data other
 10 than this – on this page?
 11 A. I would just need to match up the Rose
 12 data with this data just to confirm that that's all
 13 the human data that I've seen.
 14 Q. And when you say "match up the Rose
 15 data," are you talking about the Rose analysis of
 16 this data?
 17 A. Yes, sir, that's what I meant, the Rose
 18 analysis of this data.
 19 Q. Have you ever done that exercise,
 20 trying to match up the Rose analysis of this data?
 21 A. I've done that briefly where I've
 22 looked at this data and then that data to try and
 23 look and see all the data that was available, but I
 24 didn't do a one-to-one comparison.

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1 Q. Well, let me ask you something. Those
 2 numbers on this page and what's on the back page,
 3 has this ever been shared with anybody outside of
 4 these two companies anywhere in the world at any
 5 time other than in this lawsuit?
 6 A. Sir, I would have to confirm what was
 7 provided to the EPA in terms of any data. I
 8 don't – I don't recall looking at that. So I would
 9 need to see what was provided.
 10 Q. Believe it or not I've got that all
 11 ready for you coming up. Okay? You're going to
 12 know exactly what you gave them. So I'm just
 13 telling you.
 14 What's on the bottom of this page,
 15 which Dr. Cavalli reports came right straight out of
 16 the Bayliss data, was this ever given to the EPA?
 17 MR. ORLET: Object to the form.
 18 BY MR. TILLERY:
 19 Q. To your knowledge.
 20 A. Sir, I don't recall reviewing documents
 21 showing that this was submitted to the EPA.
 22 Q. Okay. Well, let's go through it.
 23 First on the left there's a study number, isn't
 24 there?

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1 A. Yes, sir.
 2 Q. And the first of those were
 3 screening -- what we refer to as "screening
 4 studies." Did you know that?
 5 A. No, sir.
 6 Q. Okay. Then there's a dose in
 7 milligrams, right?
 8 A. Yes, sir.
 9 Q. Okay. And then reported on the other
 10 is "Number Vomiting/Number Tested."
 11 Do you see that?
 12 A. Yes, sir.
 13 Q. So the "Number Tested" is after the
 14 forward slash, so it's nobody -- no one vomited out
 15 of one test at .25 milligrams, right?
 16 A. Yes, sir.
 17 Q. And at .5 milligrams, no vomiting out
 18 of one, right?
 19 A. Yes, sir.
 20 Q. At 1 milligram, no vomiting out of two,
 21 right?
 22 A. Yes, sir.
 23 Q. At 2 milligrams, no vomiting out of
 24 three, right?

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1 A. Yes, sir.
 2 Q. These are people they're doing this
 3 analysis on, right? Human beings?
 4 A. Yes, sir.
 5 Q. Okay. At 3, no vomiting after two,
 6 right?
 7 A. Yes, sir.
 8 Q. Okay. At 4, there was one that
 9 vomited -- vomited 30 minutes later, right?
 10 A. Yes, sir.
 11 Q. At 8 milligrams, there was one that
 12 vomited two hours later, right?
 13 A. Yes, sir.
 14 Q. And then in study number 2 at
 15 2-milligram dose, one vomited at -- out of eight in
 16 45 minutes, right?
 17 A. Yes, sir.
 18 Q. And then if we go down to the second 2,
 19 nobody vomited out of two. And the next 2, which is
 20 study number 4, it was one out of four but the
 21 "patient described as 'sick,'" but no indication of
 22 vomiting. And then study 5, 2 milligrams, one
 23 patient vomited in 20 minutes.
 24 Do you see that?

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1 A. Yes, sir.
 2 MR. ORLET: Object to the form.
 3 BY MR. TILLERY:
 4 Q. Okay. And 6, there was no information
 5 yet among those for side effects, right?
 6 A. That's what the document states, yes,
 7 sir.
 8 Q. Now, let's go to number 7. That's 2
 9 milligrams TDS times 21 days. What's "TDS" stand
 10 for?
 11 A. Sir, I don't know.
 12 Q. Well, it's three times a day. Do you
 13 want to look that up on your computer real quick to
 14 confirm it? TDS?
 15 A. Okay.
 16 Q. Verify it. See if I'm right.
 17 A. When I look at "TDS," Wikipedia says
 18 it's "Tax Deducted at Source."
 19 Q. I don't think that's our topic.
 20 MR. ORLET: It also says "Trump
 21 Derangement Syndrome."
 22 MR. TILLERY: Now, wait a minute.
 23 MR. ORLET: We won't give the urban
 24 dictionary.

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1 BY MR. TILLERY:
 2 Q. So TDS, sir, I'm going to represent to
 3 you refers to –
 4 A. Three times a day.
 5 Q. Is three times a day, okay? Three
 6 times a day. So it's 2 milligrams times three times
 7 a day times 21 days?
 8 A. Understood.
 9 Q. Do you see that?
 10 A. Yes, sir.
 11 Q. And the result was out of four
 12 volunteers, nobody had – no one had any emesis, no
 13 one threw up. Now, if you do the math of two –
 14 forget the number of milligrams just say three times
 15 a day times four is 12, right? Four people?
 16 A. I'm sorry, sir. Do –
 17 Q. Four people in the study, in that study
 18 number 7, three times a day they're getting 12
 19 doses, right, in a day?
 20 A. So each person is getting three doses.
 21 Q. That's right.
 22 A. Yes, sir.
 23 Q. Okay. And so 12 times 21 is what?
 24 A. Let me get my calculator again.

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1 Q. Absolutely. See if you come up with
 2 252.
 3 A. So 252 doses are divided over four
 4 people.
 5 Q. 252 doses, four people. That's right.
 6 And they say number vomiting for the number of
 7 people tested, nobody vomited.
 8 Now, let's go to the – skip the 1
 9 because I think Dr. Rose when he did his analysis
 10 skipped over 1 milligram and just went to 2s.
 11 Let's go to the second study in
 12 number 8 where it says 2 three times a day times
 13 seven days, and there were six people there, nobody
 14 vomited. Now, do your math. Does that come out to
 15 126 doses?
 16 A. 14 – 14 doses per person. Sir, I
 17 would prefer to keep it on a per-person basis
 18 because I don't –
 19 Q. Is it 126 total doses?
 20 A. Sir, I'm confused why you're putting
 21 the people together. They're different people, so I
 22 don't understand why you're adding the doses from
 23 them.
 24 Q. Well, what I'm trying to say is how

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1 many total doses. Each person received a
 2 2-milligram dose, okay? At – and they got it three
 3 times a day for seven days and there were six of
 4 them. Is that 126 doses total? Do the math for me.
 5 A. So there was – so a dose three times a
 6 day for seven days, so there was 21 total doses.
 7 Q. Times six people?
 8 A. Yes, each of those persons got 21, but
 9 they're different – they're different people so you
 10 wouldn't add them together.
 11 Q. Well, it's showing that no one had any
 12 vomiting out of the total of 126 doses is what I'm
 13 trying to show.
 14 A. Okay. I see – I understand your
 15 perspective, yes, sir.
 16 Q. All right. No vomiting, 126 doses,
 17 right? Is my math –
 18 A. At 126 doses of 2 milligrams and none
 19 of them vomited.
 20 Q. Right. Now let's go to the second one
 21 in number 9. Because he omitted the first – the
 22 1 milligram again, and let's go to the second one
 23 which was 2 milligrams three times a day for seven
 24 days for five people. One person threw up. Is that

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1 one out of 105 doses?
2 A. So three times a day times seven is 21,
3 so 21 doses were given. 21 times five is 105 – 105
4 minus 21 is 84 doses did not result in vomiting.
5 Q. Well – no, 104 doses didn't result in
6 vomiting. One dose resulted in – there was one
7 person who vomited?
8 A. Sir, I believe we're splitting hairs
9 here because the – there's one person who vomited
10 after getting a dose of 2 milligrams three times a
11 day for seven days, so that set of doses resulted in
12 one person out of the five vomiting.
13 Q. I think you might need to read the
14 study a little closer. But the fact is let's do my
15 math my way, which is there were five people who
16 received doses three times a day for seven days.
17 That's 105 doses, right? However, you cut it? 105
18 doses, right?
19 A. Yes, sir, there's 105 doses and what –
20 Q. And then –
21 A. I apologize.
22 Q. Look at the third column and it says
23 number vomiting/number treated, it says one out of
24 five. Right?

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1 A. Uh-huh.
2 Q. All right. Is that a "yes"?
3 A. Yes, sir. So that's what it says, one
4 out of five, but I still contend that it's a series
5 of 21 doses that caused one person to vomit.
6 Q. One. One time. That's how you read
7 it. One person vomited once.
8 Now let's go to the next one, okay?
9 And that's 2 and it says QDS. Do you know what that
10 means?
11 A. Sir, no, I don't. I guess it was four
12 times a day, but I don't know.
13 Q. Right. So let's do the math on that.
14 Two times four – four times a day times four weeks.
15 How many is that?
16 A. It depends if they counted it a
17 five-day week or seven-day week.
18 Q. I think they counted it at seven days,
19 sir.
20 A. Okay. Then it would be four times
21 seven is 28 times four is 112 about.
22 Q. I'm sorry. Three people for four weeks
23 times –
24 A. I didn't do the three people. It's –

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1 I just do 112 doses for each person.
2 Q. So –
3 A. And you can multiply that by three.
4 Q. So 336 doses, right? 336?
5 A. That's what it is, yes.
6 Q. Now, let's go to the last one. And
7 it's 2 TDS – three times a day – for six weeks,
8 four people. Just do your math and see if that
9 comes out to 504 doses.
10 A. That would be 504 doses among four
11 people.
12 Q. Zero vomiting?
13 A. Yes, sir, that's what the document
14 states.
15 Q. And the one above that two – four
16 times a day for four weeks, zero vomiting, right?
17 A. Yes, sir, that's what it states.
18 Q. So approximately 1,300 doses and in
19 this group here from 7 through 11, and one person
20 vomited, right?
21 A. I guess that's one way of looking at
22 the data.
23 Q. And that's apparently what got
24 Dr. Cavalli's attention. He says, "I am confused by

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1 my review of the data." Okay? Now, let's go on
2 with what he said. Look at the next page. Look at
3 the first paragraph. Read that into the record.
4 A. It says, "As you can see, these data do
5 not support the statement made in Braunholtz's
6 letter and confirmed in Slade's telex. As far as I
7 can tell, no one has vomited within 15 minutes."
8 Q. And what's the next paragraph? Read
9 that one into the record.
10 A. "The data used to support the efficacy
11 of emetic in paraquat given to the dog and monkey
12 show dose levels of 2 or 3 milligrams per kilogram
13 of the emetic. The dose in milligrams per kilogram
14 for the 2-milligram dose in humans was
15 0.036 milligrams per kilogram, for 3 milligrams was
16 0.038 to 0.042, for 4 milligrams, 0.05, and for
17 8 milligrams was 0.1 milligrams per kilogram."
18 Continue?
19 Q. Keep reading.
20 A. "The 5-milligram dose would be about
21 0.06 milligrams per kilogram for 170-pound man.
22 This is significantly lower than the 2 to 3
23 milligrams per kilogram found effective in the dog
24 and monkey. At CTL, I was told that the compound

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1 was more active in humans, but the data does not
 2 support this."
 3 **Q. So in other words, the numbers don't**
 4 **add up to Dr. Cavalli, do they?**
 5 MR. ORLET: Object to the form.
 6 THE WITNESS: He's questioning -- I'm
 7 sorry. Would you repeat that, sir?
 8 BY MR. TILLERY:
 9 **Q. The numbers don't add. He's saying**
 10 **they simply don't work, and he's saying he was told**
 11 **at CTL that the compound was more active in humans;**
 12 **in other words, don't worry about it. It will -- it**
 13 **will be more effective in a human. But he said the**
 14 **data don't support that. Is that what he said?**
 15 A. Sir, it looks like he's -- from the
 16 first paragraph he's stating that it doesn't support
 17 the 15 minutes, so that's definitely a question
 18 based on the human data.
 19 **Q. Okay.**
 20 A. And I'm digesting the second paragraph
 21 a little bit further so I can accurately answer your
 22 question.
 23 **Q. Well, let's get -- if you don't mind**
 24 **because of our time, look at the paragraph that says**

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1 the -- "This presents," if you go down there a
 2 little bit.
 3 Do you see that paragraph?
 4 A. Yes, sir, I do.
 5 **Q. And it says, "This presents a picture**
 6 **of a very active compound, and one whose action is**
 7 **difficult to classify. There is no question that**
 8 **this compound has effects on the central nervous**
 9 **system in both man and animals. Studies on subacute**
 10 **toxicity did not address themselves to these effects**
 11 **and thus no measure of the subacute effect on the**
 12 **central nervous system is available."**
 13 Do you see that?
 14 A. Yes, sir, I do.
 15 **Q. Did Chevron ever follow up on that**
 16 **statement and do the studies?**
 17 MR. ORLET: Object to the form.
 18 THE WITNESS: Sir, I would have to go
 19 back and try to look at the documents again to
 20 recall the studies that were done on the emetic. I
 21 don't remember at this time.
 22 BY MR. TILLERY:
 23 **Q. Have you ever seen -- strike that.**
 24 **Do you remember ever seeing a document**

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1 or a study where there was any effort to determine
 2 the potential neurotoxicity of PP-796?
 3 A. Sir, I would need to go back and look
 4 at the studies that were conducted on PP-796.
 5 **Q. Well, do you remember one right now is**
 6 **what I'm asking you.**
 7 A. Right now I don't remember, no.
 8 **Q. Right now you can't tell me you've ever**
 9 **seen such a study, have you?**
 10 A. Sir, I don't recall seeing a study.
 11 **Q. Okay. And then let's look at the last**
 12 **paragraph. "In my opinion, we need to give a**
 13 **5-milligram dose to a large number of humans to**
 14 **substantiate the effectiveness of this dose, and**
 15 **probably, to repeat 90-day studies at low doses and**
 16 **measure motility, agility, amphetamine toxicity and**
 17 **barbitone hypnosis" -- I think he's saying "hypnosis**
 18 **time as well as classic indicators of toxicity."**
 19 **Were those studies ever undertaken?**
 20 A. I don't recall seeing them in the
 21 documents I reviewed.
 22 **Q. Let's move ahead to Exhibit 105.**
 23 **Now, before we leave that last one, do**
 24 **you know how Dr. Cavalli reported the results of**

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1 that Bayliss study to the EPA? Strike the question.
 2 If we go back for just a second to
 3 Exhibit 104. Do you know how Chevron in reliance
 4 upon Dr. Rose's analysis of that same Bayliss data,
 5 do you know how he reported the results in terms of
 6 a statistical probability of emesis within 15
 7 minutes?
 8 A. Sir, I recall seeing different
 9 calculations than the 80 percent here. I recall
 10 seeing a number of 70 percent, perhaps 55 percent of
 11 the estimated people that would vomit after the dose
 12 selected.
 13 **Q. Within what time period?**
 14 A. I don't recall the time period, sir.
 15 I'd have to look at a document.
 16 **Q. And here we have roughly five people or**
 17 **four people out of 1300 who threw up and he reported**
 18 **70 to 80 percent, didn't he?**
 19 A. Sir, yes, because the doses of all
 20 those people at the 2 were much lower than the
 21 higher dose which had data from humans, and I
 22 believe as well some additional data from monkeys
 23 that would have gone into that assessment.
 24 **Q. Actually, are you saying he included**

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1 monkey data in it? I'm talking about the report of
 2 the human studies.
 3 A. Sir, I'm referring to the Rose analysis
 4 document.
 5 Q. Right. And the Rose analysis, which
 6 was given to the U.S. EPA, does it say what you just
 7 said, 70 to 80 percent of the people who get this
 8 throw up within a short period of time. Now --
 9 A. I would need --
 10 Q. I want you to look at that document and
 11 I want you to tell me on behalf of Chevron, because
 12 you're the ones that filed this report with the
 13 U.S. EPA, about the efficacy of this emetic. And I
 14 want you to tell me how you come up with 70 to
 15 80 percent of humans who ingest this chemical with
 16 emetic throw up within 15 minutes. Can you do it
 17 for me?
 18 A. Sir, yes, I can take a break and look
 19 at the document if you'd like.
 20 Q. Well, I want you to do it right now.
 21 I'm talking about this document right here. This is
 22 what he used. Rose --
 23 A. Sir --
 24 Q. -- analysis based on this document

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1 according to the record. Now, I want to know how
 2 you look at this record on the front page, and that
 3 is just for the record 00305753, how did he come up
 4 with that representation that Chevron filed to keep
 5 this chemical on the market? I want to know how he
 6 did it?
 7 MR. ORLET: Object to the form.
 8 THE WITNESS: Sir, I would need to look
 9 at the Rose document.
 10 BY MR. TILLERY:
 11 Q. Okay. You can't do it on your own, can
 12 you?
 13 A. Sir, I would need to look at the Rose
 14 document to see if they also used additional
 15 documents because, sir, the key factor here is that
 16 8-milligram dose where one of one person vomited,
 17 and then 4 milligrams where one of two people
 18 vomited, and as we discussed earlier a 15-milliliter
 19 ingestion of paraquat at 7.5 milligrams, and so the
 20 number starts to match up better with the higher
 21 doses.
 22 Q. If you look at the -- well, what's the
 23 dose that was given? What was the dose that was put
 24 in paraquat? You said it was .05 percent. That was

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1 the number. That was the level, right?
 2 A. Right, sir, which would correspond to
 3 7.5 milligrams approximately if 15 milliliters was
 4 ingested.
 5 Q. Okay. So let's go back to this
 6 document which is 104. And look at the second
 7 paragraph again. The claim is being made is that --
 8 I'm sorry. That 5 milligrams in 10 milliliters of
 9 Gramoxone will produce emesis within 15 minutes in
 10 80 percent of those ingesting a quantity, right?
 11 A. That's what this document states, sir,
 12 yes.
 13 Q. Is that what you told the U.S. EPA?
 14 A. Sir, I would need to go back and look
 15 at the Rose document much more thoroughly to
 16 understand the basis for how all of this was put
 17 together.
 18 Q. Let's go to Exhibit 105.
 19 (Exhibit 105 was identified
 20 for the record.)
 21 BY MR. TILLERY:
 22 Q. Please open this document and look at
 23 it, please. Familiarize yourself with it.
 24 For the record, this is October 19,

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1 1976 letter from ICI, D. M. Foulkes, to Dr. N.
 2 Ospenson, Chevron Chemical Company. And this is
 3 CUSA-00088288 at 8442 through 8451.
 4 Is Exhibit 105 an October 19th, 1976
 5 letter from ICI to Chevron enclosing a draft report
 6 CTL/R/390 by Dr. Michael Rose entitled, "The
 7 Concentration of PP 796 Required to Produce Emesis
 8 in Experimental Animals and an Estimation of the
 9 Emetic Dose in Man."
 10 A. Yes, sir.
 11 Q. At page 8444, if you would look at
 12 that, the second page of the report, do you see the
 13 statement that at 5-milligram emetic in
 14 10 milliliters of paraquat formulation, it is
 15 estimated -- yeah, it is estimated that 70 percent
 16 of those ingesting 10 milliliters of this
 17 formulation will vomit within an hour?
 18 A. Yes, sir. It says, "It is estimated
 19 that about 70 percent of those ingesting
 20 10 milliliters will vomit within an hour."
 21 Q. So this is October, right?
 22 A. Yes, sir. The letter is from October.
 23 Q. Right. And in August, ICI had said
 24 that the same 5 milligrams in 10 milliliters was

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1 likely to produce emesis within 15 percent – I'm
2 sorry – strike that.
3 **Back in August, two months before, ICI**
4 **had said that the same 5 milligrams in**
5 **10 milliliters was likely to produce emesis within**
6 **15 minutes in 80 percent of the people ingesting it,**
7 **hadn't they?**
8 A. Yes, that's what they said, and that's
9 why I believe Dr. Cavalli was confused.
10 **Q. Did they say that? They said – they**
11 **said 5 milligrams in 10 milliliters would produce**
12 **emesis within 15 minutes in 80 percent of the people**
13 **in August of 1976?**
14 A. Yes, sir, that's what is stated in
15 Exhibit 104.
16 **Q. Right. So between August and October,**
17 **ICI went from 80 percent within 15 minutes to**
18 **70 percent within an hour, right?**
19 A. It appears to be the case, yes, sir.
20 **Q. And there was no new data because we've**
21 **already agreed that there was no additional human**
22 **data, right?**
23 A. There may have been additional data but
24 not human data.

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1 **Q. Okay. So we agree there was no**
2 **additional human data, right?**
3 A. I believe so, but I would need to
4 double-check that.
5 **Q. Go ahead and do what you need to do.**
6 **There was no new data provided by ICI that would**
7 **have caused those numbers to change, was there?**
8 A. I believe that the Bayliss was the only
9 clinical trial human data available.
10 **Q. So when you get a report that**
11 **significantly changes the parameters, does that set**
12 **off any alarm bells of Chevron, like maybe these**
13 **people are just making numbers up?**
14 MR. ORLET: Object to the form.
15 THE WITNESS: Sir, I don't know if they
16 were making numbers up, but it does look like
17 they're providing additional information in this
18 evaluation. So when I go to CUSA 88449 and looking
19 at that table, there's additional data for the
20 monkey, the pig, and the dog that would have helped
21 in making the decision on a reasonable dose that
22 would cause emesis.
23 BY MR. TILLERY:
24 **Q. In fact, if you look at the dog, the**

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1 **pig, the monkey, and man on that exact page you're**
2 **looking at and look at the man and tell if that is**
3 **Dr. Rose's assessment of Exhibit 104, the Bayliss**
4 **data?**
5 A. Yes, sir, I believe that that man is
6 the Bayliss study.
7 **Q. Right. So he's got – he's got a total**
8 **of – of 0 out of 2 at .015. At .03 he's got 4 out**
9 **of 47, instead of 4 out of 1300. He is 4 out of 47,**
10 **didn't he? Do you see that?**
11 A. At a very low dose, yes, sir.
12 **Q. No, he used 4 out of 47. Is that what**
13 **it says on that page?**
14 A. For a dose of .03 milligrams per
15 kilogram, yes, sir.
16 **Q. Instead of using the total number of**
17 **actual doses. The total number you and I counted**
18 **out were roughly 1300 doses. He said there were 47**
19 **doses.**
20 MR. ORLET: Object to the form.
21 THE WITNESS: I would need to go
22 back -- I would need to go back and look at that,
23 sir, because I still don't agree with how you
24 calculated those doses.

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1 BY MR. TILLERY:
2 **Q. Well, it's either – it's either a dose**
3 **or it's not. If somebody gives you the stuff, the**
4 **chemical, you put it in your mouth and swallow it,**
5 **to me that's a dose. That's how I'm calculating it.**
6 **And that's how I think other scientists would**
7 **calculate it.**
8 **So what I'm saying to you is how in the**
9 **world would somebody look at this and total it by**
10 **people as opposed to doses?**
11 A. Because that's the – you're looking at
12 the people that are vomiting after a certain amount
13 of doses.
14 **Q. Yeah. Well, where does it say that on**
15 **the report? There were 1300 doses and four people**
16 **vomited. He put down 47 doses.**
17 A. He put down 47 people.
18 **Q. Yeah. Out of 47 people, right? Is**
19 **that what he did?**
20 A. That's my understanding, sir.
21 **Q. Out of 47 people.**
22 A. Yes, sir.
23 **Q. So instead of telling the people how**
24 **many doses that these people received, he used the**

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1 number of people, right? You think that's an honest
 2 way to present it?
 3 A. Sir, I would need to look at the final
 4 report to see what it said.
 5 Q. Well, let's assume you're right. Let's
 6 assume you're right, it's based on people, and you
 7 know for a fact as a scientist that these people
 8 received 1300 doses. And you're the toxicologist
 9 and you're being asked to sign off on this. Do you
 10 think that you should tell the U.S. EPA that in fact
 11 there were 1300 doses and only four people had
 12 vomited? Would that be the fair thing to do?
 13 MR. ORLET: Object to the form.
 14 THE WITNESS: Sir, two points, if I
 15 may. The first point is I believe they should
 16 always provide the EPA all the data that you can so
 17 that they can make an informed decision. And in
 18 this case looking at it from a toxicology
 19 perspective, which I believe is what you asked me as
 20 a toxicologist, what's key is that
 21 0.11-milligram-per-kilogram dose because that's
 22 similar to what is actually being included, and they
 23 already got a one out of one.
 24 You know, unfortunately this dataset

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1 isn't necessarily complete in man, but my
 2 understanding was it wasn't done necessarily for
 3 evaluating the emetic effects. It was done for
 4 other pharmacological reasons, so I believe they're
 5 using what data they have in trying to make the best
 6 decision they can.
 7 BY MR. TILLERY:
 8 Q. So move to strike your answer as
 9 unresponsive.
 10 My question is would that be a fair
 11 thing to do to exclude reference to the fact that
 12 there were a total of 1300 doses where four people
 13 threw up?
 14 MR. ORLET: Object to the form.
 15 THE WITNESS: Sir, I'm not sure that
 16 they did that. But --
 17 BY MR. TILLERY:
 18 Q. Did they -- when you filed this at
 19 Chevron with the U.S. EPA, did you tell the U.S. EPA
 20 that these people had received nearly 1300 doses of
 21 this emetic?
 22 MR. ORLET: Object to the form.
 23 THE WITNESS: Sir, I would have to look
 24 at exactly what we provided to the EPA as well as

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1 read the "Methods" section to see what it described.
 2 BY MR. TILLERY:
 3 Q. Okay. Okay. Let's go to number 106,
 4 please.
 5 (Exhibit 106 was identified
 6 for the record.)
 7 THE WITNESS: It's open.
 8 BY MR. TILLERY:
 9 Q. Okay. If you would look at that
 10 exhibit. This is CUSA-00088288 and it's at 8433.
 11 And it's a document consisting of a single page.
 12 Sir, is this an October 21, 1976 telex
 13 from Dr. Cavalli at Chevron to Dr. Rose at ICI?
 14 A. Yes, sir.
 15 Q. Dr. Cavalli cc'd eight people at
 16 Chevron on this telex, didn't he?
 17 A. Assuming all the people in the cc line
 18 are from Chevron, yes, sir. I recognize most of
 19 them but not all of them as Chevron employees during
 20 this time.
 21 Q. And the blind copies for all people
 22 from -- from ICI, weren't they?
 23 A. That would be my assumption based on
 24 knowing that Calderbank and Foulkes were both at

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1 ICI. The other two I don't recognize, sir.
 2 Q. So Dr. Cavalli sent blind copies to
 3 Drs. Calderbank, Foulkes, and Slade at ICI and
 4 Mr. Barrett at ICI Americas, right?
 5 A. That would appear to be the case based
 6 on the bc and cc nomenclature.
 7 Q. And "blind," just so we're clear, means
 8 there was no indication to Dr. Rose that those
 9 people were getting copies, right?
 10 A. I believe that's how it works with an
 11 email. I apologize, sir, I don't know how telexes
 12 would work.
 13 Q. Okay. Now, let's look at what
 14 Dr. Cavalli told Dr. Rose in the telex and follow
 15 along with me. It's a little difficult to read, but
 16 just follow along and see if I get this right. And
 17 I start quoting.
 18 "I've reviewed studies on ICI 63,197
 19 (PP 796) Slade's telex and Foulkes's October letter.
 20 I am concerned as argument for 5 milligrams being an
 21 effective emetic dose in man is weak and still does
 22 not support the statement that will cause emesis in
 23 85 percent at 15 minutes. I believe EPA will likely
 24 require actual data regarding effectiveness of dose

1 recommended in humans. Is there any reason why a
 2 number of volunteers cannot be given 5 milligrams of
 3 ICI 63,197 in 10 cc's of water and effect recorded?
 4 This may be quite easy if clinical trial permission
 5 is still open. This would be more satisfactory for
 6 us to give EPA than present information. Ospenson
 7 plans to phone PPD late next week and I would
 8 appreciate your comments by 10/27."
 9 Is that what he says?
 10 A. Yes, sir, that's what it says here.
 11 Q. And that's Dr. Cavalli of Chevron
 12 saying that, right?
 13 A. Yes, sir.
 14 Q. He doesn't believe these numbers, does
 15 he? Would you say that's a fair inference?
 16 MR. ORLET: Object to the form.
 17 THE WITNESS: He doesn't believe the
 18 85 percent in 15 minutes number.
 19 BY MR. TILLERY:
 20 Q. Right. He doesn't. So let's go to the
 21 next exhibit, 107.
 22 (Exhibit 107 was identified
 23 for the record.)
 24

1 BY MR. TILLERY:
 2 Q. I believe everything is in on this
 3 document. It's a rather lengthy telex, long, on one
 4 page. And for purposes of the record, this is
 5 CUSA-00305732, which is an October 26th, 1976
 6 communication from Dr. Rose to Cavalli re on
 7 clinical data on PP-796; is that correct?
 8 A. Yes, sir.
 9 Q. Okay. Please read for the record the
 10 first paragraph of Dr. Rose's telex to Dr. Cavalli
 11 just below the list of those recipients of courtesy
 12 copies.
 13 A. Yes, sir. "Clinical data on 796 is
 14 certainly weak. However, our medical advisors have
 15 stated that a volunteer study is not feasible for
 16 ethical reasons. Effects of compound at doses above
 17 2 milligrams are most unpleasant, although not
 18 thought to be toxicologically serious."
 19 Q. Okay. So he says – admits to Cavalli
 20 in the first line, "Clinical data on 796 is
 21 certainly weak," right?
 22 A. Yes, sir, that's what the document
 23 states.
 24 Q. They're not going to do that study that

1 Dr. Cavalli wants, put a pill in a glass, drink it,
 2 and see if they throw up and time how long it takes.
 3 They won't do it, right?
 4 A. Yes, sir, that's what it states based
 5 on ethical reasons.
 6 Q. And the ethics didn't stop them doing
 7 the Bayliss study, did it, a few years earlier?
 8 They had 11 separate studies there. Dozens of
 9 volunteers, no ethics issues, right, to your
 10 knowledge?
 11 A. Sir, I don't understand what the
 12 situation was in the '73 Bayliss time period to
 13 comment. I just know that the PP-796 was being
 14 investigated for pharmacologic activity other than
 15 emesis, which may have played into why the clinical
 16 study was done and –
 17 Q. Would you answer me this? Was there
 18 some change in the ethical rules in – from 1973 to
 19 1976 –
 20 MR. ORLET: Object to the form.
 21 BY MR. TILLERY:
 22 Q. -- on giving somebody a pill that would
 23 make them throw up?
 24 MR. ORLET: Object to the form.

1 THE WITNESS: Sir, I'm not aware of any
 2 ethical guidance from a regulatory perspective on
 3 clinical trials in that time period.
 4 BY MR. TILLERY:
 5 Q. Okay. Let me ask you this: If Chevron
 6 had wanted to do that, could it have done that same
 7 study in the U.S.?
 8 MR. ORLET: Object to the form.
 9 THE WITNESS: Sir, I don't know because
 10 I am not familiar with FDA-type regulations and what
 11 it takes. I assume that they could have done the
 12 study or applied to do it. Whether or not they
 13 would have gotten approval, I don't know.
 14 BY MR. TILLERY:
 15 Q. Did they try to do it?
 16 A. Based on the documents that I reviewed
 17 I did not see that, no.
 18 Q. Did they ever apply to the FDA and say
 19 we want to get 20 people these pills in different
 20 amounts in a glass of water and see if they throw
 21 up? Did they ever do that?
 22 MR. ORLET: Object to the form.
 23 THE WITNESS: Sir, in the documents
 24 that I reviewed, I did not recall seeing that.

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<p>1 BY MR. TILLERY:</p> <p>2 Q. Okay. The reference, if you'd look at</p> <p>3 that, to clinical data on 796. Do you see that</p> <p>4 where he says that on the first line?</p> <p>5 A. I'm sorry, sir. Would you please</p> <p>6 repeat that?</p> <p>7 Q. On this document on this exhibit that</p> <p>8 you have on the screen, the very first line, "1.</p> <p>9 Clinical data on 796 is certainly weak."</p> <p>10 Do you see that?</p> <p>11 A. Yes, sir.</p> <p>12 Q. That's a reference to the ICI</p> <p>13 pharmaceutical data -- data from the human clinical</p> <p>14 trials by Bayliss, right?</p> <p>15 A. That would be -- that would be my</p> <p>16 assumption, sir, but it doesn't explicitly state</p> <p>17 that.</p> <p>18 Q. Well, do you know of any other data it</p> <p>19 could refer to?</p> <p>20 A. No, sir, I do not.</p> <p>21 Q. All right. Dr. Rose's description of</p> <p>22 the data from human clinical trials of PP-796 as</p> <p>23 weak refers to the strength of that data as evidence</p> <p>24 that adding PP-796 to paraquat formulations at the</p>	<p>1 unresponsive. That's not what I asked you.</p> <p>2 A. Would you please ask the question</p> <p>3 again, sir?</p> <p>4 Q. Dr. Rose's description of the human</p> <p>5 clinical trials of PP-796 as weak refers to the</p> <p>6 strength of that data as evidence that this emetic</p> <p>7 will work and cause people to throw up in time to</p> <p>8 save them, right?</p> <p>9 MR. ORLET: Same objection.</p> <p>10 THE WITNESS: Sir, it refers to this --</p> <p>11 to that Bayliss study as being weak support for the</p> <p>12 emetic being efficacious at the dosage described.</p> <p>13 BY MR. TILLERY:</p> <p>14 Q. Okay. And if you don't mind for the</p> <p>15 court and jury, I'm going to translate that into</p> <p>16 normal speak, okay? Is that another way of saying</p> <p>17 it's weak for proof that this stuff would save your</p> <p>18 life if you drank the paraquat?</p> <p>19 MR. ORLET: Object to the form.</p> <p>20 THE WITNESS: This specific -- this</p> <p>21 indicates, potentially, trying to translate what</p> <p>22 he's saying, that this specific data has -- is weak</p> <p>23 in supporting the emetic effect.</p> <p>24</p>
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<p>1 proposed concentrations will cause people who ingest</p> <p>2 the product to vomit it up before there's a</p> <p>3 sufficient amount in their system to kill them,</p> <p>4 right?</p> <p>5 MR. ORLET: Object to the form.</p> <p>6 THE WITNESS: Sorry, would you please</p> <p>7 repeat the question?</p> <p>8 BY MR. TILLERY:</p> <p>9 Q. Dr. Rose's description of the data from</p> <p>10 these clinical trials as weak. Do you see that</p> <p>11 where he says "weak"?</p> <p>12 A. Yes, sir, I do.</p> <p>13 Q. He's referring to the strength of that</p> <p>14 data as evidence that PP-796 will cause people to</p> <p>15 throw up in time to save them from the paraquat</p> <p>16 ingestion, right? That's what he's referring to?</p> <p>17 MR. ORLET: Object to the form.</p> <p>18 THE WITNESS: Sir, I think he's using</p> <p>19 this human data saying that the human data is weak</p> <p>20 evidence; but, again, I don't believe that's all the</p> <p>21 evidence that they're using to make that -- to make</p> <p>22 conclusions on the efficacy.</p> <p>23 BY MR. TILLERY:</p> <p>24 Q. I move to strike your answer as</p>	<p>1 BY MR. TILLERY:</p> <p>2 Q. Which is --</p> <p>3 A. Which would be to cause someone to</p> <p>4 vomit --</p> <p>5 Q. Yes, and --</p> <p>6 A. -- at the paraquat, and so paraquat</p> <p>7 wouldn't be absorbed and reduce the likelihood of</p> <p>8 lethality.</p> <p>9 Q. Dr. Rose in this telex is admitting to</p> <p>10 Dr. Cavalli that Dr. Cavalli's writing about the</p> <p>11 emetic in so many ways, so many terms, so many</p> <p>12 words?</p> <p>13 MR. ORLET: Object to the form.</p> <p>14 THE WITNESS: Sir, I think he's stating</p> <p>15 that, like we discussed, the clinical trial data is</p> <p>16 weak in the overall weight of evidence for assessing</p> <p>17 the efficiency of the emetic.</p> <p>18 BY MR. TILLERY:</p> <p>19 Q. Right. Dr. Rose also tells Dr. Cavalli</p> <p>20 that, "In the absence of hard evidence, I have</p> <p>21 produced a draft report making the case for addition</p> <p>22 of 5 milligrams in 10 milliliters," and that "We</p> <p>23 believe this case adequate for proposed European</p> <p>24 registration."</p>

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<p>1 ICI people.</p> <p>2 Q. Okay. Do you recognize any of the</p> <p>3 Chevron people?</p> <p>4 A. Yes, sir, I recognize Stripling,</p> <p>5 Spence, Ospenson, and Dye and Barlow.</p> <p>6 Q. Who is Stripling?</p> <p>7 A. Sir, I don't know what his title was.</p> <p>8 I just recognize the name.</p> <p>9 Q. Who is Mr. Barlow?</p> <p>10 A. Again, recognize the name. I don't</p> <p>11 know the title.</p> <p>12 Q. Okay. Let's go to Exhibit 109.</p> <p>13 (Exhibit 109 was identified</p> <p>14 for the record.)</p> <p>15 BY MR. TILLERY:</p> <p>16 Q. This is a rather hard-to-read telex.</p> <p>17 And if you enlarge this it might help you.</p> <p>18 A. Yes, sir.</p> <p>19 Q. This is CUSA-00088288 at 8432. Is this</p> <p>20 an October 2nd, 1976 communication between Dr. Rose</p> <p>21 or from Dr. Rose to Dr. Cavalli regarding the</p> <p>22 vomiting function of the rate of absorption?</p> <p>23 A. Sir, I believe it's November 2nd.</p> <p>24 Q. November 2nd. I don't know what I</p>	<p>1 Q. Why don't you read it out loud then.</p> <p>2 A. Okay. "Telex should read. Re your</p> <p>3 telex of 29 October 1976. Vomiting thought to be a</p> <p>4 function of rate of absorption. In our experimental</p> <p>5 work, animals either vomit within one hour or not at</p> <p>6 all. Subject 12" – or 18.</p> <p>7 Q. I think it's 12.</p> <p>8 A. "12 in" – I think that might say</p> <p>9 "study" but it looks like there's a U at the</p> <p>10 beginning, so I don't know what that word is, and I</p> <p>11 don't know what's in parentheses there.</p> <p>12 Q. Well, let me help you out and see if</p> <p>13 you then can read through it and see if it makes</p> <p>14 sense.</p> <p>15 A. Yes, sir.</p> <p>16 Q. Follow along.</p> <p>17 "Subject 12 in study (9 milligrams)</p> <p>18 apparently had slow absorption (see page 6 Bayliss</p> <p>19 report) when compared to subject 10 which may</p> <p>20 explain unusual delay."</p> <p>21 Now, if you go back and read it and see</p> <p>22 if that makes sense.</p> <p>23 A. Yes, sir. Okay. I've read it.</p> <p>24 Q. Okay. Now, would it be fair to say</p>
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<p>1 said, but I should have said – I said October 2nd.</p> <p>2 Sorry. You are correct.</p> <p>3 A. That's okay.</p> <p>4 Q. Let me start over and move to strike</p> <p>5 that.</p> <p>6 Is this a telex from Dr. Rose to</p> <p>7 Dr. Cavalli dated November 2nd, 1976, the same day</p> <p>8 as the letter we just discussed in the preceding</p> <p>9 discussion?</p> <p>10 A. Sorry, sir, I'm confused. I thought</p> <p>11 the letter from the Exhibit 108 was from September.</p> <p>12 I apologize. I'm confused.</p> <p>13 Q. It's November 2nd if you look at it.</p> <p>14 A. Sir, do you mind if I go back to</p> <p>15 Exhibit 108?</p> <p>16 Q. Yeah, I think – when you go back to it</p> <p>17 you'll see it's November 2nd.</p> <p>18 A. Yes, sir, you're correct. The date is</p> <p>19 November 2nd, 1976. I apologize.</p> <p>20 Q. Okay. No problem.</p> <p>21 Now, I'm going to – if I can, go</p> <p>22 through this and read this telex and – or do you</p> <p>23 think you can read it yourself?</p> <p>24 A. I will try to read it, sir.</p>	<p>1 that on the same date he sent Dr. Cavalli the final</p> <p>2 version of his report, Dr. Rose was still trying to</p> <p>3 convince Dr. Cavalli that the data supports ICI's</p> <p>4 claims about the effectiveness of the emetic in</p> <p>5 humans?</p> <p>6 A. Sir, I would take this as he's</p> <p>7 providing additional information so Cavalli can make</p> <p>8 a decision.</p> <p>9 Q. Yeah. It's – that's your</p> <p>10 interpretation? Do you dispute an interpretation</p> <p>11 that he's trying to convince Dr. Cavalli to go along</p> <p>12 with his – his report?</p> <p>13 A. Sir, I guess I just hesitate on the</p> <p>14 word "convince." Because he's not, you know,</p> <p>15 asking, you know – saying anything of, you know –</p> <p>16 you know, please take this as proof. He's just</p> <p>17 providing data.</p> <p>18 Q. Well, to your knowledge, Chevron wasn't</p> <p>19 contractually bound to file the information with the</p> <p>20 U.S. EPA about the emetic, were they?</p> <p>21 MR. ORLET: Object to the form.</p> <p>22 BY MR. TILLERY:</p> <p>23 Q. They weren't required to do it by</p> <p>24 virtue of any legal relationship with Chevron –</p>

<p style="text-align: right;">Page 209</p> <p>1 with ICI, were they, sir?</p> <p>2 MR. ORLET: Same objection.</p> <p>3 THE WITNESS: Sir, I don't completely</p> <p>4 understand the question. I apologize.</p> <p>5 BY MR. TILLERY:</p> <p>6 Q. Here's my question. Had they</p> <p>7 decided – had Chevron decided it did not want to</p> <p>8 take part in the filing of this emetics data with</p> <p>9 the U.S. EPA and simply said "We're not going to</p> <p>10 file it"?</p> <p>11 A. Sir, to answer your question, if</p> <p>12 Chevron decided not to use the emetic, then I don't</p> <p>13 believe they would need to provide any information</p> <p>14 on the emetic to the EPA.</p> <p>15 Q. That's right. They didn't have to file</p> <p>16 this, did they?</p> <p>17 A. They didn't have to file the data if</p> <p>18 they weren't going to use the emetic.</p> <p>19 Q. Right. In other words, if they weren't</p> <p>20 going to use the emetic. Of course without the</p> <p>21 emetic you'd agree that the RPAR would cause the</p> <p>22 chemical to be banned too, right?</p> <p>23 MR. ORLET: Object to the form.</p> <p>24 THE WITNESS: Not necessarily, sir.</p>	<p style="text-align: right;">Page 211</p> <p>1 saying to you is this: If you had decided not to</p> <p>2 use the emetic and forgo the product, you could have</p> <p>3 done that, couldn't you?</p> <p>4 A. And forgo the product, the product</p> <p>5 being paraquat?</p> <p>6 Q. Right. Just not sell it.</p> <p>7 A. Sir, I believe not selling a product is</p> <p>8 always an option.</p> <p>9 Q. Of course. I mean, was there anything</p> <p>10 requiring you to file these emetic documents with</p> <p>11 the U.S. EPA?</p> <p>12 A. Sir, I believe we were going to use the</p> <p>13 emetic and we would need to file associated</p> <p>14 documents about the emetic.</p> <p>15 Q. Yeah, but there was nothing requiring</p> <p>16 you to use the emetic. You could have just let the</p> <p>17 product go. What I'm trying to say is there's some</p> <p>18 obligation legally for you to go along with ICI and</p> <p>19 Dr. Rose.</p> <p>20 A. I'm sorry. Sir, would you please</p> <p>21 clarify the question?</p> <p>22 Q. Yeah, were you duty bound under some</p> <p>23 legal agreement that was signed in the '60s or</p> <p>24 subsequently to file what they suggested that you</p>
<p style="text-align: right;">Page 210</p> <p>1 There could have been other treatments that would</p> <p>2 have satisfied that trigger for RPAR.</p> <p>3 BY MR. TILLERY:</p> <p>4 Q. Well, what other treatments have you</p> <p>5 seen since 1978?</p> <p>6 A. So the -- so one treatment is the use</p> <p>7 of bentonite clay as an absorbent to remove paraquat</p> <p>8 from the stomach after ingestion.</p> <p>9 Q. Has that been accepted as a substitute</p> <p>10 for an emetic ever by the EPA?</p> <p>11 A. Sir, I don't know.</p> <p>12 Q. Do you know that it's illegal to sell</p> <p>13 paraquat without emetic?</p> <p>14 MR. ORLET: Object to the form.</p> <p>15 BY MR. TILLERY:</p> <p>16 Q. Do you know that?</p> <p>17 A. Sir, I recall that the EPA -- I recall</p> <p>18 a document saying that the EPA required the presence</p> <p>19 of the emetic.</p> <p>20 Q. Right. So they mandated it, right?</p> <p>21 A. Yes, sir, that would be my</p> <p>22 understanding.</p> <p>23 Q. Okay. So without that that would mean</p> <p>24 you wouldn't have the product to sell? So what I'm</p>	<p style="text-align: right;">Page 212</p> <p>1 file regarding the emetic --</p> <p>2 MR. ORLET: Object to the form.</p> <p>3 BY MR. TILLERY:</p> <p>4 Q. -- with the U.S. EPA?</p> <p>5 A. Sir, I don't believe so, but I'm not an</p> <p>6 expert in the contract language.</p> <p>7 Q. You're designated in -- as the</p> <p>8 corporate witness for those documents.</p> <p>9 A. Yes, sir, I understand, but I don't</p> <p>10 feel comfortable making legal conclusions from the</p> <p>11 contract.</p> <p>12 Q. Well, do you know -- has anybody ever</p> <p>13 told you that Chevron didn't have any right to make</p> <p>14 its own mind up about the emetic? They had to do</p> <p>15 what ICI told them to do?</p> <p>16 A. No, sir, it's my understanding that</p> <p>17 Chevron was completely independent and they could do</p> <p>18 what they thought was best.</p> <p>19 Q. And they were the registrant of the</p> <p>20 chemical, weren't they? Not ICI, right?</p> <p>21 A. Yes, sir, that's correct.</p> <p>22 Q. They were the only registrant, not ICI,</p> <p>23 right?</p> <p>24 A. Up until the time they were in the</p>

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<p style="text-align: right;">Page 213</p> <p>1 business in '86, yes, sir, that's my understanding.</p> <p>2 Q. Right. Let's go to Exhibit 110.</p> <p>3 (Exhibit 110 was identified</p> <p>4 for the record.)</p> <p>5 BY MR. TILLERY:</p> <p>6 Q. Please take a look at this exhibit,</p> <p>7 sir. This is CUSA-00088290 and 88291. This is</p> <p>8 Plaintiffs' Deposition Exhibit 110.</p> <p>9 A. Yes, sir, I see the document. Would</p> <p>10 you like me to review it?</p> <p>11 Q. Yes. Take a look at it, please.</p> <p>12 A. Sir, I reviewed the document.</p> <p>13 Q. All right. Is this a November 3rd,</p> <p>14 1976 letter from Dr. Slade at ICI to Dr. Ospenson at</p> <p>15 Chevron?</p> <p>16 A. Yes, sir, it is.</p> <p>17 Q. Is Dr. Slade writing at the request of</p> <p>18 Dr. Braunholtz to let Dr. Ospenson know about the</p> <p>19 global policy decisions on the emetic formulation</p> <p>20 taken at the recent ICI board meeting?</p> <p>21 A. Yes, sir, that's what the document</p> <p>22 states.</p> <p>23 Q. Would you read numbered paragraph 5 for</p> <p>24 the record.</p>	<p style="text-align: right;">Page 215</p> <p>1 Q. How long does a patent last?</p> <p>2 A. Well, sir, I apologize. I have no</p> <p>3 idea.</p> <p>4 Q. Okay. So let's look at this letter a</p> <p>5 little closer. "3 November 1976." Number 1,</p> <p>6 "Emetic formulations of paraquat will be marketed</p> <p>7 worldwide as soon as is practicable - by early 1978</p> <p>8 in most countries."</p> <p>9 Do you see that?</p> <p>10 A. That's what it states.</p> <p>11 Q. That would be 17 years after the</p> <p>12 molecule was patented in the United States, right?</p> <p>13 A. Yes, sir, assuming 1961 is the patent</p> <p>14 date, yes.</p> <p>15 Q. "A registration petition will be</p> <p>16 submitted to the U.K. authorities beginning</p> <p>17 November," right?</p> <p>18 A. Yes, sir, that's what it states.</p> <p>19 Q. "Other countries where introduction</p> <p>20 will be sought in 1977 are all the countries of</p> <p>21 Western Europe, Australia, New Zealand, Malaysia,</p> <p>22 Indonesia, Japan, Brazil, and South Africa."</p> <p>23 Do you see that?</p> <p>24 A. Yes, sir.</p>
<p style="text-align: right;">Page 214</p> <p>1 A. Yes, sir. "Overseas companies will</p> <p>2 commence discussions with registration authorities</p> <p>3 as soon as it is appropriate with the objective of</p> <p>4 seeking to ensure that the emetic is the sole</p> <p>5 paraquat formulation allowed to be sold."</p> <p>6 Q. Now, what does that mean to you?</p> <p>7 A. Sir, dissecting it piece by piece, so</p> <p>8 overseas companies, which since this is an ICI</p> <p>9 letter I would speculate that it's companies not in</p> <p>10 the U.K., that they will start talking to the</p> <p>11 registration authorities to - with the objective to</p> <p>12 ensure that the emetic - so this indicates that the</p> <p>13 paraquat with emetic is the only formulation allowed</p> <p>14 to be sold.</p> <p>15 Q. And when was the paraquat molecule</p> <p>16 patented in the United States?</p> <p>17 A. Sir, I don't recall the exact date of</p> <p>18 the patent, but I imagine it would have been late</p> <p>19 '50s, early '60s, sometime around there.</p> <p>20 Q. Would 1961 ring a bell?</p> <p>21 A. It's probably around there, sir, yes.</p> <p>22 Q. And what date are we talking about</p> <p>23 here?</p> <p>24 A. This is November 1976.</p>	<p style="text-align: right;">Page 216</p> <p>1 Q. And it continues on in paragraph 3,</p> <p>2 "Immediate introduction in Western Samoa will be</p> <p>3 arranged," right?</p> <p>4 A. Yes, sir.</p> <p>5 Q. Let's go to paragraph 4. "PP796 will</p> <p>6 be incorporated into Weedol, Pathclear (our Garden</p> <p>7 Products formulations) and paraquat mixtures with</p> <p>8 residuals as soon as practicable," right?</p> <p>9 A. Yes, sir.</p> <p>10 Q. Okay. So they were - they were going</p> <p>11 worldwide with this emetic, weren't they?</p> <p>12 A. Yes, sir, that appears to be the case.</p> <p>13 Q. And they patented this emetic, didn't</p> <p>14 they?</p> <p>15 A. Sir, I don't know.</p> <p>16 Q. Okay.</p> <p>17 A. I don't remember seeing documents</p> <p>18 discussing the patent.</p> <p>19 Q. If we go back to number 5 it says -</p> <p>20 the way you broke down your understanding of that,</p> <p>21 and I'm - I'll freely admit you're not a lawyer and</p> <p>22 you're not giving a legal opinion. Okay? But -</p> <p>23 we'll accept that, but we also, going back to the</p> <p>24 way you described it, "Overseas companies will</p>

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1 commence discussions with registration authorities
 2 as soon as it is appropriate with the objective of
 3 seeking to ensure that the emetic is the sole
 4 paraquat formulation allowed to be sold," right?
 5 That's what it says.
 6 A. Yes, sir.
 7 Q. Meaning that if you don't have our
 8 emetic in the – in your product, you can't sell
 9 your paraquat, right?
 10 A. Yes, sir, that would be the
 11 interpretation of number 5 as I see it.
 12 Q. Right. Let's go to 11.
 13 (Exhibit 111 was identified
 14 for the record.)
 15 THE WITNESS: It's open.
 16 BY MR. TILLERY:
 17 Q. This is Syngenta-PQ-02515610. This is
 18 a Standard Oil Company of California – that's the
 19 stationery – letter dated November 11, 1976
 20 consisting of two pages. It's written by R. D.
 21 Cavalli, toxicologist, to M. S. Rose, Ph.D.,
 22 Imperial Chemical Industries in Alderley Park,
 23 England, right?
 24 A. Yes, sir, that appears to be the case.

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1 Q. Okay. So this is a letter dated
 2 November 11, 1976 from Dr. Cavalli to Dr. Rose. If
 3 you'd please read the first paragraph for the
 4 record.
 5 A. "Dear Mike: Thank you for your prompt
 6 response regarding the emetic. I have advised Nils
 7 that the last arguments will be sufficient to send
 8 to EPA with our first submission. However, I do
 9 feel that they may well request further work and
 10 that demonstration of the dose/effect relationship
 11 of PP 796 as an emetic in man may be asked for."
 12 Q. So Dr. Cavalli wasn't convinced the EPA
 13 would accept it without more data, right? That's
 14 what he was saying?
 15 MR. ORLET: Object to the form.
 16 THE WITNESS: Sir, he's stating that
 17 the EPA may request additional information of how
 18 the emetic works in man.
 19 MR. TILLERY: Okay. Let's go to 112.
 20 (Exhibit 112 was identified
 21 for the record.)
 22 THE WITNESS: It's open.
 23 BY MR. TILLERY:
 24 Q. Would you tell me if you've seen this

Page 219

1 before?
 2 A. Yes, sir. One moment while I review
 3 it, please.
 4 Q. While you're doing that, this is
 5 CUSA-00088396, 97.
 6 A. I believe I've seen this document
 7 before but I'm not positive.
 8 Q. Okay. Is Exhibit 112 a November 16,
 9 1976 Chevron Internal memo from J. N. Ospenson to
 10 D. B. Barlow on the subject, "Paraquat Registration,
 11 Safened Formula"?
 12 A. Yes, sir.
 13 Q. Is J. N. Ospenson sometimes referred to
 14 in a familiar way by his other colleagues as "Nils"?
 15 A. Yes, sir, that's my understanding.
 16 Q. Okay. So when we see "Nils," or "Dear
 17 Nils" they're referring to Dr. Ospenson, aren't
 18 they?
 19 A. Yes, sir, that's my understanding.
 20 Q. Now, this document refers to a meeting
 21 of October 4, 1976 about registration of emetic
 22 formulation, right?
 23 A. Yes, sir.
 24 Q. Read in, if you wouldn't mind, for this

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1 record the second paragraph of that memo.
 2 A. Starting where it says "At that
 3 meeting," sir?
 4 Q. Correct, Dr. Patterson.
 5 A. "At that meeting, Marketing and R & D
 6 agreed on all aspects of the strategy to be followed
 7 in the development of the new safened formulation,
 8 except for some questions that were raised by the
 9 Toxicology Group relative to the effectiveness of
 10 the recommended use rate of the emetic. Subsequent
 11 correspondence with PPD and with CTL have confirmed
 12 that the recommended rate of the emetic agent
 13 represents as good a proposal as possible based on
 14 available information."
 15 Q. Okay. So Chevron wanted to say
 16 really – strike that.
 17 Chevron wasn't really saying that it
 18 worked, right? But it was just as good as a
 19 proposal as possible based on available information?
 20 A. Sir, I'll refer directly to what the
 21 letter states which is it represents as good as
 22 proposal as possible based on available information.
 23 Q. Did anybody at Chevron ever say, "Hey,
 24 why not double or triple the amount of the emetic?"

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1 A. Sir, I don't recall in the documents
2 that I reviewed anyone from Chevron suggesting a
3 higher rate.
4 Q. A higher rate or higher amount?
5 A. A higher amount, I apologize.
6 Q. You mean a higher percentage –
7 A. Higher concentration.
8 Q. Higher concentration of the emetic in a
9 liter of concentrate, right?
10 A. Yes, sir.
11 Q. As a toxicologist knowing what you know
12 about the mode of action of PP-796 and knowing from
13 what you've reported today of these test results –
14 you've seen them – do you think that would be more
15 effective in terms of inducing emesis when people
16 would swallow it?
17 A. Sir, it's likely that increasing the
18 dose would increase the response.
19 Q. Okay. Why didn't you do it?
20 A. Sir, I'd have to rely on the documents
21 which adopted the 0.05 percent based on the best
22 available information that they had.
23 Q. Was there any reason why Chevron could
24 say we're going – we want to put in three times

Page 222

1 that amount?
2 A. Sir, I don't recall from the document,
3 but I would need to look closer. But they would
4 probably also have to consider, you know, tolerance
5 and other aspects of the emetic in terms of how much
6 they would add in.
7 Q. Tolerance? What does that mean?
8 A. So, for example, tolerance levels in
9 the -- in the sprayed paraquat. So I don't know
10 what the -- I haven't looked closely at the -- the
11 registration work done looking at residual amounts
12 of emetic after paraquat was sprayed. So I don't
13 know if there was any discussions about an upper
14 level of emetic, so I would just need to look closer
15 at those registration documents to see that.
16 Q. You came here but you can't answer that
17 question, right? Is that what your testimony is?
18 MR. ORLET: Object to the form.
19 THE WITNESS: I can't answer that
20 question without looking at additional documents.
21 BY MR. TILLERY:
22 Q. So let me ask it this way. Do you know
23 of any conceivable regulatory reason why Chevron
24 couldn't have said, "Hey, we want to put three times

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1 as much of that emetic when we sell this formulated
2 paraquat product?"
3 MR. ORLET: Object to the form.
4 THE WITNESS: Sir, I don't recall any
5 regulatory reasons in the documents I reviewed.
6 BY MR. TILLERY:
7 Q. No restriction to your knowledge
8 whatsoever, is there?
9 MR. ORLET: Same objection.
10 THE WITNESS: No restriction that I
11 recall.
12 BY MR. TILLERY:
13 Q. Okay. Let's go to Exhibit 113.
14 (Exhibit 113 was identified
15 for the record.)
16 THE WITNESS: It's loaded.
17 BY MR. TILLERY:
18 Q. Exhibit 113 is CUSA-00088288 at 8395.
19 Is Exhibit 113 a November 16th, 1976
20 letter from Mr. Ospenson at Chevron to
21 Dr. Braunholtz at ICI on the subject of paraquat
22 emetic formulation?
23 A. Yes, sir, it is.
24 Q. And does he say in the second

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1 paragraph, "I indicated I would confirm to you in
2 writing the program that we are undertaking in the
3 United States to implement the registration and
4 marketing of this product. The attached memo to
5 D. B. Barlow summarizes the program as we now
6 visualize it."
7 A. Yes, sir, that's what it states.
8 Q. And he signs it Nils, doesn't he?
9 A. Yes, sir.
10 Q. Manager of research and development at
11 the company, right?
12 A. Yes, sir.
13 Q. Okay. Let's go to 114.
14 (Exhibit 114 was identified
15 for the record.)
16 BY MR. TILLERY:
17 Q. Exhibit 114 is CUSA-00088288 at 8288
18 through 8289. Two-page document.
19 Tell me when you're ready to talk about
20 this document, Dr. Patterson.
21 A. It's open. Would you like me to read
22 it, sir?
23 Q. Yes, sir. You can assume that every
24 time I give them to you. Go ahead and read them.

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1 A. I've reviewed the document, sir.
2 Q. Is this document a November 29th, 1976
3 letter from Mr. Ospenson at Chevron to Peter Slade
4 at ICI?
5 A. Yes, sir, it is.
6 Q. Do you see in the third paragraph that
7 Mr. Ospenson tells Mr. Slade Chevron does not want
8 any publicity relative to the registration of the
9 new emetic formulation?
10 A. I'm looking for that, sir.
11 Q. Yeah, while you're looking at it I'll
12 read the first sentence of the third paragraph into
13 the record.
14 "As was discussed with John, we also
15 have agreed that we do not want any publicity
16 relative to the registration of the new emetic
17 formulation."
18 Do you see that?
19 A. Yes, sir, that's what the document
20 states.
21 Q. Okay. And why was it that Chevron
22 didn't want any publicity associated with it about
23 the new emetic formulation registration? Why was
24 that?

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1 A. Sir, I'm trying to think back through
2 the documents I reviewed, and I don't recall them
3 discussing why they didn't want any publicity about
4 the emetic.
5 Q. Okay. Let's go to the last paragraph
6 on the first page and read that into the record over
7 to the following page.
8 A. Sir, from where it says, "Again, as
9 mentioned"?
10 Q. Yes.
11 A. Okay. "Again, as mentioned in my
12 letter to John, we are most anxious to make our
13 submission to EPA as soon as possible. Therefore,
14 we would appreciate receiving the complete
15 information used in your U.K. submission so that we
16 could recast it in the necessary format for
17 submission to the EPA."
18 Q. And did they send the information to
19 you at Chevron that they submitted to the U.K.?
20 A. Sir, I don't recall seeing a specific
21 packet. I recall seeing the different documents
22 related to the data, but I don't recall seeing the
23 packet that they submitted to the U.K.
24 Q. Okay.

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1 A. They may or may not exist. I just
2 haven't seen it.
3 Q. Okay. Let's move on to Exhibit 115.
4 (Exhibit 115 was identified
5 for the record.)
6 THE WITNESS: It's loaded.
7 BY MR. TILLERY:
8 Q. Okay. This is CUSA-00108244.
9 Is Exhibit 115 a copy of Chevron's
10 filed portions of a November 1976 ICI report
11 entitled "Paraquat: Reduction of Hazard"?
12 A. Yes, sir, that's what this document is.
13 Q. And can you look through this and tell
14 me with the numbered pages if the error, to your
15 knowledge, in the pagination is in the original
16 document to you or is it just in the copy to us? Do
17 you know whether or not you have a complete copy of
18 this document? Go ahead and look through it,
19 please.
20 A. Sir, I don't completely understand your
21 question about that.
22 Q. The ones I've loaded you'll see have
23 two page fives. They have other things. This is
24 the way we got them, but bearing sequential Bates

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1 numbers in the document. I'm wondering if there's
2 another document that could be substituted for this
3 one which contains the document's pages in correct
4 order?
5 A. Sir, I don't know.
6 Q. Okay. You don't know the answer to
7 that. Okay.
8 Now, if you go to 8272. Do you see
9 that?
10 A. I'm still looking there. I apologize,
11 sir. 108272.
12 Q. Yes.
13 A. Yes, sir.
14 Q. Should read the report number
15 CTLR/390, right?
16 A. Yes, sir.
17 Q. And this is entitled "The Concentration
18 of PP 796 Required to Produce Emesis in Experimental
19 Animals and an Estimation of the Emetic Dose in
20 Man," right?
21 A. Yes, sir.
22 Q. Authors, M. S. Rose.
23 A. Yes, sir.
24 Q. Is this the report you've been wanting

57 (Pages 225 to 228)

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1 to read and look at?

2 A. I believe so, sir, yes.

3 Q. What is this document, the Plant

4 Protection Division? The overall document if you go

5 back to the first page. So you see that document,

6 right?

7 A. Yes, sir.

8 Q. Plant Protection Division?

9 A. It's a project team report on the

10 paraquat reduction of hazard.

11 Q. And the editor is D. M. Foulkes. This

12 is the full edition, right?

13 A. Yes, sir, that's what it states.

14 Q. Okay. And what was the use of this

15 document? What was this document used for, sir?

16 A. Sir, I don't know how this document was

17 used.

18 Q. Okay. How did Chevron use it?

19 A. This specific document in its entirety,

20 I don't know how it was used.

21 Q. Okay. Now, if you go to 108280 in that

22 same document.

23 A. Okay.

24 Q. And what's – does that say the report

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1 Q. And he had 4 for 47 before, didn't he?

2 A. On that other table of the draft report

3 I saw 4 for 47, yes, sir.

4 Q. So 10 of them disappeared somewhere

5 along the way? Must have been in that August to

6 October range they sort of dropped off somewhere,

7 right?

8 MR. ORLET: Object to the form.

9 THE WITNESS: I don't – the numbers

10 appear to be off, and I would have to look to see if

11 it's explained in the methodology as to what they're

12 including and why to further understand what the

13 difference is.

14 BY MR. TILLERY:

15 Q. Here's a question I have for you. In

16 that study there right there with man, that's based

17 100 percent on the Bayliss 1973 analysis of the

18 human trials with PP-796, isn't it?

19 A. I believe so, sir.

20 Q. Because there are no other human trials

21 to base it on, right?

22 A. As far as I understand, yes, sir.

23 Q. Okay. Let's move on. 116.

24 (Exhibit 116 was identified)

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1 number CTL/R/391, effect of administration of an

2 emetic on paraquat toxicity in dog and monkey?

3 A. Correct.

4 Q. Now, which study is this? Is this the

5 one we referred to earlier in this deposition today?

6 Take a look at it and tell me if it's the same one.

7 Or is this another study?

8 A. Sir, I'd have to go back. I don't

9 believe it's the exact same study but it might be.

10 I don't know.

11 Q. All right. Let's go, if you can, to

12 108276 and that Rose study. That page. That's

13 page 33 of the document if you want to skip to that.

14 A. Yes, sir.

15 Q. Tell me when you're there.

16 A. I'm there, sir.

17 Q. All right. Do you see this report? Is

18 this the same page reference we looked at before

19 about Dr. Rose's report?

20 A. It looks similar except the numbers

21 vomiting looks a little bit different for the

22 .03 milligrams per kilogram in this table.

23 Q. Well, he's got 4 for 37, doesn't he?

24 A. Yes, sir, that's what's written here.

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1 for the record.)

2 BY MR. TILLERY:

3 Q. This is CUSA-00087955 and it's at 8219

4 through 8220.

5 If you could open and look at this

6 document. It's a two-page letter.

7 A. Yes, sir, it's loaded.

8 Q. Tell me when you're ready to discuss

9 it.

10 A. I have reviewed the document, sir.

11 Q. All right. Is this Exhibit Number 116

12 a January 24th, 1997 letter from D. M. Foulkes at

13 ICI to Dr. Hans Franke at Chevron Chemical Company

14 requesting information on PP-796, or I guess I

15 should say it's responding to a request for

16 information on PP-796?

17 A. Yes, sir.

18 Q. That would be a fairer assessment,

19 wouldn't it?

20 A. Yes, sir.

21 Q. Okay. So this letter is apparently in

22 response to Chevron's request to ICI for various

23 types of additional data or data in different

24 formats that Chevron wants to use to support its

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1 application to the U.S. regulators regarding the
2 emetic, right?
3 A. Yes, sir, that's my understanding.
4 Q. Okay. Let's go to paragraph 4 on the
5 second page.
6 A. Yes, sir.
7 Q. If you can just confirm paragraph 4,
8 second sentence, "As I explained when we last met
9 Pharmaceuticals Division have destroyed hard copies
10 of data on compounds which were not developed and
11 much has been transferred to fiche."
12 Is that what it says?
13 A. Yes, sir, that's what it says.
14 Q. Does that mean the hard copies of the
15 human studies were destroyed?
16 MR. ORLET: Object to the form.
17 THE WITNESS: Sir, it doesn't
18 explicitly say that, but that would be an assumption
19 that I would speculate would be what it's referring
20 to.
21 MR. TILLERY: All right. Let's go to
22 117.
23 (Exhibit 117 was identified
24 for the record.)

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1 BY MR. TILLERY:
2 Q. And for the record while you're opening
3 the exhibit, sir, this is CUSA-00087955 at 8201
4 through 8202.
5 A. Yes, sir, it's loaded.
6 Q. Okay. Is this a two-page letter from
7 H. G. Franke at ICI to Alan Calderbank? It's H. G.
8 Franke at Chevron to Alan Calderbank at ICI?
9 A. Yes, sir.
10 Q. Okay. And this is – this letter from
11 Chevron telling ICI what it intends to submit to the
12 EPA regarding the emetic in light of the information
13 ICI has and hasn't been able to provide?
14 A. Sir, would you please repeat the
15 question?
16 Q. What I'm trying to get from you is that
17 the two companies work hand and glove on the emetic
18 filling in the United States, didn't it?
19 MR. ORLET: Object to the form.
20 THE WITNESS: Sir, I don't – I
21 apologize, I don't understand the expression "hand
22 and glove."
23 BY MR. TILLERY:
24 Q. Well, okay. They worked closely

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1 together and shared information and cooperated in
2 the sharing of information about studies?
3 A. Yes, sir. Chevron was relying on ICI
4 to provide the data for the emetic, yes, sir.
5 Q. And nothing was preventing Chevron from
6 doing its own analysis of the emetic, was it?
7 A. Not to my knowledge, no, sir.
8 Q. Do you have your own lab?
9 A. Yes, sir, we had our own toxicology
10 lab.
11 Q. But you would have used that lab –
12 it's a state-of-the-art lab, wasn't it?
13 A. I believe it was a good lab, yes.
14 Q. Okay. Okay. Let's go to Exhibit 118.
15 (Exhibit 118 was identified
16 for the record.)
17 BY MR. TILLERY:
18 Q. Please take a look at CUSA-00087955 at
19 8190 through 8191.
20 A. Okay. It's loaded.
21 Q. Okay. So please tell me when you're
22 ready to discuss it.
23 A. Yes, sir. I'm reviewing it right now.
24 I read the document, sir.

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1 Q. All right. Is Plaintiffs' Deposition
2 Exhibit 118 a March 17th, 1997 letter from Dr. Rose
3 to Dr. Cavalli on the subject of the toxicity of
4 PP-796?
5 A. Yes, sir.
6 Q. Dr. Rose is responding to some
7 questions that had been raised by Dr. Cavalli, isn't
8 he?
9 A. Yes, sir.
10 Q. Dr. – strike that.
11 Did Chevron have the ability to
12 undertake its own evaluation and interpretation of
13 data that ICI provided in relation to paraquat?
14 A. I'm sorry, sir. Would you please
15 repeat the question?
16 Q. Did Chevron have the ability to
17 undertake its own evaluation and interpretation of
18 data that ICI provided to Chevron in relation to
19 paraquat?
20 A. Yes, sir, that is my understanding.
21 Q. Was it Chevron's policy and consistent
22 practice to undertake its own evaluation and
23 interpretation of data provided by ICI rather than
24 simply to accept ICI's evaluation and

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1 interpretation?
2 A. Sir, my understanding after reviewing
3 the document is that it evolved over time, but
4 certainly towards the '74 and later time frame,
5 Chevron took a much more direct approach to
6 evaluating the data that ICI was providing, as well
7 as cooperating and providing input on the studies of
8 the toxicity.
9 Q. Okay. Now, if you'd look at the first
10 page of that document and to the next to the last
11 paragraph.
12 A. Yes, sir.
13 Q. It says, "You correctly pointed out
14 that 2 out of 4 individuals in the obesity study
15 given 2 milligrams three times a day for 6 weeks
16 developed what appeared to" – I think he left out
17 "be" – "exercise induced angina, but this
18 disappeared when they were taken off the drug.
19 Three other patients given this dose for 4 weeks in
20 the attempted treatment of hypertension reported no
21 such side effects. Thus we can conclude that no
22 serious harm came from any of the patients treated
23 for prolonged periods with those levels of the
24 compound."

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1 Do you see that?
2 A. Yes, sir, I do.
3 Q. And then the "Toxic doses of PP 796 are
4 orders of magnitude higher than doses eliciting
5 emesis and the compound looked extremely free from
6 serious toxic effects when fed to animals for
7 prolonged periods at levels equivalent to
8 5 milligrams per kilogram per day."
9 Do you see that?
10 A. Yes, sir, that's what it states.
11 Q. So does this tell you or tell Chevron
12 that increasing the dosage of the emetic would not
13 be hazardous to the person who ingested the
14 chemical, right?
15 A. Yes, sir, that would be indicated by
16 the information from the animal studies at least,
17 yes.
18 Q. Okay.
19 A. The 5 milligrams per kilogram per day.
20 Q. So increasing the amount by whatever
21 you want to use it by volume, the .5-gram per liter
22 weight-to-volume ratio that was in the product at
23 the time you were selling it, increasing it by an
24 order of two or order of three was not

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1 contraindicated by the results of studies in terms
2 of just exposure to the emetic, does it?
3 A. Correct, sir, based on this information
4 in this document, that would appear to be the case.
5 Q. Okay. Let's go to the next exhibit,
6 number 119.
7 (Exhibit 119 was marked for
8 identification.)
9 THE WITNESS: Sir, can we take a brief
10 break and have a discussion off the record on
11 timing?
12 MR. TILLERY: We sure can.
13 THE VIDEOGRAPHER: We're going off the
14 record. The time is 5:00 o'clock. This ends Media
15 Unit Number 6.
16 (Recess taken.)
17 THE VIDEOGRAPHER: We're going back on
18 the record. The time is 5:20. This begins Media
19 Unit Number 7.
20 BY MR. TILLERY:
21 Q. Dr. Patterson, can you take a look at
22 CUSA-00087955. It's a one-page document at 88175.
23 A. Yes, sir.
24 Q. Okay. And please open this and look at

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1 It. Is this a March 30, 1977 letter from
2 H. G. Franke of Chevron to ICI about various reports
3 and pages of reports regarding the emetic?
4 A. Yes, sir, that's my understanding.
5 Q. And if you look at the – towards the
6 bottom of the page, it references, next to the last
7 paragraph, "We have not received any news from EPA
8 relative to Paraquat RPAR. The EPA will not – was
9 not able to meet the March 15th deadline." They're
10 talking about early April.
11 Do you see that?
12 A. Yes, sir, I see it states that.
13 Q. Is – is this the paraquat RPAR we
14 previously discussed in this deposition?
15 A. Yes, sir, that's my understanding.
16 MR. TILLERY: Okay. And at that point,
17 Joe, if you want to – we are going – off the
18 record we have agreed to suspend the deposition at
19 the request of the witness to be resumed and
20 concluded hopefully at the very next session.
21 Thank you, Dr. Patterson.
22 THE WITNESS: Thank you, Mr. Tillery.
23 THE VIDEOGRAPHER: Okay. Standing
24 order on video and transcript?

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1 MR. TILLERY: Yes, Shaun.
 2 MR. ORLET: (Nods head.)
 3 THE VIDEOGRAPHER: Anybody else?
 4 MR. ORLET: Yeah, same one we always
 5 get.
 6 MS. NOBORIKAWA: Same for Syngenta.
 7 THE VIDEOGRAPHER: This concludes the
 8 video-recorded deposition of Tim Patterson,
 9 Volume 6. We're going off the record at 5:22.
 10 (Whereupon, the signature was
 11 not waived and the witness was
 12 excused at 5:22 p.m.)
 13 --oOo--
 14
 15
 16
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 18
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 20
 21
 22
 23
 24

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1 ALARIS LITIGATION SERVICES
 2
 3 February 4, 2021
 4
 5 Joseph C. Orlet, Esq.
 6 Husch Blackwell, LLP
 7 190 Carondelet Plaza, Suite 600
 8 St. Louis, MO 63105
 9
 10 IN RE: DIANA HOFFMANN, individually and as
 11 Independent Administrator of the Estate of
 12 THOMAS R. HOFFMANN, Deceased, et al. v.
 13 SYNGENTA CROP PROTECTION, LLC, et al.
 14
 15 Dear Mr. Orlet:
 16
 17 Please find enclosed your copies of the deposition of
 18 TIMOTHY PATTERSON taken on January 22, 2021 in the
 19 above-referenced case. Also enclosed is the original
 20 signature page and errata sheets.
 21
 22 Please have the witness read your copy of the
 23 transcript. Indicate any changes and/or corrections
 24 desired on the errata sheets, and sign the signature
 page before a notary public.
 Please return the errata sheets and notarized
 signature page to our office at 711 N 11th Street, St.
 Louis, MO 63101 for filing prior to trial date.
 Sincerely,
 RENEE COMBS QUINBY
 Enclosures

Page 242

1 CERTIFICATE OF REPORTER
 2
 3 I, RENEE COMBS QUINBY, a Registered Merit
 4 Reporter, Certified Realtime Reporter, Certified
 5 Shorthand Reporter (CA), Certified Court Reporter
 6 (MO), Certified Court Reporter (IL), and Notary
 7 Public within and for the State of Missouri, do
 8 hereby certify that the foregoing proceedings were
 9 taken by stenographic means by me to the best of my
 10 ability and thereafter reduced to print under my
 11 direction.
 12 I further certify that I am neither
 13 attorney nor counsel nor related nor employed by any
 14 of the parties to the action in which this
 15 deposition was taken; further, that I am not a
 16 relative or employee or any attorney or counsel
 17 employed by the parties hereto or financially
 18 interested in this action.
 19 My Commission expires April 9, 2021
 20
 21 
 22 RENEE COMBS QUINBY, RDR, CRR,
 23 CCR (MO) #1291, CSR (IL) #084-004867, CSR (CA)
 24 #11867

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1 ERRATA SHEET
 2 Witness Name: TIMOTHY PATTERSON
 3 Case Name: DIANA HOFFMANN, Individually and as
 4 Independent Administrator of the Estate of
 5 THOMAS R. HOFFMANN, Deceased, et al. v.
 6 SYNGENTA CROP PROTECTION, LLC, et al.
 7 Date Taken: JANUARY 22, 2021
 8
 9 Page # _____ Line # _____
 10 Should read: _____
 11 Reason for change: _____
 12
 13 Page # _____ Line # _____
 14 Should read: _____
 15 Reason for change: _____
 16
 17 Page # _____ Line # _____
 18 Should read: _____
 19 Reason for change: _____
 20
 21 Page # _____ Line # _____
 22 Should read: _____
 23 Reason for change: _____
 24
 25 Witness Signature: _____

61 (Pages 241 to 244)

1 STATE OF _____)
2
3 COUNTY OF _____)
4
5 I, TIMOTHY PATTERSON, do hereby certify:
6 That I have read the foregoing deposition;
7 That I have made such changes in form
8 and/or substance to the within deposition as might
9 be necessary to render the same true and correct;
10 That having made such changes thereon, I
11 hereby subscribe my name to the deposition.
12 I declare under penalty of perjury that the
13 foregoing is true and correct.
14 Executed this _____ day of _____
15 20____, at _____.
16
17
18
19 _____
20 TIMOTHY PATTERSON
21
22 _____
23 NOTARY PUBLIC
24 My Commission Expires: